1st Ibero-American Primary Care Respiratory Meeting & 9th IPCRG World Conference Porto, Portugal

Respiratory Health: Adding Value in a Resource Constrained World

> Applied Clinical Research & Implementation Science ABSTRACT BOOK

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Abstract ID = 8624

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

A Case Series of Diagnosing Smear Negative Pulmonary Tuberculosis in Patients with Diabetes Mellitus

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AIM

Tuberculosis (TB) is still a major public health problem in developing countries such as Malaysia, which has an intermediate TB burden. The smear negative rate among new pulmonary tuberculosis patients in Malaysia was 28%. It is a challenging task to detect smear negative pulmonary tuberculosis which might have minimal disease and no/ less cavitation-escape clinical detection.

METHOD

Here we report on two case studies of successful diagnosis of smear negative pulmonary tuberculosis in patients with co morbid diabetes mellitus.

RESULTS

Madam N, a 30 years old lady with co morbid diabetes mellitus had history of treated as bronchopneumonia but still having on and off cough. Her chest radiograph showed some regression and sputum direct smears for acid fast bacilli were all negative. A sputum TB culture done had shown a positive culture for Mycobacterium tuberculosis (MTB) complex and she was diagnosed as smear negative pulmonary tuberculosis and started on tuberculosis treatment. Meanwhile, Mr J is a 51 years old gentleman, with type 2 diabetes mellitus whom presented with productive cough for one month duration. His chest radiograph did not show pattern typical of TB, and sputum direct smears for acid fast bacilli were all negative. Sputum TB culture had isolated Mycobacterium tuberculosis (MTB) complex. Similarly a diagnosis of smear negative pulmonary tuberculosis was made and treatment was started for this patient.

CONCLUSION

A high index of suspicion must be made for smear negative pulmonary tuberculosis in patients with symptoms of tuberculosis, but chest radiograph not showing typical pattern of TB and sputum direct smears for acid fast bacilli were negative. In this two cases the ordering testing for sputum TB culture has successfully lead to the detection and treatment of pulmonary tuberculosis in two patients with underlying co morbid diabetes mellitus.

Declaration of Interest

None.

Abstract ID = 8667

Presented at: 2.4 Oral Abstracts 2 Tobacco Dependence 31/05/2018 16:05-17:30

A minority of smoking COPD subjects receives smoking cessation support

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Aim: To investigate the support offered from the health care system to current smokers with the diagnosis of COPD.

Method: Subjects from the Swedish Tools for Identifying Exacerbations (TIE)-study with spirometry-verified COPD were investigated. Smoking habits and smoking cessation support from healthcare during the last 5 years were questionnaire-assessed.

Results: COPD subjects (n=571, 59% women) were investigated of which 29% were current smokers, of the current smokers 66% were women and 34% men (p=0.02). Current smokers were classified by GOLD 2014 as: A 31%, B 25%, C 9% and D 35%. The smokers were divided in three groups: 1 offered and received smoking cessation support (n=54), 2 offered but not received support (n=43) and 3 not offered or received support (n=49). The most frequent smoking cessation support was individual (74%), then group-sessions (24%) and both (4%). In group 1 33% had treatment with nicotine replacement therapy and 35% with varenicline or bupropion, in group 2 44% and 12% and in group 3 35% and 8% respectively. In total, 54% had received pharmacological treatment. There were no differences in dyspnoea and lung function (mMRC 2-4 or FEV₁%-predicted) between the groups. The smokers that were not offered or received smoking cessation support, group 3, were older 69 ± 6 years (mean ± SD) than group 1 and 2, 64± 8 and 63± 9 years respectively (p<0.004).

Conclusion: One third of our COPD subjects were current smokers and two thirds had been offered but only one third had received support to quit tobacco use. There were no differences in disease characteristics between those who had received and not received support. More efforts from the health care professionals should focus on smoking cessation in COPD patients, especially in mild COPD, to prevent deterioration of the disease.

Declaration of Interest

No conflicts of interest to the related work

Abstract ID = 8583

Presented at: 2.4 Oral Abstracts 2 Tobacco Dependence 31/05/2018 16:05-17:30

Adapting and implementing very brief advice on smoking to save lives in low and middle-income countries

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Applied Clinical Research/Implementation Science Results Abstract

Aim: Stopping smoking reduces risk of premature death and improves current and future health. Very Brief Advice on smoking (VBA) is a proven clinical intervention that identifies smokers, advises them on the best method of quitting and supports subsequent quit attempts. We aimed to determine whether the VBA training can be adapted to low and middle income countries, and investigate whether training healthcare workers in delivering VBA results in changes to clinical practice.

Method: Mixed methods implementation science study. The standard UK model for the delivery of VBA, was reviewed by stakeholders in Crete, Vietnam and Kyrgyzstan and adapted to ensure sensitivity to the local context. Healthcare workers were trained in the knowledge and skills needed to deliver VBA. Participant recruitment, knowledge acquisition, training, behaviour change, feasibility and acceptability and cost analysis, were assessed through questionnaires before, immediately after and one month following the training, and interviews at one week.

Results: Minor local adaptation was made to the original model for the delivery of VBA prior to implementation. Train-the-trainer model was adopted to address concern about effective delivery of VBA training by English speakers, to healthcare workers via a translator and long term sustainability. Training was delivered by local trainers in the local language. 126 healthcare workers were trained in VBA (Crete 29; Vietnam 60; Kyrgyzstan 37). Initial findings suggest that for the majority, VBA training improved their skills and they would recommend the training to others. Significant increases in self-efficacy in advising patients on the best methods of quitting and providing support to smokers were reported between the pre and post assessment. The ACT element of VBA was most challenging due to lack of access to affordable stop smoking medications.

Conclusion: VBA can be adapted, is acceptable and results in self-reported behaviour change in health professionals in LMICs

Declaration of Interest

Conflict of Interest statement: Andy McEwen

Andy McEwen has received travel funding, honorariums and consultancy payments from manufacturers of smoking cessation products (Pfizer Ltd, Novartis UK and GSK Consumer Healthcare Ltd) and hospitality from North51 who provide online and database services. He also receives payment for providing training to smoking cessation specialists and receives royalties from books on smoking cessation.

Andy is an associate member of the New Nicotine Alliance (NNA), a charity that works to foster greater understanding of safer nicotine products and technologies.

Abstract ID = 8508

Presented at: 9.1 Prize Winning Abstracts 02/06/2018 10:20-11:25

Age- and sex-specific prevalence of chronic comorbidity in adult patients with asthma: a real-life study in general practice

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Applied Clinical Research/Implementation Science Results Abstract

Aim: We aimed to determine age- and sex-specific prevalence estimates of the full range of chronic comorbid diseases in adults with asthma in general practice.

Method: Retrospective cohort study based on 32,787 electronic medical records of patients aged ≥16 years with asthma from 179 general practices in the Netherlands. Age- and sex-specific prevalence estimates of 76 chronic comorbidities in 14 disease categories based on International Classification of Primary Care (ICPC) codes were analysed.

Results: Chronic comorbidity was present in 65.3% of male and 72.8% of female asthma patients, with female patients having a higher mean (SD) of 2.0 (2.1) chronic comorbid diseases compared to male patients (mean±SD; 1.7±2.0). This mean±SD rose to 5.0±2.7 diseases in the 75+ age group. Most prevalent comorbid conditions were hypertension (20.1%), osteoarthritis (11.5%), eczema (11.5%) and dyspepsia (10.7%). Compared to males, female asthma patients showed higher odds for presence of comorbid disease in eight disease categories. Neurological (Odds ratio [OR]; 95% confidence interval: 2.01; 1.76-2.29), bloodforming/lymphatics (OR 1.83; 1.38-2.42) and musculoskeletal diseases (OR 1.82; 1.69-1.95) showed the highest association with female sex. Females had lower odds of having pulmonary cancer (OR 0.59; 0.42-0.84), urogenital diseases (OR 0.82; 0.75-0.89) and eye/ear diseases (OR 0.89; 0.82-0.97).

Conclusion: Chronic comorbidity is highly prevalent in adults with asthma, even more in women than in men. The odds of having a specific comorbidity may differ between the sexes. This knowledge may help general practitioners to manage and determine the role of comorbidity in a specific asthma patient, which may lead to better asthma outcomes and a more patient-centered treatment.

Declaration of Interest

The authors declare that they have no competing interests. GlaxoSmithKline funded the study with a research grant.

Abstract ID = 8595

Presented at: 8.1 Tapas/Petiscos Best Practice from IPCRG Members - Adding Value to Your Practice 02/06/2018 09:00-10:20

An implementation strategy for a midwife-led education programme of biomass smoke reduction among pregnant women and postnatal mothers in Uganda

Lucy Cartwright¹, Rupert Jones¹, Rebecca Nantanda², Bruce Kirenga², Shamim Buteme², Sanne van Kampen¹, Andy Barton¹, Jillian Pooler¹ ¹Plymouth University, ²Makerere University

AIM

Over 90% of people in rural Uganda are exposed to biomass smoke, with women averaging 7 hours' exposure per day. Biomass smoke is associated with poor pregnancy outcomes such as neonatal deaths, respiratory infection in infants and adult lung disease.

Our aim was to design and test an implementation strategy to introduce an education programme for midwives to educate pregnant women and community health workers in four healthcare facilities.

Method:

In an implementation study with a series of plan-do-study-act cycles, project teams from Plymouth University and Makerere Lung Institute co-developed existing education materials from a lung health programme in Masindi District, and adapted them for use by midwives in Jinja District. Teams included midwives, paediatricians, obstetricians and researchers.

Results:

In 2015, a team from the UK and Uganda met with stakeholders ranging from national experts to local healthcare teams, including all levels of healthcare workers. It was concluded that there was national need and political will to implement the project.

In 2016, a workshop was held with ten local midwives to discuss the dangers of biomass fuel during pregnancy and early life. Pre- and post-knowledge questionnaires for midwives were designed. Existing educational materials, such as posters, leaflets and flipcharts, were redesigned, reflecting new content and key messages.

These materials were professionally produced by a Ministry of Health educator and tested in the community. In November 2017, midwives in two health centres were observed delivering the education. Final changes to the materials were made to reflect feedback from community midwives, other health professionals, and health experts. These have now gained Ministry of Health approval.

Conclusion:

Biomass smoke exposure is a potent cause of harm to women and the children exposed in utero, with major consequences for their health throughout life. The innovative midwife exposure-reduction intervention using materials produced by the team will be delivered and evaluated within the existing health service between February – May 2018.

Declaration of Interest

Research funding by Leiden University under Horizon 2020 FRESH AIR.

The authors declare no conflicts of interest.

Abstract ID = 8613

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Anti-pneumococcal vaccination in patients with COPD in a Primay Care Health Unit

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Aim: The aims of this study were to know the prescription profile of anti-pneumococcal vaccines and the compliance to this vaccination by patients with Chronic Obstructive Pulmonary Disease (COPD) in a Primary Care Health Unit (PCHU).

Method: We conducted a retrospective, observational descriptive study in a population of patients with COPD belonging to PCHU Lethes (Ponte de Lima, Portugal). Were included all patients diagnosed with COPD and a registry of at least one spirometry. The data were obtained by consulting digital clinical process in software SClinico ® and National Health Data Platform®; were considered records until 31/07/2017.

Results: This study included 136 patients. A dose of two available anti-pneumococcal vaccines was prescribed in 44% of these. However, only 38% had records of at least one dose of one of the two anti-pneumococcal vaccines (what corresponds to 86% of all prescribed vaccines), and 11% had records of administration of the two vaccines. Comparing the two vaccines, 39% of patients had at least one prescription of 23-valent polysaccharide vaccine (23-PPV), of which 87% did the vaccination. It corresponds to a coverage with 23-PPV in 34% of patients with COPD. In case of 13-valent conjugate vaccine (13-PCV), 18% of patients had one prescription and, of these, 87,5% did the vaccination. Thus, the coverage with 13-PCV was 15% of patients with COPD.

Conclusion: This study revealed a low rate of prescription and a low rate of coverage with anti-pneumococcal vaccines in COPD patients. Given the importance of this vaccination in these patients, this study gave rise to a project of continuous quality improvement in Health Unit. These data are also a potential starting point for a study of the factors that determine the prescription of these vaccines and compliance by patients.

Declaration of Interest

The authors declare that they have no competing interests.

The Ethics Comittee of Local Health Unit of Alto Minho assessed and approved the research protocol.

References and Clinical Trial Registry Information

Global Strategy for the Diagnosis, Management and Prevention of COPD. Global Initiative for Chronic Obstructive Lung Disease (GOLD). 2017. [online]

Grupo de Doenças Respiratórias em Medicina Geral e Familiar (GRESP). Recommendations in antipneumococcal vaccination. [online]

Direção Geral da Saúde. Norma de Orientação Clínica 11/2015 de 23/06/2015, atualizada em 06/11/2017. [online]

Abstract ID = 8666

Presented at: 7.3 Oral Abstracts 9 Children 01/06/2018 16:20-17:40

Antibiotics prescribed by health care workers for children under 5 years with respiratory symptoms in rural areas in Kyrgyz Republic. A FRESH AIR study.

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Applied Clinical Research/Implementation Science Results Abstract

Aim: Irrational use of antibiotics is a serious problem in Kyrgyzstan and internationally. The use of antibiotics for the treatment of viral infections, such as influenza promotes the emergence of resistant strains of bacteria. In 2014, the Kyrgyz Ministry of Health issued an order limiting the issuance of prescription antibiotics for pharmacists. However, this decision is not being adhered to. The aim of this study is to show how often antibiotic therapy is administered unjustified for colds and upper respiratory tract infections in rural areas among children under 5 years.

METHODS: The study was conducted in health clinics in rural areas of Kyrgyzstan. Children aged 2 to 59 months presenting with coughing and/or difficult breathing were included. The consultations were observed and we recorded the diagnosis given and what treatment was prescribed as well as the information provided to patient families by the attending family medicine physician, paramedic or nurse. After 5 days, the children's parents were called to ascertain what information they had received: Whether the child is sick still, whether there had been repeated consultation and whether the child was hospitalized.

RESULTS: In total, 494 children were screened. Of these, 232 fulfilled the inclusion criteria and were enrolled. All were diagnosed with ARVI. Of them, 49% were prescribed the following antibiotics: 86.2% amoxicillin, 8.3% ampicillin, 0.9% cephalosporins, 3.7% macrolides, 0.9% aminoglycosides, re-consultation 3.9%, hospitalization 1.3%.

CONCLUSION: Overall, the study found widespread irrational use of antibiotics and indications. Lack of knowledge regarding resistance to antibiotics has been widespread. Also, the study showed that many parents themselves administered uncontrolled antibiotics to their children.

Note: The data analysis is preliminary, and results may be subject to change.

Declaration of Interest

The authors declare no competing interests. The research has received support from the EU RIA program Horizon2020, grant-agreement no. 680997.

Abstract ID = 8687

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 11:00-12:45

ANTIPNEUMOCOCCAL VACCINATION IN COPD PATIENTS IN THREE PRIMARY HEALTH CARE UNITS

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Applied Clinical Research/Implementation Science Results Abstract

AIM:Chronic Obstructive Pulmonary Disease(COPD) is the fourth cause of death in the world. Antipneumococcal vaccination(AV) prevents exacerbations that have impact on lung function(Lf).Given the mortality of COPD, it becomes relevant to evaluate the AV regimen, according to the NOC011/2015's recommendations and the Respiratory Problems Working Group(GRESP) in COPD patients, in three Portugal Health Units(HU).

METHOD:Observational, retrospective and analytical study in patients diagnosed with COPD (ICPC-2 R95) between 07/07/2015-12/31/2016.Exclusion: Patients without Family Doctor(FD), without a diagnostic spirometry registered, without follow-up or deceased during the study period.Variables: sex, age, forced expiratory volume during first second(FEV1), AV, vaccination schedule(VS) compliance, non-compliance causes.Data collection: SClínico[®], MIM@UF[®], VACINAS[®], Portal da Saúde[®].Data processing: Excel2013[®], SPSSversion22[®].

RESULTS:Of the 433 patients,195 were included for analysis.The majority of patients were male (69.7%).Sixty-four(32.8%) patients performed AV, while 131(67.2%) did not.Comparing HU, 17(20.2%) had AV in D.Sancho, 21(36.8%) in Rio Maior and 26(48.1%) in Vale do Sorraia (p-value<0.05).The 13-valent conjugate vaccine(VPC13) was the first vaccine to be administered in 30(46.9%), while 34(53.1%) did 23-valent polysaccharide vaccine.Twenty-nine(45.3%) did not complete the full VS, 27.3% of them having known cause of non-compliance, 33(51.6%) completed and 2(3.1%) completed outside the protocol. From patients with FEV1≥80%, 6(16.7%) did AV, whereas those with FEV1<80%, 44(37.6%) fulfilled AV(p-value=0.019).

CONCLUSION:A small percentage of patients with COPD performed AV and only half of them completed the protocol. The main cause for not having completed the VS was the high cost of VPC13. There were significant differences in the vaccination care between the HU. There was a significant association between vaccinated COPD and FEV1, revealing that FD tends to vaccinate patients with worse Lf. Therefore, it is considered relevant to extend AV to those who are at an earlier stage of COPD to delay its progression. This research is the starting point for the accomplishment of training in the HU and subsequent development of a quality study.

Declaration of Interest

NONE

Abstract ID = 8708

Presented at: 3.5 Oral Abstracts 4 COPD in High Income Countries 01/06/2018 09:00-10:20

Associations between DOSE index, comorbidities and inflammatory markers – results from the TIEstudy

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Aim: To investigate the associations between the Dyspnoea, Obstruction, Smoking, Exacerbation (DOSE) index, comorbidities and inflammatory cells in a COPD cohort.

Method: Subjects from the Swedish Tools for Identifying Exacerbations (TIE)-study with spirometry-verified COPD were investigated. History of comorbidities and exacerbations were obtained from questionnaire. The DOSE index was calculated using mMRC, FEV1% predicted, smoking status and exacerbations previous year. The total score range from 0 to 8, a higher score with more severe disease. Subjects were divided in low (0-3) and high (4-8) score. The logistic regression analysis were adjusted for age and sex.

Results: We included 571 subjects, with FEV1 % predicted (mean(SD)) 56.6 (17.8) and 59% women. There were 472 (83%) subjects with low DOSE and 99 (17%) with high DOSE. The mean age was lower in the low DOSE group 68.1 vs 70.9 (p=0.001). There was no gender difference. Triple therapy (LAMA+ICS+LABA) was more common in the high DOSE group 86% vs 38% (p<0.001).

Comorbidities associated with a high DOSE index were: underweight (BMI<20) adjusted odds ratio (aOR) 3.61 (95%CI 1.69-7.88), chronic bronchitis aOR 3.14 (95%CI 2.00-4.92), asthma aOR 1.62 (95%CI 1.03 to 2.55), hypertension aOR 1.64 (95%CI 1.05 to 2.59) and depression/anxiety aOR 1.69 (95%CI 1.03-2.75). Heart disease (ischemic heart disease/heart failure) and diabetes were not related with DOSE index. There were differences in inflammatory cells between those with high DOSE index compared to low: B-Neu $(10^9/L)$ mean(SD): 5.97 (2.09), vs 4.63 (1.45), p<0.001, P-CRP (mg/L): 5.60 (7.96) vs 4.13 (6.26), p<0.05, and B-Eos: $(10^9/L) 0.18 (0.14)$ vs 0.22 (0.17) (p<0.05).

Conclusion: Important comorbidities as asthma and chronic bronchitis were associated with high DOSE index in the present COPD cohort. Subjects with high DOSE index had different inflammatory profile compared with low index. The prospective value of these results needs to be further studied.

Declaration of Interest

The first author B Stallberg has received honoraria for educational activities and lectures from AstraZeneca, Boehringer Ingelheim, Meda, Novartis and Teva, and has served on advisory boards arranged by AstraZeneca, Novartis, Meda, GSK, Teva and Boehringer Ingelheim.

Abstract ID = 8662

Presented at: 7.3 Oral Abstracts 9 Children 01/06/2018 16:20-17:40

Asthma in children under 5 years in rural Kyrgyzstan - a diagnostic vacuum? A qualitative FRESH AIR study

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Aim: The study explored the perceptions of asthma in children under 5 years of age (under-fives) among primary care health professionals (HP) and caregivers in rural Kyrgyzstan. Asthma is the most frequent chronic disease in childhood, however apparently often under-diagnosed.

Method: Semi-structured qualitative interviews were done in 2016 with 22 rural primary care HPs triangulated with interviews with 13 caregivers to under-fives (12-59 months) with recurrent lower tract respiratory illness,

Results: None of the HPs had diagnosed any children under-fives with asthma. HPs biomedical understanding of asthma was severe attacks of respiratory distress, with mandatory heredity and allergy, mostly in adolescents and adults. Most HPs -and caregivers- perceived asthma as a rare and serious, invalidating, potentially fatal disease in young children. All caregivers were acquainted with the term asthma and feared it for their children. Nevertheless, in the consultation, when caregivers asked if their child's recurrent/long-term cough and respiratory distress could be asthma, the HPs seemed to veer away from the asthma diagnosis and filled out 'the diagnostic vacuum' with infectious diagnoses. Despite the concerns, there did not seem to be stigma associated with asthma in the rural society and the caregivers' attitude towards inhaled bronchodilators for respiratory distress was mostly positive, based on experience or hearsay.

Conclusions: The apparent systematic under-diagnosis of asthma in rural Kyrgyzstan seemed selfperpetuating. The biomedical understanding and diagnostic tradition had no provision for asthma in underfives, therefore, few children were diagnosed with asthma, which reinforced the belief in society that asthma is a very severe disease. The HPs filled out 'the diagnostic vacuum' with infectious diagnoses.

Declaration of Interest

The authors declare no competing interests. The research has received support from the EU RIA program Horizon2020, grant-agreement no. 680997.

Abstract ID = 8451

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Asthma Patients perspectives on medication; do they need something more than the blue one?

Alan Kaplan¹, P Dion², Barry Hachey³ ¹Family Physician Airways Group of Canada, ²Freshley Squeezed Ideas, ³Astra Zeneca Canada

Aim:

To understand patient perspectives on Asthma medication

Method:

20 patients interviewed (first quarter 2016) in seven 90-minute focus groups, four in English(Toronto) and three in French(Montreal). Patient inclusion were those prescribed a regular controller, either ICS monotherapy or combination LABA/ICS

Results:

A number of different themes emerged. Asthma was described as "airway closing" in terms of symptoms and only rarely was there a mention of inflammation. They understood the 'blue one' immediately relieved their symptoms, that the preventer was a steroid and that combination puffers contained both. An interesting analogy was the preventer being like an antidepressant to be used to prevent 'sliding back' into depression.

There were many concerns about ICS including safety and becoming dependant on them; an analogy given was like the eyes getting weaker when one depended on their glasses. Many participants only believed that the asthma was present only when there were symptoms. Conversely, they held little hope of being able to live 'free and clear' of the illness and that they must live with a lesser quality of life and a permanent physical ailment.

With education, patients could understand the concept of the SMART strategy and could be taught that a B2 agonist such as Ventolin is a 'band aid solution' with and ICS/LABA such as Symbicort being able to 'do more for me'. Those that were unfamiliar with SMART suggested that they would inquire about it with their physicians.

Conclusion:

While Asthma is an inflammatory disease requiring regular anti-inflammatory treatment, patients have fears about using ICS and seem to be more comfortable using a single inhaler that can relieve their symptoms while dealing with the underlying disease.

Declaration of Interest

This focus group was conducted by Fresh Squeezed Ideas. They also contributed to the analysis and strategy and the research was funded by Astra Zeneca Canada.

Abstract ID = 8725

Presented at: 9.1 Prize Winning Abstracts 02/06/2018 10:20-11:25

Asthma phenotypes in primary care

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Applied Clinical Research/Implementation Science Results Abstract

Background: Current guideline-based primary care asthma management is a one-size-fits-all approach. To allow for more personalised management, we aimed to identify distinct and clinically relevant phenotypes, based on easily obtainable parameters, and to assess long-term asthma outcomes of these phenotypes.

Method: We analysed data from a randomised controlled trial, with 611 adult asthmatics, 18-50 years, with one year follow-up. We assessed 15 parameters using a hierarchical clustering strategy. Subsequently, outcomes at 12 months follow-up for the identified clusters were compared, including: asthma control (Asthma Control Questionnaire (ACQ)), quality of life (Asthma Quality of Life Questionnaire (AQLQ)), exacerbation-rate and medication-usage.

Results: Five clusters were identified using baseline data: 1 'early atopic', 2 'late-onset females', 3 'reversible', 4 'smokers', 5 'exacerbators'. Long-term follow-up showed clinically meaningful differences between different phenotypes for all outcomes, as example see figure 1.

Generally the 'early atopic' subgroup showed the most favourable results and the 'exacerbators' the least favourable.

Discussion: Five distinct and easily identifiable asthma phenotypes were established in primary care, which significantly differ in asthma outcomes over a one year follow-up period. Phenotyping patients allows for a more personalised asthma management strategy and could help identify which patients to review more regularly.

Abstract ID = 8466

Presented at: 6.3 Oral Abstracts 7 COPD and Pulmonary Rehabilitation 01/06/2018 14:25-15:45

Barriers & enablers for primary health care practitioners when referring patients with Chronic Obstructive Pulmonary Disease to Pulmonary Rehabilitation

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Introduction: Chronic Obstructive Pulmonary Disease (COPD) is a chronic debilitating disease. Pulmonary Rehabilitation (PR) is a cost-effective, internationally recommended intervention for COPD patients suffering breathlessness and/or functional limitation. Referral is predominately health care practitioner led, but referral numbers and patient uptake to this widely available intervention is poor.

Aims: To understand the barriers and enablers for primary health care practitioners (PHPs) when referring or considering patient referral to PR and to explore whether patient characteristics influence the decision.

Methods: Semi-structured interviews were undertaken with questions based on the Capability, Opportunity, Motivation, Behaviour Model (COM-B) with PHPs in General Practices across Cambridgeshire and West Midlands, UK. Participants were purposively selected and asked about their experience and practice in relation to referring COPD patients for PR. Images depicting patients with varying COPD severity were used to stimulate memory and associative recall. Interviews completed to theme saturation.

Analysis: Interview data were recorded and transcribed verbatim. Rapid Qualitative Analysis was undertaken.

Results: 19 PHPs were interviewed. Practice nurses with post registration respiratory education had the greatest PR knowledge.

Across all PHPs there was a hierarchical approach to COPD management with a greater focus on medication and smoking cessation than PR.

Emerging themes include PHP knowledge of PR, PR provision and provider engagement with PHPs, perceptions of COPD and/or COPD patients including social and/or disease characteristics, PHP experience and PR referral processes. Subsequently, PCPs often unconsciously selected which patients to discuss PR with.

Additional common challenges for the PHP was difficulty in articulating PR, consultation time constraints and a lack of promotional resources. Patients/Carers very rarely ask for referral to PR.

Recommendations: Providers must engage with PHPs/COPD patients/carers and actively promote PR. PHPs need to be better educated about PR. Alternative referral options should be considered.

Declaration of Interest: The study was funded by the University of Birmingham : Sponsor reference: RG_16-032

Ethical approval was given by University of Birmingham and Health Research Authority.

IRAS project ID: 213367 Protocol number: RG_16-032 REC reference: 17/HRA/0008

Access to primary care centres was given by Local Clinical Commissioning Groups.

Abstract ID = 8649

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Barriers and facilitators of the development, implementation and maintenance of eHealth according to eHealth professionals

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Aim: The rise of technology has led to the development of multiple eHealth tools to support patients. Although the potential benefits of eHealth are widely described and the use of eHealth is rapidly growing, realization of these benefits goes rather slow. An important reason for this is are difficulties with the implementation process. Therefore we have investigated barriers and facilitators of the development, implementation and maintenance of eHealth.

Methods: First, Dutch experts in the field of eHealth were interviewed about their experiences with possible barriers and facilitators of eHealth implementation. Based on the results, a digital questionnaire was developed. 124 project leaders, managers, healthcare professionals and software developers were asked to fill in the questionnaire about their experiences with eHealth projects.

Results: A total of 55 participants completed the survey (32% male, mean age 41±13 years). Overall, participants were satisfied with the development, implementation, maintenance and end result of their eHealth project. 24% followed a guideline during implementation. A good cooperation between involved parties and the existence of a clear project plan before the development are possible facilitators for a successful eHealth implementation, where the lack of these factors are possible barriers. In addition, consultations between involved parties tends to be a facilitator and insufficient involvement of the target population tends to be a barrier.

Conclusion: This study has given an insight in the experiences of eHealth professionals and has made a start to explore the barriers and facilitators of the development, implementation and maintenance of eHealth.

Abstract ID = 8540

Presented at: 9.3 Oral Abstracts 10 COPD and the Environment 02/06/2018 10:20-11:25

Can a rapid prioritisation process be used to identify health research priorities in low and middle income countries (LMICs)?

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1. Aim:

Within the NIHR Breathe Well programme, the University of Birmingham is collaborating with four LMICs (Brazil, China, Georgia, FYR Macedonia) to develop research capacity in COPD care. A key element of this work was to develop a process for identifying health research priorities in each country.

2. Method:

A novel, rapid prioritisation process was developed, informed by established approaches and discussion with investigators. Each country convened a stakeholder group of patients, healthcare professionals and policy makers. Evidence briefs relating to 10 pre-specified potential research studies were sent to participants before the prioritisation meeting. Prioritisation meetings included facilitated discussions for each participant group; each study was discussed for 15-20 mins and rated on a 3-point scale of importance. Participants subsequently ranked all studies in order of priority. Results were compared across type of participant and will be combined with those from the country's research team and programme co-investigators, to inform selection of future research studies.

3. Results:

This abstract presents interim data from two countries; complete data will be presented at the conference. Research teams in each country held prioritisation meetings October-December 2017. The highest priority studies in both countries related to screening test strategies and clinical education for primary care staff. Other prioritised studies in China related to smoking cessation and treatment for newly case-found COPD patients, whereas Brazilian participants also ranked pulmonary rehabilitation and quality COPD management highly.

4. Conclusion:

The meetings were successful and the initiative was well-received by all stakeholders. The methods allowed priority research areas to be identified in each country. Initial findings suggest that our approach offers a feasible way of assessing health research priorities in LMICs.

Declaration of Interest

The authors declare no conflicts of interest. The research is funded by NIHR Global Health Research, as part of the Breathe Well programme.

Abstract ID = 8486

Presented at: 3.5 Oral Abstracts 4 COPD in High Income Countries 01/06/2018 09:00-10:20

Characterization of adherence to inhaled medication in COPD patients

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Objectives: Adherence to inhaled medication in COPD patients is a challenging issue, but relatively understudied. The aim of this study is its characterisation, focused on patient-related determinants.

Methods: COPD out-patients from a respiratory unit \geq 40 years diagnosed according to GOLD criteria were included consecutively. The Measure of Treatment Adherence, the Beliefs about Medicines Questionnaire, and a demographic, clinical and COPD questionnaires were used. After applying these questionnaires, semistructured interviews were carried out, participants were encouraged to justify their opinions and behaviours. Field-notes were made during and after the interviews, and each interview was analysed before the next one. A quantitative and qualitative analysis of the variables was then performed.

Results: Of the 319 participants (mean age=67.7 years, 78.1% males) 300 completed the MTA questionnaire. 31.3% were considered poorly-adherent, and 16.7% non-adherent to inhaled therapy. Association with statistical significance was found between non-adherence and current smoking status (p = .044), and between adherence and GOLD stage, being higher from GOLD 1 to 4 (p=.001). A statistical significant negative association was found between FEV₁ and adherence to medication (p=.000). The mean BMQ Necessity score was higher in adherent patients (p=.000), being the mean Concern score similar (p=.877). We found 9 patterns of poor-adherence, 6 reasons given for poor-adherence behaviours, 5 reasons for good-adherence behaviours and 3 patient-related domains on adherence to medication.

Conclusions: Adherence is related to need perception and to the functional severity of the disease. A nonadherent patient is usually a current smoker with lower degree of airflow limitation and lower perception of medication' necessity. New information obtained was related to the patterns and reasons for different adherence behaviours, which are based on three major groups of patient related-determinants: health-related experiences, health-related behaviours and health-related beliefs.

Declaration of Interest : The authors have no conflict of interest to declare. The authors have no funding source to declare.

References and Clinical Trial Registry Information

1- Delgado A, Lima M. Contribution to concurrent validity of treatment adherence (Contributo para a validação concorrente de uma medida de adesão aos tratamentos). Psicologia, Saúde e Doenças. 2001; 2(2):81-100.

2- Salgado T, Marques A, Geraldes L, Benrimoj S, Horne R, Fernandez-Llimos F. Cross-cultural adaptation of the Beliefs about Medicines Questionnaire into Portuguese. São Paulo Med J. 2013; 131(2): 88-94.

3- Van Boven J, Lavorini F, Dekhuijzen P, Blasi F, Price D, Viegi G. Urging Europe to put non-adherence to inhaled respiratory medication higher on the policy agenda. Eur Respir J. 2017; 49:1700076.

Abstract ID = 8694

Presented at: 8.5 Oral Abstracts 9 Use of Data 02/06/2018 09:00-10:20

Classification of COPD patients and adherence to GOLD 2017 guidelines. The Greek UNLOCK

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Aim: We aimed to classify COPD patients into A-D groups according to GOLD 2017 guidelines, and to assess whether they are treated according to guidelines. Secondarily, we aimed to assess potential miss-match between CAT- and mMRC-based classification, and describe symptoms within groups.

Methods: 257 COPD patients enrolled in 2016-2017 from primary care in Greece. Physicians used structured interviews to collected cross-sectional data including demographics, symptoms, CAT and mMRC scores and medication. Patients were classified into A-D groups based on CAT and mMRC and prevalence of symptoms and medication was estimated in each A-D group.

Results: Mean (SD) age was 65 (12.3) with 79% males. The majority of patients reported uncontrolled symptoms (91% or 61% with \geq 10 CAT or \geq 2 mMRC scores, respectively). 37% had \geq 2 exacerbations in the past year. Group B was the largest followed by D, A and C. Patients were classified as more severe by CAT than by mMRC e.g., 82% in group A were re-classified as B and 85% in C re-classified as D. There was agreement for groups B and D. In all groups the majority was treated with combined LABA/ICS (>50%) and not with single or dual bronchodilator. Dyspnea and cough were prevalent (>55%) in all groups and their prevalence increased from group A to D, with 90% of patients reporting symptoms in group D. Groups A-C reported mainly morning symptoms, while D suffered symptoms all day.

Conclusion: Our study confers that dyspnea and cough are the two main symptoms bothering COPD patients of any disease severity, and that there is poor adherence to guidelines regarding treatment. A miss-match in A-D classification occurs depending on tool used, which can mislead clinicians and treatment choice.

Declaration of Interest: Authors declare no conflict of interest. This study has been funded by the Greek UNLOCK legacy

Abstract ID = 8575

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Clinical and Epidemiological Characterization of Patients with COPD

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1. Aim

Characterization of the last 30 COPD patients observed in our outpatient clinic

2. Method

Patient data was analyzed: demographics, severity of airflow limitation, symptom burden, exacerbation history, smoking status, dyspnea scores, BMI, comorbidities, previous treatment and strategic treatment modifications in the last 12 months.

3.Results

The collective number of 30 COPD patients presented a mean age of 68,3 years (SD±11,5) and an expressive male prevalence (93%). The mean FEV1 was 64,6% (SD±20,8) and about 36,7% of patients were classifiable as GOLD 1, 36,7% in GOLD 2, 23,3% in GOLD 3 and 3,3% in GOLD 4. The majority of patients (36,7%) were stratifiable in group B, 30,0% in group A, 3,3% in group C and 30,0% in group D. Half of the patients were previous smokers with a mean 33,1 pack-years (SD±23,2) and 26,7% were active smokers (mean 33,7 pack-years, SD±19,2). More than 70% of patients presented dyspnea class 2 or higher (mMRC). Mean CAT score was 12,3 with 50% scoring 10 points or more. Obesity or pre-obesity was present in 56,7% of patients. The most common comorbidities were arterial hypertension (43,3%), bronchiectasis (20,0%), diabetes mellitus (16,7%) and auricular fibrillation (16,7%). Exacerbations in the last year had occurred in 14 patients, mostly of moderate severity. Most patients (30,0%) were under medication with LABA+LAMA association and 30,0% had an inhaled corticosteroid associated. Grossly a quarter of patients saw its inhaled medication changed in the previous 12 months. A possible association between FEV1 and BMI with exacerbations was statistically observed.

4. Conclusion

COPD it's a worldwide prevalent disease. In our cohort most of the patients were males, current/former smokers, highly symptomatic with a high BMI. The correct management of stable COPD on an individual base is a pillar for control of symptoms and to reduce future risk of exacerbations.

Declaration of Interest

None to declare

References and Clinical Trial Registry Information

Global Strategy for the Diagnosis, Management and Prevention of COPD, Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2017

Abstract ID = 8576

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 11:00-12:45

Clinical characteristics of chronic obstructive pulmonary disease in Portugal

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Aim: Chronic obstructive pulmonary disease (COPD) is highly prevalent and results in significant health, economic and social burden. In Portugal, the number of patients diagnosed with COPD has increased 241%, between 2011 and 2016¹. Thus, the assessment of patients with COPD is becoming an essential part of today's routine clinical practice. However, there are few studies characterising Portuguese patients with COPD to support health professionals' interpretation of clinical assessments and enable comparisons with other populations. This study aimed to characterise Portuguese patients with COPD with commonly used clinical measures.

Method: A cross-sectional study was conducted. Patients with COPD were recruited from routine pulmonology appointments and primary care centres of Portugal. Assessments included a spirometric test, the modified Medical Research Council dyspnoea questionnaire (mMRC), the COPD Assessment Test, the Saint George Respiratory Questionnaire, the Hospital Anxiety and Depression Scale, quadriceps muscle strength, with handheld dynamometer; handgrip strength, with hydraulic hand dynamometer; maximal inspiratory/expiratory pressures; the 5-times sit-to-stand test and the 1-minute sit-to-stand test. Descriptive statistics were used to characterize the sample.

Results: 327 patients were enrolled (252 males; 66.7 ± 10.2 years; FEV₁ $60.5\pm25.1\%$ predicted). Most patients were at GOLD grade 2 (n=132; 40%), followed by grade 3 (n=90; 28%), 1 (n=73; 22%) and 4 (n=32; 10%). Considering the ABCD assessment tool defined by symptoms (mMRC) and number of exacerbations, patients were mostly from group A (n=129; 39%), followed by groups B (n=95; 29%), D (n=69; 21%) and C (n=34; 10%). Table 1 presents the values obtained for each outcome measure per gender.

Conclusion: This is the first study presenting a general characterisation of Portuguese patients with COPD. Such values will inform health professionals' interpretation of clinical assessments. Future studies should explore differences and provide reference values across the ABCD groups.

Declaration of Interest

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References and Clinical Trial Registry Information

¹Programa Nacional para as Doenças Respiratórias. Programa Nacional para as Doenças Respiratórias 2017. Lisboa: Direção-Geral da Saúde, 2017

Abstract ID = 8578

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 09:00-10:35

Co morbidities in Childhood asthma: A case-control analysis in a primary care setting

Inês Figueiredo, Lara Tomás, Nuno Craveiro, Carla Moreira, Helena Palma USF Lusitana

AIM: Asthma is a common chronic respiratory disease among children, which adversely affects life quality. Several studies show that asthma is strongly associated with comorbidities such as obesity, gastric reflux, rhinitis, sleep apnea, respiratory tract infections, atopic dermatitis (AD) and depression. In this analysis, we aim to evaluate the prevalence of childhood asthma, associated infectious and allergic co-morbidities and the management by the primary care physician.

METHOD: We conducted a retrospective case-control epidemiological analysis, from 2014 to 2017, to assess co-morbidities. We considered: rhinitis, upper respiratory tract infections (URTI), pneumonia, bronchiolitis and AD. Cases were defined as all individuals with 0-18 years with a previous diagnosis of asthma. Cases missing clinical data were excluded. Controls were age and gender matched to the case population. Information on co-morbidities was extracted from *S-Clinico®* database. A descriptive analysis was conducted and SPSS® was used to execute the statistical analysis using Mann-Whitney test.

RESULTS: The overall children population in the selected period was 2706, of which 104 had a previous diagnosis of asthma and 12 were excluded. A sample of 92 cases and 92 controls, with a total of 184 children was selected. The prevalence rate of asthma in the population was 3.8%. In the case group 45.95% did not have any comorbidities vs 17.14% in control group. In both groups the main comorbidity was URTI, with 32.14% in cases vs 27.3% in controls, and cases had more comorbidities ($p=1.6x10^{-5}$). When considering all respiratory infections, the cases had more events (p=0.001). 14,13% of the children were referred to pediatrician.

CONCLUSION: Considering published literature, we found a lower prevalence of asthma in our population. Asthma was associated with more co-morbidities, which could impact in disease control. Our analysis highlights the importance of primary care physicians in the management of childhood asthma.

Declaration of Interest

Nothing to declare.

Abstract ID = 8569

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Code COPD: exacerbation recording in the primary care COPD 2015-17 audit

Rachael Andrews¹, Noel Baxter¹, Juliana Holzhauer-Barrie¹, Jenni Quint², Philip Stone², Mike Roberts¹ ¹Royal College of Physicians, ²Imperial College London

Aim

The National COPD Audit Programme aimed to determine the differences between general practice (GP) recorded exacerbations in the past year, and exacerbations calculated using a validated methodology.

Method

The audit extracted Read-coded* data directly from GP systems including GP-recorded exacerbation counts (using, for example, Read code 66Yf). In addition, a validated modelling methodology [1] for computing the number of exacerbations was used as a comparator. This defined an 'exacerbation' as having occurred when one of the following was present in the GP record: oral steroid and antibiotic prescriptions on the same day, an LRTI code, or an exacerbation code.

Results

- 94% of general practices (n=407) providing 82,696 COPD patient records opted in to the audit.
- Using the GP recorded Read codes, in the past year:
 - 82.8% had zero exacerbations
 - 10.6% had 1 exacerbation
 - o 3.7% had 2 exacerbations
 - 2.9% had more than 2 exacerbations
- Using the validated methodology, in the past year:
- 58.1% had zero exacerbations
- 18.3% had 1 exacerbation
- 9.0% had 2 exacerbations
- 14.6% had more than 2 exacerbations

Conclusion

GP coded exacerbations are likely to significantly underestimate the true exacerbation rate in a COPD population. This finding has implications for both population level interventions based on risk stratification and targeted therapy aimed at individual patients.

* Read Codes are a coded thesaurus of clinical terms (https://digital.nhs.uk/article/1104/Read-Codes)

[1] Rothnie et al. Clin Epidemiol 2016; 8:771-82

Abstract ID = 8555

Presented at: 6.6 Digital Poster Discussion 4: Diagnosis & Assessment 01/06/2018 14:25-15:45

Control of Allergic Rhinitis and Asthma Test (CARAT10): Validation of the German version

Christoph Ulrich Werner¹, Luisa Koch¹, Klaus Linde¹, Konrad Schultz², Oxana Atmann¹, Antonius Schneider¹ ¹Technical University of Munich, TUM School of Medicine, Institute of General Practice, Munich, Germany, ²Klinik Bad Reichenhall, Center for Rehabilitation, Pulmonology and Orthopedics, Bad Reichenhall, Germany

Aim: The Control of Allergic Rhinitis and Asthma Test (CARAT10), developed between 2007 and 2009 by a group of Portuguese experts, is the only questionnaire assessing both highly related diseases, asthma and allergic rhinitis, which is focused on the control of the diseases. The aim of this study was to validate the German version of the CARAT10.

Method: A cross-sectional observational study was performed in three pulmologists' private practices in primary care in Southern Germany. After forward/backward translation process of the CARAT10 from its official English version to German, 222 adult patients with diagnosis of asthma or with asthma and allergic rhinitis completed the CARAT10, the Asthma Control Questionnaire (ACQ) and the Asthma Control Test (ACT). Patients' characteristics, mean scores, correlation coefficients and internal consistency of the CARAT10 and its subscales for upper and lower airways were determined.

Results: 213 of 220 patients could be included into analysis, 87 (40,8%) with allergic rhinitis. Cronbach's alpha for CARAT10 total score was 0,87 (0,84 for both, upper airway and lower airway subscale). Spearman's correlation coefficients for CARAT10 with ACQ6 and ACT were moderate to high with slightly higher results in patients with allergic rhinitis (ACQ6 0,72 and ACT 0,66) than those without allergic rhinitis (ACQ6 0,64 and ACT 0,59). Higher correlation results for the CARAT10's lower airway subscale (all around 0,8) were found than for its upper airway subscale (all around 0,3). The results of the still ongoing confirmatory factor analysis will be presented at the conference.

Conclusion: CARAT10 in its German version shows high internal consistency and good correlations with widely used and validated assessment tools of asthma control.

Declaration of Interest

None

Abstract ID = 8491

Presented at: 8.5 Oral Abstracts 9 Use of Data 02/06/2018 09:00-10:20

COPD diagnosis in primary care: a UK observational database study comparing patients with and without confirmed airflow obstruction.

Lynn Josephs¹, David Culliford², Matthew Johnson², Mike Thomas¹ ¹Department of Primary Care and Population Sciences, Faculty of Medicine, University of Southampton, Southampton, UK, ²NIHR Collaboration for Leadership in Applied Health Research and Care for Wessex Methodological Hub, Faculty of Health Sciences, University of Southampton, Southampton, UK.

AIM: COPD is a clinical diagnosis comprising symptoms, risk factors and evidence of post-bronchodilator airflow obstruction (AFO). Spirometry is fundamental to diagnosis, yet the National COPD Audit (2016) reported that one quarter of spirometry values were not consistent with COPD. Our objective was to compare characteristics, comorbidities and medication in those with and without spirometrically confirmed AFO.

METHODS: Retrospective observational study using patient-anonymised data in Hampshire Health Record Analytical database, an NHS database for >1.4 million patients. Read codes in primary care records were used to identify a prevalent COPD cohort as at 01/01/2011 and define 3 patient categories on the basis of serial FEV1/FVC% since diagnosis: those with persistent AFO (all <70%), variable AFO (some <70%) and absent AFO (all ≥70%). Respiratory medication was compared in the AFO categories over 3 years (2011-2013).

RESULTS: 16,479 patients had a diagnosis of COPD of whom 13,653 (82.9%) had FEV1/FVC% data: 7609 (46.2%) had persistent AFO, 4413 (26.8%) variable AFO and 1631 (9.9%) absent AFO (table 1). In patients without AFO, mean FEV1/FVC% was high (80.5%). Compared to patients with AFO, those without AFO were more often women, had higher mean BMI, contained fewer active smokers and had more recorded comorbidities. Among patients without AFO, 1294 (79.3%) were receiving respiratory medication: long-acting bronchodilators in 936 (57.4%) and inhaled corticosteroids in 979 (60%). Diagnosed asthma was unlikely to explain this prescribing: after excluding all 4244 patients with asthma codes between 2011 and 2013 (25.8% of the cohort), 50.1% of the 1182 patients without AFO were receiving long-acting bronchodilators and 49.7% were receiving inhaled corticosteroids.

CONCLUSION: Ten percent of patients with a primary care COPD diagnosis did not have obstructive spirometry. If COPD diagnosis is incorrect, there is potential overuse of harmful or ineffective treatments and other causes of patients' symptoms may be missed.

Declaration of Interest

This article presents independent research funded by the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care (NIHR CLAHRC) Wessex. The views expressed in this publication are those of the authors and not necessarily those of the National Health Service, the NIHR, or the Department of Health.

Abstract ID = 8645

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

COPD Diagnosis Prevalence and Tobacco Habits in a Rural Portuguese Health Care Centre

Pedro Luís Pinheiro, Gorete Fonseca USF Penela

1.Aim,

There is a great heterogeneity in the prevalence of Chronic Obstructive Pulmonary Disease (COPD) across the world. We aim to calculate the real COPD diagnosis prevalence in our medical care unit and the register tobacco habits among these patients.

2.Methods,

Observational, descriptive study. Population: total of users enrolled in the medical care unit in 2017. Variables: diagnosis of COPD (ICPC2 - R95) active in 2017; tobacco abuse (ICPC2 – P17) active in COPD patients; age; genr. Data collected from the MIM@UF® and SClínico® program, with Microsoft Excel®.

3.Results,

From a total of 6249 patients enrolled in the medical care unit, 116 (1.9%) presented COPD diagnose in 2017. This prevalence increases to 2.9%, considering the population over 40 years. Ages ranging from 37 to 97 years, mean of 74.57 years, with 58% being between 65-84 years and 21% are large elderly (>= 85 years). The male gender predominates with 58%. Only 3% presented a register of tobacco abuse.

4.Conclusion

The analyses shows a COPD diagnosis of ~3%, which is below the 14.2% of that reported in Lisbon. This could suggest a lower COPD prevalence in our region, which has an elderly population. Moreover, along with a low registered tobacco abuse, raises the question if it is a population with healthy habits, carrying out a low morbidity? However, we should be aware of important bias as underdiagnoses, lack of subject approach during consultations concerning tobacco or poor clinical register. It is concluded that awareness of family physicians is essential, increasing the clinical suspicion of potential patients at risk, while further studies are needed.

Declaration of Interest

Declarations of interest. None of the authors has conflict of interest. With no companies or organizations relations.

Abstract ID = 8455

Presented at: 3.5 Oral Abstracts 4 COPD in High Income Countries 01/06/2018 09:00-10:20

Creation of a Quality Standard for Community Management of COPD in Ontario

Alan Kaplan¹, Sarah Dimitrova Burke², Mark McPherson², Gracia Mabaya², Kashfia Alam², Roger Goldstein³ ¹Family Physician Airways Group of Canada, ²Health Quality Ontario, ³University of Toronto

Aim: To create a measurable standard of care to guide community management and improve quality of life for people with COPD.

Methods: A committee composed of multiple health care professionals, administrators, researchers, patients and family caregivers was formed to advise on the creation of the standard. Advisory committee members participated in a survey and a series of meetings to reach consensus on priority topic areas for improvement in COPD management and outcome measures. These priority topic areas and measures were chosen based on a review of clinical practice guideline recommendations and an environmental scan. Input from a broad range of stakeholders was also sought through a virtual town hall, an online public consultation, and targeted outreach.

Results: Based on the prioritization process, the 24-member advisory committee, co-chaired by a primary care physician with expertise in respiratory care and a respiratory specialist, reached consensus on a standard with thirteen statements addressing care in the following areas: diagnosis confirmed with spirometry, comprehensive assessment, multidisciplinary care and specialized respiratory care, education and self-management, smoking cessation, pharmacological management, vaccinations, pulmonary rehabilitation for both stable dyspneic patients and post hospitalization, long-term oxygen therapy, management of acute exacerbations of COPD, and follow-up after hospitalization.

Conclusion: The COPD Quality Standard provides an evidence-based resource outlining what high-quality care looks like to help clinicians and health care organizations prioritize improvement efforts and measure success. Recommendations for adoption of the standard have been developed to support implementation and measurement of outcomes. Hopefully these recommendations will also promote resource allocation to reinforce them

Declaration of Interest

Burke, Mcpherson, Alam and Mabaya are all employed by Health Quality Ontario

Abstract ID = 8627

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 11:00-12:45

Criterion, construct and predictive validity of computerised respiratory sounds in COPD.

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Aim: Computerised respiratory sounds (CRS) are simple measures, closely related to the movement of air within the tracheobronchial tree and thus, promising outcome measures to be used in primary care practice to assess patients with chronic obstructive pulmonary disease (COPD). However, CRS measurement properties, such as validity, have been poorly tested. This study aimed to assess criterion, construct and predictive validity of CRS in COPD.

Method: Fifty patients (36 males; 67.26±9.31y, FEV₁ 49.52±19.67%predicted) with stable COPD were enrolled. CRS at anterior and posterior right/left chest were simultaneously recorded and the number of crackles, wheeze occupation rate, median frequency and maximum intensity were processed using validated algorithms. Spirometry-lung function, a numerical scale-cough and wheezing intensity, modified medical research council (mMRC)–dyspnea and the COPD Assessment Test (CAT)-impact of the disease, were also applied. Receiver operating characteristic (ROC) analysis, Spearman's rank correlation coefficient and multivariate Cox regression analyses were used to assess CRS criterion, construct and predictive validity, respectively.

Results: Inspiratory number of crackles were the only CRS parameter exhibiting adequate criterion validity to differentiate between patients with mild-to-moderate from patients with severe-to-very severe airflow limitation (areas under the curve > 0.78; p=0.001). Cutoff points were of 0.1 (sensitivity=81%; specificity=71%) and 0.5 (sensitivity=74%; specificity=80%) for right and left chest, respectively (Fig.1). Concerning construct validity, significant low correlations (rs<0.48; p<0.05) were found between cough, wheezing, mMRC and CAT with CRS parameters. None of the CRS parameters were predictors of the time until the first exacerbation (p>0.05; hazard ratios between 0.95 and 1.04).

Conclusion: CRS, namely inspiratory crackles, showed adequate criterion validity to be used as part of the evaluation of patients with COPD. However, analogously to other clinical outcome measures, such as lung function, CRS significantly differ from patients' experiences of the disease. Hence, CRS should not be used isolated in patients' assessment.

Declaration of Interest

Declaration of interest: Declaration of interest: This work was supported by Fundo Europeu de Desenvolvimento Regional (FEDER) through Programa Operacional Competitividade e Internacionalização (COMPETE) and Fundação para a Ciência e Tecnologia (FCT) under the project UID/BIM/04501/2013 and SFRH/BD/101951/2014 and partially supported by Coordination for the Improvement of Higher Education Personnel (CAPES) – grant number 88881.134901/2016-01.

An extended version of this and additional data has been published as an article in: Oliveira, A., Lage, S., Rodrigues, J., & Marques, A. (2017). Reliability, validity and minimal detectable change of computerized respiratory sounds in patients with chronic obstructive pulmonary disease. The clinical respiratory journal.

Abstract ID = 8610

Presented at: 9.3 Oral Abstracts 10 COPD and the Environment 02/06/2018 10:20-11:25

Critical factors to the implementation of interventions targeting chronic lung disease in lowerresource settings – a FRESH AIR systematic review

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Aim: Chronic lung diseases (CLDs) are a leading cause of death worldwide. While 90% of the associated mortality occurs in low-and middle income countries, evidence on how to implement appropriate interventions remains scarce, paradoxically particularly in these settings. We aim to identify critical factors to a successful implementation of interventions targeting CLDs in lower-resource settings. This is a sub-study of the FRESH AIR implementation science project, aiming to improve chronic lung health in lower-resource settings.

Methods: We systematically search in Pubmed, Embase, the Global Health Database, Cochrane, PsychInfo, Emcare, and CINAHL for relevant papers published up to 23 October 2017, without language restriction. We search for (synonyms of) 'implementation', AND 'lower-resource setting', AND 'CLDs', OR specific CLD-interventions (such as 'smoking cessation'). Two researchers independently screen all results, and include relevant studies. Papers are excluded if they focus merely on implementation at national governmental level, present no primary data, or when no full text is available (after contacting the authors). Review references are screened for relevant papers, and from conference abstracts and study protocols a resulting paper is searched. Studies' methodologies are critically appraised. Lastly, implementation factors are extracted and categorised.

Results: The search yielded 12,782 results. After removal of duplicates, 5,345 titles and abstracts were screened, of which 290 remained for full text screening. Preliminary results show most authors assessed the implementation process unstandardised, and hardly any paper would meet the recently published 'Standards for Reporting Implementation Studies' recommendations. Stakeholder engagement and adequate knowledge of the local context seem important facilitators. Rigid harmful traditions and lack of resources seem important barriers. Further, final results are currently being evaluated.

Conclusion: This systematic literature review identifies critical implementation factors for CLD-interventions in lower-resource settings. Implementers capitalising on these factors will most likely enhance their implementation success.

Declaration of Interest

The authors declare to have no conflict of interest.

This study was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997.

References and Clinical Trial Registry Information

This study is registered under trial registration number: NTR5759. http://www.trialregister.nl/trialreg/admin/rctsearch.asp?Term=23332

Abstract ID = 8516

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Cutpoints of the 'Control of allergic rhinitis and asthma test' (CARAT) asthma subscale based on an international survey

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Applied Clinical Research/Implementation Science Results Abstract

<u>Aim:</u> The aim is to identify the cut-points of the Control of Allergic Rhinitis and Asthma Test (CARAT) asthma subscale, to differentiate between controlled, partly controlled and uncontrolled asthma using standard self-reported measures. From a clinicians point of view the purpose of the upper cutpoint (between controlled vs partly/uncontrolled) is to exclude uncontrolled disease and the purpose of the lower cutpoint (between controlled vs controlled/partly controlled vs uncontrolled) is to confirm uncontrolled disease, this is similar in structure to the Asthma Control Questionnaire (ACQ).

<u>Method</u>: CARAT was designed and validated to measure control of both asthma and Allergic Rhinitis (AR) currently there is no tool that reflects control of AR in relation to asthma. CARAT meets COSMIN criteria. Asthma patients from The Netherlands, Greece and Portugal completed CARAT together with the ACQ. Decisions were based on NPV≥.850 for the upper cutpoint and on PPV≥.850 for the lower cutpoint, supported by: Area Under the Curve (AUC), sensitivity (SS), specificity (SP), percentage correctly classified patients (PCCP).

<u>Results:</u> Data from 653 asthma patients (49.3% with rhinitis; ACQ: 46.7% well controlled, 17.3% partly controlled, 17.5% uncontrolled; 35.4% men, mean age 51.6 yrs), suggested an upper cutpoint of 14.5 (SS83%, SP79%, AUC.891, PCCP80.8%, PPV76%, NPV86%) and a lower cutpoint of 8.5 (SS46%, SP99%, AUC.93, PCCP87%, PPV88%, NPV87%). The characteristics of the AR group did not meet scientific demands to result in a AR cutpoint.

Conclusion: We defined cutpoints of 14.5 (to exclude uncontrolled disease) and 8.5 (to confirm uncontrolled disease) for the CARAT asthma scale. Further analysis should reveal cutpoints for the AR scale.

Declaration of Interest

HB, CdJ, EvH, JK, TI, FJ and, BFdB report no conflicts of interest. TvdM is currenly employee of GSK. The study was funded by unrestricted grant by AstraZeneca.

Abstract ID = 8699

Presented at: 3.6 Digital Poster Discussion 1: Teaching & Behavioural Interventions 01/06/2018 09:00-10:20

Delivering internet-based spirometry training for health care workers in four countries: The FRESH AIR H2020 experience

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<u>Aim:</u>Spirometry, a measure of lung function, is central to the diagnosis and management of chronic lung diseases such as asthma and chronic obstructive pulmonary disease (COPD).^{1,2,3} Access to spirometry in Low- or Middle-Income Countries (LMICs) is limited⁴. We aimed to deliver an internet-based spirometry training and feedback program to health care workers (HCWs) in four LMICs.

<u>Method:</u>UW provided access to Spirometry 360⁵ an online, evidence-based training program. Based on ATS/ERS standards, it is designed both for primary care test administrators and treating providers. Participating teams also submit de-identified spirometry tests to the secure Feedback Reporting System. Each team receives several monthly feedback reports summarizing the quantity and quality of their tests and recommending specific corrective action. To overcome language barriers, we translated the training materials into Vietnamese and Russian. Four main measures have been followed since July 2016. These include 1) training resource logins and 2) completions, 3) number of spirometry tests submitted, and 4) proportion of clinically acceptable ("passing") tests.

<u>Results:</u> A wide range of HCWs have participated in the program and a wide range of approaches taken for its delivery. To date, 78 HCWs have logged into the training, ranging from 38 to 1 per country. The overall completion rate was 44%, ranging from 92% to 0%. Since September 2016, a total of 266 spirometry tests have been submitted by three countries, ranging from 195 to 28 tests per country. The baseline-passing rate was 66% (range 73%-33%), and improved to a "best month" of 97% (range 100%-85%) in September 2017. Participant feedback has been uniformly positive.

<u>Conclusion</u>: Although it is feasible to deliver an internet-based spirometry training and feedback program in LMICs, uptake is variable, and influenced by a variety of barriers including language, cultural acceptability of the test, competing priorities, and equipment and internet availability.

Declaration of Interest: FRESH AIR was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997. This study is registered under trial registration number: NTR5759. http://www.trialregister.nl/trialreg/admin/rctsearch.asp?Term=23332

References and Clinical Trial Registry Information

References

- 1. From the Global Strategy for the Diagnosis, Management and Prevention of COPD, Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2017. Available from: http://goldcopd.org
- Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2017 (Page 18). Available from: www.ginaasthma.org
- 3. Levy, ML et al. Diagnostic Spirometry in Primary Care. DOI:10.4104/pcrj.2009.00054
- 4. Obaseki, D et al. Gaps in Capacity for Respiratory Care in Developing Countries, Nigeria as a Case Study. DOI:10.153/AnnalsATS.201410-443AR
- 5. www.spirometry360.org

Abstract ID = 8565

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Demographic trends of asthma attendances in Singapore: A 7-year observation study in a public primary care institution

Lifeng Zheng¹, Ngiap Chuan Tan², Eileen Yi Ling Koh³ ¹SingHealth Polyclinics, ²Singhealth Polyclinics, SingHealth-Duke NUS Family Medicine Academic Clinical Program, ³Singhealth Polyclinics

Demographic trends of asthma attendances in Singapore: A 7-year observation study in a public primary care institution

Zheng LF¹, Koh EYL¹, Tan NC^{1,2 1} SingHealth Polyclinics² SingHealth-Duke NUS Family Medicine Academic Clinical Program

Abstract

Aim:

Asthma is the leading chronic respiratory disease affecting patients of all age groups in Singapore. Earlier studies have shown ethnic variations in asthma control amongst patients managed in public primary care clinics (polyclinics). We postulated that the asthma disease burden, as reflected in polyclinic attendances would be higher in patients of the minority ethnic group. The aim of this study was to describe the demographic trends of asthma attendances at polyclinics, so as to highlight the profiles of at-risk patients with asthma.

Methods:

De-identified aggregated data from 2010 to 2016 were retrieved from the national asthma program and clinical quality database of 9 polyclinics in the institution. These data, including demographic characteristics such as age, gender and ethnic groups were audited and correlated with the scores of the Asthma Control Test (ACT).

Results:

The overall asthma attendances increased from 22,703 in 2010 to 29,493 in 2016, with the highest rise amongst patients aged 60 to 69 years. Females (58.0%) had higher asthma attendances as compared to males in 2016. Compared with national ethnic composition (Chinese 74.1%, Malay 13.4%, Indian 9.2% and Others 3.3% in 2010), the proportion of Malay attendees for asthma was disproportionately higher at 25.9% in 2010. This was further increased to 27.1% of total attendees in 2016. The national ethnic composition remained stable (Chinese 74.3%, Malay 13.4%, Indian 9.1% and Others 3.2% in 2016). The proportion of patients who achieved good asthma control (ACT score >20) had risen from 71.4% to 80.9%.

Conclusion:

Overall more patients appeared to achieve better asthma control over the 7 years. Nonetheless, more elderly and Malay patients attended the polyclinics for asthma management, which require research to identify underlying factors.

Declaration of Interest

Nil

References and Clinical Trial Registry Information

Nil

Abstract ID = 8696

Presented at: 8.5 Oral Abstracts 9 Use of Data 02/06/2018 09:00-10:20

Determinants of frailty in primary care patients with COPD. The Greek UNLOCK Study

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Aim: The objectives of this study were to determine the prevalence of frailty in COPD patients and to identify the associated risk factors.

Method: 257 COPD patients enrolled in 2016-17 from primary care in Greece. Physicians used structured interviews to collected cross-sectional data including demographics, medical history, symptoms and CAT score. Patients were classified into severity groups according to GOLD 2017 guidelines. Participants completed the FiND questionnaire, exploring the frailty and disability domains. In the present analyses, disable and frail patients were pooled and were compared to robust patients. Factors associated with frailty were analyzed using univariate and multivariate logistic regression.

Results: Mean (SD) age was 65 (12.3) with 79% males. The majority of patients suffered with frailty n=205 (82%) of which 192 (76.8) had mobility disability. 84.2% were married/with partner and 55.4% retired. 55.6% were current smokers. Uncontrolled disease (\geq 10 CAT score) was reported in 91.1% and 37.2% of patients had \geq 2 exacerbations in the past year. Dyspnea (38%) and cough (53.4%) were the main symptoms. Main comorbidities were hypertension (72.9%), hyperlipidaemia (24.6%) and diabetes (11%).

Risk of frailty was significantly increased with age (OR; 95%CI: 1.05; 1.02-1.08), hypertension (2.25; 1.14 - 4.45), uncontrolled disease (≥10 CAT score 4.65; 1.86-11.63 or ≥2 exacerbations 1.73; 1.07-2.78), smoking cessation (2.37; 1.07-5.23) and GOLD B&D status (4.65; 1.86-11.63). In multivariate regression smoking cessation and GOLD status remained significant. BMI, occupational status, symptoms and other comorbidities were not significant.

Conclusion: Frailty with mobility disability is common in COPD patients and severity of disease as well as aging increases the risk. It is possible that frail patients are more likely to quit smoking. COPD control is recommended to prevent or delay the adverse outcomes of frailty.

Declaration of Interest: Authors have no conflict of interest. This study has been funded by the Greek UNLOCK legacy.

(including funding source and trial registration as appropriate)
Abstract ID = 8661

Presented at: 9.1 Prize Winning Abstracts 02/06/2018 10:20-11:25

Development of a new inhaler technique instruction method: based on the Inhaler Research Workgroup study

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Aim: Poor inhaler technique -which may be considered a motor skill- is associated with poor disease control, outcomes and healthcare costs, optimizing inhaler technique education is crucial. Applying an interdisciplinary approach (incorporating views and experience of patients and healthcare providers as well as the literature with regard to motor learning theories) might result in the development of a thorough and didactic-based inhaler technique instruction method.

Method: The international Inhaler Research Workgroup study consisted of 3 parts: a) To reveal the experiences with inhaler use and inhaler technique instruction 127 patients with asthma and COPD in the Netherlands, Spain and Greece were interviewed. b) Focus group meetings (n=6) with healthcare professionals in the Netherlands, Spain and Greece were arranged to explore their beliefs and experience with regard to inhaler education. c) a literature review (including 46 articles) to reveal theories on motor skill acquisition was conducted. Based on the results of the three sub studies, we have developed a new evidence-based instruction method.

Results: Most patients did not receive inhaler technique instruction for years. A timely follow-up -within one month after instruction- and patient-centered instruction has to be emphasized. Lack of uniformity and (organisational) difficulties with regard to inhaler technique education was revealed. Based on the literature review (summarizing 27 theories and 7 models on the acquisition of closed motor skills) key aspects (patient characteristics, teaching aspects, context and practice variables) could be defined. These aspects along with differences in health care systems between countries and cultural beliefs should be taken into account.

Conclusion: A new inhaler technique instruction method combining the results of the IRW study has been developed. Embedding this method in a well-organized healthcare system is crucial. The feasibility and the effectiveness of this promising new inhaler technique instruction method needs to examined in future research.

Declaration of Interest

The IRW study was funded by AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Mundipharma, Novartis.

Abstract ID = 8632

Presented at:

Diagnosis of asthma copd overlap in primary care: does it match with information in the medical record?

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Aim: We aimed to determine the prevalence of asthma COPD overlap (ACO) in general practices and studied the asthma and COPD related characteristics in the medical record that may justify these diagnostic conclusions. Moreover, we compared patient groups based on first diagnosis (i.e., asthma or COPD).

Methods: Cross-sectional study in 12 general practices based on information in the medical record of all patients with a diagnosis of asthma and COPD. These medical records were evaluated in a structured way on COPD-related characteristics (like airflow obstruction, smoking history, symptoms) and asthma-related characteristics (like episodic wheezing, positive family history for atopic diseases, positive allergy test, and airflow reversibility). Based on an algorithm we postulated the likelihood for a valid diagnosis of asthma and COPD based on the medical record.

Results: The prevalence of diagnosed ACO was 0.4% of practice population (n=156, 13.3% of COPD population). 132 medical records were analysed. 24.2% of the records contained enough information to verify both diagnoses and in 45.4% of the records indications for ACO were found (but not convincing enough to verify both diagnoses). COPD was more frequently verified than asthma (respectively 75.8 and 32.6%). Moreover, 53.1% of recorded airflow reversibilities were accompanied by equal volume responses. Atopic constitution was more frequently documented in patients that were diagnosed with asthma before COPD. Moreover, asthma and COPD were more frequently verified in patients that were diagnosed with asthma first.

Conclusion: In approximately one in three patients ACO could not be verified based on information in the medical record. This percentage was higher for patients who were diagnosed with COPD first. Potential misdiagnoses of asthma based on flow-volume responses warrants further study.

Declaration of Interest

None Declared, no funding

Abstract ID = 8688

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Diagnosis of Chronic Obstructive Pulmonary Disease in three Portugal primary care units: need to improve the diagnosis, or not: that is the question

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Aim:Chronic Obstructive Pulmonary Disease(COPD) has a prevalence in Portugal of approximately 5.8% but only 9.3% of them have a diagnostic spirometry(DS).Our objective is to describe and compare the prevalence of COPD in three Portugal primary care units(PCU) with the national reality and to verify if this diagnosis is being performed according to the 2017 GOLD guidelines.

Method:Observational,retrospective and analytical study in patients diagnosed with COPD(ICPC-2 R95) of USF-D.Sancho(unit1), UCSP-Rio-Maior(unit2) and USF-Vale-do-Sorraia(unit3) in 31/12/2016.Patients without a family doctor or without follow-up in the last 3years,were excluded.Variables in study: sex, age, spirometry and forced expiratory volume during first second(FEV1).Data collection software: SClínico®, MIM@UF® and Portal da Saúde®. Data processing: SPSS®version22.

Results:From 417 patients, 312 were included for analysis,the majority were men(67.6%), and 193(61.6%) had a DS, 74(23.7%) had a misinterpreted spirometry of COPD(MIS) and 45(14.4%) had no spirometry. From patients with MIS, this exam was suggestive of asthma in 38(54.4%), restrictive pathology in 12(16.2%), asthma/COPD overlap syndrome in 9(12.2%) and 15(20.3%) patients had normal spirometry. In patients with DS, the majority were men(76.2%) with a mean age of 69.61years, and there was a prevalence of COPD of 0.46% and a prevalence per PCU of 0.73% in unit1, 0.49% in unit2 and 0.28% in unit3.Regarding the number of correct diagnoses, there was a statistically significant difference between unit1[84(69.4%)] and unit3[54 (56.3%)],(p-value=0.045) and in DS patients the FEV1 values were registered in 152(78.8%).

Conclusion:The national prevalence of COPD is higher than the prevalence in the PCU evaluated, which reveals underdiagnosis.One-third of patients with CODP codification did not have a DS, but comparing with the national reality of COPD with DS, the PCU are well above average. There must be a great teaching work in the PCU for COPD high risk patients' selection and for the correct interpretation of spirometry, in order to increase correct diagnosis.

Declaration of Interest

None.

Abstract ID = 8497

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Diagnosis Of COPD - Quality Improvement

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Aim: Chronic Obstructive Pulmonary Disease (COPD) is a disease with increasing prevalence, however continued underdiagnosed. According to the DGS, in 2016 there were 131,632 patients diagnosed with COPD in Primary Health Care in Portugal. Only 32.3% had the diagnosis confirmed by spirometry. The objective is to increase the number of patients with the diagnosis of COPD based on spirometry of the Family Health Unit (USF) D.Sancho I.

Method: Circuit of evaluation and improvement of quality. First, a cross-sectional study of the COPD diagnoses according ICPC-2 (R95 -Chronic Obstructive Pulmonary Disease) was performed in USF from data collected from MIM@UF® and SClínico® referring to 11/23/15. On 23-06-2016 an intervention (clinical session with distribution of pamphlet) was made to sensitize clinicians about the importance of correct diagnosis. New evaluation on 11/23/2017.

Results: In 2015 a sample of 118 patients with COPD was obtained, of which 47.5% had a diagnosis based on spirometry. In the re-evaluation in 2017, a sample of 136 patients was obtained, and 36 new diagnoses of COPD were identified. Spirometry was recorded in 60.3% of the total sample, but it was verified that the diagnosis was made with spirometry in 86.1% of the total number of new patients with COPD.

Conclusion: Only about half of the users had spirometry recorded until 2015, although the spirometry is required to the diagnosis of COPD according to the GOLD. However, a 12.8% increase in diagnoses with spirometry was achieved up to November 2017 and 86.1% in new COPD patients. When compared to national data for 2016, we can find higher values of diagnoses based on the spirometry in the USF (60.3% vs.32.3%).

In summary, these results identified gaps in the implementation of GOLD and DGS recommendations, but suggest a positive impact on COPD diagnosis after implementing the quality assessment and improvement cycle.

Declaration of Interest

None.

References and Clinical Trial Registry Information

Direção-Geral da Saúde - Portugal - Doenças Respiratórias em números - 2015.

Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease, GOLD 2018.

Abstract ID = 8705

Presented at: 7.3 Oral Abstracts 9 Children 01/06/2018 16:20-17:40

Diagnostic terminology used for young children with recurrent lower respiratory illness in rural Greece, Kyrgyzstan and Uganda. A comparative FRESH AIR study

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Aim: This study compared the use of diagnostic terms for children under five years with recurrent lower respiratory tract illnesses in Greece, Kyrgyzstan and Uganda.

Method: Comparison of the diagnostic terminology identified in similar qualitative studies on perception and practices for young children with recurrent respiratory illnesses in the three countries, systematized in a matrix.

Results: A wide range of symptom diagnoses and diagnostic terms were used in the three countries, first and foremost viral diagnoses (a cold, a virus, pharyngitis and a multitude of bronchitis diagnoses with different prefixes) and bacterial diagnoses (primarily pneumonia and tuberculosis). Obstructive diagnoses were less used. Similarities and differences between the countries will be presented. In general, antibiotics were the chosen therapy.

Conclusion: This study identified multiple and inconsistent diagnostic terms, with different patterns in the individual countries, and often with inappropriate therapeutic consequences, exemplified by using antibiotics for viral and obstructive lower respiratory tract illnesses. Ignoring the diagnosis asthma/viral wheeze may lead to the use of other diffuse and incomplete diagnoses with potentially limited therapeutic outcomes. In the workshop appropriate diagnostic terms will be discussed.

Declaration of Interest

The authors declare no competing interests. The research has received support from the EU RIA program Horizon2020, grant-agreement no. 680997

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Presented at: 8.1 Tapas/Petiscos Best Practice from IPCRG Members - Adding Value to Your Practice 02/06/2018 09:00-10:20

Differences in Integral Health Status between patients with COPD managed in primary, secondary, and tertiary care

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Aim: COPD is now recognized as a complex multisystem disease that poses a high burden on patients' integral health status (IHS), i.e. it affects physical, emotional and social aspects and significantly lowers patients' quality of life. To optimize and tailor COPD management in primary, secondary and tertiary care settings, there is a need for detailed information on the individual patient's IHS. The aim of the present study was to comprehensively assess and compare IHS between patients with COPD that are managed in these three care settings in the Netherlands.

Method: Cross sectional study in which data on IHS was collected in 367 patients with COPD from primary, 185 patients from secondary, and 443 patients from tertiary care. We used the Nijmegen Clinical Screening Instrument method (NCSI, see Peters JB, et al. Qual Life Res, 2009. DOI: https://doi.org/10.1007/s11136-009-9502-2) to comprehensively assess IHS in eight domains. The proportion of patients with clinically relevant impairment in the domains was calculated and compared between the patient samples using Pearson Chi-square testing. p<0.05 was considered statistically significant.

Results

	Primary care	Secondary	Tertiary care	р
NCSI domains	sample	care sample	sample	
Quality of Life				
Quality of Life	58.6	67.0	88.0	<0.001
Health Related Quality of Life	25.9	42.2	64.8	<0.001
Satisfaction relations	17.4	27.0	32.7	<0.001
Functional impairment				
Subjective impairment	28.3	51.4	85.6	<0.001
Behavioural impairment	25.1	40.0	74.9	<0.001
Symptoms				
Subjective symptoms	36.0	63.8	82.2	<0.001
Dyspnoea emotions	39.5	60.0	81.3	<0.001
Fatigue	45.5	65.9	79.9	<0.001

Statistically significant differences in the percentage of patients with clinically relevant impairment on the respective NCSI domains were seen between the three care settings (table).

The percentage of patients with clinically relevant impairment in \geq 3 of the eight NCSI domains was 49.0% in the primary care sample, 70.8% in the secondary care sample, and 93.9% in the tertiary care sample (p<0.001).

Conclusion: The proportion of COPD patients with clinically relevant impaired IHS is substantial and varies between the different care settings. As expected, the highest percentage of IHS impairment was seen in tertiary care COPD patients, but even in primary care one in every two patients showed impairment in at least three IHS domains. Further analysis of the dataset is ongoing. Detailed information about integral health status may help GPs, chest physicians and multidisciplinary teams to optimize and tailor chronic care for COPD patients.

Declaration of Interest

The authors have no conflicts of interest to report. Funding: Radboud University Medical Center.

Abstract ID = 8713

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Do patients from lower socio-economic level smoke more?

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AIM: To compare the prevalence of smokers in patients from two primary care centers with different socioeconomic levels.

DESIGN: Observational cross-sectional study, carried out in two urban health centers in Badalona (Spain): San Roque attending 14,586 adults (7972 men and 6614 women) and Gorg of 8351 (4073 men and 4278 women).

The inequality between the two centers has been calculated with the MEDEA indexes that assess socioeconomic and environmental inequalities in mortality (100 Sant Roque versus 57 Gorg). The variables were collected from the Computerized Primary Care Clinical History (CPHC). We define Smoker when they show health problems: F17.1 and / or Z72.0 according to the classification of international diseases ("Tobacco toxicity disorder" and / or "Problems related to tobacco use").

RESULTS: Of the 14586 patients of ABS Sant Roc in the age range of 15-35 years, 4.3% of men smoke and 2% of women; between 35-54 years, 6.1% of men and 4% of women and those over 55 years of age, 5 .0 % of men and 1.8% of women.

The tobacco use of the 8351 patients of ABS Gorg in the 15-35 age range, is 4.6% of men and 4.4% of women; of the 35-54 years 9.2% of men, 5.9% of the women and in majors of 55 years 6.47% of the men and 3.41% of the women.

CONCLUSIONS The study shows that the population of the health center of San Roque, of a lower socioeconomic level, presents a percentage of smokers less than the population of the Gorg, in all age groups and by gender. This is contraryicontrary to other studies that refer to increased smoking in depressed areas. Prevalence of smokers in all groups are lower than previously reported, probably because of the coding of the variable smokers.

Declaration of Interest

Nothing to disclouse

Abstract ID = 8545

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Do we know the balance and fear of falling of older patients with chronic airflow obstruction?

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Applied Clinical Research/Implementation Science Results Abstract

Aim: to know the balance, the fear to fall and the number of falls of the elderly patients with chronic airflow obstruction (CAO)

Method: Cross-sectional study. 1036 patients over 70 years of age were analyzed with autonomous ambulatory capacity (with or without technical assistance) from five health centers, of which 150 were diagnosed with chronic airflow obstruction. Exclusion criteria: Pfeiffer≥5, domiciliary, palliative and patients who had made rehabilitation of the march in the last year. Recruitment is done through phone calls of patient lists selected by age

Variables: balance evaluated with the Tinetti test, Unipodal and the equilibrium percentage of the console. Fear of falling evaluated with the shortened FES-I. Functional capacity (Lawton and Brodi). Falls the year prior to inclusion in the study. The results of the variables of both groups are compared.

Results: presented comparing CAO Group / rest: sex 44% / 92% women p <0.001, mean age 76/75 years, mean BMI 29 / 28.3, technical help for walking 14% / 11.7%, functional capacity (Lawton and Brodi test) autonomous men 77.4% / 85.5% and autonomous women 73.8% / 77.2%, fear of falling (abbreviated FES-I) mean 9.5 / 9.2 (assessment from 7 to 28 points where low scores indicate less fear of falling), balance calculated by the Nintendo Wii console 59.8% / 60.1% (from 0 to 100 points where high scores indicate better balance), balance and march assessment by using the Tinetti test (equilibrium 14.7 / 14.8 out of 16, march 11 / 11.3 out of 12, total 25.7 / 26.1 out of 28), equilibrium valuation through the unipodal test (the patient is capable 73.6% / 80.3%). Percentage of falls presented in the twelve months prior to inclusion: 35.6% / 31.6%.

Conclusions: Both groups, despite having acceptable levels in balance, have a significant percentage of falls in the previous 12 months. Patients older than 70 years with chronic airflow obstruction have a percentage of falls without statistically significant differences compared to the rest of the same age population.

Declaration of Interest

Funding: grant for primary care from the IDIAP Institute (Jordi Gol) in 2010 (Barcelona, Spain) and a 'Gonçal Calvo' grant from the Acadèmia de Ciencies Mèdiques i de la Salut de Catalunya i Balears in 2011 (Mataró, Spain). Healthcare Institute of Carlos III record code **PI12/01677**, co-financed by the European Union through the European Regional Development Fund (ERDF).

References and Clinical Trial Registry Information

This study is part of registered trial NCT02570178.

Abstract ID = 8589

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Early dropout rate of USF do Parque tobacco cessation program

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<u>Aim:</u>Retrospectively characterize the patients of tobacco cessation program of USF do Parque (ACES Lisboa Norte), describing their progress throughout the consultations with highlight to the early abandonment rate (percentage of dropouts after the first appointment) and variables related to it.

<u>Methods</u>:Data were obtained from documentary analysis of clinical records of all smokers that started the program of tobacco cessation consultations at USF do Parque in 2013, a total of 83 smokers. A comparative analysis was conducted between the two groups of patients according to their behavior after the first appointment - (*A*) those who dropout the tobacco cessation program after the first consultation and (*B*) those who remained in the program - applying two statistical tests (Chi-Square and Fisher's Exact Test). A confidence level of 95% was considered.

<u>**Results**</u>: The 83 smokers were mainly male. They were on average 47.8 years old, employed and graduated. The majority started to smoke on puberty and nowadays smoke around one pack per day. 59.0% had moderate nicotine dependence level and almost the same percentage (58.7%) had moderate motivation. The early abandonment rate was near one third. The only variables that seem to be associated with early abandonment rate were 'the presence of psychopathology' (p=0.02) and 'recent family problems' (p=0.03).

Conclusions: Intensive smoking cessation programs require continuous, regular and often prolonged contact between physician and smokers, nevertheless dropouts are a reality, mainly after the first visit. In literature, both psychopathology and family problems, were known to be associated with the success of the intervention, however this study showed that they also have an impact in early abandonment rate. This result emphasizes the importance of the first contact between physician-smokers and reflects the need to improve the overall assessment of the smoker and to ameliorate the strategies of support and follow-up in order to assure the smokers' attendance.

Declaration of Interest

The submitted work was developed independently from any organisation that might have an interest or influence in the topic and without any kind of financial support.

References and Clinical Trial Registry Information

http://nocs.pt/wp-content/uploads/2016/04/livro-dgs-cessao-tabgica.pdf

https://www.dgs.pt/respire-bem1/documentos-e-publicacoes/titulo.aspx

www.redalyc.org/articulo.oa?id=169718595004

http://www.spmi.pt/revista/vol19/vol19_n4_2012_175_182.pdf

http://repositorio.hospitaldebraga.pt/bitstream/10400.23/637/1/P040.pdf

http://www.rpmgf.pt/ojs/index.php/rpmgf/article/view/10461

http://www.scielo.mec.pt/scielo.php?script=sci_arttext&pid=S0873-21592009000500004

https://www.ncbi.nlm.nih.gov/pubmed/18026659

https://run.unl.pt/bitstream/10362/10183/1/RUN%20-%20Tese%20de%20Doutoramento%20-%20Emilia%20Nunes.pdf

Abstract ID = 8546

Presented at: 3.6 Digital Poster Discussion 1: Teaching & Behavioural Interventions 01/06/2018 09:00-10:20

Effectiveness of 2x2-hour traditional lectures and case methods in Swedish GPs' continuing medical education about COPD: a cluster randomized controlled trial

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Aim: To study the effects of continuing medical education (CME) about COPD for general practitioners (GPs) by comparing two commonly used CME methods with each other and no CME (reference group).

Method: We conducted a pragmatic cluster randomized controlled trial with primary health care centers (PHCCs) as units of randomization. 24 PHCCs in Stockholm County, Sweden, were randomized into two CME intervention arms: case method learning (CM) [1] (n=12) and traditional lectures (TL) (n=12). A reference group without CME (n=11) was recruited separately. GPs (n=255) participated in the study arm to which their PHCC was allocated: CM, n=87; TL, n=93; and reference, n=75. Two 2-hour CME seminars were given in a period of 3 months. Primary outcome measures were changes in scores between baseline and 12 months on a 13-item questionnaire about evidence-based COPD management (0-2 points/question, maximum total score 26 points).

Results: 133 (52%) GPs completed the questionnaire both at baseline and 12 months. Both CM and TL resulted in small yet significantly higher total scores at 12 months than at baseline (CM, 10.34 vs 11.44; TL, 10.21 vs 10.91; p<0.05); there were few significant differences between these CME methods. At both baseline and 12 months, all three groups' scores were generally high on questions about smoking cessation support and low on those that measured spirometry interpretation skills, interprofessional care, and management of multimorbidity.

Conclusions: Neither short case method learning sessions nor short traditional lectures substantially improve GPs' skills in managing COPD. It is justified to challenge the use of these common continuing medical education methods as a strategy for improving GPs' level of knowledge about management of COPD and other complex chronic diseases characterized by multimorbidity.

Declaration of Interest

Funding: Stockholm and Dalarna County Councils, and an unrestricted research grant from AstraZeneca Inc. HS has received honoraria for educational activities from Boehringer Ingelheim, Novartis, AstraZeneca, and TEVA and an unrestricted research grant from AstraZeneca. AN has received compensation for educational activities from AstraZeneca and SM from Novartis. BS has received honoraria for educational activities and lectures from AstraZeneca, Boehringer Ingelheim, GlaxoSmithKline, Meda, , Novartis, and TEVA and has served on advisory boards arranged by AstraZeneca, Novartis, Meda, TEVA, GlaxoSmithKline, and Boehringer Ingelheim. IK and SEJ report no competing interests.

References and Clinical Trial Registry Information

Reference:

1. Mauffette-Leenders LA, Erskine JA, Leenders MR. Learning with cases (Richard Ivey School of Business, The University of Western Ontario, 1997).

Trial registration: ClinicalTrials.com, Protocol Record 2013/232-31/5.

Abstract ID = 8518

Presented at: 3.5 Oral Abstracts 4 COPD in High Income Countries 01/06/2018 09:00-10:20

Effects of the Adaptive Computerised COPD Exacerbation Self-management Support (ACCESS) system: preliminary results of a randomised controlled trial

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Background

To support patients with COPD more adequately in their self-management of exacerbations, we have developed ACCESS, a software application that provides automated treatment advices to the patient when an exacerbation is imminent.

Aim

To examine if the use of ACCESS has beneficial effects on exacerbation-free time and quality of life in patients with COPD, compared to the use of a written exacerbation action plan. **Method**

In a 12-month multicenter, pragmatic randomised controlled trial COPD patients were instructed to use either ACCESS (intervention group) or a written action plan (control group) in case of symptom worsening. Reported respiratory symptom changes were assessed weekly in order to assess the primary outcome exacerbation-free weeks. Quality of llife was measured with the Clinical COPD Questionnaire (CCQ) at start and end of follow-up and the difference in change of CCQ score between the groups was calculated (delta scores).

Results

Of the 87 participants, 43 were randomized to the intervention group. Overall, 45 patients were recruited from hospitals, 42 from general practices. Negative binomial regression analysis showed no statistically significant difference in number of exacerbation-free weeks between intervention and control group (mean 30.6 ±13.3 and 28.0±14.8, respectively; rate ratio 1.18, 95%CI 0.76- 1.82, p=0.46). Univariate analyses of variance showed no differences between intervention and control group on the CCQ total delta scores (mean - 0.14±0.75 and -0.30±0.70, respectively; B -0.062, 95%CI -0.395 – 0.271, p=0.71).

Conclusion

We found no beneficial effect of ACCESS on exacerbation-free time and quality of life of patients with COPD. Further evaluation is needed to show whether the groups differed in exacerbation-related self-management behaviour, to what extent patients in the intervention group used ACCESS during symptom worsening, and how patients evaluated ACCESS.

Declaration of Interest

Authors have no conflicts of interest in relation to this study. The study is funded by the Radboud university medical center.

References and Clinical Trial Registry Information

registration number ClinicalTrials.gov NCT02553096.

Abstract ID = 8563

Presented at: 3.3 Oral Abstracts 3: Asthma & Inhaler Delivery 01/06/2018 09:00-10:20

Efficacy and Safety of As-needed Budesonide/formoterol in Mild Asthma

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Applied Clinical Research/Implementation Science Results Abstract

Aim: To assess long-term efficacy and safety of a rapid-acting β_2 -agonist and inhaled corticosteroid (ICS) combination taken 'as-needed' to relieve asthma symptoms and to treat underlying inflammation, as an alternative treatment option for mild asthma.

Method: SYGMA 1 (SYmbicort Given as needed in Mild Asthma; NCT02149199) was a 52-week, doubleblind study of patients ≥12 years with mild asthma randomized to twice-daily placebo plus as-needed terbutaline 0.5mg, twice-daily placebo plus as-needed budesonide/formoterol (BUD/FORM) 200/6µg, or twice-daily budesonide 200µg plus as-needed terbutaline (budesonide maintenance). The primary objective was to demonstrate superiority of as-needed BUD/FORM versus as-needed terbutaline for asthma symptom control, as measured by well-controlled asthma weeks (WCAW). Secondary objectives included demonstrating non-inferiority of as-needed BUD/FORM versus budesonide maintenance for WCAW, rate and time to first severe exacerbation and change in Asthma Control Questionnaire 5 (ACQ-5) with as-needed BUD/FORM versus as-needed terbutaline and budesonide maintenance.

Results: 3836 patients were randomized and received study treatment. As-needed BUD/FORM (n=1277) was superior to as-needed terbutaline (n=1277) for WCAW (odds ratio [OR] 1.14, 95% confidence interval [CI] 1.00-1.30; p=0.046), but was not non-inferior to budesonide maintenance (n=1282) (OR 0.64, 95% CI 0.57-0.73). Change in ACQ-5 from baseline was greater with budesonide maintenance than as-needed BUD/FORM (mean difference 0.1, 95% CI 0.1-0.2; nominal p<0.001). As-needed BUD/FORM significantly reduced the severe exacerbation rate by 64% versus as-needed terbutaline (rate ratio 0.36, 95% CI 0.27-0.49; nominal p<0.001), also significantly reducing time to first severe exacerbation (hazard ratio [HR] 0.44, 95% CI 0.33-0.58; nominal p<0.001) (Figure). Median ICS metered dose with as-needed BUD/FORM (57µg/day) was 17% of the budesonide maintenance dose (340µg/day).

Conclusion: In mild asthma, as-needed BUD/FORM was superior to as-needed terbutaline for asthma symptom control and reducing exacerbation risk, and comparable to budesonide maintenance for reducing exacerbation risk at a substantially lower ICS load.

Declaration of Interest

Declaration of Interest: Funded by AstraZeneca.

Abstract ID = 8487

Presented at: 3.3 Oral Abstracts 3: Asthma & Inhaler Delivery 01/06/2018 09:00-10:20

Efficacy of an Educational Intervention in the Sustained Improvement of Inhalation Technique

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Objectives: Misuse of inhalers remains a topic of outstanding relevance in COPD patients. Even after learning a correct inhalation technique, it can deteriorate over time. The aim of this study is to evaluate the inhalers and patient-related characteristics that can predict a sustained improvement of inhalation technique, after a single intervention education.

Methods: COPD out-patients diagnosed according to GOLD criteria, were recruited consecutively. In a previous visit, participants were invited to demonstrate the use of their prescribed inhaler devices (ID). For each ID we defined a checklist of steps for a correct inhalation technique and critical errors which are likely to make therapy useless. After this evaluation, demonstrations and training with placebo inhalers were given to all participants, until a correct use is achieved. In a second medical visit, 10 to 12 months after the first, a re-evaluation was done by the same healthcare professional using the same check-list. Patients using different ID were excluded. A statistics analysis was then performed.

Results: We re-valuated 136 subjects performing 214 inhalation manoeuvers with 10 different IDs. Misuse due to critical errors were less common in the second visit (29.4%/17.8%). An improvement in the total number of critical errors was observed in 27.9% and a worsening in 9.6% of participants. An association between patients' demographic or clinical characteristics and a decrease of critical errors was not statistically significant. An improvement of inhalation technique was observed in all types of IDs, with statistical' significance in sDPI group (p=.007). Although some improvement in inhalation technique was observed in pMDI group, its misuse related to inhalation manoeuvre remains the more common reason for any inhaler misuse.

Conclusions: An improvement in the efficient use of IDs after a single educational intervention was related to the type of inhaler device but not to patients' demographic or clinical characteristics.

Declaration of Interest

The authors have no conflicts of interest to declare.

The authors have no funndings to declare.

References and Clinical Trial Registry Information

1- Bosnic-Anticevich S. Inhaler device handling: have we really started to address the problem? Eur Respir J. 2017; 49:1700120.

2- Pothirat C, Chaiwong W, Phetsuk N, Pisalthanapuna S, Chetsadaphan N, Choomuang W. Evaluating inhaler use technique in COPD Patients. International Journal of COPD. 2015; 10:1291-98.

3- Molimard M, Raherison C, Lignot S, Balestra A, Lamarque S, Chartier A, et al. Chronic obstructive pulmonary disease exacerbations and inhaler handling: real-life assessment of 2935 patients. Eur Respir J. 2017; 49: 1601794.

Abstract ID = 8519

Presented at: 4.6 Digital Poster Discussion 2: Asthma Management 01/06/2018 10:20-11:20

Efficacy of once-daily tiotropium Respimat® on lung function and asthma control in adults with asthma at GINA Steps 2–5

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Applied Clinical Research/Implementation Science Results Abstract

Aim: Tiotropium Respimat[®] is a well-tolerated and efficacious add-on treatment in adults with symptomatic asthma. We examined whether clinical benefits are consistent across asthma severity groups (Global Initiative for Asthma [GINA] Steps 2–5).

Methods: *Post hoc* analyses were performed across five double-blind, placebo-controlled trials (GraziaTinA-asthma[®], MezzoTinA-asthma[®], PrimoTinA-asthma[®]; patients aged 18–75 years) to determine the effect of tiotropium 5µg or 2.5µg versus placebo on peak forced expiratory volume in 1 second (FEV₁) within 3 hours post-dose (FEV_{1(0-3h)}), trough FEV₁ and Asthma Control Questionnaire (ACQ-7) responder rates across GINA Steps 2–5. GINA step grouping was based on patients' treatment regimen.

Results: Baseline characteristics of included patients (N=2926) were balanced between treatment arms. Tiotropium showed consistent improvements in peak and trough FEV₁ levels across GINA steps. Placebocorrected peak FEV_{1(0-3h)} improvements after tiotropium 5µg and 2.5µg were: Step 2 (Week 8), 135mL (95% confidence interval: 84, 187) and 155mL (103, 206); Step 3 (Week 24), 187mL (139, 235) and 235mL (187, 283); Step 4 (Week 24), 111mL (63, 159) and 181mL (35, 326); Step 5 (Week 24; 5µg only), 164mL (5, 323). Improvement trends in ACQ-7 responder rates were observed with tiotropium 5µg and 2.5µg; odds ratios versus placebo were: Step 3, 1.17 (0.85, 1.61) and 1.26 (0.91, 1.74); Step 4, 1.36 (1.03, 1.78) and 2.12 (0.98, 4.79); Step 5 (5µg), 1.85 (0.68, 5.06). Safety profiles were similar between treatment and placebo.

Conclusions: Addition of tiotropium Respimat[®] to maintenance therapy improves lung function and may improve asthma control in adult patients with symptomatic asthma across GINA Steps 2–5.

Declaration of Interest

This study was funded by Boehringer Ingelheim.

References and Clinical Trial Registry Information

NCT01316380, NCT01172808, NCT01172821, NCT00776984, NCT00772538 (https://clinicaltrials.gov/)

Abstract ID = 8716

6.6 Digital Poster Discussion 4: Diagnosis & Assessment 01/06/2018 14:25-15:45

Efforts to implement a novel smart-phone spirometer in four countries: The FRESH AIR H2020 experience

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Aim: There is unmet need for user-friendly, low-cost spirometry tools for chronic lung disease monitoring. A smart-phone based spirometer application, SpiroSmart, has potential to increase access to this test. We aim to deliver SpiroSmart for usability testing in the four FRESH AIR countries.

Method: SpiroSmart captures pulmonary function measurements via the audio signal from the forced expiratory maneuver. Its engineering occurs at University of Washington's (UW) UbiComp Lab, where Computer Science Engineering (CSE) students innovate. In September 2015 SpiroSmart development was active, but progress soon slowed as a result of an acquisition by a large tech company. A resurgence of activity by UW CSE students has resulted in several software upgrades. Each country received four iPhone 5S devices, between August 2017-January 2018. The phones are enabled with "Testflight" for downloading and updating SpiroSmart versions. Each country determines usability study sites.

SpiroSmart FRESH AIR training began at the IPCRG meeting in Colombo, Sri Lanka in August 2017, and continues by video-conferencing. At that point, the app included:

- Patient entry for trend monitoring
- Training videos in English, Russian, and Vietnamese.
- Percent predicted FEV1 display

Recent upgrades include:

- Flow Volume, Volume Time, and multiple trial curve display
- PEFR, FVC, and FEV1/FVC ratio
- Test quality confidence value
- Robust server connection

Results: All iPhones have been delivered to the FRESH AIR countries and some trainings have occurred. Primarily due to engineering issues, the usability study has yet to be fully implemented. We plan to "push" these recent updates imminently, and anticipate usability results to share in May 2018. Barriers included server instability, the app "crashing" randomly, commercial acquisition, and engineer changes. Successes also included commercial acquisition, introducing the Prime Minister of Kyrgyzstan to SpiroSmart, and increased awareness of SpiroSmart's potential among FRESH AIR stakeholders.

Conclusions: We continue to address the challenges of fully implementing SpiroSmart in the FRESH AIR countries. We remain optimistic about implementation during the FRESH AIR study timeline.

Declaration of Interest: FRESH AIR was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997. This study is registered under trial registration number: NTR5759. http://www.trialregister.nl/trialreg/admin/rctsearch.asp?Term=23332

References and Clinical Trial Registry Information

Larson EC, et al. SpiroSmart: using a microphone to measure lung function on a mobile phone. 2012. DOI=http://dx.doi.org/10.1145/2370216.2370261

Abstract ID = 8629

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Erythropoietin (EPO) attenuates the immunohistochemical expression of Tumor Growth Factor- β (TGF- β) in bleomycin (BLM)-induced pulmonary fibrosis (PF) in rats

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AIM: The enzyme TGF- β is well known to participate in the fibrotic pathway with inflammatory and apoptotic actions. Erythropoietin, on the other hand, is a multiple functional cytokine with anti-inflammatory and anti-apoptotic properties. Aim of this study was to investigate the role of EPO on the expression of TGF- β in BLM-induced PF in rats.

METHOD: Fifty Wistar rats (300gr) were divided into five groups of 10 animals each: 1)control animals, 2)intratracheal (i.t) and intraperitoneal (i.p) injection of saline (0.5ml/kg), 3)BLM hydrochloride (7.5mg/kg) i.t injection, 4)BLM hydrochloride (7.5mg/kg) i.t injection followed by EPO i.p injection (2000 iu/kg), 5)saline (0.5ml/kg) i.t injection followed by EPO i.p injection (2000 iu/kg), 5)saline (0.5ml/kg) i.t injection followed by EPO i.p injection (2000 iu/kg), 5)saline (0.5ml/kg) i.t injection followed by EPO i.p injection (2000 iu/kg). All rats were sacrified after 14 days.The expression of TGF- β was immunohistochemically measured and a scale of four grades (A:0-25%, B:25-50%, C:50-75%, D:75-100%) was used to evaluate it.

RESULTS: In groups 1,2 and 5 (control groups), TGF- β was expressed only in the two lower grades of the scale (A:90% and B:10%). In group 3, TGF- β was expressed in the high grades (C:20% and D:80%). Finally, in group 4, the enzyme in question was expressed only in the low grades (A:80% and B:20%). The expression of TGF- β took place in the high grades for group 3 (BLM group) and in the lower grades for group 4 (BLM+EPO group) (p<0.001 and p<0.05 respectively).

CONCLUSION: Treatment with EPO significantly ameliorated the extent and severity of the BLM-induced toxicity in lung tissue.TGF- β had a significantly lower expression in the group of animals which were administrated with EPO, compared with the group of BLM.

Abstract ID = 8537

Presented at: 8.1 Tapas/Petiscos Best Practice from IPCRG Members - Adding Value to Your Practice 02/06/2018 09:00-10:20

Estimating the accuracy of diagnostic tests for asthma: the impact of alternative reference standards

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Aim: Accurate assessment of the true value of clinical symptoms and (novel) diagnostic tests may vary according to the reference standard used. Yet, the impact of changing reference standards is unclear. Using two reference standards, bronchial provocation assessed by 1) spirometry and 2) whole body plethysmography (WBP), we investigated how the diagnostic accuracy of a test for asthma varies when compared against each reference standard.

Methods: We undertook secondary analysis of data from a diagnostic study completed in 2011. Individuals presenting with symptoms suggestive of asthma were enrolled. Participants completed a questionnaire about existing symptoms, and lung function testing with Fractional exhaled Nitric Oxide (FeNO) and bronchial provocation. Index tests were 12 clinical symptoms and FeNO. Estimates for the diagnostic accuracy of index tests were calculated against each reference standard.

Results: There were data on 393 participants (158 (40%) men; mean age 43 years). The sensitivity for each of the 12 symptoms assessed was similar regardless of the reference standard used. 11 out of 12 symptoms had a higher specificity, though not statistically significant when WBP was used as the reference standard, in comparison to spirometry. For FeNO, area under the receiver operating characteristic curve was slightly greater when WBP (0.66 95%CI 0.60 to 0.71) was used as the reference standard compared to spirometry (0.62 95%CI 0.55 to 0.69).

Conclusion: Overall no statistical difference in the diagnostic accuracy of clinical symptoms or FeNO was found when alternative reference standards were used. However, measures of diagnostic accuracy were slightly greater, but not significant when WBP was used as the reference standard. The true difference may have been less pronounced as the original study was not specifically designed to investigate this outcome. Ensuring accurate evaluation of novel diagnostic tests and diagnostic algorithms for asthma in clinical practice requires careful consideration of reference standard used.

Declaration of Interest

LD was supported by SSPC clinical fellowship and a University of Edinburgh travel grant.

Abstract ID = 8495

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Evaluation of adherence and efficacy to positive airway pressure treatment in obstructive sleep apnea

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Aim Obstructive Sleep Apnea(OSA) is characterized by the presence of recurrent episodes of apnea/hypopnea. It is up to the Family Doctor to educate patients with OSA and their families, recommend hygienic-dietary measures, assess adherence and effectiveness to positive airway pressure(PAP) treatment, and identify side effects and correct them. This study aims to evaluate adherence and efficacy to PAP in Primary Health Care (PHC).

Method It was selected the patients enrolled in the medical file of the author with diagnosis of OSA on 04/27/2017 and followed exclusively by PHC. To the identified users was requested, in consultation or at the time of renovation of the PAP treatment, the report of the supplier company of PAP.

Results

Were identified thirty-six patients with a diagnosis of OSA and followed only in PHC, with a prevalence of 1.8% of the file. The mean age was 63.7 years and 77.8% were men.

Technical report from the PAP company were requested to 100% of the sample. 66.7%(24users) of the total sample brought the requested services, 58.3% with 1 report in 2017 and 41.7% with 2 reports. The total number of users with a report, 1 user was sent to Hospital for lack of adherence to therapy and 5 users with alerts for the need to increase the number of hours of use/day(>4h) or the number of nights accumulated(>70% of nights).

Conclusion: There was good adherence on the part of the users in the acquisition of the technical reports, who verified the importance of obtaining them through the correction of some parameters or the positive reinforcement for the maintenance of the therapy. The objectives for 2018 are to obtain 1technical report per semester and in 100% of the sample, to sensitize others physicians to the importance of the monitoring of adherence and effectiveness to the PAP in the PHC.

Declaration of Interest

None

References and Clinical Trial Registry Information

Norma de Orientação Clínica - Seguimento nos Cuidados de Saúde Primários de doentes com Síndrome de Apneia Obstrutiva do Sono sob terapêutica com pressão positiva contínua. Orientação nº 022/2014 atualizada a 28/11/2016.

Rodrigues AP, et al. Síndrome de Apneia Obstrutiva do Sono: epidemiologia, diagnóstico e tratamento - Um estudo da Rede Médicos-Sentinela. DGS. 29 de dezembro de 2014.

Abstract ID = 8636

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Exacerbations of Chronic Obstructive Pulmonary Disease according to the patient's memory. APMPOC study

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Aim: To know the incidence of COPD exacerbations according to the patient's memory in Primary Care (PC). To determine the percentage of patients with COPD diagnosed without spirometry in the Clinical Charts of Primary Care (CCPC).

Method: Observational multicenter study, in 17 AP centers of Barcelonès Nord and Maresme, in patients diagnosed with COPD. First, the Clinical Charts of PC (CCPC) of all COPDs were reviewed, evaluating the presence of spirometry. Then 372 patients were visited and included, after performing spirometry. A questionnaire was conducted, 2 patients were excluded by errors in the questionnaire, and 366 patients responded to the questions about the exacerbation record in the previous year.

Results: 4.634 HCAP were reviewed with the diagnosis of COPD; 24% did not have spirometry. After revision only 2316 patients were invited to enter in the study (2318 were excluded most of them because of a non-congruent spirometry). 486 patients accepted and were visited, and after spirometry, 106 (22%) did not confirm the diagnosis of COPD and in 8 the technique was incorrect. Finally, 366 patients answered the questionnaire and reported an overall 335 episodes; incidence was of 0,92 (95% CI 0,82-1,02) exacerbations person/year: 0,95 in mild COPD, 0,82 in moderate, 1,01 in severe and 1,39 in very severe.

Conclusions: The incidence of COPD exacerbations in PC is similar to that seen in other studies and increases with the severity of the disease. We will see remarkable difficulties in the diagnosis of COPD in PC.

Declaration of Interest

Nothing to disclose

Abstract ID = 8675

4.6 Digital Poster Discussion 2: Asthma Management 01/06/2018 10:20-11:20

Exploring social media and practices' recruitments associated with the downloads and usage of asthma mobile app: a qualitative study

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- 1. **Aim** We aimed to use feasibility study of a new asthma app to explore the features that attracted patients to download and use the asthma app; also the implications for recruitment.
- 2. **Method** Five practices in Lothian/Oxford and Asthma UK's social media invited adults with active asthma to try out our prototype app. We observed patient's download rate and app usage. We purposively sampled patients (based on age/sex, experience of asthma, current self-management and technology use) and interviewed them before and after using the app for one month about their adoption and usage reasons. Interviews were transcribed, and analysed thematically with reference to the Fogg behaviour model.
- 3. **Results** We recruited 111 patients to use the app (iOS or android phones) and sampled 15 patients for qualitative interviews. Adoption and retention rate from social media invitations far exceed those invited by practices' invitations. However, the 'hit rate' from social media invitation was higher than practices' invitation and their usages fell rapidly. Ease of access to download is the key to adoption. However, the process needs to be assisted with sufficient motivation, preferably in the form of prioritised motivation from a GP or asthma nurse invitation. Both practice invitations and social media contacts can be the trigger to prompt downloads. Motivation is the key to encourage usage. GPs' and asthma nurses' encouragement is a key motivator along with perception of benefit; but such motivation will be more effective if the app is easy to use. Pop up notifications are workable triggers for patients with positive motivation
- 4. **Conclusion** We identified a number of different factors to inform future app development. Providing easy access of download methods, providing sufficient technical supports and implementing high motivation application features will be able to attract patients to download and continue use of the app.

Declaration of Interest

I declare there are no conflicts of interest. This project is funded by the Scotland Chief Scientist Office [AUKCAR/14/01].

Abstract ID = 8679

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Feasibility and effectiveness of training program in Very Brief Advice for smoking for GPs and Family doctors in Kyrgyz Republic — a FRESH AIR study

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AIMS: Evaluation of possibility and effectiveness of training program in Very Brief Advice (VBA) for smoking for GPs, family doctors and nurses in the Kyrgyz Republic.

METHODS: Training program in Very Brief Advice for smoking was started 2017 in Kyrgyz Republic as part of a FRESH AIR study and the Global Bridge and IPCRG project "Teaching the teachers of primary healthcare professionals to treat the tobacco dependence". Training program in VBA was developed by the National Center for Smoking Cessation and Training teachers (UK). All educational and training materials were translated into the local language and adapted to local conditions. The training program included two levels: teaching of teachers and education of family doctors and GPs, and nurses too in all regions of the Kyrgyz Republic. Before and after each training, the level knowledge of all participants have tested with using special pre- and post-questionnaires. We also collected data about using VBA for smoking by family doctors and GPs, they filled out special form-reports.

RESULTS: We invited and trained 39 active family doctors and GPs as trainers, who already had some experience in the treatment of tobacco dependence, with the support of experts from the National Center for Smoking Cessation (UK) and IPCRG. In second step together with trained teachers to started education GPs and family doctors in all regions of the Kyrgyz Republic. According to the first reports from the GP and Family doctors, they used the VBA in 482 people, and among them there were 248 (55%) of smokers. It is important that 6 (3%) people stopped smoking, and 38 (17%) smokers were ready and think about quitting smoking, and health care workers continue to keep in touch with them.

CONCLUSION: Preliminary results demonstrate feasibility and effectiveness of training program in Very Brief Advice for smoking for GPs and family doctors in Kyrgyz Republic. All family doctors and GPs who used VBA in their practice have good reviews and found it necessary for smokers to quit smoking. Very important that VBA for smoking will be included in the National program on the protection of the health of citizens of the Kyrgyz Republic from the harmful effects of tobacco for 2017-2025.

Declaration of Interest

This study was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997.

Abstract ID = 8836

Presented at: 2.4 Oral Abstracts 2 Tobacco Dependence 31/05/2018 16:05-17:30

Financial incentives combined with a smoking cessation group training programme increase abstinence rates in employees: a cluster-randomized trial

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Background This study investigated whether financial incentives combined with a smoking cessation group training programme (compared to a training programme with no incentives) organized at the workplace are effective in increasing 6-month abstinence rates in tobacco-smoking employees.

Methods In this cluster randomized trial, 59 companies with 640 participating smokers within the Netherlands were enrolled between March 2016 and March 2017. Eligible participants were employees who were current tobacco smokers of least 18 years old, without an acute life-threatening disease. The control arm consisted ofseven 90-minute sessions of smoking cessation group training at the workplace. In addition, participants in the intervention arm received vouchers for being abstinent: at the end of the training programme (€50), after three months (€50) and after six months (€50). 31 company clusters (329 smokers) were digitally cluster randomized to the intervention arm and 30 company clusters (311 smokers) to the control arm using a biased urn method. The main outcome was CO-validated continuous abstinence at 6 months. The study is registered with the Dutch Trial Register: NTR5657.

Findings All randomized participants were included in the analyses. After the smoking cessation programme, abstinence rates in the intervention group were significantly higher (81.8%) than in the control group (72.0%) (AOR 1.96, 95% CI 1.12 to 3.40, p = 0.018, adjusted for education level, income level and Fagerström score). After three months, quit rates were 52.3% in the intervention group and 41.2% in the control group (AOR 1.63, 95% CI 1.12 to 2.38, p = 0.011). After 6 months, the difference in quit rates between intervention and control group increased to 44.4% versus 24.8% (AOR 2.58, 95% CI 1.74 to 3.83, p < 0.001).

Interpretation Financial incentives on top of a smoking cessation group training programme can significantly increase long-term smoking abstinence rates in employees.

Funding The Dutch Cancer Society: UM 2015-7943.

Abstract ID = 8738

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Frequency of Diabetes among registered MDR-TB patients & their treatment outcome at Programmatic Management of Drug Resistant TB Unit, Khyber Pakhtunkhwa

Mohammad Dost Khan Provincial TB Control Programme Khyber Pakhtunkhwa

Authors: Mohammad Dost Khan, Mazhar, Qasim, Taj, Khalid, Maqsood, Khaliq, Arshad Javed

Background: Multi-drug-resistant tuberculosis (MDR-TB) has emerged as a challenge to Global Tuberculosis (TB) Control and remains a major public health concern in many countries. Diabetes mellitus (DM) is an increasingly recognized co morbidity that can both accelerate TB disease and complicate its treatment. Recently, along with the convergence of the diabetes mellitus (DM) and TB epidemics, the high prevalence of DM among MDR-TB patients is a serious cause for concern.

Methods: This is a retrospective study conducted at all four Programmatic Management of Drug Resistant TB units at Khyber Pakhtunkhwa. Patients enrolled from January 2012 to August 2015 were included in this study.

Results: A total of 1707 patients were enrolled for MDR-TB treatment from January 2012 to December 2017. Patients who were enrolled form January 2102 to December 2015 i.e. those who completed 24 months of their treatment were included in this analysis (887 MDR-TB Patients). Of 1707 MDR-TB patients included 88 (5.15%) suffered from DM. Out of study cases with DM 56 (63.6%) declared as cured, 29 (32.9%) died, 1 (1.13%) failed and 2 (2.26%) declared as loss to follow up. Among these patients, culture conversion of 8 (9.9%) patients achieved after 1st month, 28 (31.81%) after 2nd month, 20 (22.8%) after 3rd months, 8 (9.9%) after 4th month, and culture of 6 (6.81%) patients converted after 5th months of their treatment. Culture of 15 (17.4%) patient's did not convert after final treatment.

Conclusion: This study showed that patients with DM have lower success rate as compared with non DM MDR-TB patients. Special attention need for DM MDR-TB patients.

Key words: Multi-Drug Resistance TB; Diabetes Mellitus; Treatment Outcomes; Khyber Pakhtunkhwa; Pakistan.

Declaration of Interest

I hereby submit my abstract for poster presentation in the upcoming Porto conference

Abstract ID = 8600

Presented at: 7.3 Oral Abstracts 9 Children 01/06/2018 16:20-17:40

FRESH AIR: Assessment and treatment of acute respiratory illness in children under 5 in primary care in low- and middle-income settings: An observational study.

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Aim

The purpose of this study was to evaluate whether the clinical practices of health workers in primary care in low- and middle-income settings are appropriate for differential diagnosis of respiratory disease, especially between pneumonia and asthma.

Method

Data were collected at rural primary care health facilities in Greece, Kyrgyzstan, Vietnam, and Uganda using direct observations of clinical consultations with children aged 2-59 months presenting with coughing and/or difficult breathing. The methodology was adapted from WHO's Health Facility Survey. Data analysis was done using descriptive statistics.

Results

In total, 665 observations were made by 90 health workers at 56 health facilities. Core respiratory symptoms such as temporality of symptoms or wheezing were asked in 17%-74% of consultations. Clinical examination was often sub-optimal, with only 14%–25% assessed for key signs like respiratory rate and distress. The consultations were shorter in Vietnam and Uganda (3-4 minutes) than in Greece and Kyrgyzstan (15-20 minutes). Bronchodilator trials were used in Greece (39% of consultations) and in Vietnam (13%) but almost never in Kyrgyzstan and Uganda. Pneumonia was diagnosed frequently in Uganda (17%) as opposed to the other countries (diagnosed in 0%-3%). Various bronchitis diagnoses were used frequently (15%-19%) in all countries except Uganda (1%). Asthma diagnoses were rare (0%-3%). Diagnoses of upper respiratory-tract viral-infections were most common in all countries, approximately 50%. Antibiotics were prescribed frequently for diagnoses caused by viral infections in all countries (27%-63%).

Conclusion

Where consultations were short, history taking was less comprehensive and clinical examinations were not sufficient to guide diagnosis either using a traditional medical approach or by IMCI guidelines. There was widespread use of antibiotics for non-bacterial diagnoses.

Declaration of Interest

The authors declare no competing interests. The research has received support from the EU RIA program Horizon2020, grant-agreement no. 680997.

Abstract ID = 8638

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Health professional role-models – Tobacco consumption in Agrupamento de Centro de Saúde de Lisboa Central, Portugal

Duarte Vital Brito Public Health Unit - ACES Lisboa Central

Aim: To evaluate if health professionals exposition to tobacco smoke differs between health professional groups and how to reduce that exposition, if present

Method: A sample of 167 health professionals was randomly selected (N=514), ensuring a proportional distribution of each professional career (67 doctors, 46 nurses, 15 superior technicians and 39 operational and technic assistants) with a 90% confidence interval and 5% precision for an expected prevalence of 14%. [1] A questionnaire based in World Health Organization tobacco questions for surveys and Fagerstrom test was delivered to selected participants. [2] A total of 141 questionnaires were filled in (58 doctors, 38 nurses, 12 superior technicians and 33 operational and technic assistants) and results were analysed using SPSS[®] software and Tableau[®].

Results: A 19,2% active smoking prevalence was calculated, similar to results in National Health Survey 2014 [3]. There wasn't a statistically significant difference in smoking habits and exposition between four health professionals groups. Approximately 48,9% have already smoked or presently smoke tobacco and about 50% of active smoking health professionals were willing to be part of a smoking cessation program, if available and promoted in Agrupamento de Centros de Saúde de Lisboa Central.

Conclusion: Health professionals act as role models and it is important to promote smoking cessation among this specific population, so they can be a public example nowadays [4]. Since half of smoking health professionals are willing to enter a smoking cessation program in ACES Lisboa Central, a particular approach to them should be taking into account in the future.

Declaration of Interest

Declaration of interests: Research protocol was submitted and approved by Ethics Committee from Administração Regional de Saúde de Lisboa e Vale do Tejo. All participants were asked to fill an informed consent before answering the questionnaire.

References and Clinical Trial Registry Information

References:

- 1. Bárbara C, Rodrigues F, Dias H, et al. Prevalência da doença pulmonar obstrutiva crónica em Lisboa, Portugal: estudo Burden of Obstructive Lung Disease. Rev Port Pneumol. 2013
- 2. World Health Organization. Tobacco Questions for Surveys 2: A Subset of Key Questions from the Global Adult Tobacco Survey (GATS).
- 3. Instituto Nacional de Estatística. Inquérito Nacional de Saúde 2014. Instituto Nacional de Estatística. 2016
- 4. Smith D, Leggat P. An international review of tobacco smoking in the medical profession: 1974-2004. BMC Public Health. 2007

Abstract ID = 8551

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Health Status Development in Dutch Regular Care COPD Patients Defined per GOLD Category

Harma Alma, Corina de Jong, Robbert Sanderman, Janwillem Kocks, Thys van der Molen University of Groningen, University Medical Center Groningen

Aim: Chronic Obstructive Pulmonary Disease (COPD) is a progressive disease with worsening health status over time [1-2]. Its trajectory may differ for different disease severity categories. This study aimed to investigate health status and its development over time in COPD patients in Dutch regular care over a one year period classified per GOLD category.

Method: Spirometry confirmed COPD patients, aged ≥40 years without other respiratory co-morbidities, were included from Dutch primary and secondary care. No intervention was performed, except for regular care. Included patients filled out the COPD Assessment Test (CAT), Clinical COPD Questionnaire (CCQ) and St. George's Respiratory Questionnaire (SGRQ) at baseline, 3, 6 and 12 months. One-way ANOVA was executed to test between GOLD categories as well as health status follow-up scores.

Results: In total, 201 patients participated with completed baseline data (age 66.69 ± 7.91 ; male 58.5%; pack years 37.5 (IQR 22.5-51.25); age-adjusted Charlson Index 3.66 ± 1.17 ; GOLD I/II/III/IV % 17/40/30/13). Mean baseline CAT, CCQ and SGRQ scores were 18.32 ± 7.22 , 2.12 ± 1.02 and 42.88 ± 19.16 (Table 1). Baseline and follow-up health status differed significantly per GOLD category with worse scores for higher disease severity groups (p < 0.001). CAT, CCQ and SGRQ did not change significantly nor relevantly over a one year period of time for all patients and per GOLD category (p = 0.731-0.998).

Conclusion: Health status scores differed significantly and relevantly between GOLD categories for baseline and follow-up scores. However, no significant nor clinically relevant changes occurred in each disease severity group over a 12-month period of time. Health status progressed rather slowly for all disease severity COPD patients during regular care.

Declaration of Interest

Funding:

The current study was funded by the Junior Scientific Masterclass of the University of Groningen.

Declaration of Interest:

Thys van der Molen holds the copyright of the Clinical COPD Questionnaire. All other authors have nothing to disclose in relation to the current study.

References and Clinical Trial Registry Information

References:

[1] Yoo, J.Y. et al. Factors affecting the trajectory of health-related quality of life in COPD patients. Int J Tuberc Lung Dis 2016, 20(6): 738–746

[2] Sundh, J. et al. Change in health status in COPD: a seven-year follow-up cohort study. npj Primary Care Respiratory Medicine 2016, 26: 16073.

Abstract ID = 8453

Presented at: 6.5 Oral Abstracts 8 Asthma & Inhaler Delivery 01/06/2018 14:25-15:45

How and When Do Canadian Family Physicians Step Down Asthma Therapy?

Alan Kaplan¹, Suzanne Levitz² ¹Family Physician Airways Group of Canada, ²College of Family Physicians of Canada, Respiratory section

Aim: Asthma management should look at current control and long-term risk. While asthma control does continue to be elusive, even when asthma is controlled, physicians and patients are reluctant to wean off any medication for fear of losing control. Patients take more medication than they may require potentially increasing long term risk.

Method: An online questionnaire was sent to Canadian Family Physicians to look at attitudes and knowledge regarding stepping down Asthma therapy.

Results: 365 respondents most with >15 years experience. Despite evidence of contradictory statements between guidelines[i], most followed current guidelines. 98.2% of physicians felt comfortable in managing asthma. Routine reassessment occurred in 57.4% (~equal between q 3, 6 and 12 months), but in 42.6% only occurred when the patient called for concerns. 95% of physicians used ICS, 87.3% used ICS/LABA and 93.7% used SABA. Interestingly 23.9% used LAMA, but 18% used LABA/LAMA a currently unapproved medication for asthma. Requested consultations with an asthma expert took \geq 3 months in 63.5% of these doctor's experience.

Stepping up therapy in an uncontrolled patient would be done in two weeks by 78.2% and in three months by 18.3%.

Stepping down therapy would be considered when a patient with asthma was stable for two weeks (1%)6.5, three months (46%), six months (20.4%) and one year (11.2%)

We reviewed the stepping down of patients off various controller options including various doses of both ICS alone and ICS/LABA.

Conclusion:

Most (75%) of physicians felt comfortable tapering down ICS in controlled asthma patients; but it was done variably and not consistent with current GINA recommendations.

Declaration of Interest: none relevant

[i]Gupta S. Paolucci E, Kaplan A, Boulet LP. Contemporaneous International Asthma Guidelines Present Differing Recommendations: An Analysis," Canadian Respiratory Journal, 2016,

Declaration of Interest

none

Abstract ID = 8544

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Impact of a pMDI-technique training device on combination asthma therapy pharyngeal steroid deposition.

Mark Sanders¹, Cuong Tran² ¹Clement Clarke International Limited, ²i2c Pharma Services

1. Aim, To assess the impact of using a pressurized metered dose inhaler (pMDI)-technique training device with combination asthma therapies: is there an effect on steroid deposition in particular?

2. Method, The inspiratory flow-guide whistle Flo-ToneâCR (FTCR, Clement Clarke) was used in conjunction with Chiesi pMDI dual therapy Fostairâ (100µg beclometasone diproprionate, BDP, 6µg formoterol fumarate, FF) and triple therapy Trimbowâ (100µg BDP, 6µg FF, 10µg glycopyrronium bromide, GB). BDP aerosol particle size distribution (APSD) was determined from standardised Next Generation Impactor (NGI) experiments (n=5) conducted to British Pharmacopoeial methods (BP2017,2.9.18), including device washing, shaking and priming. BDP analysis was conducted using validated HPLC methodology. Controls were Fostair and Trimbow pMDIs alone.

Results, Key aerosol variables including metered dose and fine particle dose (FPD) were comparable (Table). BDP deposition on the device and apparatus' components revealed that total NGI (Figure 1) and individual stage data (not shown) were not different between Control pMDI and pMDI plus FTCR. Large aerosol particles were, however, trapped either in Control pMDI Induction Port ('human throat') or, when used, in the FTCR.

	Fostair Control	Fostair+FTCR	Trimbow Control	Trimbow+FTCR
Metered dose (µg)	98.8±1.2	97.6±1.4	101.9±1.6	97.4±0.7
BDP data				
Fine Particle Fraction of emitted dose (%<5µm)	47.2±2.2	43.0±1.0	39.7±2.4	35.5±1.6
Fine Particle Dose of emitted dose (µg<5µm)	41.0±2.0	39.8±1.1	35.0±1.7	32.6±1.5
% on Actuator	12.0±0.6	5.1±0.4	13.6±0.4	5.7±0.9

Conclusion, With the combination therapies formulated as homogeneous solutions, the evaluation of BDP APSD represented both FF and GB APSD. Flo-ToneCR did not, therefore, affect the delivery of any drug component. Correct use and minimal pharyngeal steroid deposition are paramount, particularly in maintenance use pMDIs. Despite its compact size it is clear from the remarkable improvement in throat deposition that the Flo-ToneCR is also functioning as a mini-spacer without affecting fine particle dose.

Declaration of interest: Clement Clarke International Limited funded this research.

Abstract ID = 8742

Presented at: 9.3 Oral Abstracts 10 COPD and the Environment 02/06/2018 10:20-11:25

Impact of improved cookstoves on women's and child health in low and middle-income countries: a systematic review and meta-analysis

Esther Boudewijns, Jasper Been, Meghan Thakur, P Nuyts, Javier Flores, T Faber, G R Babu, Onno van Schayck Maastricht University

Background: Indoor air pollution (IAP) from biomass fuel combustion results in a high global burden of morbidity and mortality, disproportionately affecting women and children in low- and middle- income countries (LMICs). We systematically collated available evidence from studies assessing the impact of improved cookstoves on adverse pregnancy, child, and women's health outcomes in LMICs.

Methods: We searched thirteen online databases for published and unpublished studies investigating the impact of improved cookstoves on pregnancy outcomes, child and/or women's health, and/or IAP exposure. Primary outcomes were: low birth weight (LBW), preterm birth, perinatal mortality, paediatric acute respiratory infections (ARIs) and chronic obstructive pulmonary disease (COPD) among women. Where possible, effect estimates were pooled with random-effects meta-analysis.

Findings: We identified 49 eligible studies, including 22 that met Cochrane Effective Practice and Organisation of Care (EPOC) design criteria. Among the primary outcomes, meta-analysis was only possible for paediatric ARIs: pneumonia: three studies; 11,560 children; incidence rate ratio (IRR): 1.02 (95%CI 0.84-1.24); severe pneumonia: two studies; 11,061 children; IRR: 0.88 (95%CI 0.39-2.01). One study reported a reduction in symptom duration for upper (IRR=0.79 [95%CI 0.70-0.89]) and lower ARIs (IRR=0.41 [95%CI 0.21-0.80]). In a pre-specified sensitivity analysis, a significant reduction in COPD among women was identified: two studies, 9757 participants; RR 0.74 (95%CI 0.61-0.90). Among the secondary outcomes, significant reductions in cough (three studies, 1082 participants; risk ratio (RR)=0.73 [95%CI 0.60-0.87]), phlegm (three studies, 1082 participants; RR=0.67 [95%CI 0.54-0.84]), wheezing/breathing difficulty (three studies; 1082 participants; RR=0.42 [95%CI 0.29-0.60]) and conjunctivitis (two studies, 602 participants; RR=0.50 [95%CI 0.37-0.67]) were observed among women in meta-analyses.

Interpretation:

Our findings underline the potential for improved cookstoves to benefit women's health in LMICs. Their impact on children's health as well as in urban settings requires further study. Effective implementation in collaboration with end-users is necessary for ensuring sustained use of improved cookstoves.

Declaration of interest: None

Registration: PROSPERO (CRD42016033075).

Abstract ID = 8524

Presented at: 6.3 Oral Abstracts 7 COPD and Pulmonary Rehabilitation 01/06/2018 14:25-15:45

Implementing of Pulmonary rehabilitation in Vietnam, preliminary results.

Rupert Jones¹, An Le Pham², Minh Ngoc Nguyen³, Ubinh Pham³, Quynh Nhat Nguyen³, Sinh Nguyen³, Van Thanh³, Sally Singh⁴ ¹Plymouth University, ²Faculty of Medicine and Pharmacy, Ho Chi Minh City, ³Faculty of Medicine and Pharmacy Ho Chi Minh City, ⁴University Hospitals of Leicester NHS Trust

Aim: In Vietnam the prevalence of chronic respiratory disease is increasing due to a high prevalence of smoking, increasing air pollution both indoors relating to biomass smoke and outdoor related to traffic fumes, but there is no community pulmonary rehabilitation (PR). We aimed to assess the implementation of PR in Saigon.

Methods: We engaged stakeholders including staff from rehabilitation hospitals and family physicians and developed education of physicians. In visit 1, RJ and SS met with hospital clinical staff, administrators, physiotherapists and traditional medicine. We ran a training programme for the university team and physiotherapists to deliver and evaluate the programme. A one day workshop was delivered for 18 doctors, physios and nurses from local rehab hospitals which covered the principles and practice of PR. In visit 2 we observed rehab assessment and rehearsed the programme, which was then run for 3 groups.

Results: The rehab programme needed to be adapted to improve recruitment (time of day and site of delivery) and the design (a rolling programme rather than fixed groups). Obstacles were doctor and patient apprehension about the safety of exercise with COPD. Of 18 participants completing PR and 6 weeks follow-up data collection, 9/18 (50% were) men, 1/18 current smokers 5 and their mean age was 62 years range 32-77 years. Outcomes showed the incremental shuttle walking test (ISWT) improved 111m, minimum clinical important difference (MCID) is 48 metres and the Total Clinical COPD Questionnaire (CCQ) by 1.3 (MCID 0.4). Chest pains were reported by 61% of participants before PR, but none after.

Conclusion: PR was implemented with adaptations to improve access and retention of participants. Preliminary quantitative data show clinically important improvements in maximal exercise capacity and health status. Qualitative and quantitative data collection is ongoing.

	ISWT CCO	CCQ Total	O Total CCQ	CCQ mental	CCQ	Chest pains	Haemop
	(metres)	es) I symptoms I	state	function	N (%)	N (%	
Baseline	226 (65.4)	2.1 (9.1)	6.4 (3.7)	4.4 (2.8)	10.3 (4.9)	11 (61%)	1 (9%
End of PR	341 (100.2)	10.6 (5.3)	3.9 (2.8)	1.9 (1.5)	4.8 (2.8)	0 (0%)	0 (0%
6 week post rehab	335 (98.5)	7.8 (4.9)	3.3 (2.6)	1.5 (1.3)	3.0 (2.4)	0 (0%)	0 (0%

Figure Outcomes of PR for 18 participants. figures are mean and (standard deviation) unless stated otherwise.

Declaration of Interest

FRESH AIR was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997. This study is registered under trial registration number: NTR5759. http://www.trialregister.nl/trialreg/admin/rctsearch.asp?Term=23332

Abstract ID = 8542

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

In vitro evaluation of a small, retro-fit training device for salbutamol pMDI.

Mark Sanders¹, Cuong Tran² ¹Clement Clarke International Limited, ²i2c Pharma Services

1. Aim, Previous evaluations of retro-fit training devices for pressurised metered dose inhalers (pMDIs)—a standard actuator and the Landmarkâ (Napp) actuator [1, 2]—demonstrated no detrimental effect on aerosol characteristics whilst delivering a resistance-specific whistle at actuation inspiratory flow rates. The current study evaluated aerosol characteristics of a much smaller retro-fit insert for Ventolinâ Evohalerâ pMDI.

2. Method, Ventolin Evohaler pMDI (Control, 100µg salbutamol, GSK) and pMDI plus the new three-ridged insert (Clip-Toneâ, Clement Clarke, Figure 1) were compared using a Next Generation Impactor (NGI, Copley Scientific) operated at 30L/min flow rate, and conducted to British Pharmacopoeial methods (BP2017,2.9.18) and manufacturers' device instructions. Clip-Tone data were determined from five pMDIs, and control data from three pMDIs. pMDI ± Clip-Tone resistance profiles were measured according to Clark & Hollingsworth [3].

3. Results, Aerosol characteristics (Table) and the aerosol particle size distribution profiles (Figure 1) were similar regardless of the addition of the Clip-Tone device. Clip-Tone also created a clear audible whistle signal at approximately 4.4KHz. 30L/min resistance data were 0.02kPa (Ventolin) and 0.31kPa (Ventolin plus Clip-Tone).

Ventolin pMDI	Ventolin pMDI plus Clip-Tone
93.9±4.8	98.0±5.0
82.6±5.0	86.0±3.8
48.2±1.3	48.2±1.6
39.8±1.9	41.4±2.5
11.3±0.7	12.0±1.5
	93.9±4.8 82.6±5.0 48.2±1.3 39.8±1.9

*of emitted dose

4. Conclusion, Clip-Tone is a low-cost accessory, with no moving parts and adaptable to specific inhalers. With poor technique arguably the most important issue in inhaled therapy use, a simple signal-to-actuate device that is without effect on aerosol output has merit. The signal frequency of the device is also suitable for smartphone App recognition. The minor increase in device resistance was shown to have no impact on aerosol delivery suggesting the design has potential for the future application of this approach to other actuator shapes.

Declaration of Interest

Declaration of interest: Clement Clarke International Limited funded this research.

References and Clinical Trial Registry Information

[1] doi: <u>10.1183/1393003.congress-2017.PA529</u>

[2] Sanders, M., Bruin, R., & Tran, C. How to make a standard inhaler device into a 'smart' inhaler that teaches technique. *J Aerosol Med Pulmon Drug Del* 2018 (in the press).

[3] https://doi.org/10.1089/jam.1993.6.99

Abstract ID = 8591

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

INCIDENCE RATE OF EXACERBATIONS IN COPD PATIENTS IN PRIMARY CARE

Isabel Moreno Hernandez¹, Pere toran montserrat², maria bartolome Regué³, immaculada morales sediles⁴, Marta sanchez corbalan⁵, Anna ramon krauel⁶, Mireia garcia caballero⁷, jordi almirall pujol⁸, Ramon boixeda viu⁹, Jordi juanola pla¹⁰, Maria rivodigo rodriguez¹¹, Elisabet palomeras fanegas¹², Nuria aubareda benedi¹³ ¹Institut Catala de la Salut. abs vilassar de dalt, ²institiut catala de la salut. unitat de recerca barcelones nord maresme. grup gempac, ³consorci hospitalari del maresme. grup gempac, ⁴institut catala de la salut. (ICS). abs vilassar de dalt, ⁵ics. vilassar de dalt., ⁶consorci sanitari del maresme. hospital mataro, ⁷consorci sanitari del maresme. hospital mataro. grup gempac, ⁸consorci sanitari del maresme. hospital de mataro . grup gempac., ⁹consorci sanitari del marsme. hospital de mataro. grup gempac, ¹⁰consorci sanitari del maresme. hospital de mataro. grup gempac, ¹¹ics. abs gatassa. mataro, ¹²consorci sanitari maresme. unitat de recerca hospital mataro. grup gempac, ¹³ics. vilassar de dalt

AIM

1. To know the incidence rate of exacerbations, pneumonia and hospitalization in COPD (chronic obstructive pulmonary disease) patients in primary care

METHOD

Observational study of COPD patients> 35 years of age who consulted for LRTI (acute cough (<3 weeks, purulent expectoration or discomfort / chest pain or dyspnea or noisy breathing, with or without fever) including community acquired pneumonia) from March 2015 to March 2016 in three primary health care centers. The COPD prevalence of the 3 centers was calculated at the beginning of the study and the diagnoses were confirmed by the revision of the spirometry that were recorded in the story or were made if they did not exist.

RESULTS

Population studied of 28425 patients. Registered Prevalence of COPD was 3,68% (n=1046/28425) and confirmed prevalence is 2.3% (n=647/2845). Identified 385 LRTI in a year so incidence rate of exacerbations in COPD patients is 59/100 COPD patients / year (385/647). There were 97 hospital admissions so incidence rate of exacerbation in COPD is 15 /100 COPD patient-year (97/647). There were 20 episodes of pneumonia among COPD admitted, so 20% (n=20/97) of the hospital income was due to pneumonia.

CONCLUSION

Low COPD prevalence compared with that published in other studies (10%). 38% of the COPD diagnoses have been wrong (diagnostic error).15% of the COPD have required a hospital income and this data is comparable to other studies.59% of THE COPD has had a LRTI.

Declaration of Interest

not interest

Abstract ID = 8562

Presented at: 3.6 Digital Poster Discussion 1: Teaching & Behavioural Interventions 01/06/2018 09:00-10:20

INCORRECT INHALATION TECHNIQUE IS COMMON IN PATIENTS WITH COPD IN PRIMARY CARE

Annika Lindh¹, Kersti Theander², Mats Arne³, Karin Lisspers⁴, Lena Lund⁵, Hanna Sandelowsky⁵, Björn Ställberg⁴, Eva Thors Adolfsson⁶, Elisabeth Westerdahl⁷, Ann-Britt Zakrisson⁸

¹Faculty of Medicine and Health, School of Health Sciences, Örebro University, Sweden. Centre for clinical research, County Council of Värmland, Sweden, ²Centre for clinical research, County Council of Värmland, Sweden., ³Centre for clinical research, County Council of Värmland, Sweden., ³Centre for clinical research, County Council of Värmland, Sweden., ³Centre for clinical research, County Council of Värmland, Sweden., ³Centre for clinical research, County Council of Värmland, Sweden., ³Centre for clinical research, County Council of Värmland, Sweden., Department of Medical Sciences, Respiratory, Allergy & Sleep Research, Uppsala University, Sweden., ⁴Department of Public Health and Caring Sciences, Family Medicine and Preventive Medicine, Uppsala University, Sweden., ⁵Academic Primary Health Care Centre, Stockholm, Sweden. Karolinska Institute, NVS, Division of Family Medicine and Primary Care, Stockholm, Sweden., ⁶Primary health care, Region Västmanland, Sweden., ⁷Faculty of Medicine and Health, School of Health Sciences, Örebro University, Sweden., ⁸University Healthcare Research Center, Faculty of Medicine and Health, Örebro University, Sweden.

Aim:

The aim was to describe errors, separated into errors related to devices and errors related to inhalation technique, that occur when patients with COPD inhale medications.

Method:

In this descriptive study, participants with COPD diagnosis were recruited from a randomized controlled trial performed 2015-2016 in primary care in four county councils in Sweden. A COPD-nurse assessed the inhalation technique using a checklist with errors related to devices and to inhalation technique with possibility to write comments.

Results:

In total, 167 patients using 287 inhalers were assessed, 52% (n = 86) were female, mean age 71 years. At least one error (range: 1-7 errors) was made by 46% (n = 76) of the participants. The most frequently used inhalers were Turbuhaler® 62% (n = 104) and Spiriva Handihaler® 50% (n = 84). Turbuhaler® and Easyhaler® had the highest frequencies of errors related to devices, 33% and 27% respectively. A total of 158 errors were noted in the checklist, of which 105 were related to inhalation technique and 53 were related to devices. Except from this the COPD-nurse had written comments regarding 53 errors that were not included in the checklist.

Conclusion:

The results show that many patients do not use the inhaler correctly. Errors related to inhalation technique were twice as common as those related to devices. When teaching patients to use the inhalers it seems like there is a need to focus more on the inhalation technique itself. The checklist used in this study needs to be further improved.

Declaration of Interest:

AL has received honoraria for educational activities and lectures from Teva.

KL has received honoraria for educational activities and lectures from AstraZeneca, Novartis, Meda and TEVA.

BS has received honoraria for educational activities and lectures from AstraZeneca, Boehringer Ingelheim, Meda, Novartis and Teva, and has served on advisory boards arranged by AstraZeneca, Novartis, Meda, GSK, Teva and Boehringer Ingelheim.

HS has received honoraria for educational activities from Boehringer Ingelheim, Novartis, AstraZeneca, and TEVA and an unrestricted research grant from AstraZeneca.

ABZ, EW, KT, MA, LL, ETA have no conflicts of interest to declare.

The study is funded by Uppsala-Örebro Regional Research Council, ID RfR-476081. Clinical Trial registration, Swedish Researchweb, projectnumber: 192691, <u>https://www.researchweb.org/is/en/sverige/project/192691</u>
Abstract ID = 8670

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Indoor air pollution and effectiveness new clean cookstoves in highland Naryn region of Kyrgyzstan

Berik Emilov¹, Maamed Mademilov¹, Ryan Chartier², Corina de Jong³, Frederik van Gemert³, Talantbek Sooronbaev¹

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Applied Clinical Research/Implementation Science Results Abstract

Background: Household air pollution has emerged as a top-priority global health issue, and is still a major problem among highlanders in Kyrgyzstan. They are exposed to biomass smoke caused by domestic cooking, and heating for at least 6 months every year.

Aim: To study the effectiveness of a new clean cookstove intervention on health outcomes and the effectiveness of household air pollution on health outcomes.

Methods: The study included 20 households (10 dung stoves and 10 coal stoves) with 40 inhabitants aged 22–84 years (45% male and 55% female) and 49 children, from Naryn region. Before intervention, baseline information about health (among the parents and two youngest children) and households were collected, as well as the personal exposure of $PM_{2.5}$ (MicroPEM from RTI) and CO (USB-CO-logger from Lascar). Two months after intervention, health-related outcomes and household information, including the personal exposure of $PM_{2.5}$ and CO, were collected again.

Results: The frequency of respiratory symptoms during heating period in adults was 67.5% and 56.2% in children; two months after installation of the new cookstove the respiratory symptoms were 17.6% and 1.7% respectively. The filter concentrations of the PM_{2.5} changed from 116.9 to 60.6. The PM_{2.5} exposure mean level was 41.3 μ g/m3 at baseline and after 2 months 19.4 μ g/m3. Baseline peak measurements (95th percentile) was 509.3 μ g/m3 and after 2 months 249.1 μ g/m3. The CO showed at baseline an average maximum 95.85 ppm and average mean 3.8 ppm; 2 months after installation, the CO went to maximum 39.94 ppm and mean 1.1 ppm.

Conclusions: These preliminary results show a significant decrease of indoor air pollution after installation the new clean cookstoves, possibly contributing to the improvement of respiratory symptoms in highland Naryn region of Kyrgyzstan.

Abstract ID = 8592

Presented at: 9.3 Oral Abstracts 10 COPD and the Environment 02/06/2018 10:20-11:25

Indoor environments and its effects on susceptible populations respiratory health

Ana Sofia Mendes¹, Ana Luísa Papoila², Pedro Carreiro-Martins³, Lívia Aguiar⁴, Paula Neves⁴, Cristiana Pereira⁴, Iolanda Caires³, Amália Botelho³, Nuno Neuparth³, João Paulo Teixeira⁵ ¹Institute of Public Health (ISPUP), Universidade do Porto, ²CEAUL, NOVA Medical School, Lisbon, Portugal, ³CEDOC – Respiratory Diseases Research Group, NOVA Medical School, Lisbon, Portugal, ⁴Environmental Health Department, National Health, Porto, Portugal, ⁵Institute of Public Health (ISPUP), Universidade do Porto, EpiUnit Epidemiology Research Unit, Porto, Portugal

Background: Children attending day care centers (CDCC) have been reported to be more prone to infectious diseases when compared with those cared for at home and are exposed to conditions that may increase the risk of allergies and asthma. Similarly, aging is associated with a decline in immune defense and predisposition to respiratory infections. Older people are more susceptible to the effects of air pollution, and since they spend most of their time indoors, monitoring indoor air quality (IAQ) in elderly care centers (ECC) is a public health priority.

Aim: To evaluate the influence of IAQ on children and older people's respiratory health.

Methods: Nine CDCC were selected randomly to participate in substudy of ENVIRH project. GERIA project substudy explored environmental variables and buildings characteristics in 22 ECC. Rooms were assessed for chemical, biological and physical parameters in spring and winter seasons.

Results: CDCC main results indicated that particulate matter (PM10) median levels were above reference levels. CO_2 was present at high median and maximum levels. Poor ventilation in CDCC could be related to wheezing in children. A significant difference was found between indoor and outdoor bacteria concentrations. Median predicted mean vote (PMV) indices showed "slightly cool" (≤ -1) values in the thermal sensation scale. CO_2 , total bacteria, and gram-negative bacteria were associated with low airflow rates.

ECC overall PM2.5 median concentration was above the reference levels. Peak values of PM10, CO₂, bacteria and fungi exceeded the reference levels. Older people exposed to PM10 above the reference levels demonstrated higher odds of allergic rhinitis (OR= 2.9, 95% CI: 1.1–7.2). The winter PMV index showed a 'slightly cool' thermal sensation scale which may potentiate respiratory tract infections.

Conclusion: These data will help to evaluate the effectiveness of current building operation practices in CDCC and ECC regarding IAQ and respiratory health.

Declaration of Interest

This research was supported by GERIA Project PTDC/SAU-SAP/116563/2010 and ENVIRH Project: PTDC/SAU-ESA/100275/2008, as well as, a PhD Grant (SFRH/BD/72399/2010) from Foundation for Science and Technology (Fundação para a Ciência e Tecnologia - FCT) through Operational Competitiveness Programme (COMPETE) as part of the National Strategic Reference Framework.

References and Clinical Trial Registry Information

- J. P. Teixeira *et al.* 2015. *Geriatric study in Portugal on health effects of air quality in elderly care centers*, edited by ISPUP, Porto, Portugal.
- Neuparth, et al. 2013. Environment and health in children day care centers, edited by NMS-UNL, Lisboa, Portugal.

Abstract ID = 8564

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Influence of comorbid heart disease on health status in patients with COPD - a cohort study

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Aim:

The aim of this study was to examine the influence of comorbid heart disease on health status and change in health status over time in COPD patients.

Method:

Cohort study using data from questionnaire and record review of 346 patients with COPD, selected in primary and secondary care 2005, with a follow-up in 2012. Heart disease was defined as ischemic heart disease or heart failure. The study population was divided into three groups: COPD patients without heart disease (no HD, n=240), those who developed heart disease during the study period (new HD, n=45) and those who had heart disease at baseline (HD, n=61). Health status was measured by the COPD Clinical Questionnaire (CCQ) in 2005 and 2012 and the COPD Assessment Test (CAT) in 2012. Linear regression analyses with mean CCQ and CAT total scores in 2012 as dependent variables were performed as unadjusted, adjusted for confounders and adjusted for confounders and mean CCQ at baseline.

Results:

Health status worsened for the no HD group from mean CCQ (SD) 1.9 (1.2) in 2005 to 2.1 (1.3) in 2012 (p=0.01), for new HD from 2.3 (1.5) to 2.6 (1.6) (p=0.07), and for HD from 2.4 (1.1) to 2.5 (1.2) (p=0.57). In linear regression analysis adjusted for confounders HD (regression coefficient 0.12; 95%CI 0.04-5.91) and new HD (0.15; 0.89-5.92) were associated with higher CAT scores and new HD (0.12; 0.05-0.88) was associated with higher CCQ. In CCQ functional state domain, both new HD (0.14; 0.18-1.16) and HD (0.12; 0.04-0.92) were associated with higher scores. After additional correction for baseline CCQ, no significant associations for heart disease with worse health status were found.

Conclusion:

Heart disease is an important risk factor for low health status in COPD. Heart disease does, however, not increase the worsening of health status over time.

Declaration of Interest

The study was funded by grants from the county councils of the Uppsala-Örebro Health Care region, the Swedish Heart and Lung Association, the Swedish Asthma and Allergy Association and the Bror Hjerpstedts Foundation.

Abstract ID = 8533

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Influence of comorbidity at risk of complications and death due to community-acquired pneumonia (CAP)

Anna Demchuk¹, Yuriy Mostovoy², Tetyana Konstantynovych² ¹National Pirogov Memorial Medical University, Vinnytsya, City Clinical Hospital #1, ²National Pirogov Memorial Medical University, Vinnytsya, City Clinical Hospital #1

Aim: To estimate influence of comorbidity at the risk of complications and death due to CAP.

Method: The retrospective analysis of 1587 case history of inpatients with CAP was performed. Mean age was 48.5±18.4, males - 815 (51.4%).

Results:Comorbidity was observed in 1114 (70.2%). Polimorbidity (two and more chronic diseases) was in 540 (34.0%). Cardiovascular, respiratory, digestive diseases were the most frequent comorbidity. Complications of CAP were developed at 582 (36.7 %) patients. At the patients without comorbidity CAP complication were in 169 (29.0 %) cases, but at patients with one chronic disease - 190 (32.6%) or patients with polimorbidity - 223 (38.3%) (p=0.013). Increase risk of pleural effusion associated with chronic diseases of digestive system (OR=1.85 (95%CI 1.30-2.26)) and diabetes mellitus (OR=2.35 (95%CI 1.40-3.96)). Risk of sepsis rose in patients with nervous system diseases (OR=3.62 (95%CI 1.37-9.56) and drug or alcohol addiction (OR=19.08 (95%CI 7.30-49.82). Risk of pulmonary edema rose in patients with drug or alcohol addiction (OR=24.16; 95%CI 8.07-72.34), malignancy (OR=8.97; 95%CI 1.94-41.49), diabetes mellitus (OR=4.04; 95%CI 1.48-11.01), diseases of nervous (OR=4.04; 95%CI 1.17-13.94), urinary (OR=3.39; 95%CI 1.33-8.64) and cardiovascular (OR=2.29, 95%CI 0.98-5.34) systems. Higher risk of death in patients with CAP determined in the presence of cardiovascular diseases (OR=2.17; 95%CI 1.11-4.25), diabetes mellitus (OR=2.95; 95%CI 1.20-7.21), drug or alcohol addiction (OR=38.40; 95%CI 15.05-97.98).

Conclusion: Presence of cardiovascular diseases, diabetes mellitus, drug or alcohol addiction significantly increases risk of complications and death due to CAP.

Declaration of Interest

We don't have conflict of interest.

Abstract ID = 8567

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Influenza Vaccine and Chronic Obstructive Pulmonary Disease

Clarisse Aguiar¹, Jorge Caetano Pereira², David Tonelo³, Bárbara Torres⁴, Joana Oliveira Ferreira⁵ ¹USF S. Domingos, ²USF D. Sancho I, ³USF Santiago, ⁴USF Vale do Sorraia, ⁵USF Serra da Lousã

Aim: According to the Global Initiative for Chronic Obstructive Lung Disease(GOLD), the goals of treating chronic obstructive pulmonary disease(COPD) are to reduce symptoms, improve quality of life, decrease the risk of disease progression, exacerbations and mortality. For this, it is necessary to implement pharmacological and non-pharmacological treatment. Vaccination is a key issue with GOLD and the Direcção Geral de Saúde(DGS) recommending the prescription of the influenza vaccine annually to all COPD patients.

Method : Multicentre, descriptive and cross-sectional study of patients enrolled in 3 files from 3 different units(USF S.Domingos, USF D. Sancho I and USF Santiago), with diagnosis of COPD (R95 according ICPC-2) referring to the date 05/01/2018. MIM@UF® and SClinico® data were queried, being treated in Microsoft Office Excel®.

Results : A total of 557 patients with a diagnosis of COPD were identified, and 64.6% were males and mean age 67.5±12.0years. The mean duration of the disease was 5.2±3.1years.

The vaccination coverage rate against influenza during the 2016-2017 season (at 12/31/2016) was 42.4% and during the 2017-2018 season (at 12/31/2017) was 51.9%.

Conclusion: There was a relative increase of 22.4% in the coverage rate for influenza in 2017 compared to 2016, but the ideal vaccination coverage rate(100%) was not reached in any of the periods, despite the DGS recommendation, as well as the GOLD mention that the influenza vaccine decreases the incidence of lower respiratory tract infections requiring hospitalization and the mortality rate.

The possible refusal of the vaccine by users with no specific place for registration and administration in other institutions were the limitations. Both limitations will be solved with the implementation of "VACINAS". In conclusion, the vaccination coverage rate for influenza in COPD patients should be increased through awareness-raising interventions among patients and clinicians with the aim of reducing morbidity and mortality in COPD.

Declaration of Interest: None.

References and Clinical Trial Registry Information

Direção-Geral da Saúde - Portugal – Doenças Respiratórias em números - 2015.

Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease, GOLD 2018.

Norma DGS nº004/2016 - Vacinação contra a gripe - Época 2016/2017.

Norma DGS nº018/2017 - Vacinação contra a gripe - Época 2017/2018.

Abstract ID = 8703

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Influenza vaccine coverage in patients with type 2 diabetes

David Tonelo¹, Jorge Caetano Pereira², Clarisse Aguiar³ ¹USF Santiago, ²USF D. Sancho I, ³USF S. Domingos

Aim: Individuals with DM, when infected with *Influenza*, have a higher frequency of hospitalizations, complications and mortality¹. The flu vaccination has shown great benefits on individuals affected with DM², and it is recommended annually to all DM patients. This study aims to determine the flu vaccination coverage among patients with type 2 DM (T2DM).

Methods: Cross-sectional descriptive study. Population: patients diagnosed with T2DM enrolled on the three practice lists of the authors' mentors. Data Source: electronic medical record. Data collection date: July of 2017 and January of 2018. Exclusion criteria: absence of records, absence of medical consultation during the study period. Statistical analysis: Microsoft Excel® 2016 and SPSS® 22.

Results: In 2016, a total of 366 individuals with T2DM were studied. The flu vaccination coverage was 40,2 % on the 2016/2017 season. In 2017, a total of 405 individuals with T2DM were studied. The flu vaccination coverage was 36,8 % on the 2017/2018 season. Selecting the data for ages \geq 65, the coverage was of 51,2% and 47,3% for 2016/ 2017 and 2017/2018, respectively

Conclusion: The flu vaccination coverage rates observed were equal or inferior to other European countries³; however, the rates were higher when compared to Portugal's data (37,5% reported by Nunes *et al*⁴). By adjusting the data for ages \geq 65 yrs, we found similar coverage rate to the general population (50,2% on the study of ECOS⁵). In conclusion, the flu vaccination coverage on T2DM patients can still improve; and Family Physicians play a fundamental role, through information interventions and clarification of benefits and risks of the vaccine in the T2DM community.

Declaration of Interest

None Declared

References and Clinical Trial Registry Information

1- Lau, Darren, et al. "Working-age adults with diabetes experience greater susceptibility to seasonal influenza: a population-based cohort study." *Diabetologia* 57.4 (2014): 690-698.

2- Lau, Darren, et al. "Effectiveness of influenza vaccination in working-age adults with diabetes: a populationbased cohort study." *Thorax* (2013): thoraxjnl-2012.

3- Loerbroks, Adrian, et al. "Influenza vaccination coverage among high-risk groups in 11 European countries." *The European Journal of Public Health* 22.4 (2011): 562-568.

4- Nunes, Baltazar, and Maria João Branco. "Vacinação antigripal da população portuguesa, em 2011-2012: cobertura e características do acto vacinal." (2012).

5- Uva, Mafalda Sousa, et al. "Vacinação Antigripal Da População Portuguesa Na Época 2015/2016 - Estudo Na Amostra ECOS: Relatório. Lisboa: Instituto Nacional De Saúde Doutor Ricardo Jorge, IP, 2016.

Abstract ID = 8496

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Inhalation Therapy in COPD - Quality Improvement

Jorge Pereira¹, Clarisse Aguiar², Bárbara Torres³, David Tonelo⁴, Joana Oliveira Ferreira⁵ ¹USF D. Sancho I, ²USF S. Domingos, ³USF Vale do Sorraia, ⁴USF Santiago, ⁵USF Serra da Lousã

Aim: Inhaled corticosteroids(ICS) are used in excess in chronic obstructive pulmonary disease(COPD), leading to significant side effects, although adequate bronchodilation may be as good or better for the prevention of exacerbation.

The objective is to evaluate the suitability of inhaled therapy based on GOLD recommendations.

Method : Circuit of evaluation and improvement of quality. First, a cross-sectional descriptive study on inhalation therapy in COPD patients(11/23/2015). An intervention was made to sensitize clinicians (clinical session with distribution of pamphlet 23/06/2016). New evaluation in 11/23/2017.

Results: In 2015 118patients with COPD. 72.0% with basic inhalation therapy, of these 24.7% in monotherapy(2 only with ICS), 49.4% with dual and 25.8% with triple association. Among the patients with dual association, LAMA+LABA therapy was present in 35.7%vs. LABA+ICS in 64.3%. Of the total users treated as monotherapy or dual association, 46.0% were on ICS.

Re-evaluation in 2017 with 136patients. 80.1% with basic inhalation therapy, 22.9% in monotherapy(without ICS), 56.0% with dual and 21.1% with triple association. Among the patients with dual association, LAMA+LABA presented 68.9%vs. LABA+ICS in 31.1%. Of the total users treated in monotherapy or dual association, 22.1% were on ICS.

Conclusion : There was a decrease in the percentage of monotherapy and triple-combination regimens during the study. It was documented an increase in the use of the double association, and there was an inversion of the preference of dual therapy with LABA+ICS in 2015 for LAMA+LABA in 2017, data in agreement with GOLD that recommend one or more long-acting bronchodilators before the introduction of ICS.

Reduction of ICS in patients receiving monotherapy or double-combination(46.0%to22.1%). In 2015 there were 2 users on ICSmonotherapy and in 2017 there were no ICSmonotherapy, which indicates compliance with the GOLD.

In summary, these results identified gaps in the implementation of GOLD recommendations but suggest a positive impact in COPD treatment.

Declaration of Interest

None.

References and Clinical Trial Registry Information

Direção-Geral da Saúde - Portugal – Doenças Respiratórias em números - 2015.

Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease, GOLD 2018.

Abstract ID = 8478

Presented at: Resumos em Português e Castelhano - Apresentações orais 31/05/2018 11:00-12:45

Inhaler technique education in elderly patients with Asthma or COPD: impact upon disease control and exacerbations: a Systematic Review and Meta-analysis

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Introduction: Asthma and COPD affects more than 10% of the population, and the main treatment pathway is through inhaler devices. Up to 90% of patients use their inhaler incorrectly, and elderly are more susceptible to mistakes, which leads to poor clinical control and increased exacerbation risk. Our objective was to perform a systematic review and meta-analysis on inhaler technique education in these patients and evaluate its impact on clinical outcomes.

Methods: We performed searches on Medline, Embase and Central databases and applied as the main eligibility criteria: systematic reviews, meta-analysis, RCTs, nonrandomized clinical trials and quasi-experimental studies, with participants above 65 years old, education on inhaler technique and reporting of relevant clinical outcomes, such as clinical and functional control and exacerbation rates. We applied the GRADE scale for quality assessment and used a random effect model with mantel-haenszel adjustment to perform a meta-analysis.

Results: We included eight studies, four randomized and four quasi-experimental, with a total of 1812 participants. The most frequent type of intervention was the physical demonstration with placebo devices. Quality of life and exacerbations were the most reported outcomes. One non-randomized and four randomized studies have shown significant reduction in exacerbation rates, and the pooled risk ratio was 0.71 (95%CI 0.59 to 0.86; p<0.001). However, impact on disease control and quality of life showed a high discrepancy and all randomized studies were uncertain in their risk of bias assessment.

Conclusion: All kinds of interventions seem to improve inhaler performance and clinically relevant outcomes, but placebo device training could be the most effective. Also, there is evidence that they reduce exacerbation risk in elderly patients, although in an overall moderate grade.

Declaration of Interest

The authors declare no conflict of interests.

This work was developed without any funding support or financial source. The academic affiliation of this systematic review is the Life and Health Sciences Research Institute (ICVS)/3B's at University of Minho and the Faculty of Health Sciences at the University of Beira Interior in Portugal.

This work was prepared with scientific support from Harvard Medical School, in accordance with the Portuguese Clinical Scholarship Research Training Program. The authors also endorse acknowledgment to Prof. Jonh Groarke, from the Harvard Medical School, for his important scientific support and input in reviewing the final version of this manuscript.

Abstract ID = 8535

Presented at: Resumos em Português e Castelhano - Apresentações orais 31/05/2018 11:00-12:45

Inhaler technique in elderly Asthma or COPD patients – a predictive tool for inhaler performance and clinical risk

Tiago Maricoto¹, Duarte Santos², Jaime Correia-de-Sousa³, Luis Taborda-Barata⁴

¹Family Doctor - USF Aveiro-Aradas, Aveiro Healthcare Centre; PhD Student - Faculty of Health Sciences -University of Beira Interior, Covilhã., ²Family Doctor - USF Aveiro-Aradas, Aveiro Healthcare Centre, ³Family Doctor - Horizonte Family Health Unit, Matosinhos; Life and Health Sciences Research Institute (ICVS)/3B's — PT Government Associate Laboratory, University of Minho, Braga, ⁴CICS - Health Sciences Research Centre, University of Beira Interior, Covilhã; NuESA – Environment & Health Study Group, Faculty of Health Sciences, University of Beira Interior, Covilhã; Department of Allergy & Clinical Immunology, Cova da Beira University Hospital Centre, Covilhã

Aim:

Most elderly patients with Asthma or COPD use their inhalers incorrectly, and some studies have pointed out different factors that may be associated with this problem. Our aim is to determine the major predictors of poor performance and clinical risk in elderly patients.

Methods:

An ongoing multicentre, cross-sectional study, involving collection of the following data as predictors: demographic, socioeconomic and phenotypic characteristics, adhesion rate, frailty and depression stage and comorbidities. The following outcomes were set: quality of life, clinical and functional control, exacerbation history and inhaler performance. A sample size of 139 participants was estimated and multivariate regression techniques were used to determine the best-suited models.

Results:

Preliminary results of 56 participants with mean age of 72 years (\pm 6), most of them of low social and educational status. 52% had at least one exacerbation in the previous year and only 29% had good clinical control. Adhesion rate was 39% and 68% used the inhaler incorrectly. Mean inhaler performance index was 8.4 (\pm 1.4) and 26% showed critical errors.

Best predictive factors of poor performance were cognitive performance, socioeconomic status and previous education provided by a doctor (p<0.05). Better cognitive performance and inhaled corticosteroid therapy were associated with a lower exacerbation history (p<0.05). Frequency of inhaler review and the type of educational tool used were not significantly associated with performance.

Discussion and Conclusion:

Preliminary data from this ongoing study show that many patients present critical errors and these are associated with a higher exacerbation risk. Doctors should be aware of such patients, particularly those with cognitive impairment and lower literacy level.

Declaration of Interest

The authors declare no conflict of interests.

This work was developed without any funding support or financial source. The academic affiliation of this research is the Life and Health Sciences Research Institute (ICVS)/3B's at University of Minho and the Faculty of Health Sciences at the University of Beira Interior in Portugal.

Abstract ID = 8684

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

InspirerMundi: an app to measure and improve adherence to inhaled medication

Cristina Jácome¹, Rui Guedes¹, Rute Almeida¹, João Fonseca Teixeira², Pedro Vieira-Marques¹, Bernardo Pinho³, José Manuel Fernandes⁴, Ana Ferreira¹, João Almeida Fonseca¹ ¹CINTESIS, ²INESC TEC, ³MEDIDA, ⁴Bloomidea

Aim: Poor adherence to inhaled medication (AIM) is one of the main factors responsible for failure to achieve good clinical results in asthma. The development of easy-to-disseminate objective measures of AIM, and the promotion of AIM within patients' routine daily-life are needed. The knowledge that gaining a person's attention is the first step in promoting behavior change and that smartphones and gamification can enhance motivation, have led to the conception of a mobile app. The aim of this work is to present the InspirerMundi app.

Methods: InspirerMundi is the product of an iterative process with five main steps: 1) definition of the app concept and technical requirements; 2) creation of nonfunctional mock-ups and users' feedback on the acceptability of the core features through meetings (physicians) and focus groups (patients); 3) development of an inhaler usage detection tool based on image processing using the smartphone camera; 4) creation of functional mock-ups and feedback through multidisciplinary meetings (engineers, physicians,...); and 5) development of the functional prototype.

Results: The app has 3 components (Figure 1). The monitoring component includes the registration of medications, symptoms and exacerbations; and an inhaler usage detection tool, which assesses AIM through dose tracking. The gamification component, through a point and badge system, is intended to foster users engagement in the registration and adherence to the therapeutic plan. The social support component allows the exchange of messages and sharing of points/badges among users. To inform further developments, acceptability and feasibility of InspirerMundi is currently being tested in a prospective observational study among adolescents/adults with asthma followed at secondary care in Portugal.

Conclusion: InspirerMundi attempts to transform adherence to asthma treatment into a positive experience through gamification and social interaction, while allowing for ubiquitous verified AIM monitoring. The app will promote patient-clinician shared decision-making, contributing to the innovation of digital healthcare services.

Declaration of Interest

We acknowledge Mundipharma-Portugal for funding the dissemination of the InspirerMundi app. This work was partially supported by FEDER through the operation POCI-01-0145-FEDER-007746 funded by the Programa Operacional Competitividade e Internacionalização – COMPETE2020 and by National Funds through FCT (Fundação para a Ciência e a Tecnologia) within CINTESIS, R&D Unit (UID/IC/4255/2013). Cristina Jácome has a post-doctoral grant (SFRH/BPD/115169/2016) funded by FCT, co-financed by the European Social Fund and Portuguese national funds from MCTES. Rui Guedes, Rute Almeida and João Teixeira are financed by the Project NORTE-01-0145-FEDER-000016 (NanoSTIMA), financed by NORTE 2020, under the PORTUGAL 2020 Partnership Agreement, and through FEDER.

Abstract ID = 8573

Presented at: 8.1 Tapas/Petiscos Best Practice from IPCRG Members - Adding Value to Your Practice 02/06/2018 09:00-10:20

International research and guidelines on post-tuberculosis chronic lung disease: a systematic scoping review

Sanne van Kampen¹, Amanda Wanner¹, Miles Edwards¹, Anthony Harries², Bruce Kirenga³, Jeremiah Chakaya⁴, Rupert Jones¹ ¹Plymouth University, ²International Union Against Tuberculosis and Lung Disease, ³Makerere University, ⁴Kenyatta University

Aim

Pulmonary tuberculosis (TB) is an important risk factor for chronic respiratory disease due to lung damage. Yet, the WHO End TB strategy does not mention post-TB lung disease (PTBLD) and programmatic interventions to address PTBLD are lacking. This study assessed the scope of current guidelines and evidence on PTBLD to inform policy and research action.

Method

A systematic literature review was conducted following PRISMA guidelines. Eight databases (TRIP, International Guideline Library, MEDLINE, PubMed, EMBASE, Web of Science, Global Health, Cochrane Library) were searched for records on PTBLD published between January 1990 and December 2017. Non-English records, case series, conference abstracts and letters to editors were excluded. Data was extracted and charted on: publication year, location, PTBLD condition(s) and main study outcome.

Results

A total of 212 guidelines and 3,661 articles were retrieved. After screening, only three international guidelines mentioned TB sequelae, but none described how to identify or manage the condition. A total of 156 papers addressed PTBLD: 54 (35%) studied unspecified TB sequelae; 47 (30%) specific post-TB conditions including aspergillosis, bronchial stenosis or bronchiectasis; 52 (33%) post-TB obstructive disease or lung function impairment; and 20 (13%) post-TB respiratory symptoms or chest x-ray abnormalities. The first two groups mostly assessed surgery and ventilation techniques, while the last two groups assessed prevalence and predictors of disease.

Conclusion

This is the first review to provide a comprehensive overview of the current literature on PTBLD. The scope of evidence around the burden of PTBLD justifies inclusion in international guidelines. Research is now needed on prevention, medication and rehabilitation for PTBLD, especially in high burden TB countries.

Declaration of Interest

The authors declare to have no conflicts of interest. This research was supported by the National Institute for Health Research (NIHR) Collaboration for Leadership in Applied Health Research and Care of the South West Peninsula (PenCLAHRC) in the UK. The views expressed are those of the authors and not necessarily those of the National Health Services (NHS), the NIHR or the Department of Health.

Abstract ID = 8586

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Journey of Pulmonary Rehabilitation in Bangladesh Community

Rowshan Alam Rangpur Medical College, Bangladesh

AIM:

To find out the association between Pulmonary Rehabilitation and COPD.

METHODS:

One hundred thirty-two COPD Group B & C patients participated in an six weeks PR program delivered by pulmonary rehab center (Pulmofit) Rangpur ,Bangladesh from 1st October 2017 to 31 December 2017.Beginning of PR mean CCQ was 3.3 and at the end of the program CCQ was 2.2. Rehab sessions were administered two days per week and patients exercised under direct supervision of paramedic and trained physiotherapist and practiced nurse.

RESULTS:

Before PR mean CCQ was 3.3, symptom score was 3.75, Mental score 3.00, Functional state score 3.00 and after PR mean CCQ was 2.2 symptom score was 2.25 Mental score 2.00, Functional state score 2.25 which is clinically and statistically significant (P<0.05).

CONCLUSION:

Pulmonary rehabilitation was an effective intervention for COPD management, and improvements in quality of life and exercise capacity.

Declaration of Interest

Nothing conflict of interest. This study is done in my self funding Pulmonary Rehabilitation Center(Pulmofit), Rangpur, Bangladesh.

References and Clinical Trial Registry Information

Professor Sally Singh

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Abstract ID = 8637

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

LAMA and LABA prescriptions in Portuguese under 40 years old

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Aim: To describe the prescription of Long-Acting Muscarinic Antagonist (LAMA), Long-Acting Beta-2adrenoreceptor Agonist (LABA) and LABA in association with LAMA in children and young adults in the Portuguese Electronic Medical Prescription database (PEM).

Method: This is a retrospective population-based analysis of a random sample of 103647 patients from the PEM, used by all physicians in the country. All data was provided in an anonymous form. For this analysis, we included patients to whom were prescribed at least one LAMA and/or LABA in 2016. The clinical indication for these drugs is COPD, a disease unlikely at a young age. We assessed patients' characteristics, prescriber, number of canister/inhalers in each prescription and concomitant medication, specifically Inhaled Corticosteroids (ICS).

Results: COPD medication was prescribed to 5012 per 100,000 (10^5) Portuguese patients and 315/10^5 (6%) were under 40 years old. From these, 123/10^5(39%[34-45, 95%CI]) were not prescribed other respiratory medications while 81/10^5 (27%[21-31, 95%CI]) had also ICS prescribed. Half of young patients on LABA/LAMA only were prescribed more than three canisters/inhalers indicating long-term use of the drug [95%CI 41-59]. Comparing the patients on COPD medication alone with those with concomitant ICS, there are no differences except that the prescribers of the COPD medication alone were mostly from primary care (% 95%CI; 51[45-56] vs. 15[12-19]) and of concomitant ICS were from hospital care (% 95%CI; 25[22-29] vs. 37[33-41], respectively).

Conclusion

This is the first analysis of prescription of COPD medication from the official Portuguese prescription database. LAMA and/or LABA were prescribed to 315/100,000 Portuguese patients under 40 years old, 123/100,000 in isolation and mainly on primary care. These preliminary results indicate a frequent use of LAMA and/or LABA with a high proportion of off-label use and the possible use in asthma patients without mandatory ICS, a known risk factor for adverse asthma outcomes.

Declaration of Interest

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Abstract ID = 8568

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Let's get it right: spirometric diagnosis in the Welsh primary care 2015-17 COPD audit

Rachael Andrews¹, Noel Baxter¹, Juliana Holzhauer-Barrie¹, Jenni Quint², Philip Stone², Mike Roberts¹ ¹Royal College of Physicians, ²Imperial College London

Aim

NICE guidelines and quality standards state a clinical diagnosis of COPD must be confirmed by post bronchodilator spirometry testing. The National COPD Audit Programme aimed to determine the proportion of patients diagnosed with COPD within the audit period with the recommended diagnostic test documented in their general practice (GP) record, and the proportion with test results consistent with COPD.

Method

The audit extracted anonymised Read-coded* data directly from GP systems covering April 1st 2015 to March 31st 2017, and analysed using a set of key care queries. The presence of a spirometry ratio (FEV1/FVC) code and result value (one of the 339 Read codes: 339m, 339M, 3399, 339j, 339k, 339I, 339R, 339T, 339U, 339O1) for those diagnosed with COPD within the last two years was collected. Additionally, the presence of the gold standard diagnostic test (a post bronchodilator FEV1/FVC, recorded by Read code 339m) was extracted.

Results

- 94% of general practices (n=407) providing 82,696 COPD patient records opted in to the audit.
- 54.3% of patients diagnosed within the two years had an FEV1/FVC ratio record with a corresponding result consistent with COPD (between 0.2 and 0.7).
- Only 11.1% of patients had a post-bronchodilator FEV1/FVC (i.e. the gold standard).
- 8.5% (76.0% of those with code 339m) had a result consistent with airways obstruction and COPD.
- 2.7% (24.0% of those with code 339m) had a result that was inconsistent with COPD.

Conclusion

Documentation of post bronchodilator testing in patients listed on primary care COPD registers is suboptimal, and when fully documented is incompatible with the diagnosis in a quarter of cases. Inaccurate diagnosis on this scale has major implications for health care planning and delivery and for the individual patients affected.

* Read Codes are a coded thesaurus of clinical terms (https://digital.nhs.uk/article/1104/Read-Codes)

Abstract ID = 8523

4.6 Digital Poster Discussion 2: Asthma Management 01/06/2018 10:20-11:20

Long-acting muscarinic antagonists have similar efficacy and safety to long-acting β 2-agonists as add-on to ICS in adults with asthma

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Aim

This systematic literature search aimed to compare the improvements in lung function, exacerbations and symptoms, and the safety profiles, of long-acting muscarinic antagonists (LAMAs) and long-acting β_2 -agonists (LABAs) when added to inhaled corticosteroids (ICS) in adults with asthma.

Method

We identified studies and meta-analyses that compared LAMAs and LABAs with placebo, or compared a LAMA with a LABA, as add-on to ICS in adult patients with asthma. Data from randomised controlled trials \geq 4 weeks long, from adults only, are included.

Results

Three systematic reviews and two additional studies were included (Table). Improvements in forced expiratory volume in 1 second (FEV₁) with tiotropium versus placebo as add-on to ICS were 0.14 L (trough) and 0.19 L (peak), while for LABAs the improvements versus placebo were 0.07 L (trough) and 0.13 L (timepoint not specified). The systematic review comparing tiotropium with salmeterol showed a benefit of tiotropium in trough FEV₁ (treatment difference 0.05 L), and the tiotropium versus LABA study showed no significant difference between treatments. There was no difference between tiotropium and LABAs in the odds ratios of exacerbations requiring oral steroids. In the systematic review comparing tiotropium and salmeterol there was no difference between treatments in the proportion of Asthma Control Questionnaire responders, or the number of patients reporting adverse events or serious adverse events.

Conclusion

The efficacy and safety results with LAMAs (tiotropium) and LABAs as add-on to ICS were broadly similar, with a possible lung function benefit with tiotropium. This suggests that, for patients who remain symptomatic on ICS, both LAMAs and LABAs may be considered as add-on controllers.

Abstract ID = 8488

Presented at: 5.6 Digital Poster Discussion 3 01/06/2018 11:50-13:00

Long-term effect of a practice-based intervention (HAPPY AUDIT) to reduce antibiotic prescribing in patients with lower respiratory tract infections.

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Aim. To assess the effect of a multifaceted practice-based intervention (HAPPY AUDIT) carried out six years earlier in order to reduce antibiotic prescribing in patients with lower respiratory tract infections (LRTIs). Method. The 210 general practitioners (GPs) from eight Spanish areas who had completed the first and second registries in January-February 2008 and 2009 were invited to participate in the third registry in 2015. As in the previous registries, they were instructed to fill out a template for all the patients with LRTIs, encompassing all the cases of acute bronchitis, exacerbations of chronic bronchitis or chronic obstructive pulmonary disease (COPD) and pneumonia, during 15 working days in January-March 2015 and they were given C-reactive protein (CRP) devices as in the second registry. A new group of GPs from the same areas who had never participated in courses on the rational use of antibiotics were also invited to participate and acted as controls. A multilevel logistic regression was performed considering the prescription of antibiotics as the dependent variable.

Results. A number of 121 GPs who were exposed to HAPPY AUDIT intervention in 2009 (57.6%) and 117 control GPs never exposed to the intervention registered a total of 4,343 patients with LRTIs. Sputum purulence (OR 7.25) was significantly associated with antibiotic prescribing and conversely, CRP<20 mg/L (OR 0.15) was associated with low antibiotic prescribing (Table 1). On adjustment for covariables, compared to the antibiotic prescription observed just after the intervention, GPs allocated to intervention prescribed slightly more antibiotics six years later, albeit without statistically significant differences (OR 1.17, 95% confidence interval [CI], 0.95–1.43), while GPs allocated to the control group prescribed significantly more antibiotics (OR 2.31, 95% CI 1.62–3.29).

Conclusions. This study shows that the effect of a single multifaceted intervention targeting antibiotic prescribing is sustainable after six years.

Declaration of Interest

Study funded by TRACE (Translational Research on Antimicrobial resistance and Community-acquired infections in Europe). Ethical approval was granted by the Institut d'Investigació en Atenció Primària Jordi Gol i Gurina, Barcelona, reference number 14/106.

CL and AM report receiving research grants from the European Commission (6th and 7th Programme Frameworks and Horizon 2020), Catalan Society of Family Medicine, Instituto de Salud Carlos III (Spanish Ministry of Health), and Alere.

Abstract ID = 8609

Presented at: 4.5 Oral Abstracts 5 COPD Low and Middle-Income Countries 01/06/2018 10:20-11:20

More household air pollution and COPD at higher altitude - a population-based, observational FRESH AIR study in rural Kyrgyzstan

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Aim: Chronic obstructive pulmonary disease (COPD) has become the third leading cause of death worldwide. Household air pollution (HAP) is a major contributor to COPD. Although 400 million people live at high altitude, the association between altitude, HAP-exposure and COPD prevalence remains unclear. Therefore, we aim to compare HAP and COPD between high- and low altitude areas.

Method We conducted a population-based, observational study in a highland and lowland setting in rural Kyrgyzstan. We measured particulate matter with an aerodynamic diameter $<2.5 \mu m$ (PM_{2.5}) in randomly selected households, performed spirometry with adult residents, and administered a questionnaire. The association between HAP and COPD was assessed using adjusted logistic regression analyses.

Results Complete information was obtained from 199 highlanders and 193 lowlanders (41 households per setting). Highlanders were significantly more exposed to HAP sources (using higher risk types of fuels, stoves, ventilation, and cooking locations) and to $PM_{2.5}$ (median $PM_{2.5}$ 290.0 vs 72.0 µg/m³, p<0.001). COPD and chronic respiratory symptoms were more prevalent among highlanders than lowlanders (36.7% vs 10.4% and 23.6% vs. 7.8% respectively, both p<0.001).

Conclusion In this study, as to date the first spirometry-based prevalence study in Central-Asia, we found a high COPD prevalence in both rural areas. Our study also showed high associated HAP-exposure among both highlanders and lowlanders. Highlanders were significantly more exposed to HAP and suffered from COPD more often. Although generalisability to other highland settings has to be assessed, (preventive) interventions seem of particular importance in these highland settings.

Declaration of Interest

This study was funded by Healthy Lungs for Life from the European Lung Foundation.

The authors declare to have no conflicts of interests.

Abstract ID = 8695

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

OBSTRUCTIVE SLEEP APNEA SYNDROME, PREVALENCE AND COMORBIDITIES STUDY IN TWO PRIMARY HEALTH CARE UNITS

Patrícia Pimentel Borges¹, Ana Filipa Fernandes², Ana Carolina C. Marques³, Sara Maria Amaral⁴ ¹USF D. Sancho I, ²USF Vale do Sorraia, ³UCSP Rio Maior, ⁴USF CampuSaúde

AIM:

Obstructive sleep apnea syndrome(OSAS) is a respiratory disorder,more frequent in males(2-3:1),with undetermined prevalence in Portugal, but a 2014 study obtained a prevalence of 0.89% and hypothesized the real value as 2.2%.OSAS is considered to be an independent risk factor for cardiovascular disease:arterial hypertension(AH),stroke,coronary heart disease(CHD),heart failure(HF) and arrhythmias.Our objective is to evaluate the prevalence of OSAS and associated cardiovascular comorbidities(CCs)in two health units(HU).

METHOD:

Observational, retrospective, analytical study in patients with OSA(ICPC-2 P06) at 30/11/2017. Exclusion: Patients without Family Doctor, with non-OSAS associated ICPC-2 P06, without polysomnography. Variables: gender; age; absence of CCs; AH; CHD; HF; stroke; atrial fibrillation(AF). Data collection: SClínico[®], MIM@UF[®], Portal da Saúde[®]. Data processing: Excel2013[®], SPSS version 22[®].

RESULTS:

Of the 506patients, were included 394, the majority male(69.3%) with mean age of 61.9 years(y) and OSAS' prevalence of 1.7%. Of the 394 patients, 9(2.3%) had<40y, 141(35.8%) had 40-59y, 223(56.6%) had 60-79y and 21(5, 3%)>80y. The group with the highest prevalence of OSAS was 61-70y(34%). 283P(71.8%) had CCs of wich 193(49%) had oneCC, 67(17%) had twoCCs, 19(4.8%) had threeCCs and 4(1%) had fourCCs. 260P(92.2%) had AH, 40(14.2%) had CHD, 23(8.2%) had HF, 18(6.4%) had a stroke and 35(12.4%) had AF.AH was present in 172(89.1%) patients with oneCC, 66(98.5%) with twoCCs and in all patients with three or fourCCs. Comparing age and CCs, there were 2(22.2%)<40y, 75(53.2%) aged 40-59y, 188(84.3%) aged 60-79y and 18(85.7%)>80y. Comparing age and AH, there were 1(11.1%)<40y, 70(49.6%) aged 40-59y, 174(78%) aged 60-79y and 16(76.2%)>80y.

CONCLUSION:

The prevalence of OSAS, in these HU, although higher than the study conducted in Portugal, is below the values established in other countries. Studies indicate that OSAS is more prevalent between 40-59y, so we can infer that in these HU there is a late diagnosis, which reinforces the possibility of underdiagnosis, especially in the younger population. The ratio between male and female was similar to other studies. CCs is common in OSAS and increase with age. AH was the most prevalent CC in OSAS and it was higher than AH prevalence in the population. Diagnosis and treatment of OSAS should be as early as possible in order to serve as prevention and reduction of cardiovascular risk in younger patients.

Declaration of Interest

NONE

Abstract ID = 8559

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 11:00-12:45

Outcomes of Pulmonary Rehabilitation valued by patients with COPD - patients' perspectives

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Aim: Pulmonary rehabilitation (PR) is fundamental for the management of patients with chronic obstructive pulmonary disease (COPD) as it improves symptoms, exercise tolerance and health-related quality of life. Awareness for the need of including patients' perspectives to improve healthcare has been increasing, however, the outcomes of PR most valued by patients have been little investigated. This study aimed to explore patients' perspectives about outcomes of PR.

Method: Semi-structured interviews were conducted. The experience in participating and the positive and negative effects of PR, were explored in patients with stable COPD. 7 patients (100% males, 69.4±2.3 years, FEV₁ 53.2±16.7%) that participated in a 12-week community-based PR program were recruited. Qualitative data were organized into themes and categories using NVivo software. Percentages were used for the frequency that patients reported each theme or category.

Results: 7 themes emerged from the analysis - health-related physical fitness and functional capacity; vital signs, symptoms and sleep; mood and motivation; feeling fulfilled; education; healthy behaviours and financial constraints. The most reported themes as being meaningful outcomes of PR were health-related physical fitness and functional capacity (100%), vital signs, symptoms and sleep (100%), and mood and motivation (71%). Whilst most themes were seen as positive, patients recognized financial constraints (57%) as a negative effect, which influenced their decision to maintain adherence to PR programs. The most valued categories were taking control over dyspnoea (100%), improving performance in daily-life activities (86%), reducing tiredness (86%) and reducing anxiety and fear (86%). Furthermore, patients showed concern about adopting healthy habits, particularly smoking cessation (86%), recognizing it as a priority for the management of the disease.

Conclusion: This study suggests that special attention should be paid to functional activities, fatigue, fear and financial constraints, since they are highly meaningful to patients with COPD and yet commonly underestimated in PR programs.

Declaration of Interest

I have no real or perceived, direct or indirect conflicts of interest that relate to this work. This work was funded by Programa Operacional de Competitividade e Internacionalização - COMPETE, through Fundo Europeu de Desenvolvimento Regional - FEDER (POCI-01-0145-FEDER-016701), Fundação para a Ciência e Tecnologia (PTDC/DTPPIC/2284/2014) and under the project UID/BIM/04501/2013.

Abstract ID = 8557

Presented at:

Perceptions among primary care staff towards financial incentives to promote implementation of asthma self-management: a qualitative study in Northern Ireland

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Aim: To explore how primary care practices in Northern Ireland responded to a healthcare scheme that pays a financial incentive to practices for providing self-management education to patients with asthma and the impact of the scheme on implementation of asthma self-management, including provision of asthma action plans.

Method: We aimed to recruit up to 20 primary care practices across Northern Ireland and undertake an individual telephone interview with a representative from each practice involved with delivering the scheme. From the telephone interviews we aimed to recruit four practices for a case study analysis involving in-depth interviews with clinical and administrative staff members. An incentives framework was used to underpin interview questions, which were recorded, transcribed and analysed using a Grounded Theory approach.

Results: We conducted 15 telephone interviews, six in-depth individual interviews and two group interviews with 23 participants (five GPs, five nurses and 13 administrative staff) involved with the scheme from 15 practices. Themes clustered around targeting poor asthma control; communicating with patients; strategies for achieving targets; financial incentives. All participants highlighted the difficulty of getting patients with asthma to attend appointments, with some expressing frustration at lack of patient involvement. Developing strategies to increase attendance for patients with asthma was discussed in the majority of interviews, with a number of participants specifically targeting patients with poorly controlled asthma. Participants were positive about receiving financial incentives for the extra work undertaken, but the main motivator was providing best quality of care for patients.

Conclusion: Primary care practice staff view financial incentives positively, however patient health was the highest priority when delivering care. Practices continually develop strategies to increase patient attendance for annual reviews, particularly among those with poorly controlled asthma. Understanding how practices responded to this financial incentive scheme could inform future policy on similar initiatives.

Declaration of Interest

Funding: This work is funded by The University of Edinburgh CMVM PhD Studentship [Asthma UK Centre for Applied Research PHD/14/16]

Abstract ID = 8450

Presented at: 3.3 Oral Abstracts 3: Asthma & Inhaler Delivery 01/06/2018 09:00-10:20

Persistent Gaps and Challenges in Treatment and Management of Asthma in Canadian Community Settings

Alan Kaplan¹, Kristine Petrasko², Sara Labbe¹³, Susan Wasserman⁴, Suzanne Murray³ ¹Family Physician Airways Group of Canada, ²Pharmacist, ³AXDEV, ⁴McMaster University

Aim: To review gaps in adult asthma management in Canada to identify educational opportunities.

Methods This study was conduncted in two phases in community settings of four Canadian provinces (Alberta, British Columbia, Ontario, and Quebec). Phase 1 consisted of exploratory semistructured interviews with Family Physicians and General Practitioners (FPs/GPs), Respirologists and Allergists (Specialists), Nurses, Pharmacists, Certified Respiratory Educators (CREs), and relevant nonhealthcare providers (Patient advocates, Administrators, Policy influencers, and Payers). Phase 2 was an online survey of HCPs to quantitatively validate the educational needs which were then reviewed by the expert working group (a FP, Allergist, Pharmacist and Respiratory educator)

Results: A total of 234 community setting participants completed the study interview (n=43) or survey (n=190): FPs/GPs (n=87), Specialists (n=26), Nurses (n=26), Pharmacists (n=59), CREs (n=29), and non-HCPs (n=6). Nearly half (44%) of HCPs reported seeing over 51 patients with asthma/month. Six main gaps representing educational needs in asthma were identified: (1) Lack of knowledge of guidelines(GINA less well known than CTS), (2) Lack of skills and confidence in diagnosis, (3) Misperception of the importance of spirometry, (4) Variability in skills and perceived importance of individualizing device type, and (5)providing written action plan (6) Ambiguity regarding roles and responsibilities for those providing patient education.

Conclusion: Gaps identified in this study include access to spirometry and understanding of its role in asthma care, knowledge of asthma guidelines, individualized patient treatment including choice of device and asthma action plans, and clear roles and responsibilities for members of the healthcare team. These areas represent important educational opportunites to optimize asthma care in Canadian community settings. The six (6) gaps identified in this study are areas that represent important educational opportunities to optimize. Future educational studies are needed to validate whether these gaps and educational needs are similar among community settings in other countries

Declaration of Interest

TEVA Canada Innovation

Abstract ID = 8644

Presented at: 7.3 Oral Abstracts 9 Children 01/06/2018 16:20-17:40

Perspectives and practices of caregivers and healthcare providers about lower respiratory illnesses among 'under-fives' in Uganda: Is asthma under-diagnosed?

Rebecca Nantanda¹, Jesper Kjaergaard², Bruce Kirenga³, Marianne Ostergaard⁴ ¹Makerere Lung Institute, ²2.Global Health Unit, Department of Paediatrics and Adolescent Medicine, Juliane Marie Center, Copenhagen University Hospital "Rigshospitalet", Denmark, ³Makerere University Lung Institute, Makerere College of Health Sciences Kampala Uganda, ⁴4.The Research Unit for General Practice and Section of General Practice, Department of Public Health, University of Copenhagen, Copenhagen, Denmark.

Aim: To explore the perspectives and practices of caregivers and healthcare providers (HCPs) regarding diagnosis and management of respiratory illnesses in 'under-five's in primary care settings in Uganda.

Methods: 25 in-depths interviews were conducted; 8 caregivers with history of recurrent/chronic respiratory symptoms and 17 HCPs (9 clinicians, 4 herbalists, 2 drug shop attendants and 2 community health workers) in Jinja district, Uganda. Data was analysed thematically.

Results: Caregivers mainly attributed the recurrent respiratory symptoms to possible TB, pneumonia or 'normal cough' and only one mentioned asthma. Majority assumed asthma is contagious. They first sought help from health facilities but were often frustrated because, despite the syrups and antibiotics, the symptoms recurred, resulting in repeated hospital visits. They eventually visited herbalists or concluded that witchcraft affected the children. Only 3 of the 8 caretakers were given a diagnosis of asthma, which was not readily accepted due to fear that asthma is a very severe and incurable disease, and that the inhaled medicines were addictive, would cause the disease to advance. Other diagnoses were pneumonia (2/8) although their children repeatedly received antibiotics.

All HCPs attributed the chronic respiratory symptoms to pneumonia or possible TB and only 3 (17.6%) thought about asthma. Clinicians rarely diagnosed asthma because they believed that it cannot affect 'under-fives'. They were hesitant to mention the possibility of asthma to the caregivers. They thought that inhaled medicines were very strong for 'under-fives', very expensive and addictive. Interestingly, the herbalists thought it was an 'easy' disease, curable with local herbs and food supplements.

Conclusion: Perceptions, beliefs and myths regarding diagnosis and management of respiratory illnesses among caregivers and HCPs are diverse and may be contributing to mis-diagnosis of respiratory illnesses in 'under-fives'. Health literacy among caregivers and training of HPCs is recommended.

Work Package 6 Workshop

Declaration of Interest

Declaration of Interest

The authors declare no competing interests. The research has received support from the EU RIA program Horizon2020, grant-agreement no. 680997.

Abstract ID = 8616

Presented at: 3.6 Digital Poster Discussion 1: Teaching & Behavioural Interventions 01/06/2018 09:00-10:20

Pilot randomised controlled trial of a novel intervention, TANDEM: Tailored intervention for ANxiety and DEpression Management in COPD.

Steph Taylor¹, Ratna Sohanpal², Elizabeth Steed², Amy Barradell³, Kristie-Marie Mammoliti², Hilary Pinnock⁴ ¹Barts and The London school of Medicine and Dentistry, ²Barts and The London school of Medicine and Dentistry, Queen Mary University of London, ³Leicester Biomedical Research Centre, Glenfield Hospital, Leicester, ⁴Usher Institute of Population Health Sciences and Informatics, The University of Edinburgh

Aim

To evaluate a novel psychological intervention, "TANDEM", which precedes routine pulmonary rehabilitation (PR), for patients with chronic obstructive pulmonary disease (COPD) and comorbid anxiety or depression. We report on the pilot RCT and lessons for the main trial.

Methods

Facilitators (respiratory nurses / physiotherapists) were recruited by advertisement, interviewed and trained. TANDEM consists of 6-8 tailored, one-to-one, 40-60 minute sessions. Facilitators use a cognitive behavioural approach to address mood and problems associated with COPD (particularly breathlessness) and receive regular clinical psychologist telephone supervision. On completion participants are encouraged to take up PR.

Patients with moderate to very severe COPD were identified in primary care, PR services and outpatient clinics and screened for anxiety or depression using the Hospital and Anxiety Depression Scale. Participants scoring \geq 8 were randomised (1.25:1, TANDEM: usual care). Participants will be followed up for 12 months with a full economic evaluation, the primary outcome is anxiety or depression at 6 months (HADS score).

Results

All 9 facilitators recruited completed training, 8 were suitable to deliver TANDEM, 3 withdrew due to maternity leave, and another two subsequently withdrew for unanticipated personal reasons.

Of 228 potential participants identified by clinical services, 142 (62%) agreed to speak to a researcher and 89 (39%) proceeded to screening. Of these, 45 (51%) were eligible and recruited and 44 were randomised (23:21, TANDEM: usual care). To date: 9 have completed the intervention; 10 are ongoing; 3 withdrawn for medical reasons (one death); and one has dropped out.

Conclusions

The TANDEM pilot recruited to target on time demonstrating the main trial (N= 390) is feasible. Intervention delivery often takes longer than the 6-8 weeks anticipated due COPD exacerbations. In the main trial it will be necessary to over recruit TANDEM facilitators to ensure a workforce to deliver the study.

Funding: NIHR HTA: 13/146/02

Abstract ID = 8566

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Pneumococcal Vaccines and Chronic Obstructive Pulmonary Disease

Clarisse Aguiar¹, Jorge Caetano Pereira², David Tonelo³, Bárbara Torres⁴, Joana Oliveira Ferreira⁵ ¹USF S. Domingos, ²USF D. Sancho I, ³USF Santiago, ⁴USF Vale do Sorraia, ⁵USF Serra da Lousã

Aim: According to the Global Initiative for Chronic Obstructive Lung Disease(GOLD), the goals of treating chronic obstructive pulmonary disease(COPD) are to reduce symptoms, improve quality of life, decrease the risk of disease progression, exacerbations and mortality. For this, it is necessary to implement pharmacological and non-pharmacological treatment. Vaccination is a key issue with GOLD and the Direcção Geral de Saúde(DGS) recommending the prescribing of pneumococcal vaccines to all COPD patients for the prevention of pneumococcal disease, namely the 23-valent pneumococcal polysaccharide vaccine(VPP23) and the 13-valent conjugated pneumococcal vaccine(PCV13).

Method: Multicentre, descriptive and cross-sectional study of patients enrolled in 3 files from 3 different units (USF S.Domingos, USF D. Sancho I and USF Santiago), with diagnosis of COPD (R95 according ICPC-2) referring to the date of 05/01/2018. MIM@UF® and SClinico® data were queried, being treated in Microsoft Office Excel®.

Results: A total of 557 patients with a diagnosis of COPD were identified, and 64.6% were males and mean age 67.5±12.0years. The mean duration of the disease was 5.2±3.1years.

The vaccination coverage rate at 12/31/2017 for VPP23 was 13.1% and for VPC13 was 17.6%.

Conclusion: The vaccination coverage rate was well below the recommended level (100%ideal coverage) although DGS and GOLD recommendations.

Bacterial pneumonia is responsible for the high rate of hospitalization and mortality in patients with COPD and it is expected that vaccination against pneumococcal infections may alter these indicators.

The limitations of the study are the cost of VPC13, the current unavailability of VPP23, administration of both vaccines in other institutions. The last limitation will be solved with the implementation of "VACINAS".

In conclusion, with the new increase in VPC13 vaccine reimbursement in 2018, as well as through awarenessraising among patients and clinicians, we expect to increase the coverage rate of vaccines against pneumococcal infections in patients with COPD.

Declaration of Interest: None.

References and Clinical Trial Registry Information

Direção-Geral da Saúde - Portugal – Doenças Respiratórias em números - 2015.

Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease, GOLD 2018.

Norma DGS nº011/2015 - Vacinação contra infeções por *Streptococcus pneumoniae* de grupos com risco acrescido para doença invasiva pneumocócica (DIP).

Abstract ID = 8612

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Predicting inhaled steroid BDP equivalent from routine primary care prescription data

Chris Newby¹, Shauna McKibben², Diamor Marke³ ¹Asthma UK Centre for Aplied Research,, ²Asthma UK Centre for Applied Research, ³University of Oxford

Aim: To determine if corticosteroid inhaler Beclometasone Dipropionate (BDP) equivalent can be mined from routine UK primary care data prescription data.

Method: We took a primary care database containing prescription routine text data including fields like treatment description e.g. "Clenil Modulite 100micrograms/dose inhaler (Chiesi Ltd)" and treatment direction e.g. "TWO PUFFS TWICE A DAY". We examined the prescription data in order to determine key phrases or strings that could be matched in order to obtain four key fields

1.Name of corticosteroid drug e.g. Clenil, Qvar.

2.Dose of drug e.g. 100mg, 200mg.

3. Times per day drug taken e.g. once a day, twice a day.

4.Number of puffs for treatment each time taken e.g. Two puffs, 2 p, ONE PUFF.

By obtaining these 4 outcomes we want to use them to obtain the corticosteroid dose taken each day and work out the BDP equivalent allowing patients on different corticosteroid drugs to be compared appropriately.

Results: A list of string matching algorithms was created in R language in order to successfully mine BDP equivalent effectively from routine primary care data. Allowing the comparison of patients corticosteroid dose from routine UK primary care data.

Conclusion: A successful algorithm was created using string matching and Boolean logic rules to calculate bdp equivalent from routine UK primary care prescribing data.

Declaration of Interest

Asthma UK Centre for Applied Research AUK ACR

Abstract ID = 8529

Presented at: 2.4 Oral Abstracts 2 Tobacco Dependence 31/05/2018 16:05-17:30

PREVALANCE OF CIGARETTE SMOKING IN ADOLESCENTS

Nurdan Tekgul¹, Hale Uzuner² ¹Health Services University Tepecik Education and Research Hospital, ²PREVALANCE OF CIGARETTE SMOKING IN ADOLESCENTS

Aim:

Cigarette smoking is one of the most important problems of the health of the society. With the increasing prevalence of smoking, the starting age of smoking is getting younger and younger. In Turkey and in the world, approximately 45% of the population younger than 15 years is estimated to be seriously addicted to smoking. In this study, the aim is to demonstrate the prevalence of cigarette smoking by determining the starting age of smoking.

Material and Method:

The adolescents between ages 12 to 19 that applied to Alsancak ÇİDEM Youth Consultancy and Health Services Center working in conjuction with Tepecik Education and Research Hospital Family Medicine Department in İzmir between September 2015 to October 2015 are included in the study. A Family Medicine specialist is working in the center.

Results:

The survey is conducted on 110 adolescents between ages 12 to 19 that applied to the Center. Out of these individuals, 60 (54.5%) of them were male and 50 (45.5%) were female and the average age was determined to be 15.5++2.7. 36.4% of these adolescents smoke everyday, while 25% smoke occasionally. It is found that 54.3% of the adolescents who smoke have at least one family member who smokes. The leading reason for starting smoking is determined to be curiosity (43.5%).

Conclusion:

In this study, the percentage of adolescents who smoke every day is determined to be 36.4% which is a result consistent with the literature. It is determined that there are kids even at ages as young as 8 to 10 years who have experienced smoking. Hence, as family practitioners providing the primary care, we have to be aware of the problem and offer preventive consultancy about this issue considering its prevalence to such young ages.

Abstract ID = 8707

Presented at: 7.3 Oral Abstracts 9 Children 01/06/2018 16:20-17:40

Prevalence and outcome of atypical bacterial pneumonia among children in Mulago hospital Uganda: preliminary findings

Rebecca Nantanda¹, Freddie Bwanga², Grace Ndeezi³, James Tumwine⁴ ¹Makerere Lung Institute, ²Department of Microbiology, Makerere College of Health Sciences Kampala Uganda, ³Department of Paediatrics, Makerere College of Health Sciences Kampala Uganda, ⁴Department of Paediatrics and Child Health, Makerere College of Health Sciences Kampala Uganda

Aim: To determine the prevalence and outcome of Mycoplasma pneumonia among children with acute respiratory symptoms in Mulago hospital, Uganda.

Methods: Children aged 2 months up to 12 years who presented with cough and/or difficult breathing and fast breathing at the Paediatric emergency unit of Mulago national referral hospital were recruited. A clinical history and physical examination were done. Blood samples were taken off for ELISA to determine the presence of *Mycoplasma pneumoniae* IgM antibodies. Children who had positive IgM antibodies were considered to have acute infection. All participants were followed up for a maximum of seven days or discharge/death, whichever came first. Data was analysed using descriptive statistics.

Results: Of the 72 children whose blood samples have been analysed, 46(63.9%) were male, and 66 (91.8%) were less than five years old. IgM antibodies against *Mycoplasma pneumoniae* were positive in 16 (22.2%) of the 72 children, and of these, 15 (93.8%) were less than five years. The majority of the children with positive *M. pneumoniae* IgM antibodies presented with signs of respiratory distress. Three (3) children died, and one of them had positive *M. pneumoniae* IgM.

Conclusion: Atypical bacterial pneumonia is common among children less than five years and presents with severe symptoms, requiring hospitalization. This is contrary to previous literature that referred to atypical pneumonia as 'walking pneumonia' and a disease of older children. The results highlight the importance of considering atypical bacteria among 'under-fives' who present with features of pneumonia. Research to identify predictors of atypical pneumonia and simple point of care diagnostics for atypical bacteria is recommended.

Declaration of Interest

Declaration

Authors declare no conflict of interest

The work was supported by Grant Number D43TW010132 supported by Office Of The Director, National Institutes Of Health (OD), National Institute Of Dental & Craniofacial Research (NIDCR), National Institute Of Neurological Disorders And Stroke (NINDS), National Heart, Lung, And Blood Institute (NHLBI), Fogarty International Center (FIC), National Institute On Minority Health And Health Disparities (NIMHD). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the supporting offices

Abstract ID = 8454

Presented at: 6.3 Oral Abstracts 7 COPD and Pulmonary Rehabilitation 01/06/2018 14:25-15:45

Pulmonary Rehabilitation program in a Community Health Centre does work!

Alan Kaplan¹, Michael Georgievsk², Geetika Bhargava² ¹Family Physician Airways Group of Canada, ²Vaughan Community Health Centre

Aim: To review results of a new Pulmonary Rehabilitation program at the Vaughan Community Health Centre and reflect on improving services, measurements and outcomes

Method: We measured the results of the patients enrolled in this new program hosted in the non-traditional setting of a Community Health Centre(CHC). CHCs are non-profit organizations that provide primary health and health promotion programs for individuals, families and communities.

Results: This COPD education and exercise program of 2.5 hours held twice weekly over 12 weeks. Both individual and group education sessions with the Registered Respiratory Therapist RRT/CRE include an initial assessment, routine follow up appointments, access to spirometry testing, completion of a COPD action plan and communication with physicians. Registered Dietician focus on improving diet and COPD nutrition, Social Worker focus on mental health including managing stress and anxiety, and a Registered Physiotherapist, focus on balance and fall prevention. Subsequently, clinically monitored group exercise led by a Registered Kinesiologist, under direct supervision of the RRT. The focus of the exercise classes is low impact cardiovascular training, resistance training and breathing exercises. Graduates are offered a maintenance program.Overall, across the 12 weeks, there was a 4.6 point decrease in CAT scores; highest improvement was on the question regarding confidence in leaving the house with COPD; an improvement of 1.75 points out of 5 on this question. The average improvement in the six minute walk test was 81 metres. The average confidence (using a confidence ruler) at discharge was 8/10, a 2.5/10 increase in confidence from initial assessment.

Conclusion: The PR program run in a community health centre seems to work, but being funded based on reducing thirty day readmissions by 30%. Local hospital consultants did not routinely send patients to these programs despite being informed of their availability, limiting our efficacy at being able to measure this.

Declaration of Interest

Dr. Kaplan is the unfunded medical director of this PR program

Abstract ID = 8660

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Quality of life and sleep characteristics in male patients with poor control of Chronic Obstructive Pulmonary Disease

Paschalis Steiropoulos, Evangelia Nena, Kostas Archontogeorgis, Constantina Chadia, Athanasios Voulgaris, Maria Kouratzi, Theodoros Constantinidis MEDICAL SCHOOL, DEMOCRITUS UNIVERSITY OF THRACE

Aim: Chronic Obstructive Pulmonary Disease (COPD) can be accompanied by various conditions with detrimental effects on patients' health and quality of life, some of them remain commonly underestimated. Aim of the study was to assess QoL and sleep disturbances of COPD patients with poor disease control and severe dyspnea.

Methods: Included were 75 consecutive COPD male patients, whose scores in the COPD Assessment Test (CAT) and the Medical Research Council Dyspnea Scale (MRC) were indicative of poor COPD control (CAT score \geq 10) and severe dyspnea (MRC \geq 2). Participants answered also the following questionnaires: WHO-5 Well-Being Index for assessment of QoL, Athens Insomnia Scale (AIS) for insomnia, and Pittsburg Sleep Quality Index (PSQI) for sleep quality.

Results: Patients' age was 75 ± 5.9 years, BMI 28.3 ± 3.1 kg/m². Respiratory function was impaired (FEV₁ 41 \pm 12.5 %pred, FVC 59.4 \pm 16.1 %pred, FEV₁/FVC 55.1 \pm 8.9 %pred). In the vast majority, i.e. 69 patients (92%) the WHO-5 questionnaire was indicative of poor quality of life. Overall, 93.3% (n = 70) of the patients reported insomnia (AIS score \geq 6), and 73.3% of patients (n = 55) reported poor sleep quality (PSQI score > 5).

Conclusions: COPD patients with poor disease control and dyspnea report a poor quality of life, while prevalence of insomnia, and poor sleep quality are significantly high. Primary care doctors should bear in mind these concurrent disturbances and pay special attention to them.

Abstract ID = 8511

Presented at: 6.5 Oral Abstracts 8 Asthma & Inhaler Delivery 01/06/2018 14:25-15:45

Quantitative validation of a new quality of life questionnaire for patients with asthma, the Severe Asthma Questionnaire (SAQ)

Joseph Lanario¹, Rupert Jones¹, Michael Hyland¹, Matthew Masoli² ¹Plymouth University, ²Derriford Hospital

Aims

Existing HRQoL scales used in severe asthma have poor content validity. They fail to measure the different burdens experienced by people with severe asthma compared to those with mild/moderate asthma, e.g. the side effects of oral corticosteroids (OCS). As per Food and Drug Administration (FDA) guidelines, the SAQ was designed using extensive patient input in qualitative studies, providing better content validity than existing questionnaires. The SAQ has 16 questions on a 1-7 Likert scale and a 100-point quality of life scale (SAQ-Global) similar to the EQ-5Ds 100 point visual analogue scale. The aim of this study was to provide preliminary validation for the SAQ.

Methods

Consecutive consenting patients attending the severe asthma clinic in Plymouth were invited to participate in a cross sectional survey. Patients completed four questionnaires the SAQ, Mini Asthma Quality of Life Questionnaire (MiniAQLQ), Asthma Control Test (ACT) and the EQ-5D-5L. Prednisolone dose and frequency of severe exacerbations were obtained from clinic records. Estimated cumulative OCS dose over 12 months was calculated using these records.

Results

Data was collected from 160 participants. Correlations between the SAQ mean and other questionnaires were MiniAQLQ: 0.76, ACT: 0.68 and EQ-5D-5L: -0.77 Mean SAQ scores but not MiniAQLQ scores were significantly lower for patients taking >10mg of prednisolone compared to those taking 10mg (p = 0.01 vs p = 0.131) (Figure 1). Mean SAQ scores showed a trend to be lower than the MiniAQLQ between the 3651-6595mg/year and the >6595mg/year groups.

Conclusions

In terms of the FDA guidelines for questionnaire construction, the SAQ has better content validity compared with existing questionnaires and meets the criteria for construct and other validity. The SAQ maps onto the health economic measure, EQ-5D, and may have greater sensitivity to differences in OCS dose compared to the MiniAQLQ. Further larger validation studies are ongoi

Declaration of Interest

This study was part funded by AstraZeneca

Abstract ID = 8739

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Recruiting Patients of a Health Care Primary Center for COPD screening

Marta Ribeiro¹, Ana Rita Faustino², Catarina Matos¹ ¹Unidade de Saúde Familiar D.Diniz, ²Unidade Saúde Familiar D.Diniz

Aim:The aim of this study was to identify patients with airflow obstruction among symptomatic patiens and/or among those with appropriate risk factors.

Methods: The six clinicians and five trainees suggested few patients with specific risk factors (aged \geq 40 years with smoking history of more than 10 pack-years or recurrent chest infections and/or symptoms, chronic and progressive dyspnea, chronic cough with sputum production of COPD) to realize spirometry with postbrochodilator. Before the exam the patients filled a questionnaire (validated by Portuguese National Guidelines). The diagnosis of COPD was based on a post-bronchodilator FEV1/FVC ratio of < 0.70.

Results: The study involved 75 subjects, and 55 (73%) were male. The mean age of the participants was 59,2 \pm 10,3 years. 30 (40%) patients revealed spirometry abnormalities. Spirometry revealed obstructive ventilatory defect in 14 subjects (18,6%); restrictive ventilatory defect, in 11 (14,6%); and small airway disease, in 5 (6%). A diagnosis of COPD was made for 13 patients (17,3%), 11 (84.6%) of whom were newly diagnosed. Based on the Global Initiative for COPD guidelines, all COPD patients belonged to groups A or B. Three (4%) new cases of asthma-COPD overlap syndrome (ACOS) were diagnosed.

Conclusions: In this small sample of patients, the frequency of COPD was higher compared to the Portuguese population. Significant efforts are needed in order to improve the awareness of this disease in Primary Care Centers.

I do not have any conflict of interests.

Abstract ID = 8664

Presented at:

Recurrent lower respiratory illnesses among young children in rural Kyrgyzstan: Overuse of antibiotics. A qualitative FRESH AIR study

Marianne Stubbe Østergaard¹, Jesper K², Mette-Marie Kristensen³, Susanne Reventlow¹, Anja Poulsen², Elvira Isaeva⁴, Azamat Akylbekov⁵, Talant Sooronbaev⁵

¹The Research Unit for General Practice and Section of General Practice, Department of Public Health, University of Copenhagen, Denmark, ²The Global Health Unit, Department of Paediatrics and Adolescent Medicine, Danish National Hospital "Rigshospitalet", Denmark, ³National Institute for Public Health, University of Southern Denmark, Denmark, ⁴National Center of Maternity and Childhood Care, Bishkek, Kyrgyzstan, ⁵National Center of Cardiology and Internal Medicine named after Academician M. Mirrakhimov, Bishkek, Kyrgyzstan

Method: Semi-structured interviews were carried out in 2016 with 13 caregivers to under-fives with recurrent LRT-illnesses and were triangulated with 22 primary care health professional interviews in two rural provinces in Kyrgyzstan. Data was thematically analysed.

Results: The majority (8/13) of caregivers described their young children as having long-term or recurrent coughing, noisy breathing and respiratory distress, and several had responded positively to acute salbutamol and/or had been repeatedly hospitalized for LRT-illness. The caregivers had adapted a biomedical perception of their child's illness and called it mostly "a cold". They combined local traditional practices with rapid help-seeking. Family stress and financial burdens were significant. The rural health professionals classified young children with recurrent LRT-illnesses primarily with pneumonia and/or a multitude of bronchitis diagnoses. Broad-spectrum antibiotics and supportive medicine were used repeatedly, prescribed by health professionals or purchased un-prescribed by the caregivers at the pharmacy. The health professionals had never applied the asthma diagnosis to any under-fives, nor had they prescribed inhaled steroids, and none of the interviewed caregivers' under-fives were diagnosed with asthma. Health professionals and caregivers shared a common concern for the children's recurrent respiratory illnesses developing into a severe chronic pulmonary condition, including asthma.

Conclusions: This study identified inconsistent management of LRT-illnesses in under-fives, with massive over-use of antibiotics and an apparently systemic under-diagnosis of asthma/wheeze. When the diagnosis asthma/wheeze is not used, the illness is not considered as a long-term condition, requiring preventer/controller medication. Training in LRT-illness diagnoses and regulation of antibiotic sales in retail pharmacies should reduce Under-fives' morbidity.

Declaration of Interest

The authors declare no competing interests. The research has received support from the EU RIA program Horizon2020, grant-agreement no. 680997.

Abstract ID = 8593

Presented at: 3.5 Oral Abstracts 4 COPD in High Income Countries 01/06/2018 09:00-10:20

Reducing Delay through edUcation on eXacerbations (REDUX) in patients with COPD

Cynthia Hallensleben¹, Jaco Biewenga¹, Job F.M. van Boven², Niels H. Chavannes¹ ¹Leiden University Medical Center, Netherlands, ²University Medical Center Groningen, Netherlands

Aim: Previous studies suggested that early recognition of COPD exacerbations and prompt treatment could reduce recovery time, hospitalization risk and improve quality of life.¹ We aimed to assess whether patient and healthcare provider education could reduce the time between onset of COPD exacerbation symptoms and patient presentation in primary care.

Method: In this pilot study, nine Dutch primary care practices received the REducing Delay through edUcation on eXacerbations (REDUX) program. REDUX was targeted at GPs and primary care nurses and involved an educational evening session focusing on early recognition and treatment of COPD exacerbation symptoms. Outcomes were assessed before and after REDUX and included: (1) delay between exacerbation onset and recognition, (2) delay between recognition and action, (3) delay between recognition and consultation of GP [primary outcome] and (4) patient reasons for delays. A paired student's t-test was performed for the primary outcome.

Results: A total of 35 patients (female: 60%; mean age 70 [SD: 9.9]; mean FEV1%predicted: 51.3 [SD: 19.0]) were included. REDUX shortened days between onset and recognition (from 7.7 to 2.9 days; mean gain: 4.8 days), days between recognition and action (from 12.1 to 2.8 days; mean gain: 9.3 days) and days between recognition and GP visit (from 11.5 to 3.2 days; mean gain: 8.3 days (i.e. 72% decrease); 95%CI: 4.4-12.1, p<0.001). Main reasons for delay were: "confusion with common cold" (49%), "don't want to bother GP" (40%) and "trying to avoid oral steroids" (31%). We estimated that if REDUX could reduce hospital-treated COPD exacerbation recovery time by 2 days, Dutch national scale-up of REDUX could potentially save up to 33 million euros.

Conclusion: The REDUX pilot program could successfully reduce the time between COPD exacerbation onset and patient presentation in primary care. Larger studies are required to confirm clinical effectiveness and cost-effectiveness.

Declaration of interest: REDUX has been supported by Astra Zeneca, Boehringer Ingelheim, GSK and the Dutch Lung Foundation.

References and Clinical Trial Registry Information

[1] Wilkinson TM, Donaldson GC, Hurst JR, Seemungal TA, Wedzicha JA. Early therapy improves outcomes of exacerbations of chronic obstructive pulmonary disease. Am J Respir Crit Care Med. 2004;169(12):1298-303

Abstract ID = 8631

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 11:00-12:45

Relationship between the vaccination status and hospital admissions in patients with COPD

Enrique Rodriguez Guerrero¹, Antonio Hidalgo Requena¹, Maria Aneri Vacas¹, Cristina Bellido Moyano¹, Inmaculada Aguilar Lopez¹, Juan Bautista Guerrero Muñoz¹, Leovigildo Ginel Mendoza², Jose Tomas Gomez Saenz³, Jose Ignacio Prieto Romo⁴, Cristina Quintano Reina¹ ¹C.S. Lucena, ²C.S. Ciudad Jardin, ³C.S. Najera, ⁴C.S. Navalmoral de la Mata

Aim: The role of the 13-valent Pneumococcal Conjugate Vaccine (PCV13) in the reduction of hospitalizations in COPD has not been evaluated to date. The main aim is to evaluate the impact of PCV13 on the number of hospitalizations in patients with COPD.

Method: A retrospective observational study of a cohort of COPD patients treated in primary care, with oneyear follow-up. The main variables were: the state of pneumococcal vaccination and hospitalizations in that period, among others.

Results: A total of 166 patients were included in the study, for an estimated sample of 163. Most of them were

men (85.54%), with a mean age of 72 years. The proportion of vaccinated with PCV13 was 12.65% (8% - 18%) and 73.49% (66% -80%) with influenza vaccine. The prevalence of hospital admissions during follow-up reached 23.49% (17% -30%). The distribution of hospitalizations was lower in vaccinates with PCV13, but without statistical significance. Logistic regression detected a hospitalization risk almost three times higher among patients with greater number of comorbidities (OR = 2.62).

Conclusion: The rate of pneumococcal vaccination among the population with COPD in our area is insufficient. The distribution of hospitalizations was lower in vaccinated with PCV13, but without statistical significance. The risk of hospitalization almost triples in patients with COPD who have associated comorbidities.

Declaration of Interest: The authors declare that there is no conflict of interests regarding the publication of this clinical research.

References and Clinical Trial Registry Information

1. Pneumococcal disease: guidance, data and analysis. Public Health England. 2014. Disponible en:http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Pneumococcal/GuidelinesPneumococcal/pneumoRecommendations

2. Walters JA, Smith S, Poole P, Granger RH, Wood-Baker R. In¬jectable vaccines for preventing pneumococcal infection in patients with chronic obstructive pulmonary disease. Cochrane Database Syst Rev 2010: CD001390

3. Sehatzadeh S. Influenza and pneumococcal vaccinations for patients with chronic obstructive pulmonary disease (COPD): an evidence-based analysis. Ont Health Technol Assess Ser. 2012;12: 1-64

4. Committee for Medicinal Products for Human Use (CHMP). European Medicines Agency (EMA). Pneumococcal polysac¬charide conjugate vaccine (13-valent, adsorbed). May 30, 2013. Disponible en:http://www.ema.europa.eu/docs/en_GB/ document_library/Summary_of_opinion/human/001104/ WC5.00143813.pdf

5. European Medicines Agency (EMA). Pneumococcal polysac¬charide conjugate vaccine (13-valent, adsorbed). Variation on marketing authorisation. EMEA/H/C/1104/II/0071. July 9, 2013. Disponible en: http://ec.europa.eu/health/documents/ communityregister/html/h590.htm

6. Bonten MJ, Huijts SM, Bolkenbaas M, Webber C, Patterson S, Gault S, et al. Polysaccharide conjugate vaccine against pneumo-coccal pneumonia in adults. N Engl J Med. 2015;372:1114-25

Abstract ID = 8701

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Risk stratification in COPD patients with GOLD 2017 and Spanish GesEPOC guideline.

Jaime Gonzalvez¹, Miguel Román², Susana Friande¹, Miguel Gongora², Luz Abalde¹, Ana Clavería¹ ¹Primary Health Care. Galician Health Service. Vigo., ²Primary Health Care. Balearic Islands Health Service. Mallorca.

Aim : The ABCD assessment tool of COPD from GOLD guidelines allows for patients classification. In 2017, the Spanish COPD Guideline (GesEPOC) set up a new stratification. Our aim is to undertake a comparative analysis among them, in the same patients and with common recruitment criteria.

Methods

Design: External validation of scales, open and prospective cohort study in primary care.

Setting: 36 health centres in 6 European high, medium and low income countries.

Subjects: 278 patients from an European primary care cohort (PROEPOC/COPD study), captured in clinical visit by their General Practitioner/Nurse.

Variables: Detailed patient history, exacerbations, lung function test, questionnaires (mMRC, CAT) and prognostic indexes (ADO, BODEx and DOSE) at baseline.

Analysis: Descriptive and bivariate analysis for the combined assessment of each GOLD version and GesEPOC.

Results: According to GesEPOC, there are 64,39% (CI:58,60-69,79) low risk patients, with BODEx ranging from 0 to <=3 and DOSE from 0 to <=2; but there are 35,61%(CI:30,21-41,40) high risk patients, with a wider distribution both in BODEx and DOSE. There is no low risk patient classified as C or D, but high risk patients are distributed between A, B, C and D. The ABCD assessment tool based on the CAT score shows a higher proportion of overlap-syndrome than the assessment based on mMRC (46,40% versus 24,46%).

Declaration of Interest Funding source

Spanish Miinistry of Health PI14/00385. Date of application: 27/06/2015 EGPRN Special Project Funding (HP2015.122). Date of application: 22/07/2015.

References and Clinical Trial Registry Information

Espantoso-Romero M, Román Rodríguez M, Duarte-Pérez A, Gonzálvez-Rey J, Callejas-Cabanillas PA, Lazic DK, et al. External validation of multidimensional prognostic indices (ADO, BODEx and DOSE) in a primary care international cohort (PROEPOC/COPD cohort). BMC Pulm Med. 2016 Dec 11;16(1):143. doi:10.1186/s12890-016-0305-2

Miravitlles M, Soler-Cataluña JJ, Calle M, Molina J, et al. Guía española de la enfermedad pulmonar obstructiva crónica (GesEPOC) 2017. Tratamiento farmacológico en fase estable. Arch Bronconeumol . 2017 Jun ;53(6):324–35. doi: 10.1016/j.arbres.2017.03.018.

Vogelmeier CF, Criner GJ, Martínez FJ, et al. Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease 2017 Report: GOLD Executive Summary. Arch Bronconeumol. 2017 Mar;53(3):128-149. doi: 10.1016/j.arbres.2017.02.001.

ISRCTN Registry: Validation of prognostic indices ADO, BODEx and DOSE in a primary care international cohort (cohort PROEPOC / PROCOPD) <u>http://www.isrctn.com/ISRCTN52402811</u>

Abstract ID = 8527

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

SATISFACTION OF PATIENTS WITH OSAS UNDER CPAP WITH THE FOLLOW-UP CHANGE FROM HOSPITAL CARE TO PRIMARY CARE

Dyna Torrado¹, Jose A. Romero², Marta Pereira², Claudia Dias³ ¹UCSP Mar, Tavira Health Center, Portugal, ²Pulmonology Service, Centro Hospitalar Universitario do Algarve, Portugal, ³Linde Saude

- **Aim**: Asses the satisfaction of patients with OSAS (Obstructive Sleep Apnea Syndrome) under CPAP (Continuous Positive Airway Pressure) who were followed in Primary Health Care (PHC) after discharge from the Hospital Consultation (HC) being that, since 2015, Portuguese Directorate-General of Health recommends the follow-up of OSAS stable patients to be done in PHC.
- **Method**: We analysed a consecutive sample of first patients discharged from HC (January 2016 July 2016) to evaluate the care satisfaction received through a self-completed questionnaire at the patient's home.
- **Results**: 143 patients included (after excluding 3 deceased/non-responders), mean age 62.2 ± 9.9 years, 85.3% men, with 17.6 ± 1.9 months of follow-up in PHC and 2.7 ± 1.4 follow-up visits per patient; 13 patients (9%) had none during this period.
- Concerning Hospital Care, 94.4% of the patients were "satisfied/very satisfied" with previous care, as well as with verbal (88.1%) and written information (84.6%) about the change.
- Regarding the Respiratory Homecare Company: the attention received was "satisfactory/very satisfactory" in 95.1%; 94.4% of patients found them easily contactable; 72.3% "agreed/fully agreed" that got the CPAP report to General Practitioner (GP) in time but only 60.8% stated they always carried the report on the consultation day.
- Regarding PHC follow-up: 80.4% reported having good accessibility to follow-up visits; 67.1% had confidence in the quality of follow-up; 59.4% were "satisfied/very satisfied" with the follow-up; 56.6% agreed that the change simplified the prescription renewal of CPAP and 67.8% that it saved time and travel.

Conclusion:

- The satisfaction with the follow-up transition of patients with OSAS under CPAP from Hospital care to PHC is positive.
- It would be desirable to minimize the percentage of patients without follow-up and patients without CPAP report on the day of consultation with the GP.
- Improving the process of renewing CPAP prescriptions could increase the degrees of satisfaction.

Declaration of Interest

Linde Saúde© collaborated in the distribution of questionnaires among patients through their staff.
Abstract ID = 8572

Presented at: 6.5 Oral Abstracts 8 Asthma & Inhaler Delivery 01/06/2018 14:25-15:45

Severe Exacerbations and Inhaled Corticosteroid Load with As-needed Budesonide/formoterol vs Maintenance Budesonide in Mild Asthma

Eric Bateman¹, Helen K Reddel², Paul O'Byrne³, Peter Barnes⁴, Nanshan Zhong⁵, Christina Keen⁶, Carin Jorup⁶, Rosa Lamarca⁷, Agnieszka Siwek-Posluszna⁸, Mark Fitzgerald⁹ ¹Division of Pulmonology & Department of Medicine, University of Cape Town, ²Woolcock Institute of Medical Research, University of Sydney, Sydney, Australia, ³Firestone Institute of Respiratory Health, St Joseph's Healthcare and Department of Medicine, ⁴Airway Disease Section, National Heart and Lung Institute, Imperial College, ⁵State Key Laboratory of Respiratory Diseases, First Affiliated Hospital, Guangzhou Medical University, ⁶AstraZeneca R&D, Gothenburg, ⁷AstraZeneca, Barcelona, Spain, ⁸AstraZeneca, Warsaw, Poland, ⁹Institute for Heart and Lung Health, University of British Columbia

Aim: Alternative strategies are required to ensure patients with mild asthma not only obtain symptom relief, but also receive anti-inflammatory treatment to decrease exacerbation risk. An 'anti-inflammatory reliever' approach is one potential option, and was investigated in this study.

Method: SYGMA 2 (SYmbicort Given as needed in Mild Asthma; NCT02224157) was a 52-week, doubleblind, multinational, parallel-group study that recruited patients aged ≥12 years with mild asthma who qualified for treatment with regular inhaled corticosteroids (ICS). At entry, patients had physician-assessed uncontrolled asthma on bronchodilators alone, or well-controlled asthma on low-dose ICS or leukotriene receptor antagonist. Patients were randomised to either twice-daily placebo plus as-needed budesonide/formoterol (BUD/FORM) 200/6 µg or twice-daily budesonide 200 µg plus as-needed terbutaline 0.5 mg (budesonide maintenance). The primary analysis compared as-needed BUD/FORM vs regular budesonide maintenance for annualised rate of severe exacerbations (pre-defined non-inferiority limit of 1.2). Secondary variables included total ICS load and time to first severe exacerbation, among others.

Results: Of 6634 patients enrolled, 4176 with evaluable data were included in the intention-to-treat population (as-needed BUD/FORM, n=2089; budesonide maintenance, n=2087). As-needed BUD/FORM was non-inferior to budesonide maintenance for severe exacerbations (rate ratio 0.97 [upper 1-sided 95% confidence limit of rate ratio: 1.16]); median ICS metered dose with as-needed BUD/FORM (66 μ g/day) was 25% of the budesonide maintenance dose (267 μ g/day). Time to first severe exacerbation was similar between the two arms (Figure). Other measures of asthma control favoured budesonide maintenance but were not considered clinically important. Adherence with blinded maintenance treatment was similar in both arms; 64.0% in the as-needed BUD/FORM arm and 62.8% in the budesonide maintenance arm. Both treatments were well tolerated.

Conclusion: In patients with mild asthma, as-needed BUD/FORM proved non-inferior to regular budesonide maintenance treatment in terms of severe exacerbation rates, at a substantially lower median daily dose of ICS.

Declaration of Interest

Declaration of Interest: Funded by AstraZeneca.

Abstract ID = 8663

6.6 Digital Poster Discussion 4: Diagnosis & Assessment 01/06/2018 14:25-15:45

Sex-differences in COPD - results from the Swedish PRAXIS-study

Karin Lisspers¹, Josefin Sundh², Scott Montgomery³, Maaike Giezeman⁴, Christer Janson⁵, Mikael Hasselgren⁴, Bjorn Stallberg⁶

¹Uppsala University, ²Department of Respiratory Medicine, School of Medical Sciences, Orebro University, ³Clinical Epidemiology and Biostatistics, Orebro University, ⁴School of Medical Sciences, Orebro University, ⁵Dep. of Medical Sciences, Respiratory, Allergy & Sleep Research, Uppsala University, ⁶Dep. of Public Health and Caring Sciences, Family Medicine and Preventive Medicine, Uppsala University

Aim: To explore sex-differences in a population of COPD patients in primary and secondary care regarding exacerbations and health status.

Methods: A cross-sectional study of 2310 randomly selected patients with COPD aged 41-78 years in 56 primary health care centers and 14 hospitals in Sweden. Response rate was 58%. Information was collected from patient questionnaires in 2014, where CCQ, mMRC and CAT were assessed. Exacerbations were defined as unscheduled visits and/or courses of oral steroids and/or antibiotics due to deterioration of COPD.

Results: In total 1329 patients, 745 women and 584 men, mean(SD) ages 67(6.8) and 68(6.4) years participated; 893 from primary and 436 from secondary care. Current smoking was reported by 34.5% of the women and 29.2% of the men (p=0.044), concomitant asthma by 29.1% and 22.9% (p=0.011), there were no sex-differences in self-estimated disease severity (p=0.746). Of all, 50.4% of women and 42.8% of men had treatment with triple therapy (ICS+LAMA+LABA), (p=0.006). Exacerbations during the last six months were reported by 39.1% of the women and 35.7% of the men (p=0.203), while 23.8% of the women compared to 17.8% of the men had courses of oral steroids (p=0.009). Health status showed CCQ \geq 1 in 77.3% of the women and 77.7% of the men (p=0.877); MRC \geq 2 in 59.3% of the women and 51.7% of the men (p=0.007) and CAT \geq 10 in 77.8% of the women and in 74.1% of the men (p=0.117). The risk for women having courses of oral steroids last six months was [OR 1.42 (95% CI 1.08-1.88)] adjusted for age, current smoking and asthma.

Conclusion: The study showed no sex-differences regarding exacerbations or health status except for mMRC where women scored higher. Triple therapy and courses of oral steroids were more common in women which may imply a more severe disease.

Declaration of interest: Karin Lisspers has no conflict of interest with regard to this study. Has received payments for lectures from AstraZeneca, Novartis, Meda and TEVA and for participating in scientific steering committees by AstraZeneca and Novartis.

Abstract ID = 8681

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Smoking and neoplasms of the lung and bladder - a case report

Ana Campos Portela¹, Marta Ribeiro², Iracema Diogo¹, Sónia Almeida¹ ¹USF Condestável, ²USF D. Diniz

1.Aim: To relate smoking to lung and bladder cancer.

2.Method

A 70-year-old male patient who stopped smoking (about 61 Smoking Pack Years) three weeks ago because he was sensitized to a neighbor's history of lung cancer. He also reported chronic cough and he did:

chest X-ray "small area of less transparency"

chest CT "solid lesion with 23x17x13mm, spiculated in the upper left lobe".

biopsy confirming the pulmonary neoplasm.

Then a **lobectomy** was performed, without intercurrences. Additional diagnostic exams were performed, excluding metastasis. Maintains follow-up.

About 2 years later he had **erythrocystria** and did bladder ultrasonography "vegetative lesion 14x10x9mm". He underwent **complete transurethral resection** of said formation. Histologically low grade papillary **urothelial carcinoma**. He did postoperative adjuvant chemotherapy.

3.Results

Lung cancer is globally the main cause of death due to neoplasia, being the cancer that most affects males in Portugal. Tobacco is a major risk factor, is responsible for 90% of this. Smoking cessation is the most effective preventive strategy. Smokers have about 12 to 15 times more risk of developing lung cancer.

Bladder cancer is also one of the most common malignant tumors. The most important risk factor is also smoking. There is a family tendency for the development of this type of tumor, that is, the risk is greater in people who have direct relatives with this pathology.

4.Conclusion

Since tobacco use remains very prevalent in both sexes and that it is recognized as the main risk factor for developing lung and bladder cancer, it is crucial to continue to highlight its many harms and to develop more effective strategies for prevention and cessation of its use.

In this context, the role of the family physician, who is the local doctor par excellence, is essential to sensitize and incite smokers to give smoking cessation a chance.

Abstract ID = 8528

Presented at:

Smoking Cessation Activity with the Help of Regular Group Interviews in an Adolescent Addiction Group

Nurdan Tekgul, Merve Akekin Health Services University Tepecik Education and Research Hospital

<u>Aim</u>

It is very important to have a healthy view on tobacco addiction in adolescents. It is important to inform adolescents about side effects and how to keep themselves away from smoking; within the holistic approach of Family Medicine. The fact that 10-30% youth is determined as addicted also reveals the magnitude of the problem.

Materials and Methods

In our Healthy Living Project; that started with the approval of the National Education District Directorate and the District Governer's Office; we planned to give conference about 'Combating Tobacco and Tobacco Addiction ' to students on Grade 12 of four highschools in one district of İzmir. We also planned to have group interviews with 15 volunteer smoking addicted students identified by the school guidence units in respect of their confidentialities, to determine their views on tobacco dependence and to improve their abilities to cope with their addiction.

These interviews were carried out by two Family Medicine Specialists, one certified on adolescent health and the other on tobacco addiction. Breakdown of the interviews were made in a descriptive manner.

During the second semestre of 2016-2017 education year, six structured interactive interviews conducted within the group.

Result-Conclusion

At the end of the school year 8 of 15 students quit smoking. One of the main objectives of this smoking cessation activity is to provide a Standard approach to tobacco control in adolescents both in content and in method; which can be used by Family Medicine practioners.

Abstract ID = 8700

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Steroids in COPD

Derek Forde, Roisin Dunne Slaney Medical Centre

Aim: Analyse the use of steroids in COPD

Method: Assess current management in two large primary care settings

Results: Steroids over prescribed in COPD

Conclusion: More accurate adherence to guidelines will improve patient outcomes

Declaration of Interest

No conflicts of interest

References and Clinical Trial Registry Information

See text

Abstract ID = 8680

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 09:00-10:35

STOP-Bang questionnaire: validation of a Portuguese version as a screening tool for obstructive sleep apnoea in primary care

Alexandre Rebelo-Marques¹, Bruno Valentim², Cláudia Vicente³, Joana Gonçalves⁴, Rosália Pereira², Maria Fátima Teixeira⁵, Joaquim Moita⁵

¹GRESP - Grupo de Trabalho de Problemas Respiratórios da APMGF, ²USF Condeixa, ACeS Baixo Mondego, ARS Centro, Portugal, ³UCSP Mealhada, ACeS Baixo Mondego, ARS Centro, Portugal, ⁴UCSP Celas, ACeS Baixo Mondego, ARS Centro, Portugal, ⁵Sleep Medicine Centre, Coimbra Hospital and University Center, Portugal

Nowadays, we know that there is an independent association of obstructive sleep apnea (OSA) with increased mortality and morbidity due to metabolic disorders, neurovascular and cardiovascular disease, and impaired neurocognitive function, even if asymptomatic. The growing number of suspected patients diagnosed with OSA that are observed in sleep units has increased in the last decade. Since the primary care professionals (PCP) have to decide which patients should be referred in short patient visits, screening methods have become extremely important.

Our work aimed to test the performance of the STOP-Bang questionnaire for the suspicion and diagnosis of obstructive sleep apnea.

In an eight-month prospective study, all patients referred from PCP to the respective sleep clinic were accompanied by a fulfilled and translated Portuguese version of the STOP-Bang questionnaire for a clinical evaluation.

Two hundred fifty-nine observed patients were the study object. The age was 55.14 ± 12.07 years, 71.03% were male patients with a neck circumference of 40.97 ± 3.07 cm and BMI of 31.1 ± 5.14 kg/m2. The diagnosis was confirmed in 82.6% of the patients: 34.6% having moderate and 36.8% severe disease. A STOP-Bang score of 3 or more resulted in positive predictive value (PPV) of 88.4% and a sensitivity for OSA of 98.6%. Has the questionnaire score raises, OSA's probability also raises in a proportional basis. For a STOP-Bang score of 6, the OSA probability reaches 98% and for a score of 8, it reaches 80% for severe OSA. Lower scores, 3 or 2, had a negative predictive value (NPV) for moderate-to-severe OSA of 86.96 and 87.5%, respectively.

With this work we demonstrate that this questionnaire is a useful tool for the stratification of patients with suspicion and diagnosis of OSA, showing a high sensitivity and PPV. Besides that, the probability of severe OSA steadily increases along with its score and we show an excellent NPV with lower scores.

Abstract ID = 8505

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Surveillance of Tuberculosis Cases in the Urban Slums of District Peshawar, KPK

Taj Muhammad *TB CONTROL PROG*

Applied Clinical Research/Implementation Science Results Abstract

To improve the case detection and reporting of Tuberculosis cases in the district. To find the reasons of defaulters in the area. To know the number of registered TB cases in the slums of district. Making recommendations to provincial and district TB control officers, health department, for the patients and community health workers to improve the TB Control program.

Quality

Improvement/Service Development Abstract

2.<u>Methods</u>: TB suspects visiting or referred to the Health Facilities were advised two sputum examination for Direct Microscopy at Diagnostic Centre. If positive, started with anti TB Treatment as Sputum Smear Positive cases. If Negative, antibiotic course was given and asked for repeat sputum examination after 10-15 days. If negative, Chest X-ray was advised, if clinical history and chest X-ray is suggestive. Then anti TB treatment started as sputum smear negative case. For Extra Pulmonary cases. opinion from the related specialties with Clinical evidence was obtained.

Research Ideas on Respiratory Conditions and Tobacco Dependency Abstract

3.Results: Data was analyzed from TB 03 as New Cases, Relapse, Failure, Sputum Smear Negative

and Extra-Pulmonary. Type of patients, Disease classification and category for treatment was decided.

In the selected six DOTS Centers in the slum catchment area, case detection rate for all case 89%.

Case detection for Sputum Smear Positive 57%, & early Default rate less than 0.1%. 85%-to-89% of

patients feel ashamed that they have developed TB and try to hide disease in the society.

Declaration of Interest

4.Conclusion: The study declared that patients with TB disease trust in public health system.

They have been given education regarding the disease, severity and outcome. Case detection rate of TB dise the studied area was almost

above the WHO targets, meaning that community was aware about the services in the public sector. All anti medicine are available at all

treatment and Diagnosis Centers to every patients. Health education was given to every patients and his key member by the DOTS facilitator

at every health facility during their registration session. Every public Health facility has got trained medical off laboratory staff and

DOTS facilitator.

Abstract ID = 8715

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Swimming for children and teenagers with asthma: the yin and yang

Cátia Rodrigues USF Physis

Applied Clinical Research/Implementation Science Results Abstract

Aim: Asthma is the most common chronic medical condition in children. In primary care appointment, the role of swimming as an 'asthmogenic' or 'non-asthmogenic' sport in childhood is debated. This work has the aim to determine the safety of swimming training for asthma in children and teenager.

Method: A systematic review was conducted in the Pubmed and Cochrane Library scientific databases of articles published in the last 5 years in English and Portuguese using the terms MeSH: asthma, swimming and children

Results: Swimming is considered a safe and healthy sport activity for children with asthma, due the humid and warm atmosphere encountered in indoor pools (particularly beneficial for patients affected by respiratory diseases). Swimming training is well-tolerated in children and adolescents with stable asthma, and increases lung function and cardio-pulmonary fitness. There is no evidence that swimming training caused adverse effects on asthma control in young people 18 years and under with stable asthma of any severity. However, the findings according to the 'pool chlorine hypothesis' postulate that the rise of childhood asthma may partly result from increased exposure of children to chlorine-based irritants, especially swimming pool disinfection by-products, such as trichloramine. Competitive swimmers show an increase in asthma prevalence, with a mixed eosinophilic-neutrophilic airways inflammation, epithelial damage, and very frequent bronchial hyperresponsiveness.

Conclusion: In summary, swimming training in children and teenagers with asthma lead to an improvement in aerobic capacity and improved quality of life. However, whether swimming is better and/or safer than other forms of physical activity cannot be determined. Further studies are needed to characterize more specifically the role of by-products of chlorine on the airways and the development of the structural changes in the airways.Swimming can be a safe sport for children, when environmental hygiene conditions are respected.

Declaration of Interest

The author states that there is no conflict of interest. In primary care, children and parents still want to know how the swimming compares with other forms of exercise in quality of life and asthma control

References and Clinical Trial Registry Information

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009607.pub2/epdf

http://dx.doi.org/10.3402/ecrj.v2.27984

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4411937/

http://dx.doi.org/10.1016/j.iac.2013.02.008

http://onlinelibrary.wiley.com/doi/10.1111/ped.13230/full

Abstract ID = 8678

Presented at: 3.6 Digital Poster Discussion 1: Teaching & Behavioural Interventions 01/06/2018 09:00-10:20

TANDEM (Tailored intervention for ANxiety and DEpression Management in COPD): Participant experiences from the pilot/feasibility phases

Amy Barradell¹, Ratna Sohanpal², Kristie-Marie Mammoliti², Hilary Pinnock³, Stephanie Taylor² ¹University Hospitals of Leicester NHS Trust, ²Centre for Primary Care and Public Health, Queen Mary University of London, ³Edinburgh University

Applied Clinical Research/Implementation Science Results Abstract

Aim: Anxiety and depression is very common in chronic obstructive pulmonary disease (COPD). Pulmonary rehabilitation (PR) reduces anxiety and depression however, under-referral, poor attendance/completion rates limits benefits. TANDEM is a randomised controlled trial (RCT) investigating whether a cognitive behavioural approach (CBA) intervention, delivered prior to PR can help to improve mild to moderate anxiety and/or depression in those with moderate to very severe COPD and encourage PR uptake/completion. Here, we report acceptability of the intervention, experience of involvement in the pilot, and trial feasibility from the participants' perspective.

Method: Individual face-to-face interviews were conducted with trial participants (Intervention n=4; Control, n=3) following completion of intervention delivery. Transcribed interviews were analysed thematically.

Results: The emergent themes identified were: (1) Negative impact of COPD and anxiety/depression (2) Willingness to be involved in TANDEM (3) Acceptability of the recruitment process (4) Acceptability of the intervention including PR (5) Refinements in the recruitment process and intervention for the main trial (Table 1 gives exemplar quotes).

Conclusions: The TANDEM trial was well received by the study participants. Participants perceived the CBA intervention as mitigating the substantial burden of COPD and anxiety/depression, providing self-management skills and tools, which in turn increased confidence and ability to manage their conditions.

Declaration of Interest

Funding source: This study was funded by the NIHR Health Technology Assessment (ref 13/146/02).

Trial registration: ISRCTN59537391

Disclaimer: The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.

Abstract ID = 8548

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 09:00-10:35

Teaching and learning about respiratory disease in primary health care in Portugal: A Delphi study.

Fernando Lemos¹, Pedro Teixeira², Ana Rodrigues³, Rui Oliveira⁴, Maria João Barbosa⁵, Ana Quelhas⁶, John Yaphe², Luis Alves⁷, Jaime Correia de Sousa⁸

¹School of Medicine, University of Minho, Braga, Portugal, ²Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho, Braga, Portugal; ICVS/3B's, PT Government Associate Laboratory, Braga/Guimarães, Portugal, ³Horizonte Family Health Unit, Matosinhos, Portugal, ⁴Antonina Family Health Unit, Famalicão, Portugal, ⁵Gualtar Family Health Unit, Braga, Portugal, ⁶Terras de Santa Maria Family Health Unit, Santa Maria da Feira, Portugal, ⁷1- Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho, Braga, Portugal; ICVS/3B's, PT Government Associate Laboratory, Braga/Guimarães, Portugal; 2- St. André de Canidelo Family Health Unit, Vila Nova de Gaia, Portugal, ⁸1- Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho, Braga, Portugal; ICVS/3B's, PT Government Associate Laboratory, Braga/Guimarães, Portugal; 2- Horizonte Family Health Unit, Matosinhos, Portugal

Applied Clinical Research/Implementation Science Results Abstract

1. Aim

Respiratory diseases cause considerable morbidity and mortality, increase the demand for health care, and constitute a significant part of the workload in primary care. Many postgraduate training programs for family doctors in Europe lack explicit learning objectives for the knowledge and skills on respiratory diseases that physicians require by the end of vocational training. This study was designed to obtain national consensus among Portuguese medical educators on the educational agenda for respiratory disease for family medicine trainees.

2. Methods

A two-round Delphi study was conducted via e-mail with a panel of respiratory disease experts from different backgrounds and from various geographic regions in Portugal. In the first round, participants were asked to rate the importance of 499 knowledge or skill items using a Likert-type scale. In the second round, the experts were asked to repeat the exercise, after being informed of the average score for each item in the first round. Consensus was defined as 80% agreement for items rated as 'important' or 'very important'.

3. Results

Consensus was reached for 159 items (38.8%). These included items on structure and function of the respiratory system (0.6%), presenting complaints (21.4%), diagnosis (7.5%), treatment and prevention (11.3%), COPD-emphysema (12.6%), pulmonary tumors (3.1%), respiratory infections (10.7%), tuberculosis (5.7%), HIV-AIDS (1,3%), thromboembolic disease (2.5%), pleural disease (3.1%), respiratory disease in pregnancy (0.6%) and sleep disorders (3.8%). There was no consensus on the importance of teaching about iatrogenic respiratory disease or on respiratory research.

4. Conclusion

Consensus was reached for 159 items in respiratory disease for family doctors. This study may inform the discussion of teaching of respiratory in family medicine in Portugal and contribute to improvement of vocational training.

Abstract ID = 8673

Presented at: 7.3 Oral Abstracts 9 Children 01/06/2018 16:20-17:40

Terms, concepts, barriers and treatment practices towards childhood cough and asthma in rural Greece: a qualitative FRESH AIR study.

Marilena Anastasaki¹, Dimitra Sifaki-Pistolla², Vasiliki-Eirini Chazea², Andreas Karelis², Ioanna Tsiligianni², Jesper Kjærgaard³, Marianne-Stubbe Østergaard⁴, Christos Lionis²

¹Special Account for Research Funds of University of Crete, ²Clinic of Social and Family Medicine, School of Medicine, University of Crete, ³Global Health Unit, Department of Paediatrics and Adolescent Medicine, Juliane Marie Center, Copenhagen University Hospital "Rigshospitalet", Denmark, ⁴The Research Unit for General Practice and Section of General Practice, Department of Public Health, University of Copenhagen, Denmark

Applied Clinical Research/Implementation Science Results Abstract

Aim: In low-resource areas, acute asthma may be under-diagnosed in children under 5 years old (U-5s) presenting with a coughing disease, resulting in inappropriate treatment, prolonged illness and increased morbidity. To improve respiratory diagnoses in U-5s, knowledge of the local context is required. This study aims to explore terms, perceptions, barriers and treatment practices regarding childhood cough and asthma in rural, primary care settings of Crete, Greece.

Method: Theoretical input from the Health Belief Model and the Theory of Planned Behaviour was utilised. Semi-structured interviews were performed with 10 purposively selected caregivers of U-5s with a coughing disease and 10 primary care professionals (pediatricians and general practitioners [GP]). All activities were audio-taped, transcribed and analysed using Thematic Content Analysis.

Results: Caregivers mainly used the term "bronchitis" when referring to their child's coughing disease. Knowledge of asthma was high but half of caregivers reported no actual understanding of the term. Coughing diseases (including asthma) were perceived as severe, attributed to heredity or cold weather and triggered by cigarette smoke and local weather conditions. Barriers to healthcare seeking included inappropriate attitudes of healthcare professionals and medical costs. Most caregivers reported following inhaled medication and visiting a pediatrician or GP of the public sector immediately when symptoms worsen. Healthcare professionals were knowledgeable and well-informed about asthma and other respiratory conditions. Although asthma may be suspected as diagnosis, bronchitis and other simple words may be used to inform caregivers, due to a potential distress caused by the term asthma. Treatment provided for asthma includes β_2 -agonists and corticosteroids, while for other coughing diseases it may include antibiotics. Healthcare professionals identified communities' awareness/(health) literacy as key factors affecting reactions to respiratory diagnoses and overall approach.

Conclusion: These results may contribute to strengthening diagnosis and treatment of respiratory distress in U-5s in rural Crete, enhance healthcare provision, benefit local communities and minimize health inequalities.

Declaration of Interest: This abstract iconstitutes a proposal for FRESH AIR WP6 workshop.

This study was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997.

FRESH AIR is a three-year implementation science project to improve prevention, diagnosis and treatment of CRDs in low resource settings. It is the first time that this abstract is being submitted to an international scientific meeting.

Co-author Assist. Prof. Dr. Ioanna Tsiligianni serves as IPCRG president-elect.

Abstract ID = 8712

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

The association between Erectile Dysfunction and Chronic Obstructive Pulmonary Disease - an observational study in Minho Region of Portugal

Cristiana Vilaça Fernandes¹, Alfredo João Pereira², Ana Patrícia Rosa³, Cláudia C. Pereira¹, Cristiana Amorim de Carvalho¹, Joana Bouça⁴, Rita Vieira Gomes⁵ ¹USF Gualtar, ²USF Minho, ³USF Alcaides de Faria, ⁴USF Manuel Rocha Peixoto, ⁵USF S. João de Braga

1. Aim: Chronic Obstruction Pulmonary Disease ("COPD") is associated with several systemic comorbidities. Cardiovascular diseases are the most prevalent comorbidities associated with COPD. Erectile dysfunction ("ED") is considered a indicator of systemic atherosclerosis, so it is plausible to predict an association between an ED and COPD.

In Portugal, there are few studies of prevalence of ED with COPD. It was demonstrated a prevalence of 48,7% ED in a GOLD IV stage with COPD, in an outpatients group followed in an hospital Pulmonology department. The main objective of this protocol is to evaluate the prevalence of ED in men aged 40 to 69 years, with COPD in Primary Healthcare Centers.

2. Method: An observational study was conducted in five family health units in Minho Region of Portugal. We identified 350 men, aged between 40 and 69 years, diagnosed with COPD using ICPC-2 codes R95 and R79, in their medical records between 2013 and 2015.

Using the only data available for this association in Portugal (48,7%), we calculated a sample of 220 male individuals. Then we applied a sociodemographic questionnaire, the Modified Medical Research Council (mMRC) Dyspnea Scale to assess the degree of dyspnea, and the abridged 5-item version of the International Index of Erectile Function (IIEF-5) to evaluate the erectile dysfunction. The association between COPD and ED was tested using logistic regression.

3. Results: At the present moment, we have only preliminary results. Investigators are collecting the remaining data to posterior analysis and interpretation. We intend to have all the results and conclusions at the time of this Meeting.

4. Conclusion: Analysing the preliminary data, the prevalence of ED in this sample of COPD patients seems to be elevated. If the final data corroborate this increased prevalence, this may suggest that family physicians need to be aware of this association and its effects on quality of life in order to offer effective management of COPD.

Declaration of Interest: No potential conflicts of interest to report.

References and Clinical Trial Registry Information

https://doi.org/10.1016/j.rppnen.2013.09.001

http://doi.org/10.1016/s1698-031x(11)70002-4

Abstract ID = 8475

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

The association between illness perceptions, medication beliefs and adherence to asthma controller among older adults

Changwei Liu¹, Chee Wei Tham², Ngiap Chuan Tan³ ¹National Healthcare Group Polyclinics, Singapore, ²Yong Loo Lin School of Medicine, National University of Singapore, ³Singhealth Polyclinics, Singapore

Applied Clinical Research/Implementation Science Results Abstract

Aim: Poor adherence to asthma Inhaled corticosteroid (ICS) or controller medication is prevalent worldwide. While illness perceptions and medications beliefs have shown to be associated with ICS adherence in younger adults, few studies have explored this concept in older adults. The primary aim of this study was to determine the prevalence of ICS adherence among older adults. The secondary aim was to assess the association between ICS adherence and illness perceptions and medication beliefs.

Method: A cross-sectional survey on 312 multi-ethnic Asian patients with physician-diagnosed asthma managed at primary healthcare clinics was conducted in Singapore. Adherence to ICS was determined using Medication Adherence Report Scale for asthma (MARS) in association with illness perceptions and medication beliefs, as assessed by the Brief-Illness Perception Questionnaire (B-IPQ) and Beliefs about Medications Questionnaire (BMQ) respectively.

Results: Interim analyses of 200 participants (46% males; Chinese 71.5%, Malay 13.5%, Indian 15%; mean age 71 years) showed that 38% of them had good adherence to ICS. Logistic regression analyses showed good ICS adherence was associated with asthma perception as an illness with a longer timeline (OR=1.23, 95%CI=1.07-1.41, P=0.004), and ICS belief as being a necessity (OR=1.25, 95%CI=1.10-1.41, P=0.001). In contrast, patients with poor ICS adherence were more concerned about taking asthma medications (OR=1.36, 95%CI=1.17-1.57, P<0.001), were worried about their long term effects (P=0.001) and perceived dependency on them (P=0.013). Patients on combined ICS-LABA therapy, compared to those on ICS monotherapy, were also more adherent to their treatment (OR=3.56, 95%CI=1.47-8.60, P=0.005).

Conclusion: Almost four in ten older patients with asthma were adherent to ICS. Perceived illness timeline and medication beliefs were associated with adherence.

Declaration of Interest

This study received funding support from SingHealth Polyclinics Research Department Seed Funding.

References and Clinical Trial Registry Information

Not applicable.

Abstract ID = 8650

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

The awareness-raising programme and testing knowledge among rural population about damaging effects of indoor air pollution and tobacco smoking in Kyrgyzstan

Maamed Mademilov¹, Berik Emilov¹, Corina de Jong², Frederik van Gemert², Talant Sooronbaev¹ ¹NCCIM, ²Groningen Research Institute for Asthma and COPD, University of Groningen, University Medical Center Groningen, Groningen, the Netherlands

Aim:

Evaluation of the level of knowledge of rural population about the impact on lung health caused by exposure to indoor air pollution and tobacco smoking in Kyrgyzstan. There is high mortality rate from respiratory diseases in Kyrgyzstan, it is possible due to use of biomass for cooking and heating and high rate of smoking.

Method:

We used a cascading train-the-trainer programme to sensitize healthcare workers and rural communities about the main risk factors of chronic lung disease. Educational materials included posters, brochures and lectures. Healthcare workers were trained and eventually they conducted educational programs for the rural communities. Pre- and post-training knowledge was tested among 535 people (in 30 villages), 167 village leaders and 90 healthcare workers.

Results:

The level of knowledge among healthcare workers increased from 69,7±4,3% to 92,7±1,4%. Particularly, the knowledge of risk factors was low (53,3% vs. 94,4%), indicating a low quality of care for patients with pulmonary pathology. Levels of knowledge among village leaders increased from 72,6±3,9% to 97,6±1,3%. Among the surveyed rural population, their knowledge increased from 56,1±3,9 to 93,6±1,05%. The project has trained 90 healthcare workers. Direct contact with population to raise awareness was more than 535. In each village in public places, were installed 3 different posters and distributed free brochures, thus information has received by more than 1000 people

Conclusion:

Results demonstrate that the level of knowledge in three groups (healthcare workers, village leaders and communities) before educational seminars was not very high, particularly among the communities. After training, the knowledge increased in all the groups for more than 90%. This indicates the positive effect of the cascading teach-the-teacher programme raising awareness of the damaging effects of biomass fuel use and tobacco smoking. In Kyrgyzstan, a large number of lung diseases can be associated with a low level of knowledge.

Declaration of Interest

This study was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997.

Abstract ID = 8702

5.6 Digital Poster Discussion 3 01/06/2018 11:50-13:00

The effect on knowledge and practice of training rural health care workers in treating asthma in children under five. A FRESH AIR study.

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Aim

The aim of the study is to evaluate the effect of training workshops for rural health care workers on their knowledge and practice regarding the treatment of asthma in children under five, specifically the use of spacers and inhalers as first line treatment.

Method

We have developed a one day training program in management of asthma in children under five. A total of 27 primary care health care workers who routinely diagnose and treat children in rural Kyrgyzstan have been recruited and trained in smaller groups by the national FRESH AIR team.

For this study we created checklists regarding the correct use of a spacer and inhaler ("spacer checklist"), on how to build and maintain a spacer and on how to maintain an inhaler.

At the training session, each participant demonstrates spacer-treatment and is rated according to the ten points in the "spacer checklist". The same rating will be done two months after the training as a part of a scheduled follow-up visit at the health post of the participant, in order to measure the retention of technical skills.

Alongside with the observational study linked to clinical practice, data will be collected as part of the Newcastle Questionnaire, regarding the knowledge about asthma treatment.

Results

Ongoing study. Data is currently being collected and results to be ready during spring 2018.

Conclusion

We aim at presenting data that will show the effect of training on knowledge and practice regarding asthma treatment in children under five and data describing the retention of skills after two months.

Declaration of Interest

The authors declare no competing interests. The research has received support from the EU RIA program Horizon2020, grant-agreement no. 680997.

Abstract ID = 8452

Presented at: 4.6 Digital Poster Discussion 2: Asthma Management 01/06/2018 10:20-11:20

The FPAGC Asthma Action Plan; incorporating numerous guidelines into a single document for clinicians and patients

Alan Kaplan, Robert Hauptman, Anthony Ciavarella Family Physician Airways Group of Canada

Aim: To update our current Asthma Action Plan (AAP) based on national and international guidelines

Method: The Family Physician Airways Group of Canada (FPAGC) update our AAP incorporating current guidelines including CTS, GINA, SIGN, and NHLBI. All guidelines were reviewed for each step, green, yellow and red control zones to create consensus. The guidelines were searched for at least a qualitative agreement if convergence was unavailable. Here, the consensus was reached by minimizing the guideline variance in each respective area of concern. We used a modified Delphi to get consensus amongst directors of the FPAGC and the respiratory medicine section of the Canadian College of Family Practice .

Results:

The four different guidelines had differences in their definitions of zones including control, observation period, peak flows and use of rescue medications. Our consensus definitions included:

Green(zone):

A YES response to ALL Primary Care Asthma Variables over a one-week period, listed as follows:

- 1. Day time Asthma symptoms less than 4/week
- 2. No night time symptoms
- 3. No interference with usual physical activities or exercise.
- 4. Need for Reliever medication, including exercise less than 4 doses per week.

AND

Normal Air Flow, PEF should be 80% or at better than your recent personal best (within a few years)

Yellow (Zone): NO to ANY of the variables, listed in the green zone, OR:

Abnormal Air Flow: PEF **below 80%** and **above 40%** of you of recent personal best (within a few years)

Treatment recommendations: In the yellow zone, they should at least include the immediate and regular use of an ICS. If already on an ICS, consider a step-up trial of \geq 4-fold increase in ICS for 7–14 days. If PEF < 60 % then consider daily oral Prednisone 30–50 mg. Follow up after usage of the plan should be made to assess efficacy of the AAP and revise accordingly.

Conclusion: The AAP is a useful tool to prevent or at least mitigate asthma exacerbations. International guidelines do not completely agree; as such, we incorporated the best of each guideline to our action plan available at www.AsthmaActionPlan.com

Declaration of Interest : none

Abstract ID = 8554

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

The Influence of Patient Characteristics on the Minimal Clinically Important Difference (MCID) of COPD Health Status Instruments

Harma Alma¹, Corina de Jong¹, Danijel Jelusic², Michael Wittmann², Michael Schuler³, Robbert Sanderman¹, Konrad Schultz², Janwillem Kocks¹, Thys van der Molen¹ ¹University of Groningen, University Medical Center Groningen, ²Klinik Bad Reichenhall, Center for Rehabilitation, Pulmonology and Orthopedics, ³University of Wuerzburg

Aim: The Minimal Clinically Important Difference (MCID) is an obligatory endpoint in evaluating therapy. Little is known about the impact of patient characteristics on the MCID. This study analyzed MCIDs for the COPD Assessment Test (CAT), Clinical COPD Questionnaire (CCQ) and St. George's Respiratory Questionnaire (SGRQ) based on gender, age and GOLD category in two different settings.

Method: Spirometry confirmed COPD patients, aged ≥40 years without other respiratory co-morbidities, were included from three-week Pulmonary Rehabilitation (PR) in Bad Reichenhall (Germany) and from Dutch primary and secondary Regular Care (RC). Questionnaires were scored at baseline, 3 weeks, 3, 6, 9 and 12 months. All change scores were analyzed combined. A 15-point Global Ratings of Change (GRC) scale evaluated the importance of change during follow-up. The mean change on the CAT, CCQ and SGRQ for patients indicating a minimal improvement or deterioration on the GRC was calculated for relevant subgroups. Independent t-tests (95% confidence levels) were used to test for significance between groups.

Results: Preliminary analysis included 451 patients from PR (age 57.87±6.56; % male 65; GOLD II/III/IV 227/176/48); and 201 from RC (age 66.69±7.91; % male 59; GOLD I/II/III/IV 35/80/61/25). Significant smaller MCIDs were found for RC patients (Table 1). Female patients required, compared with males, significantly larger improvements and smaller deteriorations as MCID of the CCQ. Older patients had larger MCIDs for improvement, significant only for CCQ; and smaller MCIDs for deterioration. GOLD I/II patients required larger MCIDs for improvement, which was significant for SGRQ.

Conclusion: Gender, age, GOLD category and setting may impact the MCID of health status tools in COPD. No clear structural pattern was found during preliminary analyses.

Declaration of Interest

Funding:

The Dutch regular care study was funded by the Junior Scientific Masterclass of the University of Groningen. The German pulmonary rehabilitation study was funded by the Deutsche Renteversicherungen.

Declaration of Interest:

Thys van der Molen holds the copyright of the Clinical COPD Questionnaire. All other authors have nothing to disclose in relation to the current study analyses.

References and Clinical Trial Registry Information

Clinical Trial Registry Information:

The German pulmonary rehabilitation study is registered at the German Clinical Trials Register with identifier number DRKS00004609.

Abstract ID = 8553

Presented at: 4.6 Digital Poster Discussion 2: Asthma Management 01/06/2018 10:20-11:20

THE LEVEL OF UTILIZATION OF FAMILY PHYSICIAN'S SERVICES BY CHILDREN IN AN ASTHMA CLINIC AT A UNIVERSITY HOSPITAL

AYŞE NUR USTURALI MUT¹, Zeliha Aslı Öcek², Meltem Çiçeklioğlu² ¹Ankara University Medical School, Public Health Department, ²Ege University Medical School, Public Health Department

Aim: To assess the level of utilization of family physician's (FP) services by the children with asthma who received care from the clinic of the Department of Pediatrics, at Ege University-Turkey, and to determine the factors related to utilization.

Method: In this cross-sectional study, 320 asthmatic children aged 3-18 years who presented to the clinic in the five-months period composed the study population. The dependent variable was receiving care from the FP in the last year, while socio-demographic-economic, asthma-related, FP-related variables were also assessed. The data was collected via questionnaires performed to the person accompanying the child.

Results: The mean age was 11.84±3.82 years. 61.3% were male, average age of receiving asthma diagnosis was 4.35 ± 2.77 years. 14.0% of the children first applied to the primary care when first asthma-related complaints have emerged. Only one child has received the asthma diagnosis at the primary care. The percentages of children who have uncontrolled asthma, were on medication, had asthma attack at least once in the last year were 29.4, 55.9 and 69.6 respectively. 20.9% of FPs weren't aware of the asthma diagnosis. In the last year; mean numbers of visits were 5.12±2.58 for any healthcare facility, 1.37±1.59 for FPs, while 49.4% had never applied to the FP. Figure-1 shows the distribution of visits according to their reasons. Only 6.5% stated FPs as their continuous care provider. Receiving care from FPs was associated with mother being not employed (p<0.001), low level of income (p=0.001), asthma being not under control (p<0.001), using medication for asthma (p=0.004), knowing the name of the FP (p<0.001), FP being aware of the diagnosis(p<0.001).

Conclusion: FPs don't have a significant role in providing healthcare services for children with asthma. The children who are socioeconomically disadvantaged, with uncontrolled asthma, familiar with the FP; have higher utilization of FP's services.

Declaration of Interest

None.

Abstract ID = 8626

Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

The predictive performance of the STOP-Bang questionnaire in obstructive sleep apnea screening of obese population at sleep clinic

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Aim

The prevalence of OSA is high in the obese population. In this study, it was aimed to develop the STOP-Bang questionnaire which a concise and easy-to-use questionnaire for OSA screening in obese patients.

Methods

Patients who polysomnography planned were referred to Sleep Clinic. Patients were screened for obstructive sleep apnea (OSA) by the STOP-Bang questionnaire. Laboratory polysomnography were performed in 275 patients. Patients with a BMI≥30 were taken into study. The screening test was evaluated by three different risk analysis as a STOP score, a STOP-Bang score and a modified STOP-Bang score. The predictive parameters (sensitivity, specificity, and positive and negative predictive values) for alternative scoring models in obese patients were analyzed.

Results

In 217 obese patients, a STOP score cutoff of 3 and a STOP-Bang score cutoff of 4 provides a better balance of sensitivity and specificity for all OSA (AHI≥5). The STOP questionnaire revealed a sensitivity of 87,9% and a positive predictive value of 99,5% for patients with all OSA (p:0,005). The STOP-Bang scoring model revealed a sensitivity of 95,3% and a positive predictive value of 99,5% for patients with all OSA (p<0,001). The modified STOP-Bang scoring revealed a sensitivity of 95,8% and a positive predictive value of 99,5% for patients with all OSA (p<0,001). The modified STOP-Bang scoring revealed a sensitivity of 95,8% and a positive predictive value of 99,5% for patients with all OSA (p<0,001). The area under the curve of the STOP-Bang for identifying mild, moderate and severe OSA was 0.581, 0.652, and 0.675, respectively. Whereas according to the STOP-Bang, all morbid obese patients (obesity class III, n:47) were at high risk of OSA.

Conclusions

This study suggests that the STOP-Bang questionnaire for obstructive sleep apnea screening in obese patients is a high sensitivity and appropriate screening test.

Abstract ID = 8639

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

The prevalence of limited health literacy and its associations among adult asthma patients in primary care settings: a preliminary finding of a RESPIRE project

Hani Salim¹, Ping Yein Lee², Sazlina Shariff², Ai Theng Cheong², Pinnock Hilary³, Noor Harzana Harrun⁴, Salbiah Mohammed Isa⁴, Salmah Nordin⁴ ¹Usher Institute, University of Edinburgh, ²Universiti Putra Malaysia, ³University of Edinburgh, ⁴Ministry of Health Malaysia

Aim: More than 90 % of general Malaysian population falls under marginal to limited health literacy level.¹ Among patients with asthma, low literacy is associated with poor adherence to self-management activities thus poor clinical outcomes.² The aim of this study is to determine the level of limited health level, its associated factors and to describe the sociodemographic/ clinical profiles of patients with asthma in Malaysia.

Method: This cross sectional study takes place in the primary health clinics in Malaysia. It involves adult asthma patients aged \geq 18 years attending the centers for any treatment. Ethical approval from the Ministry of Health, Malaysia was obtained prior to the study. Patients are sampled using a systematic random sampling method. Participation are voluntarily. The target sample size is 540. The questionnaires include two validated tools, asthma control test (ACT) and health literacy scale (HLS-Asia-Q47). The preliminary statistical analysis was done using SPSS 21. For this preliminary analysis, descriptive statistics were used to describe demographic characteristics of the patients and their asthma control.

Results: Data collection is currently on-going. To date, we have recruited 488 participants of the proposed 540 patients. Interim analysis shows 18.8% (n = 92) of asthma patients have limited health literacy, predominantly among the older age, Malay ethnicity and those with lower income and educational level. Asthma control was poor in 22.3% (n= 109) of patients and only 15% (n=74) received either written or verbal asthma action plan (AAP). Of that 15% of patients who received AAP, only 3% (n=6) have the confident to use it at home. Full data including the associations will be available during the conference.

Conclusion: Based on the interim analysis, the prevalence of limited of health literacy among patients with asthma is lower than of the general population level. However, asthma control remains poor with less than a third received AAP to self-manage their asthma at home. Further analysis is needed to look at the associations of health literacy level with the sociodemographic factors and asthma control.

References:

- 1. Aris T, Yusoff M, Ghani A, Ahmad N, Omar A, Tee GH, et al. National Health and Morbidity Survey. In: Health IoP, editor. Kuala Lumpur, 2015:291.
- 2. Federman AD, Wolf MS, Sofianou A, O'Conor R, Martynenko M, Halm EA, et al. Asthma outcomes are poor among older adults with low health literacy. *Journal of Asthma* 2014;51(2):162-67.

Declaration of Interest

Declaration of Interest: None

Funding: Family Medicine Specialist Association of Malaysia Grant

Abstract ID = 8522

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

The Probable Factors Affecting the Readiness to Stop Smoking Among Male and Female Smokers Age 19 Years old and Above Seen at The VSMMC

Jimson Rey Intong, Clarissa Mae Derecho Philippine Medical Association

AIM:

To identify the probable factors affecting the readiness of smoking cessation among male and female cigarette smokers seen at VSMMC OPD Room 1

Method:

The study utilized an Analytical Cross-sectional design. Smokers age 19 years old and above seeking consult were identified. An informed consent was issued and each patient was given a self-administered questionnaire which was pretested in a predetermined schedule by the identified staff prior the actual data collection.Each patient was given a 10 minute interview with the identified staff to fill in the questionnaires comprising of the Personal Profile Sheet,Self-test on Reasons for Smoking based on the Horn's Smoker' Self-Test, Self-Test on Nicotine Dependence based on the Fagerstrom Test , Self-Test on Readiness to Stop Smoking and Reflections on Previous Attempts to Stop Smoking.Questionnaires submitted were analyzed through means, ratios and proportions.

Results:

This survey study involved 385 respondents. The 385 respondents invited at the VSMMC OPD Room 1 had the following common profiles, namely, 29.9% belonged to the 19-29 aged group,followed by age group 40-49 years old comprising of 26.8% and age group 20-39 years old is the third highest comprising of 21.3%. Majority of the smokers seen were males (58.7%). Interestingly enough,38.4% of the smokers seen were annulled or separated from their partners followed by those who are single with partners and married comprising of 28.6% and 23.1% respectively. Looking on the religion as a component of the survey,48% were Roman Catholics, Christians had the lowest number of smokers seen comprising of 3.9% and Islam being the third highest comprising of 9.6%. 24.9% of the smokers seen were college graduates. Most of the patients (40%) had psychological dependence of smokers due to stress, 19% noted to be a habit (19%), and 15% due to pleasure as physiological dependence.7% of the respondents were ready to stop smoking, 33% were contemplating, 16% were preparing to stop smoking, 12% in action, 2% were on maintenance, and 4% on termination stage.

Conclusion:

Ages between 20-49 years old had higher rate of smoking termination while younger groups were still in the contemplation stage. A higher rate of females had smoking termination. The associations of these variables were significant. However, patients' religion, exposure, and educational attainment did not influence their smoking cessation. Respondents' nicotine dependency and readiness of smoking cessation did not show significant association implying that nicotine dependency did not influence contemplation or preparing for smoking cessation.

Abstract ID = 8470

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 09:00-10:35

The respiratory research agenda in primary care in Portugal: a Delphi study

Vera Araújo¹, Pedro M. Teixeira², John Yaphe², Jaime Correia de Sousa² ¹University of Minho, School of Medidicine; USF Lethes, ²University of Minho

Aim. The aim of the study was to develop a national consensus on research priorities in respiratory diseases in primary care in Portugal and to assess the applicability of the priorities for respiratory research set by the IPCRG, publish in 2010.

Method. We conducted a Delphi study by electronic mail with a panel of experts on respiratory disease from primary and secondary care in Portugal. There were 3 rounds. In Round 1, were identified the research needs in respiratory diseases in Portugal. In Round 2, 196 research questions in six disease areas (derived from the first round and from IPCRG *Research Needs Statement*) were prioritized on likert-type scale (1 to 5). The questions were submitted to a new prioritization, in Round 3, with feedback provided on median scores in the second round. Consensus was considered to have been reached when 80 % of the participants gave a score of 4 or 5.

Results. The 40 experts identified 121 respiratory research questions in Round 1 and expressed their views on 196 questions in Rounds 2 and 3. Twelve research questions (6 %) reached consensos: five questions in the asthma domain (early diagnosis, pulmonary function tests, the use of inhalers and adherence to treatment); four questions in the chronic obstructive pulmonary disease domain (vaccinations, routine monitoring and evaluation of treatment, diagnosis and adherence to treatments); one question in the smoking domain (effects of brief counselling) and two questions on respiratory tract infections (treatment of children and prescription of antibiotics). An additional 23 research questions (12 %) achieved consensus between 75 and 79 %.

Conclusion. The results reflect the Portuguese reality in response the International Agenda published by the IPCRG. They can support the development of future respiratory disease research in Portugal.

Declaration of Interest

The authors declare that they have no competing interests.

The ethics subcommittee for Life and Health Sciences at the University of Minho assessed and approved the research protocol.

References and Clinical Trial Registry Information

Pinnock H, Thomas M, Tsiligianni I, Lisspers K, et al. The International Primary Care Respiratory Group (IPCRG) Research Needs Statement 2010. Prim Care Respir J. 2010;19:S1–20.

Pinnock H, Østrem A, Rodríguez M, et al. Prioritising the respiratory research needs of primary care: the International Primary Care Respiratory Group (IPCRG) e-Delphi exercise. Prim Care Respir J.2012;21(1):19–27.

Boulkedid R, Abdoul H, Loustau M, Sibony O, Alberti C. Using and reporting the delphi method for selecting healthcare quality indicators: a systematic review. PLoS One. 2011;6(6), e20476.

Abstract ID = 8606

5.6 Digital Poster Discussion 3 01/06/2018 11:50-13:00

The silent economic impact of chronic lung diseases in low-resource settings in Africa, Asia and Europe – a FRESH AIR study

Evelyn Brakema¹, Aizhamal Tabyshova², Rianne van der Kleij³, Talant Sooronbaev⁴, Christos Lionis⁵, Marilena Anastasaki⁵, An Pham Le⁶, Luan Thanh Nguyen⁶, Bruce Kirenga⁷, Simon Walusimbi⁷, Maarten Postma⁸, Niels Chavannes³, Job van Boven⁹ ¹Department of Public Health and Primary Care, Leiden Universitiy Medical Center, ²Pulmonary Department, National Center of Cardiology and Internal Medicine, Bishkek, Kyrgyzstan; Unit of Global Health, Department of Health Sciences, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands, ³Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, the Netherlands, ⁴Pulmonary Department, National Center of Cardiology and Internal Medicine, Bishkek, Kyrgyzstan, ⁵Clinic of Social and Family Medicine, School of Medicine, University of Crete, Heraklion, Crete, Greece, ⁶University of Medicine and Pharmacy, Ho Chi Minh City, Vietnam, ⁷Department of Medicine and Lung Institute, Makerere University, Kampala, Uganda, ⁸Unit of Global Health, Department of General Practice & Elderly Care, Groningen, Research Institute for Asthma and COPD (GRIAC), University of Groningen, University Medical Center Groningen, The Netherlands, ⁹Department of General Practice & Elderly Care, Groningen, The Netherlands

Applied Clinical Research/Implementation Science Results Abstract

Aim: Data on the socioeconomic impact of COPD/asthma are key to raising awareness and informing national action plans. These data are largely lacking for low-resource settings such as Uganda, Vietnam, Kyrgyzstan and rural Greece. Indirect costs, such as the impact of COPD/asthma on work productivity, are particularly unknown. We aimed to estimate the work productivity and activity impairment due to COPD/asthma in diverse lower-resource settings, and to identify predictors for a higher impairment.

Method: This cross-sectional, observational study is part of the FRESH AIR study. In Uganda (N=102), Vietnam (N=491), Kyrgyzstan (N=308), and rural Greece (N=100), we administered questionnaires to representative samples of patients with spirometry-confirmed COPD and/or asthma. Impairment was assessed using the validated work productivity and activity impairment (WPAI) questionnaire. We performed descriptive statistics and employed a multivariable logistic regression to identify predictors for the impairment. Predictors included demographics, disease severity (MRC breathlessness scale) and comorbidities.

Results: A total of 1001 patients were included, 47.8% was male, with a mean age of 59.4 (SD 24.5), and 36.9% was classified as working. 42.3% had COPD, 48.5% asthma, and the rest had both. Workers reported a median [IQR] of 0.0% [0.0-27.7] work time missed, 20.0% [0.0-40.0] productivity impairment while working, and an overall work impairment of 30% [0.0-60.0] due to asthma/COPD in the past seven days. The total group reported 40.0% [20.0-60.0] impairment on other activities. Disease severity (MRC) was a strong predictor for a higher activity impairment (OR 2.2; 95%CI 1.9-2.6), whereas age, gender, and the presence comorbidities were insignificant in the multivariable model.

Conclusion: Although in these low-resource settings generally not much work time is missed due to COPD/asthma, the disease-related productivity and activity impairment is substantial. Awareness of the extent of the problem and (un)associated factors could inform public health policies and ultimately serve national COPD/asthma strategies.

Declaration of Interest : This study was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997. The authors have no conflicts of interest to declare.

References and Clinical Trial Registry Information

This study is registered under trial registration number: NTR5759. http://www.trialregister.nl/trialreg/admin/rctsearch.asp?Term=23332

Abstract ID = 8579

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 09:00-10:35

The success of the Allergy Diary App in Portugal: the role of media coverage

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Aim: The Allergy Diary[1] is a mobile application (App) for monitoring allergic rhinitis (AR) and its impact on asthma. It is freely available in 22 countries and its usefulness in assessing AR control and symptoms has been confirmed. By September 2017, Portugal was the country with the most users (16%), which may be related to media dissemination efforts. We aim to characterize App users, namely regarding onboarding days and their relationship with App coverage in the media.

Methods: The App is part of the MASK-rhinitis system[2]. A baseline profile questionnaire collects birth year, gender, country, AR and asthma presence and disease-related impact. App usage was defined by the days when users completed visual analogue scales to monitor symptom control. New users were grouped regarding the coincidence between onboarding day and mass/social media App coverage up to the two previous days considering: large audience (LA) media –A, other media –B, no news found –C. Portuguese users registered within 01/2016-09/2017 were analyzed considering profile information and App usage.

Results: Among 2,210 users, 92% had AR, 29% AR and asthma and 3% asthma (no AR). We found four TV (LA), one radio (LA), 17 online news (five LA), seven Facebook and two blog posts promoting the Portuguese App, with LA news coinciding with relevant onboarding increase (Figure 1). 51.6% of the users registered within the 19 days associated to LA media (60 users/day mean onboarding rate) –A, versus 38% within the 285 days with no media effect (three users/day) – C. No differences were found across groups in the App usage (duration and number of days). Higher proportion of Moderate/Severe AR (p<0.005) was found in A (77%) than in C (70%).

Conclusion: Over half of the new users were related to media coverage, with a five times higher onboarding rate after large audience news.

Declaration of Interest

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by the North Portugal Regional Operational Programme (NORTE 2020), under the PORTUGAL

2020 Partnership Agreement, and through the European Regional Development Fund (ERDF).

References and Clinical Trial Registry Information

[2] MACVIA-ARIA Sentinel NetworK for allergic rhinitis

^[1] Portuguese version "Diário da Alergia" (IOS and Android) https://play.google.com/store/apps/details?id=nl.peercode.allergydiary&hl=pt_BR https://itunes.apple.com/pt/app/di%C3%A1rio-da-alergia-macvia-aria/id983596216?mt=8

Abstract ID = 8520

Presented at: 4.6 Digital Poster Discussion 2: Asthma Management 01/06/2018 10:20-11:20

Tiotropium add-on therapy has a safety profile comparable with that of placebo in children and adolescents with symptomatic asthma

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Applied Clinical Research/Implementation Science Results Abstract

Aim: Assess the safety and tolerability of once-daily tiotropium add-on therapy in a pooled analysis of patients aged 1–17 years with symptomatic asthma.

Methods: Five randomised, double-blind, placebo-controlled, parallel-group trials were included: four Phase III (CanoTinA-asthma[®], VivaTinA-asthma[®], PensieTinA-asthma[®] and RubaTinA-asthma[®]) and one Phase II/III (NinoTinA-asthma[®]). Trial duration was 12–48 weeks. Patients had persistent asthmatic symptoms (NinoTinA-asthma[®]), or symptomatic moderate (CanoTinA-asthma[®], RubaTinA-asthma[®]) or severe (VivaTinA-asthma[®], PensieTinA-asthma[®]) asthma. Once-daily tiotropium 5µg or 2.5µg (2 puffs of 2.5µg or 1.25µg) or placebo (two puffs) was administered via Respimat as add-on to inhaled corticosteroid maintenance treatment ± additional therapies. A spacer was used in patients aged 1–5 years. Pooled safety analysis was based on treatment-emergent adverse events (AEs) occurring between first drug intake and lasting until 30 days after the last dose of trial medication.

Results: 1696 patients were randomised and 1691 were treated (1–5 years, n=101; 6–11 years, n=801; 12– 17 years, n=789). Baseline demographics and disease characteristics were comparable between treatment groups within each trial. Overall, 52% of patients (n=879) experienced an AE (Table). The proportion of patients aged 6–17 years reporting any AEs was similar across all arms. A lower proportion of AEs was reported by patients aged 1–5 years in the tiotropium groups compared with placebo. The most common AEs reported in \geq 5% of patients in the pooled dataset (in any treatment arm by preferred term) were asthma worsening/exacerbation, nasopharyngitis, decreased peak expiratory flow rate and viral respiratory tract infection. Reported drug-related AEs, serious AEs and those leading to discontinuation were low and comparable across treatment arms. No serious AEs were considered treatment-related or led to treatment discontinuation. No deaths were reported.

Conclusions: Tiotropium add-on therapy safety profile is comparable with that of placebo in patients aged 1–17 years with symptomatic asthma.

Declaration of Interest

This study was funded by Boehringer Ingelheim.

References and Clinical Trial Registry Information

NCT01634113, NCT01634139, NCT01257230, NCT01634152, NCT01277523 (https://clinicaltrials.gov/)

Abstract ID = 8608

Presented at: Resumos em Português e Castelhano – Apresentações orais 31/05/2018 09:00-10:35

Tobacco use and attitudes among hospital medical residents in Algarve Hospital Center Lília Simões¹, Vasco Fontainhas², Simão Maia³, Rita Pogeira⁴, Mafalda Ferreira⁵, Dyna Torrado⁶ ¹USF Ossónoba, ²USF Âncora, ³USF Al-gharb, ⁴USF Albufeira, ⁵USF Ria Formosa, ⁶UCSP Tavira

Aim: Smoking is the leading preventable cause of premature death and disease worldwide. Medical residents (MR) are in a privileged stage to acquire and apply knowledge related to smoking cessation (SC).

Authors aimed to assess the prevalence of smoking among Algarve Hospital Center (AHC) MR, characterize their consumption, degree of information, opinions and attitudes regarding smoking.

Method: Cross-sectional study by anonymous self-completed online questionnaire to AHC-MR (November/2017-January/2018), collecting biographical data, smoking habits, opinions and behaviors regarding smoking.

Results: 71.7% of valid answers were obtained (n=91): 68.1% female; mean age 30±3.3years; 33% had tried smoking, beginning at 16.9±2.7 years, 15.4% are current smokers and 71% do it daily, smoking mainly convectional tobacco; 14% smoke cannabis. Men tend to smoke more (11±6 vs 6±5cigarettes/day), 7.1% smoke >20cigarettes/day, 21.4% smoke within 30 minutes after waking up; 71% tried SC previously, 64.3% want to stop; 2.2% smokes at home; 92.3% refer coworkers smoking inside AHC.

Most (84.6%) have no training in SC, but only 56% agree all doctors should have. 60.2% consider SC more effective if medically accompanied. 84.6% believe all doctors should advise to stop smoking and 80.2% do advise their patients; 85.7% feel unsecure about providing SC.

67% believe doctors are role models for population. The main barriers to approaching smoking in the consultation are lack of time, training and patient's motivation; 26% don't consider this approach within their area of competence.

Conclusion: -There's a much lower prevalence of smokers than in the same age group of the Portuguese population and slightly lower than other similar studies in the country. -Most residents have no training in SC and nearly half think they shouldn't have it. The fourth part doesn't consider SC within their area of competence. This highlights the importance of education and awareness of these professionals to this public health problem.

Declaration of Interest: The authors declare no conflict of interest.

References and Clinical Trial Registry Information

Borges, A. "Hábitos tabágicos em alunos do 6º ano de Medicina e medidas anti-tabágicas", Revista Portuguesa de Pneumologia Vol.XIV, Nº3, Maio/Junho 2008;379-390

Direcção Geral de Saúde: "Portugal - Prevenção e Controlo do Tabagismo em Números - 2015" February/2016

Marques, I. "Universidade do Minho livre de tabaco: uma nova realidade", Revista Portuguesa de Clínica Geral (2011), 27: 152-66

Ravara, S. "Tobacco control policy-making in Portugal: vested interests or public health?", Tobacco Prevention&Cessation 2015;1(October):3

Ravara, S. "Smoking behavior trends among Portuguese physicians: are they role models? A conferencebased survey", Elservier-Public Health (2013)

Abstract ID = 8605

Presented at: 2.4 Oral Abstracts 2 Tobacco Dependence 31/05/2018 16:05-17:30

Training general practitioners in Greece in 'Very Brief Advice' on smoking: The FRESH AIR Project

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Applied Clinical Research/Implementation Science Results Abstract

Aim: Greece has one of the highest rates of smoking in the European Union. However, rates of smoking cessation advice and treatment is limited, especially in Primary Care. The aim of this study was to explore whether a 'Very Brief Advice' on smoking (VBA) intervention can be adapted to the healthcare context on the island of Crete, Greece and whether training general practitioners (GPs) in providing VBA results in changes to their confidence in VBA delivery and practice behaviours.

Method: The content of the existing VBA training developed by the UK National Centre for Smoking Cessation and Training was adapted to the local context by the study investigators. A train the train model was used to prepare local GPs to deliver the VBA training. Two one-day training sessions were delivered which used the combination of didactic training, video, role-play and interactive discussions. GP participants' self-efficacy (assessed on a 1 to 5 scale) and self-reported practice behaviours related to VBA (Ask, Advise, Assist) was assessed through questionnaires before, immediately after and one month following the training.

Results: Twenty-seven GPs participated in the training (male 58.5%, mean age 45.9 years). The majority of GPs indicated the training improved their skills (79.3%) and they would recommend the training to others 93.1%. Significant increases in GPs self-efficacy in advising patients on the best methods of quitting (3.22 vs. 4.22; p=.001) and providing support to smoker (3.32 vs. 3.89;p=.027) were documented between the pre and post assessment. Increased in rates at which GP's asked, advised and assisted patients was documented however did not reach statistical significance.

Conclusion: The VBA training was well received by GPs in Greece and appeared to influence provider self-efficacy and rates at which they addressed tobacco use with their patients who smoke.

Declaration of Interest

This study was funded by the EU Research and Innovation program Horizon2020 under grant agreement no. 680997.

Presented data are only preliminary results of the European Horizon 2020 FRESH AIR (Free Respiratory Evaluation and Smoke-exposure reduction by Primary Health Care Integrated Groups) project. They offer a description of observations documented during field work. FRESH AIR is a three-year implementation science project to improve prevention, diagnosis and treatment of chronic respiratory diseases in low resource settings. It is the first time that this abstract is being submitted to an international scientific meeting.

Co-author Prof. Dr. Ioanna Tsiligianni serves as IPCRG president-elect.

Abstract ID = 8515

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Usability of the Control of Allergic Rhinitis and Asthma Test (CARAT) in an Asthma/COPD advice service

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<u>Aim:</u> Comparing effects on treatment advice and user-friendliness of the Control of Allergic Rhinitis and Asthma Test (CARAT) when used instead of the Asthma Control Questionnaire (ACQ) as part of an Asthma/COPD advisory service (ACservice).

<u>Method</u>: CARAT was designed and validated to measure control of asthma and allergic rhinitis (AR). CARAT meets COSMIN criteria. The ACservice tests patients with (potential) airway disease and provides GPs with diagnosis and treatment-advice given by a pulmonologist based on questionnaires and spirometry.

Data from 100 randomly chosen asthma patients (50 with AR and 50 without) were gathered (age, weight, height, previous diagnosis, smoking, medication, exacerbations, spirometry, ACQ and CARAT). Eleven pulmonologists provided treatment-advice, in 2 conditions. Condition A: data was presented with ACQ without CARAT (standard practice); condition B: data was presented with CARAT but without ACQ. Each pulmonologist handled 9 patients in both conditions (total 198 evaluations). The final step was completion of an ad-hoc questionnaire to judge usability of the CARAT in the ACservice. Differences between number and type of treatment advices between the conditions were analysed using Pearson Chi-square, user-friendliness questionnaire was evaluated using descriptives.

<u>Results:</u> Mean 56yr, 31.9% male, 61% well-controlled asthma (ACQ), 18% partly-controlled, 12% uncontrolled. Due to incomplete data 9 patients were excluded. No significant differences were found with regard to asthma related treatment-advices. A difference was found with regard to a rhinitis focused treatment advice, given almost exclusively in condition B (17 in B vs 1 in A; p<0.001). A difference between medication advice between patients with AR and without was found (p=0.018) and a difference for discussion of weight (p=0.001). The majority of the experts (81.8%) scored CARAT to be as useful as ACQ and most experts (80.0%) would recommend to add CARAT to the ACservice.

Conclusion: The CARAT questionnaire is an appreciated and useful tool for the Asthma/COPD service.

Declaration of Interest

CdJ, HJB, TvdM, DS, EvH, IT, JF, FdB report no conflicts of interest. After study closure TvdM became employee of GSK. The study was funded by unrestricted grant by AstraZeneca.

Abstract ID = 8685

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

USE OF ANTIBIOTICS FOR TREATMENT OF OUTPATIENTS WITH ACUTE BRONHITIS AND COMMUNITY-ACQUIRED PNEUMONIA

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Aim:To assess compliance with national guidelines for antibiotics treatment of outpatients with acute bronchitis (AB) and community-acquired pneumonia (CAP).

Methods: A retrospective analysis of antibiotic prescriptions for the treatment of 500 outpatients with AB was conducted (mean age 40.8 ± 19.3 , male - 208 (41.6%), female - 292 (58.4%)) and 200 outpatients with CAP (mean age 57.8 ± 15.9; male - 86 (43.0%), female - 114 (57.0%)). The spectrum of antibiotics, the evaluation of treatment efficacy, duration of treatment, complications, and adverse events were analyzed.

Results: Antibiotics were prescribed in 338 (74.6%) outpatients with AB, which did not meet the national guidelines for treatment of AB, because it was caused by viruses in most cases and antibacterial drugs are not effective. The most commonly used amoxicillin/clavulanate was 124 (32.0%), azithromycin 120 (30.9%), amoxicillin 48 (12.4%), cefuroxime axetil 28 (7.2%). The effectiveness of therapy was evaluated in 3,5 ± 0,8 days, the mean duration of antibiotic therapy was 8.2 ± 2.4 days, and the average temporally disability was 12.5 ± 4.1 days. It was 4.2 ± 1.2 days longer than those who did not receive antibiotics. CAP was developed in 8 (1.6%) patients as complication of AB and they were hospitalized.

For treatment of CAP outpatients were prescribed intramuscular ceftriaxone 85 (42.5%), oral azithromycin 81 (40.5%), amoxicillin/calvulanate 52 (26.0%), levofloxacin 29 (14.5%), clarithromycin 20 (10.0%), cefpodoxime 12 (6.0%), cyprofloxacin 7 (3.5%). The combination of antibiotics was used at 83 (41.5%). The parenteral administration of antibiotics, their combination in outpatients with CAP did not meet the current national guidelines for treatment of patients and indicated excessive antibiotic therapy. The effectiveness of antibiotic therapy was estimated at 3.5 ± 1.6 days, the mean duration of antibiotic use was 10.2 ± 2.6 days. Complications of CAP did not occur.

The most widespread adverse events was the development of oral mucosal candidiasis in the 15 (4.4%) patients with AB and 23 (11.5%) patients with CAP.

Conclusions: For the treatment of AB and CAP in outpatients, antibiotics with high activity against the bacteria causing these diseases are prescribed. But excessive and inappropriate to national guidelines use of antibiotic leads to prolongation of temporally disability, unwanted side effects and may cause the selection of antibiotic resistant strains of microorganisms.

Declaration of Interest

We don't have conflict of interest

References and Clinical Trial Registry Information

no

Abstract ID = 8570

Presented at: 9.1 Prize Winning Abstracts 02/06/2018 10:20-11:25

Using fractional exhaled nitric oxide to guide step down treatment decisions in asthma patients: a systematic review and individual patient data meta-analysis

Kay Wang¹, Jan Verbakel¹, Josh Brewin¹, Alex Fleming-Nouri¹, Jason Oke¹, Nia Roberts¹, Ian Pavord¹, Mike Thomas² ¹University of Oxford. ²University of Southampton

Aim

To assess the value of fractional exhaled nitric oxide (FeNO) in guiding step down treatment decisions in patients with asthma.

Method

We searched Medline and Medline In Process (OvidSP) [1946-], EMBASE (OvidSP)[1974-], Cochrane Central Register of Controlled Trials (Cochrane Library, Wiley) and Web of Science Core Databases (Web of Science, Thomson Reuters) until 7th November 2016 with no language restrictions. We included studies which recruited patients aged 12 years and over with clinician-diagnosed asthma maintained on low or medium dose inhaled corticosteroids (ICS) in whom FeNO was measured before stepping down ICS.

To examine the relationship between FeNO and acute exacerbations, we performed multi-level mixed-effects logistic regression accounting for within-study clustering, age and sex. We calculated net benefit values across a range of risk thresholds, comparing our model with "step down all patients" and "step down none" strategies. For risk thresholds where our model showed net benefit over these strategies, we calculated observed exacerbation risks with 95% confidence intervals (CI).

Results

Eight studies met our inclusion criteria. We obtained individual participant data from seven studies (393 participants, 44 with an acute exacerbation [11.2%]). There was no significant association between FeNO and acute exacerbations (adjusted Odds Ratio 1.01, 95% Cl 1.00-1.02, P=0.163). However, the net benefit of this model was greater than "step down all patients" and "step down none" strategies when baseline exacerbation risk was 8-18% (Figure 1). Observed exacerbation risk was 1.5-2 times higher in patients whose predicted risk was greater than or equal to risk thresholds within this range (Figure 2).

Conclusion

Using FeNO to guide step down treatment decisions is more beneficial than stepping down treatment in all or no patients in asthma populations where baseline exacerbation risk is 8-18%. Clinicians should consider reducing treatment in patients whose predicted risk is below the baseline population risk.

Declaration of Interest

This study is funded by a UK National Institute for Health Research (NIHR) Postdoctoral Fellowship awarded to Kay Wang.

Abstract ID = 8724

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

Web-based self-management support after pulmonary rehabilitation of difficult to treat asthma: a randomised controlled trial

Jiska Snoeck-Stroband General Practice 'Akel

Background: In patients with difficult to treat asthma, pulmonary rehabilitation has shown to improve asthma control. We assessed the effectiveness of patient tailored web-based self-management support (SMS) in addition to standard care in patients with difficult to treat asthma who have finished pulmonary rehabilitation in a specialized asthma clinic.

Methods: Sixty-three asthmatic adults were randomized to receive SMS in addition to standard care with one-year follow up. Outcome measures were quality of life (QoL) and asthma control.

Results: Decline of asthma-related quality of life and asthma control was better preserved in the intervention group compared to the standard care group (Fig 1).

Abstract ID = 8617

Presented at: 7.3 Oral Abstracts 9 Children 01/06/2018 16:20-17:40

What do children with asthma and their caregivers think about the use of complementary and alternative medicine?

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1. Aim

What do children with asthma and their caregivers think about the use of complementary and alternative medicine (CAM)?

2. Method:

We used a screening questionnaire to identify children diagnosed with asthma from seven suburban primary schools in Malaysia. Informed consent was obtained from caregivers for theirs and their children's participation in focus groups and in-depth interviews. Interviews were conducted in Malay, Mandarin or Tamil languages, audio-recorded, transcribed verbatim and translated into English. After checking for accuracy, transcripts were analysed using thematic approach.

Results:

A total of 99 participants (46 caregivers, 53 children: 34 Malays, 45 Indian, 20 Chinese) contributed to 22 focus groups and 7 in-depth interviews. Three themes emerged: 1) CAM was perceived to be better than conventional treatment typically being viewed as effective but with fewer side effects 2) CAM was used for prevention of both asthma symptoms and exacerbation (e.g ingestion of honey and crocodile meat) 3) CAM was used as the first line treatment for asthma symptoms and exacerbation (e.g rubbing of medicated oil on chest and drinking warm water)

Conclusion:

Caregivers believed in complementary and alternative medicine for both prevention of asthma as well as first line treatment during acute exacerbation. This could potentially reduce use of effective preventer treatment and lead to a delay in seeking treatment during acute exacerbation with impact on patient safety. Education addressing use of CAM in asthma is needed to improve asthma care.

Declaration of Interest

This research is a RESPIRE project. The project is also funded by IPCRG and University of Malaya (BKP019_2015).

Abstract ID = 8530

3.6 Digital Poster Discussion 1: Teaching & Behavioural Interventions 01/06/2018 09:00-10:20

What keeps healthcare professionals from advising their patients who smoke to quit? A large-scale cross-sectional study

Eline Meijer, Rianne Van der Kleij, Niels Chavannes Leiden University Medical Center

Aim Quit-advice provided by healthcare professionals effectively increases quit rates. Tobacco dependence treatment guidelines therefore recommend providing quit-advice to all patients who smoke, however, many healthcare professionals do not advise patients who smoke to quit. This results in worse patient outcomes and higher healthcare costs. We examined determinants of providing quit-advice among a large sample of healthcare professionals from different fields, most of which have not been included in research on tobacco discouragement before.

Method Online survey among addiction specialists (n=13), anaesthesiologists (n=61), cardiologists (n=23), dental hygienists (n=74), dentists (n=40), general practitioners (n=149), internists (n=79), midwives (n=82), neurologists (n=29), ophthalmologist (n=25), paediatricians (n=42), pulmonologists (n=121), surgeons (n=65), youth specialists (n=78) and other physicians (n=74). Provision of quit-advice, and socio-cognitive determinants of and environmental/patient barriers to using the Dutch Tobacco-dependence-guideline were assessed (entire sample), as well as perceptions of smoking (subsample).

Results Most participants (27%) advised the majority of patients who to quit, but only 16% advised all of them to quit and 18% advised none to quit (16% half, 24% minority). Midwives were most likely to advise all patients who smoke to quit (42%). Multivariate logistic regression analysis (n=760) showed that providing quit-advice (to all/majority vs. half/minority/none of patients who smoke) was significantly associated with stronger intentions to use the guideline, stronger role perceptions, and sufficient training in smoking-cessation-care. Those who mentioned lack of reimbursement as a barrier to providing smoking-cessation-care were more likely to provide quit-advice, possibly because particularly those who are more involved in tobacco treatment experience reimbursement as a barrier. Furthermore, participants who perceived continuing smokers to lack willpower were less likely to provide quit-advice (n=446).

Conclusion Quit-advice is provided less frequently than recommended. This may be improved by training, and by making healthcare professionals more aware of their role in tobacco discouragement, and the role of addiction (vs. willpower) in continued smoking.

Abstract ID = 8686

Presented at: Applied Clinical Research/Implementation Science Posters 31/05/2018 09:00-10:00

What kind of GOLD patients are followed in Primary Care and are they well controlled? – data from three Portugal Primary Care Units

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Aim:

Family Doctors(FD) have an important role in diagnosis and treatment of patients with Chronic Obstructive Pulmonary Disease (COPD).Our aim is to characterize COPD's patients followed by FD according to 2017GOLD guidelines and also study their exacerbations.

Method:

Observational, retrospective and analytical study in patients diagnosed with COPD(ICPC-2 R95) in three Portugal primary care units(PCU) between 01/07/2015-31/12/2016. Patients without FD, without follow-up during the study of period(ST), without a diagnostic spirometry or without forced expiratory volume during first second(FEV1) registered were excluded. Variables in study: sex, age, FEV1 and exacerbations during 2016. Data collection software: SClínico[®], MIM@UF[®] and Portal da Saúde[®]. Data processing: SPSS[®]version22.

Results:

From 433 patients, 153 were included for analysis, the majority were men(70,6%). Thirty-six patients(23,5%) presented FEV1>80%, 86(56,2%) FEV1 50-80%, 26(17%) FEV1 30-50% and 5(3,3%) presented FEV1<30%. Sixty four(41,8%) patients present intercurrences, of which 24(37,5%) had at least one hospitalization exacerbation(HE), while 40(62,5%) had one or more respiratory intercurrences without hospitalization(RIWH). From patients with FEV1>80%, 26(72,2%) kept the disease controlled(DC), 6(16,7%) had a RIWH, 2(5,6%) had two or more RIWH and other 2(5,6%) had HE. From patients with FEV1 50-80%, 48(55,8%) kept the DC, 13(15,1%) had RIWH, 13(15,1%) had two or more RIWH and 12(14%) had HE. From patients with FEV1 30-50%, 13(50%) kept the DC, 4(15,4%) had RIWH, 2(7,7%) had two or more RIWH and 7(26,9%) had HE. From those with FEV1<30%, 2(40%) kept the DC and 3(60%) had HE.

Conclusion:

The study suggests that in PCU, GOLD2 are the mostly followed. GOLD3 patients are the ones with least follow-up in FD. Data show that about half of the patients suffered one or more exacerbations at ST, and these exacerbations occurred mostly without hospital admission. It's also observed that, as patients get a higher GOLD Score, intercurrences prevalence also increases, with all GOLD 4 having HE.

Declaration of Interest

None.

Abstract ID = 8594

Presented at: 3.3 Oral Abstracts 3: Asthma & Inhaler Delivery 01/06/2018 09:00-10:20

Work absence in patients with asthma and/or COPD

Boudewijn Dierick¹, Bertine M.J. Flokstra-de Blok¹, Thys van der Molen¹, Núria Toledo Pons², Miguel Román-Rodríguez², Borja G. Cosío², Joan B. Soriano³, Job F.M. van Boven¹, Janwillem W.H. Kocks¹ ¹University Medical Center Groningen, Netherlands, ²Instituto de Investigación Sanitaria de Baleares (IdISBa), Spain, ³Universidad Autónoma de Madrid, Spain

Applied Clinical Research/Implementation Science Results Abstract

Aim: COPD and asthma are responsible for a considerable impact on work absence although few studies have been conducted to quantify work absence in these patients. In this study, we aimed to compare work absence between patients with asthma and/or COPD from a real-life sample versus the general population.

Method: In this observational study, we analyzed information from 14,383 asthma and COPD patients of working age (19-65 years old) from the MAJORICA cohort, which contains clinical and administrative data from the primary care system, the hospital system and the electronic prescription system in the Balearic Islands, Spain. Work absence data for the year 2012 were obtained from this dataset, linked to clinical parameters and compared with work absence data from the general Balearic population. Multivariate regression analyses studied the independent association of work absence with several demographic and clinical characteristics.

Results: Patients with asthma and/or COPD had significantly (p<0.0001) more days of work absence (mean: 57.5 days in 15.3% of people with any absence) compared to the general population (37.7 days; in 11.5%) per year. COPD patients (92.9 days; in 12.8%;) had significantly (p<0.0001) more days of work absence than asthma patients (47.4 days; in 16.0%). Notably, asthma-COPD overlap patients were in between asthma and COPD patients with 72.4 days (in 14.5%) work absence. Furthermore, we showed an association of work absence in these respiratory patients with increasing age (OR 1.436; Cl 1.166-1.490 per 15 years, p<0.0001), anxiety (OR 1.367; Cl 1.243-1.504, p<0.0001) and allergic rhinitis (OR 1.133; Cl 1.021-1.257, p=0.018).

Conclusion: Patients with asthma and/or COPD have a significantly higher work absence compared to the general population, more frequently in asthma and of longer duration in COPD patients. Age, anxiety and allergy could partially be driving some of these effects.

Declaration of interest: The MAJORICA cohort has received unrestricted funding from GSK for cohort establishment. No funding was received for this study.