OBJECTIVES: Patients with allergic asthma not well controlled on pharmacotherapy can contribute to a large cost to society, whilst having reduced quality of life. Allergic immunotherapy tablets for sublingual administration (SLIT-tablets) have been developed as an effective, well tolerated and convenient treatment modality, suitable for all age groups, and efficacy data for the treatment of allergic asthma that is not well controlled, despite use of pharmacotherapy. METHODS: A multicentre, double-blind, randomised, placebo-controlled clinical trial with the SQ® HDM SLIT-tablet (Cromoglicic Acid Disodium; NCT01435293) has shown statistically significant improvements for all efficacy endpoints in allergic asthma, including improvement in health-related quality of life. A cost-utility analysis was performed using a decision tree structure and data taken from the SQ® HDM SLIT-tablet clinical, including SF-36 and health care utilisation data. Long-term efficacy was limited and therefore conservative assumptions were adopted, framed by expert advice. As basis for the analysis, German preference weights and costs were applied and a 9-year time horizon adopted. Uncertainty around efficacy assumptions was explored by sensitivity analyses. RESULTS: The SQ® HDM SLIT-tablet was cost-effective compared with pharmacotherapy, in the treatment of allergic asthma (ICER<15,000€/QALY). During sensitivity analysis, model results were sensitive to changes in input assumptions, which highlights the importance of establishing long-term outcomes following treatment with the SQ® HDM SLIT-tablet. CONCLUSIONS: In the base case analysis, SQ® HDM SLIT-tablet proved to be cost-effective in the treatment of allergic asthma, compared to placebo. Conservative efficacy assumptions were adopted for the analysis, and therefore, the true benefits of the treatment may be underestimated.

PRSS4

RECENT TRENDS IN ANAPHYLAXIS-RELATED HOSPITALIZATION IN THE UNITED STATES

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OBJECTIVES: Anaphylaxis is a severe, often life-threatening, allergic reaction (commonly occurring in food, drugs, and mediators) and one that requires frequent readmissions to the hospital for medical attention. This study examined recent trends of anaphylaxis-related hospitalization in the United States (US). METHODS: Study data were drawn from the Healthcare Cost and Utilization Project’s 2001-2012 National (Nationwide) Inpatient Sample (NIS). A nationally representative database of hospital discharges in the US. Anaphylaxis-related hospitalizations were identified using a modification of a previously published algorithm (Walsh et al, 2013), this algorithm evaluates diagnostic codes on record to identify anaphylaxis-related hospitalizations. In addition to quantifying the rate of hospitalization (per 100,000 US population), length of stay (LOS) and total costs for such hospitalizations were evaluated. Overall estimates, as well as by age group, were generated. RESULTS: Across all age groups, the inpatient hospitalization rate reported in the NIS decreased from 3.7 days in 2001 to 4.9 days in 2012. In general, annually the greatest rate was among those 65-84 years old, although the greatest rate observed was for those 85+ years in 2012, at 8.0/100,000, with rates among this age group steadily increasing over time. Among all anaphylaxis-related hospitalizations, the mean total cost (in 2014 US dollars) increased by more than 55%, from $12,508 in 2001 to $19,420 in 2012. The mean LOS across all anaphylaxis-related hospitalizations increased by 1+ days from 3.7 days in 2001 to 4.9 days in 2012. CONCLUSIONS: Since the early 2000s, rates of anaphylaxis-related hospitalization in the US have increased, with the mean LOS and cost per stay increasing as well. Healthcare decision makers should be aware of these data as they plan for allocation of resources used to treat anaphylaxis.

RESPIRATORY-RELATED DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PRSS5

MEASURING GENERIC HEALTH-RELATED QUALITY OF LIFE AND IMPACT OF HEALTH RESOURCE UTILIZATION IN ADULTS WITH CYSTIC FIBROSIS

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OBJECTIVES: Compare generic health-related quality of life (HRQOL) between adults with and without cystic fibrosis (CF) to quantify the burden and to evaluate whether HRQOL varies by level of health resource utilization (HRU) among adults with CF. METHODS: Analysis sample included adult respondents to the 2013 National Health and Wellness Survey from the EUS countries (France, Germany, Italy, Spain and UK) and the US. We measured HRQOL using the Short Form (SF)-12v2 and its mental component summaries (MCS) and SF-6D scores had ES of 0.66, 0.55, and 0.77, respectively. Mean scores of CF respondents with Any ER/hospitalization were lower than mean scores of CF respondents with No ER/hospitalization for both MCS and SF-6D (P<0.001; ES=0.67) and SF-6D (P<0.001; ES=0.58), while MCS scores were comparable (P=0.713; ES=0.16). CONCLUSIONS: Results indicate a substantial burden of CF disease on both mental and physical HRQOL. Furthermore, within adults with the SF-12v2 can discriminate between those with ER/hospitalization utilization versus those without on PCS and SF-6D, but not MCS. This suggests that SF-12v2 can utilize in quantifying HRQOL benefits from interventions that may reduce ER/hospital utilization in adults with CF.

PRSS6

ASSESSING COPD PATIENTS BURDEN OF DISEASE IN A FOLD-IN-FOLD-OUT DISCRETE CHOICE EXPERIMENT

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OBJECTIVES: The Assessment of Burden of COPD (ABC) tool evaluates and visualizes the health status of patients with chronic obstructive pulmonary disease (COPD). This tool may be used during consultations to monitor the burden of COPD and to adjust treatment. ABC tool has items in 5 dimensions: symptoms, limitations, mental status, exacerbations, and fatigue. The aim of our study was to determine the burden of each of 15 elements in the ABC questionnaire. METHODS: A discrete choice experiment (DCE) was performed using telephone interviews with 279 COPD patients. They were presented 13 sets of two patients, and decided which patient was in the worst health state. In order to make the choice task feasible despite the large number of 15 attributes, we generated an efficient design using balanced fold-in design. Results: In each set patients in both health states had all attributes at the same level (fold-in), while varying the attributes in other dimensions (fold-out). This reduced the burden on respondents by having them assess some attributes combined into one item. Alphanumeric logit was used to analyze the data. RESULTS: Patients were considered to be in worst health if they had high levels of fatigue, exacerbations, anxiety, breathlessness at rest and limitations in moderate physical activities. These factors had three to five times as much impact on the burden of disease as lower levels of these attributes and other limitations. Coefficients were very small and/or statistically insignificant for breathlessness during physical activity, limitations on strenuous activity, coughing, number of exacerbations, and most mental attributes. CONCLUSIONS: It is possible to administer cognitively complicated DCE questionnaires using a fold-in-fold-out design. COPD patients seem to accept being unable to perform strenuous activity and feeling well being achieved by focusing on patients’ ability to lead a relatively normal everyday life.

PRSS7

MAPPING THE ST GEORGE’S RESPIRATORY QUESTIONNAIRE TO THE EUCROQ 5 DIMENSIONS: A STUDY IN PATIENTS WITH IDIOPATHIC PULMONARY FIBROSIS

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OBJECTIVES: Idiopathic pulmonary fibrosis (IPF) is a rare and fatal lung disease. EQ-5D utilities, an important consideration for cost-effectiveness analysis, are not routinely collected in clinical trials. On the other hand, the St George’s Respiratory Questionnaire (SGRQ) is the most extensively used patient reported outcome measure in IPF patients. The objective of this study was to develop a mapping algorithm from the total SGRQ score to obtain EQ-5D utilities. METHODS: Data were analysed from a double-blind multicentre study conducted in England and Wales of which 181 IPF patients received either co-trimoxazole or placebo. The sample consisted of 11 males and 9 females, whose age range was 48 to 86 years (median: 65 years). BWS weights showed that the most important features were improved ability to perform daily activities while MCS scores were computed as residual or generalised random effects, were fit to the data. Explanatory variables were evaluated to aid model fit: Age, BMI, Sex, Forced Expiratory Volume in 1 second (FEV1), Forced Vital Capacity (FVC), and FVC/FEV1 ratio. The potential non linearity of the relationship between explanatory and response variables was explored by investigating transformations and fitting restricted cubic splines with 4 knot points. Goodness of fit of the best fitting model. RESULTS: The generalised random effects model was the best fitting model. The addition of explanatory variables, use of transformations and investigation of a restricted cubic spline did not improve model fit. The final mapping algorithm, EQ-5D = 0.5166 – 0.01727*SGRQ, was associated with a root mean squared error of 0.1391. Inspection of the scatter plot showed that EQ-5D utilities predicted by the mapping algorithm closely approximated observed values from the study. CONCLUSIONS: A mapping algorithm was developed to estimate EQ-5D utilities from the total SGRQ score in IPF patients. This may be useful for researchers conducting cost-effectiveness analysis when EQ-5D utilities are not available from IFD clinical trials.

PRSS8

PATIENTS’ PRIORITIES FOR TREATMENT IN MODERATE TO SEVERE COPD

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OBJECTIVES: Chronic obstructive pulmonary disease (COPD) is one of the most common and burdensome chronic respiratory diseases. This pilot study aimed to elicit patients’ priorities for treatment in moderate to severe COPD from patients in 15 European countries (stage 3 or administration features of a COPD treatment) were presented in sets of 5. On each question, patients indicated the most important and the least important feature when choosing whether to take a treatment. Frequency counts of features selected or not selected were used to estimate weights for each feature. BWS weights ranged from –1 to +1, with a positive weight reflecting greater importance. RESULTS: The sample consisted of 11 males and 9 females, whose age range was 48 to 86 years (median: 65 years). BWS weights showed that the most important features were improved ability to perform daily activities...
(0.49), lung function (0.44), and shortness of breath (0.43). These three features were chosen as the most important in more than 40% of their presentations. Being able to walk further and/or for longer was selected as the most important feature in 33.8% of presentations but the overall BWS weight (0.18) was low because the feature was selected as least important in 16.3% of presentations. Explanations given for the importance of benefit features often were interrelated, suggesting a dependency between such outcomes. The least important features were needing a blood test before starting medication (–0.58) and mild skin reaction at injection site (–0.51). Sixteen of these results were statistically significant. One article evaluated the correlation between sputum eosinophil levels and AQLQ and concluded to a non-statistically significant correlation with an R-value of –0.15. Fourteen articles did not evaluate the direct correlation between the parameters of interest but presented data of these parameters. Of these, 12 statistically showed a positive correlation between lung function and quality of life with R-values ranging from 0.008 to 0.790. Of the 25 studies, 36% obtained an R-value of 0.4 and over, indicating a weak to moderate correlation between lung function and quality of life. All, except one, concluded that when lung function improves, and possibly when sputum eosinophil decreases, the quality of life improves. Furthermore, non-correlation studies that look at the same parameters support this hypothesis.

PRS59 PATIENTS’ PRIORITIES FOR TREATMENT IN SEVERE ASTHMA
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OBJECTIVES: Asthma is one of the most common and burdensome chronic respiratory diseases. This pilot study aimed to explore the priorities of patients with severe asthma in relation to treatment. METHODS: Interviews were conducted with 20 patients with self-reported severe asthma. Patients completed a brief best-worst scaling (BWS) exercise comprising 12 questions in which 17 features (benefits, harms, or administration features of an asthma treatment) were presented. Each feature was awarded the highest importance when considering whether to take a treatment. Frequency counts of features being selected as the most or least important were used to generate a BWS exercise for each feature. A positive weight reflecting greater importance. RESULTS: The sample consisted of 6 males and 14 females, whose age range was 23 to 60 years (median: 38 years). BWS exercise conducted in each major feature were the most important features were improved shortness of breath (0.33), improved lung function (0.33), and halving the number of moderate asthma attacks (0.27). These features were chosen as the most important in more than 25% of their presentations. Intravenous administration every 4 weeks, halving the number of attacks and severe attacks, and self-injection every 2 to 4 weeks also were selected as most important in more than 25% of presentations but the overall BWS weights were relatively low (less than 0.20) because these features were selected as least important in more than 15% of presentations. The least important features were mild skin reaction at injection site (–0.71) and needing a blood test before starting medication (–0.63). CONCLUSIONS: This sample of patients with asthma prioritised improved breathing, lung function, and reduced moderate and severe asthma attacks. The BWS exercise was feasible and acceptable to patients. There was significant heterogeneity in preferences for individual features.

PRS60 PATIENT-REPORTED OUTCOMES IN STUDIES PUBLISHED IN 2014: WHICH TOOLS HAVE BEEN MOST COMMONLY USED IN STUDIES OF RESPIRATORY DISORDERS?
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OBJECTIVES: To determine which patient-reported outcome (PRO) tools were used in studies on respiratory diseases published in 2014. METHODS: An evidence sur- vey of the process was published based on a systematic search of PubMed by searching all studies published from 2010 and updated weekly, with a final search on 18 May 2015. Abstracts identified by the search that reported quality of life outcome measures were included, identified based on BWS exercise protocol. Articles were included if they reported results or a study protocol from a primary research study or were a systematic review. PRO tools were identified from the abstract alone, where possible. RESULTS: The search identified 1,980 articles published in 2014, 1,713 of which met the inclusion criteria. Of these, 171 (10%) were in respiratory disorders. Overall, 90 different PRO or clinician-reported instruments were used across 23 diseases, with 65 articles citing more than one tool. The most commonly researched diseases were COPD (60 articles), asthma (36), allergic rhinitis or rhinovirusitis (26), obstructive sleep apnea (8) and bronchiectasis and cystic fibrosis (7 each). The St. George’s Respiratory Questionnaire (SGRQ) was the most commonly used PRO tool, in studies of COPD, asthma, bronchiectasis and emphy- sema (36 articles), followed by the Asthma Quality of Life Questionnaire (13) and the Rhinoconjunctivitis Quality of Life tool (10). Utilities were measured in only 3 studies, with SF-36 used twice and EQ-5D once. The PRO used was not specified in 46 article abstracts: 20 of the 129 primary research articles, 3 of 7 study protocols and 23 of 35 systematic reviews. CONCLUSIONS: COPD and asthma were the most widely researched respiratory diseases in 2014, with the SGRQ the most widely used PRO. Utility values were rarely assessed directly, which, given the wide range of PRO tools used, provides a challenge to assessing and comparing cost-effectiveness of interventions across studies.

PRS61 SYSTEMATIC REVIEW ON THE CORRELATION BETWEEN LUNG FUNCTION OR EOSINOPHIL LEVELS AND QUALITY OF LIFE IN ASTHMA
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OBJECTIVES: Asthma is an inflammation of the respiratory systems characterized by symptoms such as dyspnea, wheezing, spurtum production and cough that can significantly affect quality of life. The correlations between the lung function and quality of life of patients with asthma. METHODS: A literature search was made using keywords such as “asthma”, “eosinophil”, “qual- ity of life”, and “respiratory function”. The search was conducted in the electronic databases MEDLINE, EMBASE and PubMed from January 2000 to February 10th, 2015. To be eligible, studies had to focus on asthmatic patients, include pulmo- nary or eosinophil measurements, and quality of life data. RESULTS: The review allowed retrieving 5,776 studies and 42 fulfilled the eligibility criteria. Twenty-five articles presented a correlation coefficient between lung function and quality of life. Among these, 15 concluded that when lung function improves, and possibly when sputum eosinophil decreases, the quality of life improves.

PRS62 SYSTEMATIC LITERATURE REVIEW AND CRITICAL APPRAISAL OF THE SUITABILITY OF THE OUTCOME MEASURES USED IN THE IDIOPATHIC PULMONARY FIBROSIS
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OBJECTIVES: Idiopathic Pulmonary Fibrosis is a rare fatal respiratory disease characterized by a decline in lung function leading to deliberating limitations on activity which may negatively impact health-related quality of life. There is limited research on the impact of different measures of quality of life on health-related quality of life. The aim of this review is to systematically reveal all the outcome measures used in the treatment of IFF and critically appraise the measures used to evaluate the treatment result of IFF with the aim of drawing conclusions regarding the suit- ability of health-related quality of life measures for idiopathic pulmonary fibrosis. RESULTS: The review identified 33 studies, of which 12 were systematic reviews and 21 were single studies. The most widely used outcome measures are SF-36, EQ-5D and EQ-VAS. CONCLUSION: The review found that the correlation coefficients found in the systematic review indicate that when lung function improves, and possibly when sputum eosinophil decreases, the quality of life improves. Furthermore, non-correlation studies that look at the same parameters support this hypothesis.

PRS63 HEALTH RELATED QUALITY OF LIFE IN TB PATIENTS QUETTA, PAKISTAN
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OBJECTIVES: This study aimed to assess the health related quality of life of TB patients in Quetta. METHODS: A cross-sectional study was conducted to assess the health related quality of life by administering a pre-validated question- naire based on European Quality of Life scale EQ-5D was used to measure health related quality of life. Convenient sampling was used for gathering data along with facilitator to help and guide respondents who faced difficulty in filling it. SPSS 17 was used for Descriptive analysis to demonstrate patients’ demographic characteristics. Inferential statistics (Mann-Whitney and Kruskal Wallis test, p<0.05) were used to evaluate the significance of study. RESULTS: The study population was dominated (55%) with females and mean age of respondents was 34.85 ± 13 years. Majority (57%) of respondents were single and (86%) having urban residency. The mean EQ-5D descriptive score and EQ-VAS score were 0.53 ± 0.22 and 64.84 ± 15.7 respectively. The mean EQ-5D and EQ-VAS scores were influenced by demographic characteristics: education level, occupation and income. CONCLUSIONS: This study revealed that health related quality of life in TB patients was lower and EQ-5D (utility) scores were lower as compared to EQ-VAS (perceived) scores. Respondents education level, occupation and income have impact on health related quality of life.

RESPIRATORY-RELATED DISORDERS – Health Care Use & Policy Studies

PRS64 MEASUREMENT OF KNOWLEDGE AND AWARENESS REGARDING ASTHMA AMONG SCHOOL TEACHERS IN QUETTA
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OBJECTIVES: This study aimed to evaluate the level of knowledge and awareness of asthma among teachers at 11 different schools by administering a pre-validated questionnaire which was developed in English