ESPR/ESPNIC – Multidisciplinary Pediatric Research

IS-055 EVALUATING THE EFFECTIVENESS AND VALIDITY OF SCORING TOOLS IN HEALTHCARE

G Sefton. *PICU, Alder Hey Children's Hospital, Liverpool, UK*

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The act of measurement is an essential component of health sciences, to quantify severity of disease, blood biochemistry or response to treatment. Objective measures such as these are relatively easy to evaluate. However in areas of health science where subjective assessment is required, the fallibility of human judgement is a confounder e.g. pain scores, quality of life or elements of clinical assessment. Efforts to standardise these 'tests' so the meaning is universally understood has led to the development of scoring tools.

Development of scoring tools is not always conducted in a rigorous manner, leading to mis-application of measures, or unfounded reliance on the findings.

This session will provide an overview of approaches to critically evaluate the effectiveness and validity of scoring tools used in paediatric healthcare.

Allergology

IS-056 ADVANCES IN THE DIAGNOSIS OF ALLERGY

A Nieto. *Paediatric Pulmonology and Allergy Unit, Children's Hospital La Fe, Valencia, Spain*

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The diagnosis of allergy has experienced a great progress during the last years. The aetiological diagnosis of allergy is based on skin prick tests and *in vitro* specific-IgE tests. However, until a few years ago, we only were able to identify by these methods the allergenic sources (pollens, epithelia, house dust mites, foods,...).

Nevertheless the allergenic sources have many different proteins, but commonly only a few of them are able to induce allergic reactions. The identification of these allergenic proteins and the improvement of techniques for obtaining relevant quantities of recombinant allergens, have permitted to develop *in vitro* and *in vivo* products able to identify these specific allergenic proteins, beyond the mere identification of the allergenic source.

This has meant the possibility to discover the proteins responsible for phenomena of cross-reactivity, to distinguish between true and false polysensitized patients, to uncover new allergenic proteins able to explain so far unexplainable reactions, to identify major and minor allergens, to predict the possibility to have an allergic reaction and the severity of it, to foresee the probability to overcome an allergic disease, to improve the composition and the prescription of specific immunotherapy, etc.

Antibiotic Resistance

IS-057 CUTTING ON ANTIBIOTICS IN PRIMARY CARE: WHAT CAN BE DONE?

Z Grossman. *Pediatric Clinic, Maccabi Health Services, Tel Aviv, Israel*

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Antibiotics are the most common prescription drugs given to children, 75% percent of which are for acute respiratory tract infections (ARTIs). Since antibiotic prescribing is linked with antibiotic resistance, an ongoing effort is taking place to reduce prescribing and use of these medications. Although a decline in antibiotic prescribing for ARTIs has been recently documented in the US and UK, prescription of broad instead of narrow spectrum antibiotics is a major problem.

A survey examining European primary care paediatricians' knowledge attitude and practice regarding ARTIs and antibiotics will be presented. The study pointed at a need for an educational intervention based on the risk-benefit analysis associated with the antibiotic prescribing for minor URIs, to reduce inappropriate prescribing.

Several strategies aimed either at clinicians to reduce prescribing or at caregivers to reduce antibiotic use will be presented. Multi-faceted approaches aimed at clinicians and parents have proven most effective in reducing prescribing. The effectiveness increased if structuring the clinician-parent interaction during the visit took place, and when computerised automatic prescribing prompts were used. The use of waiting room material was ineffective. Use of antibiotics by caregivers was reduced when delayed prescriptions were given.

Report from an antibiotic stewardship program in the US has recently been published. A one year program of personalised quarterly audit and feedback on prescribing through the computerised health record system succeeded to reduce broad spectrum antibiotic prescribing for ARTIs.

Child Protection

IS-058 SCREENING ON CHILD ABUSE IN EUROPE

HA Moll. *General Paediatrics, Erasmus MMC Sophia Kinderziekenhuis, Rotterdam, Netherlands*

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The emergency department is the main system for crises based health care visits. It is estimated that 0.2%–10% of ED visits concern child abuse. Systematic screening might improve the detection rate, but studies are scarce. Furthermore different non-validated screening tool are used.

Objective to validate a 6 item screening tool (the ESCAPE instrument), to improve screening by training of ED nurses and to evaluate detection of child abuse.

Methods Based on a systematic review the ESCAPE screening tool was developed. The validity was evaluated in the Netherlands in 18,275 children. Communication training sessions of the ED nurses were implemented and the effect on the screening and detection rate was evaluated.

Results The predictive value of the six screening items (e.g. consistent history, delay in seeking medical help, injury fits with developmental level, interaction, top-toe exam, doubt about safety) was high (sensitivity 0.80, specificity 0.98). The detection rate in children screened for child abuse was 5 times higher than that in children not screened. In the study population of 104.028 children (7 ED's), the screening rate increased after introduction of the ESCAPE instrument from 20% to 67%. Significant trend changes were observed after training of the nurses and legal requirements for screening. The suspicion of child abuse detected by screening were justified in the majority.

Conclusions Systematic screening for child abuse in emergency departments is effective. The ESCAPE instrument and ED staff

training are recommended to improve screening and detection rate of child abuse.

Exercise Related Problems in Children

IS-059 CHILDREN'S SPORT ACTIVITY: ARE SCREENINGS NECESSARY?

[1]S del Torso, [2]M Varnier, [3]GV Zuccotti. *[1]ULSS16, Studio Vecellio33, Padova, Italy; [2]Azienda Ospedaliera Universitaria, UOC Medicina Dello Sport, Padova, Italy; [3]Universita' Degli Studi, Clinica Pediatrica AO L. Sacco, Milano, Italy*

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It is well established that high levels of physical activity are associated with reduced health risk in children and youth. Parents and teams request a safe participation to any sport activity, recreational or competitive.

Although habitual physical activity reduces coronary heart disease events, vigorous activity can also acutely and transiently increase the risk of sudden cardiac death and acute myocardial infarction in susceptible persons

However, across all age groups, levels of physical activity remain low and obesity rates continue to rise; collectively threatening the persistent increase in life expectancy enjoyed over the past century and efforts to counteract the inactivity and obesity crisis.

There is a large body of evidence which suggests that decreasing any type of sedentary time is associated with lower health risk in youth.

Maintaining physical fitness through regular physical activity may help to reduce sudden cardiovascular damages because a disproportionate number of events occur in least physically active subjects performing unaccustomed physical activity.

Obstacles to implementing obligatory government-sponsored national screening including ECGs or echocardiograms like it is done in Italy, are in some countries the particularly large population of athletes to screen, major cost-benefit considerations, and the recognition that it is impossible to absolutely eliminate the risks associated with competitive sports.

Unlike other organisations in US and Canada, the European Society of Cardiology and the International Olympic Committee do recommend resting 12-lead ECG to detect cardiac abnormalities for preparticipation cardiovascular screening of competitive athletes.

Children's sedentary habits vs Children's Sport Activity: screenings are necessary!

Gastroenterology II

IS-060 TREATMENT OF FUNCTIONAL CONSTIPATION

MA Benninga. *Pediatrics, Emma Children's Hospital/AMC, Amsterdam, Netherlands*

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Evidence-based recommendations from ESPGHAN and NASPGHAN for functional constipation in infants and children.

Childhood functional constipation has an estimated prevalence of 3% in the Western world and is probably the most common gastrointestinal complaint in children. It is characterised by infrequent painful defecation, faecal incontinence and abdominal pain. Only less than 5% of children with constipation have an underlying disease. To assist healthcare workers worldwide in the management of children with functional constipation, only recently the North American Society for Paediatric Gastroenterology and Nutrition (NASPGHAN) and the **European Society for Paediatric Gastroenterology, Hepatology and Nutrition** (ESPGHAN) decided to develop an evidence-based guideline as a joined effort.

At present, a thorough medical history and complete physical exam are usually sufficient to confirm the diagnosis of functional constipation. Further laboratory or radiological investigations should only be performed in case of doubt, to exclude an underlying disease. Treatment of childhood constipation consists of four steps: (1) education, (2) disimpaction, (3) prevention of re-accumulation of faeces and (4) follow-up. Surprisingly, there is only limited evidence that laxative treatment is better than placebo in children with constipation. According to the available evidence, lactulose is recommended for children <1 year as first-choice treatment. For children older than 1 year, both lactulose and polyethylene glycol (PEG) with or without electrolytes can be used as first-choice treatment.

Immunology and Infection

IS-061 INFLUENZA VACCINATION

A Finn. *Schools of Clinical Science and Cellular and Molecular Medicine, University of Bristol, Bristol, UK*

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Although universal annual influenza immunisation has been recommended for several years in north America, in most European countries these vaccines are only widely recommended and somewhat used among the elderly and health care professionals. Paediatric vaccine use is generally restricted to individuals perceived to be at enhanced risk of severe disease following infection. In this context, seasonal flu epidemics of varying size and severity continue to occur with their attendant health and social cost, morbidity and mortality, the latter predominantly among elderly people. Finland was the first European country to introduce universal childhood immunisation using inactivated vaccine but uptake has been moderate to date. In 2013 the UK initiated a unique programme to immunise all children from the age of 2 years with live attenuated intranasal vaccine every year. A single dose was offered to all 2 and 3 year olds and coverage of around 50% was achieved. Additional pilot programmes in other age groups were also conducted in some areas. In 2014 the target age group is to be extended upwards to include older preschool and the youngest primary school children. The phased introduction of this programme is predicated by the logistical challenges it presents but also provides an interesting opportunity to monitor impact both direct and indirect. Young children may be the engines of flu epidemics. Controlling flu transmission in that age group, if it is achieved, may result in the kind of impact on overall disease and deaths which conventional flu vaccine programmes have failed to deliver.

Obesity

IS-062 ENDOCRINE AND METABOLIC CONSEQUENCES OF LOW WEIGHT AT BIRTH

L Ibanez. *Endocrinology, University of Barcelona, Esplugues Barcelona, Spain*

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