Abstracts

according to priority). Child-friendly tools included discussions, postcards, toy money and board games.

**Results** DR and SBR were completed by all participants using the DR rankings as a baseline then separating equal ranked items to generate SBR rankings. Older children preferred BP as it allowed them to make choices according to need for improvement and therefore requirement for funds, rather than simply importance, but was only used successfully by those aged 8+

BP can also demonstrate weighting. Managing Acute Attacks was prioritised 1st with all methods but only BP demonstrated strength of opinion: Managing Acute Attacks received £1430 in total, whilst the 2nd place issue received just £610.

**Conclusions** Young children can and should be in involved with health services research. More effort needs to be dedicated to developing methods that enable Childrens involvement.

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**1698 KARATE INFLUENCES ON ASTHMA MANAGEMENT IN PRESCHOOL CHILDREN**

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**Background** Examples of semi-contact sports include karate and its benefit influence on asthma in childhood. Specific treatment for asthma will be determined by pediatrician based on children age, overall health, medical history, extent of the disease, tolerance for specific medications, procedures, or therapies and expectations for the course of the disease.

**Aims** A target of this article is showing benefit of karate training in preschool ages on asthma management and course of disease.

**Methods** To verify the efficacy of karate on asthma, a complex psychomotor activity that enhances pulmonary capacity and lungs volume, and breathing regulations, as an intervention for asthma curing, ten children with asthma, ranging in age from five to seven years, and meeting diagnostic criteria for children asthma disorder were studied during two years period 2010–2011.

**Results** A higher prevalence of asthma has been reported in athletes specially in karate clubs for younger children but with better control of asthma. Risk of asthma decreased with number of years of training (odds ratio 2.02; 95% confidence interval 1.60–3.03; p<0.0001), number of hours per week (odds ratio 1.74; CI 1.11–2.21; p=0.015) and rank, specifically brown belt versus lower belts (odds ratio 3.53; CI 2.82–6.28; p=0.007).

**Conclusions** Karate is a relatively safe sport for preschool children and younger schoolers when properly taught and optimize for asthma management. These training principles are perhaps most useful early in a children patient’s course when the setting of appropriate expectations is important in minimizing restrictions from treatment and karate activity.

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**1700 EXPRESSION OF THE NUCLEAR FACTOR OF ACTIVATED T CELLS MRNA IN HUMAN FETAL LUNG**

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**Background** and **Aims** The nuclear factor of activated T cells (NFAT) is a family of four transcription factors (c1, c2, c3 and c4) involved in vascular smooth muscle differentiation, contractility and hypertrophy. NFATc3 is required for hypoxia-induced pulmonary hypertension and for murine vascular patterning. High pulmonary vascular tone is necessary in the fetus and vascular constrictors, such as endothelin-1 (ET-1), are required. ET-1 is a potent activator of NFAT but the role of NFAT in human lung vascular development is not known. We aim to study NFAT expression during midgestation in the human fetal lung.

**Methods** Human fetal lung tissue from 10 to 24 weeks of gestation was collected following elective termination (N=40). Gene expression of the NFAT isoforms c1, c2, c3 and c4 was measured in fetal lung tissue with qRT-PCR, normalized to GAPDH. Statistical analysis was performed using Spearman non-parametric correlation coefficient.

**Results** In the human fetal lung, NFATc1 expression increased with increasing gestational age (R^2 = 0.2708). NFATc2 expression remained stable (R^2 = 0.0117). NFATc3 expression increased (R^2 = 0.1802). Conversely, NFATc4 expression decreased with advancing gestational age (R^2 = 0.3774).

**Conclusion** The NFAT isoforms are expressed during mid-gestation in the human fetal lung showing different patterns of expression. NFATc1 and NFATc3 expression increased suggesting a possible role...