physical discomfort, being a bully victim, having a special healthcare need, and being overweight.

Conclusions: In this longitudinal study, characteristic patterns of child health predicted future academic achievement. These findings suggest that health promotion efforts provided to children in elementary school may have beneficial effects on academic performance in adolescence.

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CLUSTER RANDOMISED TRIAL OF AN INFORMATION LEAFLET DESIGNED TO PROMOTE SELF-MANAGEMENT OF HIV/AIDS IN ZAMBIAN ADOLESCENTS

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Objective: The study aimed to examine whether an information leaflet designed to promote self-management of health in adolescents with HIV/AIDS was effective in increasing knowledge about HIV, reducing perceived stigma associated with the disease and increasing sense of control in Zambian school children.

Method: In this cluster randomised controlled trial, 8 schools in the Lusaka region of Zambia were randomised to receive either an English language HIV/AIDS information leaflet (n=156) or a control leaflet (n=186). Inclusion criteria were age 11-16 years and attending Grades 8 or 9 in the study schools. Students were given the leaflet and encouraged to discuss its content with their peers. The leaflets were removed and students completed measures of knowledge, stigma and health locus of control. Researchers analysing the data were blind to leaflet allocation.

Results: Participants receiving the HIV/AIDS leaflet (n=156) had higher levels of knowledge about HIV/AIDS ($p < 0.001$, Cohen's $d = 0.82$); a greater sense of control over health ($p < 0.05$, $d = 0.24$), and lower levels of stigma associated with HIV/AIDS ($p < 0.001$, $d = 0.55$) compared to those receiving the control leaflet (n=186). Better HIV/AIDS knowledge was associated with lower stigma ($r = -0.373$, $p < 0.001$) and, controlling for other factors, 21% of variance

in stigma scores was accounted for by HIV/AIDS knowledge ($p < 0.001$).

Conclusion: A brief educational intervention was effective in improving knowledge about HIV/AIDS and reducing stigma in a normal population of Zambian adolescents. The results support the use of the leaflet in peer education and in clinical samples to promote self-care.

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PRENATAL NICOTINE EXPOSURE INCREASES THE RISK OF NEONATAL APNEA -A NATIONAL BIRTH-COHORT STUDY

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Background: Smoking during pregnancy is associated with disturbed cardio-respiratory control of the infant and is a major risk factor for sudden infant death syndrome (SIDS). Although it is not known whether the harmful effects of smoking are caused by nicotine or other toxic substances in tobacco smoke, nicotine replacement therapy (NRT) during pregnancy is often regarded as being safer than smoking.

Aim of study: To investigate if the disturbances in cardio-respiratory control seen in infants exposed to smoke are also noticed in infants exposed to nicotine (in the form of snuff) prenatally.

Method: We conducted a population-based cohort study in the Swedish Medical Birth Register, 1999-2006, to study the association between maternal tobacco use and neonatal apnea.

Of 569,859 newborns, 7,599 were born to snuff-using mothers, 41,391 and 16,928 born to light smokers (1-9 cig./day) and heavy smokers (≥ 10 cig./day), respectively. Apnea was defined by using ICD-10 codes P28.2-P28.4. Logistic regression was used for statistical analysis.

Results: Compared with infants to non-users, prenatal exposure to snuff doubled the risk of apnea, and this risk was not confounded by maternal or

neonatal characteristics (OR 1.97; CI [1.30-2.98]). In contrast, the smoking-related increased risk of apnea was no longer significant after adjustment for gestational age.

Conclusion: Prenatal nicotine (snuff) is associated with a higher risk of neonatal apnea than smoking. This implies that it is not safe to recommend nicotine replacement therapy (NRT) for smoking cessation during pregnancy.

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LONG-TERM CARDIO-RESPIRATORY REGULATION IN CHILDREN WITH RETT SYNDROME

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Background: The cardiac and respiratory function requires an intricate coordination of afferent/efferent signals at several levels to secure homeostasis. Rett syndrome is characterised by a functional disintegration of physiological functions. Autonomic function in Rett syndrome has been studied mainly during short time spans (minutes-1 hour). In order to capture the full complexity of the autonomic function - a long-term study of the cardio-respiratory regulation was performed.

Methods: Patients with Rett syndrome in the Stockholm area were studied during one week in their home environment (n=15). Heart rate and breathing were recorded via standard three-lead ECG electrodes. The depth and frequency of respiratory movements were measured via changes in impedance. Oxygenation was measured by pulse oxymetry. Care takers were asked to fill out a form during the monitoring enabling us to analyze the correlation between behaviour and cardio-respiratory reactions.

Results: All subjects revealed respiratory dysfunction and a majority had bradycardia and/or tachycardia. In accordance with our previous findings, disturbances in cardio-respiratory function were present both when awake and asleep. Interestingly, there were pronounced variations in cardio-respiratory regulation from day to day and even from hour to hour in an individual patient. Furthermore, we also observed variations in cardio-respiratory events between individuals and situations.

Conclusions: Cardio-respiratory function in children with Rett syndrome is characterised by dramatic instability during wakefulness and sleep and differ among individuals. Cardio-respiratory regulation varies from hour to hour and between different situations in the individual Rett girl. Therefore, a long-term monitoring is decisive for adequate diagnostics and treatment.

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HEALTH STATUS OF CHILDREN ADOPTED FROM KAZAKHSTAN IN BELGIUM

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Objectives: evaluate the demographic characteristics and health status of children adopted from Kazakhstan at arrival in Belgium.

Material and methods: Retrospective review of data gathered at the Institute of Tropical Medicine (ITM).

Results: 17 children were seen in the ITM between from 01-2008 to 11-2009. Reason for adoption: 58% renunciation, 24% abandoned, 12% foundlings, 6% true orphans. All children lived in an orphanage prior to adoption. 29% were 'special needs' children. Age at arrival : 0,17 and 73 months; in 29% the birth date was uncertain.

Height z-scores and weight z-scores ranged from -4,38 to 0,82 (mean -2,02) and from -3,34 to 1,07 (mean -0,98). 47% of the children were stunted, 12% wasted.

The immunization status was complete in 42% and unknown in 29% of the cases.

Feces examination revealed *Ascaris lumbricoides* in 1/17 & *Opisthorchiasis* in 1/17. 3/7 of the children had serological evidence of *Strongyloides stercoralis* infection; thus far this has not been described in Kazakh children.

47% of the adoptees were in good health at initial examination. Dysmorphic features and malformations were present in 29%.

Conclusion: a considerable number of children had malformations, parasitic infections, or other problems. Stunted growth was present in a striking