

«Poster flash», Mittwoch, 28.08.2019, 14:00 - 14:30 Uhr und Donnerstag, 29.08.2019, 12:45 - 13:15

P 01

Vorname | Name | Affiliation                      Abdulmumuni Samuel Aliyu  
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### **An evaluation of the utilisation of integrated community case management of childhood diseases in Nigeria**

#### **Introduction:**

This study explores the effect of nationality on vaccination coverage of the childhood preventable diseases (pertussis, measles, poliomyelitis, hepatitis B, HPV and Haemophilus influenzae vaccine type B).

#### **Methods:**

Vaccination data from the Swiss National Vaccination Coverage Survey (SNVCS) 2005-2016 were analysed. The SNVCS is a cross-sectional survey evaluating vaccination coverage of 2, 8 and 16-year-old children, residing in Switzerland. Univariate and multivariable logistic regression analyses and decision trees setup were performed. Nationality was defined as Swiss and non-Swiss; covariates included were linguistic regions (Italian, German, French and Rhaeto-Romanic), degree of urbanisation (rural and urban), age group (2Y, 8Y and 16Y) and period of data collection (2005-07, 2008-10, 2011-13, 2014-16). Cases with missing nationalities were not included in the evaluation.

#### **Results:**

92,478 children were included in the analysis. The results show that nationality can explain part of the variability in vaccination coverage when analysed in aggregation with the covariates detailed above. The overall full immunization coverage 2005-16 for Swiss children was 70% for 2Y, 66% for 8Y and 61% for 16Y; it was 74%, 68% and 56.5%, respectively, for the non-Swiss. There was a significant association ( $p < 0.001$ ) between vaccination coverage and nationality regarding hepatitis B, pertussis, measles and HPV vaccination for different age groups. Specifically, for the first shot of pertussis vaccination for the 2Y and 8Y, we observe that non-Swiss children have a coverage of 99% whereas the Swiss have a coverage of 93%. Non-Swiss children from all 3 age groups exhibit higher uptake for the 1st and 2nd doses of measles and Hepatitis B vaccinations. For HPV vaccination during survey periods 2011-13 and 2014-16, Swiss girls were better vaccinated than their non-Swiss counterparts. However, in the multivariable logistic regression, there was no longer a significant difference (OR= 1.055, 95% CI= 0.851 to 1.308).

#### **Conclusion:**

The impact of nationality on vaccination coverage varies, depending on the vaccination, the number of doses and the age group. However, in general we do see that non-Swiss children are better vaccinated as toddlers than Swiss, while it was the opposite for the adolescents. Measures to improve coverage deserve further investigation.

**KEYWORDS:** vaccination coverage, population, nationality

**P 02**

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**“I grew in confidence”: The health-care and communication experience for parents of children with cancer****Introduction**

Following their child's cancer diagnosis, parents have to rapidly familiarise themselves with cancer-specific information and the health-care setting. Previous studies stated a need for theory to help understand and address parents' difficulties when navigating the health-care system. We examined parents' experiences with health-care-professionals (HCPs) during and after the child's cancer treatment.

**Methods**

We recruited parents of children (aged <18 years) who recently completed cancer treatment with curative intent from eight Australian hospitals. We conducted in-depth interviews using the Psychosocial Adjustment to Illness Scale as part of the baseline assessment of the 'Cascade' survivorship intervention. We used grounded theory to explore parents' health-care-experiences.

**Results**

Fifty-two mothers and six fathers of survivors (mean age at diagnosis=5.1 years, time since treatment=1.9 years) participated. Four themes characterised parents' experiences: 1) positive and negative interactions, 2) attitudes towards doctors and treatment, 3) trust and mistrust in the doctor-parent relationship, and 4) active engagement in care. Parents valued the skills and clear communication of HCPs, which mitigated parents' treatment uncertainty and helped them balance information needs. Trust was built with HCPs who seemed approachable and personable. Parents rationalized negative interactions by the limited medical environment. They felt support ended prematurely. We propose a framework describing potential mechanisms involved in parents' health-care-experience.

**Conclusion**

Maintaining contact was essential to parents' positive experiences throughout treatment, and after treatment ended. Acknowledging survivors' continuous needs, including care outside of the range of oncology, and explicit guidance, e.g. tailored survivorship care plans, might benefit parents' engagement in long-term follow-up care.

**P 03**

Vorname | Name | Affiliation                      Martin Brinkhof  
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Co-Autor    Martin Brinkhof, Anne Buzzell, Jonviea Chamberlain

**Mortality differentials between traumatic and non-traumatic spinal cord injury: a causal inference approach****Introduction:**

The causal role that underlying health conditions impose on the etiology of spinal cord injury (SCI) and subsequent risk accumulation for mortality across the life course is often speculated upon, but rarely measured. Directed Acyclic Graphs (DAGs) can inform causal inference and aid in identification of causal factors for premature mortality. The objective of the current study is to investigate differentials in the force of mortality according to SCI etiology and at the transition from first rehabilitation to community care.

**Methods:**

This study uses data collected in the Swiss Spinal Cord Injury (SwiSCI) cohort, which includes residents of Switzerland admitted for first rehabilitation at one of the specialized SCI rehabilitation centers between 1990-2011. Hazard ratios and survival probabilities were estimated using flexible parametric models. A validated DAG that hypothesized the causal relationship between SCI characteristics and premature mortality was developed to inform models for potential confounders.

**Results:**

This study includes 2,435 cases of TSCI with 19,704 person-years (PYs) of follow-up and 376 recorded deaths; and 1,450 cases of NTSCI with 6,137 (PYs) and 528 recorded deaths. TSCI and NTSCI shared similarities in risk of premature mortality, with a higher risk observed for older ages, increased lesion severity, and etiology. However, when comparing risk of premature mortality for TSCI with NTSCI, notable differences in survival were observed, which increased with cumulative time since injury. For example, the survival of NTSCI was 3.4% (95% CI 2.0 to 4.7%) below that of TSCI at 10 years, expanding to 5.6% (95% CI 3.4 to 7.9%) after 20 years post-injury. These differences persisted after exclusion of cases with malignant etiology.

**Conclusions:**

Considering that mortality acts as a censor to long term health and functioning, results from this study substantiates the benefits of a causal inference approach when inferring the potential impact of predetermined risk factors for mortality. We identified an added force of mortality attributable to SCIs of non-traumatic origin. Our methodology may be applicable to other settings in which multiple factors affect early mortality.

**P 04**

Vorname | Name | Affiliation            Anne Buzzell  
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Co-Autor                                    Anne Buzzell, Jonviea Chamberlain, Martin Schubert, Gabi Mueller,  
David Berlowitz, Martin Brinkhof

**Perceived sleep problems after spinal cord injury in Switzerland: Results from a national cohort study****Background:**

Individuals with spinal cord injuries (SCI) often acquire sleep problems. Owing from neurological impairments implicit to lesions of the spinal cord, individuals with SCI have an enhanced predisposition for sleep problems, which can instigate numerous health consequences. Accelerated aging, reduced mobility, and increased mortality, are all attributed to sleep impairments, and potentially render an even greater burden on the community health and well-being of those with SCI. Therefore, identifying health inequities between with SCI and the general population (GP) is important for the targeted development of social and health policy interventions.

**Objective:**

To benchmark perceived sleep problems in the SCI population with the GP in Switzerland to identify the burden of sleep problems experienced within the SCI population.

**Methods:**

Data from the Swiss Spinal Cord Injury Community survey (SwiSCI) and Swiss household panel (SHP) data will be utilized for benchmarking perceived sleep problems in the Swiss SCI population to that of the GP in Switzerland.

**Results:**

The SwiSCI cohort included 1,549 participants, 72% of which are male, with 69% of participants having a paraplegia. The median age of the sample was 52 years, with 59% of participants having sleep problems. Individuals between the ages of 46-60 years old (OR: 4.2 95% CI; 1.7–9.8) and participants with financial hardship (OR: 4.5 95% CI; 2.6–7.9) were more likely to have a chronic sleep problem, following adjustment. In comparison to the Swiss GP, the incidence of having a sleep problem was 18% higher in persons with SCI, with the largest discrepancy indicated for males with a paraplegia between the ages of 46-60 years (Rate ratio, RR=1.3; 95% CI; 1.2–1.4).

**Discussion:**

Addressing health inequities within the SCI population is important for the improvement of clinical management of this population. Disparities in health, particularly concerning sleep problems, serve as a barrier to healthy aging and well-being. Therefore, benchmarking health problems with the GP in Switzerland is essential for understanding risk factors for sleep problems within the SCI community.

**P 05**

Vorname | Name | Affiliation            Shala Chetty-Mhlanga  
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**Sleep disturbance and electronic media-use in a cohort of adolescents in South Africa**

Shala Chetty-Mhlanga, Mohamed Aqiel Dalvie, Martin Rösli (for the CapSA study team)

**Aim:**

Several factors influence the sleep patterns of adolescence including electronic media use. We aim to investigate the prevalence of different aspects of media use in a rural setting in South Africa and its association to sleep disturbance.

**Method:**

In the prospective CapSA (Child health Agricultural Pesticide study in South Africa) cohort study of 1,000 children 9 to 16 years ( $11 \pm 1.7$ ) from 7 schools across the rural Western Cape, we enquired about different types of mobile phone and media use such as screen time, mobile call duration and frequency of being woken up by their own mobile phone at night. Mobile phone addiction was assessed using the Mobile Phone Problematic Use (MPPUS-10) survey. Sleep disturbance was measured as a total score from responses to four standardised questions using the Swiss Health Survey on difficulties with falling asleep, restless sleep, involuntary awakenings and too early morning awakenings. Regression analysis adjusted for relevant confounders was conducted.

**Results:**

One third of the cohort (31.8%) are mobile phone users, 32.8% among male and 30.9% among female. Among mobile phone users, 23.2% are woken up at night by a call or message from their phone at least once a month. Being regularly woken up by one's own mobile phone resulted in a sleep disturbance score increase of 1.4 units (95% CI: 0.6, 2.3) for those reporting at least 1.5 awakenings per week. Moderate mobile phone use (average call duration:

**P 06**

Vorname | Name | Affiliation

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Co-Autor

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**Pediatric chronic pain: care concepts and experience of Swiss pediatricians****Background:**

Chronic pain (CP) in pediatrics is an increasingly frequent condition which may lead to diminished functioning, school absence, developmental and social consequences with long-term impact. International literature points to an increasing use of health care system resources. In Switzerland, no data exist neither on prevalence, current assessment and care concepts of CP, nor health service response. The objective of the survey, taking place in March 2019, is to investigate the approximate number of patients seen and treated with PCP, variability of care concepts, care provision and professional experience with CP among pediatricians in Switzerland.

**Methods:**

The study sample consists of pediatricians registered in the Swiss Pediatric Society (non-referring pediatricians; sample 1, N~1500). Via online-questionnaire data on socio-demographic data, professional and work place characteristics, professional experience with CP, number of patients seen last 7 days, and representativeness of children with CP/last 7 days are collected in March 2019. Care management, concepts and communication with parents/children are addressed in a standardized way by introducing a case vignette. Descriptive analyses, group comparisons, and multilevel regression analyses will be performed.

**Expected results:**

We expect a participation rate of 30%, allowing us to investigate the main questions and to run sub-group analyses. The number of patients seen by pediatricians in both samples is expected to differ significantly. Care provision is hypothesized to be associated with previous experience of CP, availability of interprofessional teams and vicinity of a specialized pain clinic for children and adolescents.

**Conclusion:**

The study will provide insights into current chronic pain care concepts and provision, as well as awareness of CP among pediatricians in Switzerland and will serve as a first basis for estimating the number of patients with CP seen by pediatricians.

**P 07**

Vorname | Name | Affiliation

Queen Gladys  
Makerere University Graduate**Utilization of mental health services in bidibidi refugee settlement, Yumbe District Uganda****Introduction:**

In general, mental illnesses even though are acknowledged as great contributors to the global burden of disease, they receive little attention at global, regional and local levels compared to other illnesses such as communicable diseases and this is even made worse in refugee situations.

In order to scale up the utilization of mental health services, among refugees in northern Uganda deserves urgent attention. Whereas no recent study has been done to assess the utilization levels of mental health services among refugees in northern Uganda, there is no available data showing the level of utilization of available mental health services among refugees.

**Objective:**

The aim of this study is to assess the factors that affect mental health services in BidiBidi refugee settlement

**Methodology:**

A qualitative research design. In-depth interviews and focus group discussions with the general refugee population in the settlement will be conducted. The findings of this study will highlight many factors that influence utilization of mental health care services among refugees in BidiBidi refugee settlement.

**Key words:**

Mental health, utilization, services, refugees, Uganda.

**P 08**

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**Perception des patients de la promotion de la santé aux urgences avec une tablette numérique: une étude observationnelle****Introduction :**

En 2016, il y a eu 1.7 million de consultations dans les services d'urgences (SU) suisses dont une proportion croissante relève de la médecine de 1er recours. Les SU devraient donc développer une offre de promotion de la santé. Les ressources en personnel et en temps y sont actuellement insuffisantes pour assumer cette nouvelle activité. Nous avons donc développé une offre de promotion de la santé dispensée au moyen d'une tablette numérique (TN) et consistant en un choix de 9 questionnaires de dépistage recommandés pour les médecins traitants en Suisse (consommation d'alcool, de tabac et de drogues; activité physique, violence interpersonnelle, diabète, statut vaccinal, VIH, cancer du côlon). Les questionnaires faisaient l'objet d'un bilan personnalisé transmis directement au patient et/ou envoyés par email pour en faciliter le partage avec le médecin traitant. Le but de ce travail était d'étudier la perception par les patients d'une telle offre dans le cadre d'une consultation en urgence.

**Méthode :**

Etude observationnelle menée sur 2 mois en 2018 dans le SU du CHUV auprès de 500 patients  $\geq 18$  ans et capables de discernement; 317 (63%) ont répondu aux questionnaires. Evaluation de la perception des patients par échelle de Likert à 5 niveaux, de «Pas du tout d'accord» à «Tout à fait d'accord». Les niveaux «D'accord» et «Tout à fait d'accord» ont été groupés pour l'analyse des résultats.

**Résultats:**

245 (77%) ont évalué l'offre par TN; âge moyen de  $43 \pm 17$  ans; 46% de femmes; 98% de résidents suisses; 54% professionnellement actifs et 20% rentiers; 30% avec une formation universitaire, 28% un apprentissage, 13% uniquement l'école obligatoire; 83% avaient un médecin traitant; 94% ont estimé que la TN était facile d'utilisation, 84% utile pour offrir un dépistage, 68% que leurs amis seraient d'accord d'y répondre; seuls 13% ont été mis mal à l'aise par les questions et 16% auraient préféré un dépistage par un médecin; 53% ont apprécié la possibilité de choisir de partager ou non les résultats des questionnaires de dépistage avec leurs médecins. Enfin, 63% ont découvert des informations utiles via la TN.

**Conclusion:**

L'utilisation de la TN était jugée simple et utile par la majorité et ne générait que peu de gêne. Seule une minorité aurait préféré un médecin dans cette tâche. Une TN représente donc une alternative aux soignants des SU pour y promouvoir la santé, offrant ainsi la perspective d'un rôle accru des SU pour des missions de santé publique.





**P 10**

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### **Monitoring health status of young men at conscription – an update**

Excess weight is an increasing public health problem worldwide. Epidemiological studies show that excess weight also increased sharply in Switzerland since the early 1990s. An important goal of the National Strategy for the Prevention of Noncommunicable Diseases (NCD Strategy) 2017-2024 is to reduce the proportion of the population at risk for NCD. Systematic monitoring and an improved data basis are at the interface between health care and prevention and are one of the fields of action declared in the NCD strategy for combating overweight and obesity in the coming years.

Together with other examinations, the medical examination during conscription for the Swiss Armed Forces serves to check the individual's state of health and thus his suitability for military service. However, these surveys are not only relevant for individual cases, they also offer the possibility of monitoring the health status of 90-95 percent of male young adults with Swiss citizenship at almost population level every year. Such continuous monitoring of excess weight prevalence, for example, is particularly relevant to health policy among children, adolescents and young adults because overweight young people tend to carry overweight into adulthood. Moreover, men in particular are exposed to an increased risk of morbidity and mortality later in life.

Even though overweight and obesity no longer increase among schoolchildren and conscripts in the last few years, still in 2015 about one in four conscripts in Switzerland was exposed to this increased risk of disease. This presentation will outline the general significance (and also the limits) of the conscription data. A review of recent studies conducted on the conscripts will be presented (sports performance test, YASS, medical examination, etc.). Also, the most recent monitoring data for excess weight from 2016-2018 will be presented for the first time. Last but not least, the example of waist circumference measurements will be used to show how researchers and Swiss Armed Forces physicians are constantly trying to improve these monitoring data considerably.

**P 11**

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**Smart Start: Elterliche Smartphone-Nutzung rund um die Geburt**

Smartphones haben, wegen ihrer ständigen Verfügbarkeit, einen Einfluss darauf, wie wir mit anderen in Kontakt treten und interagieren. Unsere Aufmerksamkeit ist kaum mehr ungeteilt: In sozialen Situationen, in denen man eigentlich mit einem physisch anwesenden Gegenüber kommuniziert, lassen sich viele durch die Anwendungen des Smartphones unterbrechen (sog. Technoference), bzw. tauchen so tief in eine Anwendung ein, dass sie für andere kaum mehr ansprechbar sind und diese auch nicht mehr wahrnehmen (sog. Immersion). Macht sich diese veränderte Kommunikation auch in der Bindungsbeziehung zwischen Eltern und ihren Säuglingen bemerkbar? In der vorliegenden Studie interessieren sowohl das generelle Smartphone-Nutzungsverhalten von Eltern während der Schwangerschaft und während der ersten Monate nach der Geburt, als auch mögliche Einflüsse der Nutzung auf die Sensitivität der Eltern und somit die Interaktion und Bindungsbeziehung zwischen Eltern und ihren Säuglingen.

Methode: 80 Eltern mit ihrem erstgeborenen Kind werden drei Mal befragt: vor der Geburt sowie 8 und 12 Wochen nach der Geburt. Neben der Smartphone-Nutzung werden auch Daten zur Geburtserfahrung, Paarbeziehung, elterlichen Befindlichkeit, elterlichen Ängstlichkeit und dem kindlichen Temperament erhoben. Beim Erhebungstermin 12 Wochen nach der Geburt werden zusätzlich je eine Spielsituation Mutter-Kind und Vater-Kind auf Video aufgenommen. Ausserdem werden mit einer kleineren Gruppe von 10 Familien Interviews geführt.

Resultate und Diskussion: Erste Informationen über die Smartphone-Nutzung der werdenden Eltern im letzten Trimenon der Schwangerschaft werden vorgestellt. Diese Resultate bilden die Basis der späteren Daten zur Smartphone-Nutzung (nach der Geburt).

**P 12**

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**How did the first time go? Young adults looking back at their first vaginal intercourse**
**Purpose**

To assess factors associated with having first vaginal intercourse at the right time among youths.

**Methods**

Data were drawn from a Swiss national study on sexual health. Participants (4297 young adults aged 24-28, 51.4% females) answered the question “Looking back at your first sexual intercourse with vaginal penetration, do you think that...” and were divided in 4 groups: “I shouldn’t have done it”(NOTDONE: 7.5%), “I should have waited longer”(WAITED: 8.6%), “I shouldn’t have waited so long”(NOTWAITED: 8.2%), and “It was the right moment”(RIGHTTIME75.7%). Groups were compared on their first vaginal intercourse (age, presumed first time for their partner, type of relationship, enjoyability, reason), current frequency of vaginal intercourse, pubertal timing, having a chronic condition, and socio-demographic variables. We used bivariate and multivariate analyses using a multinomial analysis using RIGHTTIME as the reference category. Data are presented as relative risk ratios (RRR).

**Results**

At the bivariate level, all variables were significant. At the multivariate level those in NOTDONE were significantly younger at their first vaginal intercourse (RRR 0.86), with a partner for whom it was not the first time (1.79), in an occasional relationship (4.91), not having enjoyed it(4.02), to report only one sexual intercourse(9.09); and less likely to have done it to lose their virginity(0.25), out of curiosity(0.25) or love(0.07). The WAITED were less likely to be males (0.58), to have done it to lose their virginity(0.33), out of curiosity (0.33) or love (0.10) and more likely to be younger at first vaginal intercourse (0.88), to think that it was not the first time for their partner (1.92), and to have not enjoyed it(2.61). Finally, the NOTWAITED group were more likely to be males (4.00), older at first intercourse(1.23), declaring not being the first time for their partner (1.67), doing it mainly to lose their virginity(2.18), and qualifying it as unenjoyable (2.14).

**Conclusions**

Youths not experiencing their first vaginal intercourse at the right time enjoyed it significantly less, possibly because of more experienced partners. While regret is generally linked to girls, our results show no gender differences regarding the NOTDONE group, implying that it can affect both gender. As first vaginal intercourse is a key event, prevention around first sexual experiences needs to be reinforced to take place at the right moment and under the best of circumstances. Sources of support. The Swiss National Science Foundation, grant #162538

**P 13**

Vorname | Name | Affiliation

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Brigitte SANTOS-EGGIMANN, Marcel ZWAHLEN, Valérie SANTOSCHI,  
Nicolas RODONDI, Christina WOLFSON, Arnaud CHIOLERO**Prevalence and control of elevated blood pressure in older adults: impact of new guidelines****Background**

The blood pressure (BP) thresholds to define hypertension have been lowered from 140/90 mmHg to 130/80 mmHg in the North-American 2017 hypertension management guidelines. The 2018 European guidelines have kept the 140/90 mmHg threshold. In both guidelines, there are no age-specific thresholds despite evidence that a low BP could be detrimental in some older adults. Using data from a large population-based study of older adults, we assessed the impact of lowering BP thresholds for hypertension diagnosis on the prevalence of elevated BP in the population and BP control among treated hypertensives.

**Methods**

We used data collected between 2014 and 2016 from 3210 participants in the Lausanne cohort Lc65+ aged 67 to 80 years old. BP was measured following a standardized protocol three times at one visit. Information on hypertension diagnosis and antihypertensive treatment was gathered through questionnaires. Elevated BP-Euro was defined if BP was  $\geq 140/90$  mmHg. Elevated BP-US was defined if BP was  $\geq 130/80$  mmHg. Among treated patients, BP was controlled if it was lower than 140/90 mmHg and 130/80 mmHg, respectively.

**Results**

In the whole sample, 51% of participants reported having a diagnosis of hypertension and 44% were treated for hypertension. The prevalence of elevated BP-Euro ( $\geq 140/90$  mmHg) and elevated BP-US ( $\geq 130/80$  mmHg) was 39% and 63%, corresponding to a relative increase of 62%. Among individuals treated for hypertension, the proportion of uncontrolled BP-Euro ( $\geq 140/90$  mmHg) and BP-US ( $\geq 130/80$  mmHg) was 43% and 68%, corresponding to a relative increase of 58%.

**Conclusion**

Using the North-American clinical guidelines criteria to define elevated BP would lead to a huge increase in the reported prevalence of elevated BP among older adults compared to the European guidelines criteria. Further, a much larger share of treated hypertensive older adults would appear to be defined as uncontrolled for hypertension. To comply with recent North-American guidelines, considerable screening and treatment efforts would be required, despite the lack of clear evidence on the benefit of targeting these new thresholds among older adults.

**P 14**

Vorname | Name | Affiliation

Razieh Azari

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**English Patient Information Leaflets in Switzerland: Necessity or Option?**

Patient Information Leaflets (PILs) which accompany medicinal products and inform patients about what the drug is used for, dosage, side effects, etc., are known as the most important source of information about a medication that users have access to (Bjerrum & Foged, 2003) and a tool which empowers patients and people to be more involved in making decisions related to their medications and health. In recent years, policy makers in different countries have paid much attention to the importance of PILs. In Switzerland, PIL is a mandatory and legally regulated genre, which must be written in three languages German, French, and Italian. Providing English PILs is not required as English is not the official language of the country. However, published statistics by Swiss government concerning English speaker population emphasize a new perspective. The present study sought to investigate the necessity of including English translation in PILs in Switzerland. To achieve the objectives of the study, official website of Federal Statistical Office (FSO) was consulted and related statistics were gathered and analysed. Based on the analysis, several observations were presented, which demonstrated the importance of accessibility of health information for all members of society.

Bjerrum, L., & Foged, A. (2003). Patient information leaflets-helpful guidance or a source of confusion? *Pharmacoepidemiology and Drug Safety*, 12(1), 55-59.

**P 15**

Vorname | Name | Affiliation

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Co-Autor

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**Gambling initiation: a longitudinal study among post-mandatory students and apprentices****Purpose:**

To assess the context and characteristics of youths who start gambling.

**Methods:**

1606 youths (mean age 16.2 at baseline, 45.8% females) from post-mandatory schools in the Canton of Fribourg (Switzerland) participated in the first two waves (winter 2016 (T0) and winter 2017 (T1)) of the GenerationFRee survey, a longitudinal study on gambling. Using the South Oaks Gambling Screen scale adapted for adolescents, 1399 non-gamblers at T0 were divided according to their status at T1: non-gamblers (n=1143), non-problematic gamblers (n=218) and problematic gamblers (n=38). Groups were compared on socio-demographic, health, economic and academic data, and entourage gambling measured at T0. All significant ( $p < .05$ ) variables at the bivariate level were included in a multinomial regression analysis to assess the variables associated with gambling initiation using non-gamblers as the reference. Data are presented as relative risks ratios (RRR) with 95% confidence interval.

**Results:**

At the bivariate level, compared to non-gamblers, gamblers were significantly more likely to be males, older, apprentices (vs. students) and foreign-born, to report better emotional well-being and less stress, to be more in-debt and to perceive themselves as below-average students. Problematic gamblers were also more likely to have foreign-born parents and to assess their family socioeconomic status as below average. In the multivariate analysis, compared to non-gamblers, non-problematic gamblers were more likely to be males (2.29), older (1.14), below-average students (3.65) and less stressed (0.87). Problematic gamblers were more likely to be males (6.22), average students (4.27) and have foreign-born parents (3.15).

**Conclusion:**

A significant number of youths decide to start an activity of gambling and some of them are directly defined as problematic gamblers. Males and those who perceive their school performance as poor seem to be particularly at-risk. The fact that problematic gambling is associated with migrant status could probably be explained by the theoretical easy way to get money that gambling offers for this population who could have more financial difficulties. As gambling could contribute to addiction and social costs, professionals should not forget to screen it. Whether this behaviour is exploratory or not remains to be determined in future waves of the study.

**Sources of support :**

Programme Intercantonal de Lutte contre la Dépendance au Jeu (PILDJ) and the Canton of Fribourg.

**P 16**

Vorname | Name | Affiliation

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Co-Autor

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**Gesundheitskompetenz stärken: Zugang zu Evidenz über Visualisierung**

Das Bundesamt für Gesundheit definiert Gesundheitskompetenz als die Fähigkeit des Einzelnen, im täglichen Leben Entscheidungen zu treffen, die sich positiv auf die Gesundheit auswirken. Krankenversicherungen sind ein häufiger Ansprechpartner von Patienten (bzw. Versicherten) und können Basisinformationen zu Gesundheitsthemen bereitstellen. Helsana hat daher ein Projekt zur Förderung der Gesundheitskompetenz lanciert. Dabei werden Evidenzgrundlagen fachlich vom Harding-Zentrum für Risikokompetenz aufbereitet und in Form von Faktenboxen und kurzen Animationsfilmen im Internet zur Verfügung gestellt. Die inhaltliche Aufbereitung der Themen wird von einem externen Soundingboard mit Experten aus Wissenschaft und Praxis begleitet. In den Filmen wird allgemeinverständlich beschrieben, mit welchen Nutzen und Risiken eine bestimmte Behandlung oder Vorsorgemethode verbunden ist. Dies soll Betroffene dabei unterstützen, sich zu wichtigen Gesundheitsthemen eine Meinung zu bilden und selbst zu entscheiden, was für Ihre Gesundheit richtig und wichtig ist.

Dabei stehen die Themenbereiche Krebsvorsorge, Impfungen sowie Herz-Kreislauf-Erkrankungen aber auch Leiden des Bewegungsapparates im Fokus. Zudem werden weitere häufige Gesundheitsfragen wie Antibiotikagebrauch bei grippalen Infekten adressiert. Das Poster stellt die evidenzbasierte Entwicklungsmethode der Kurzfilme vor, vermittelt einen Eindruck über die Visualisierung und Aufbereitung der Information und stellt erste Ergebnisse der Evaluation vor.



**P 17**

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Co-Autor

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**Performance-Indikatoren in alternativen Versicherungsmodellen: Ein innovativer Ansatz zur Qualitätsförderung in der Grundversorgung**

Der Schweiz wird regelmässig ein erstklassiges Gesundheitswesen attestiert. Insbesondere der Zugang sei erstklassig. Doch evidenzbasierte Qualitätsindikatoren (QI) zur allgemeinen Beurteilung der Versorgungsqualität fehlen. Im Rahmen der Swiss Quality Indicator for Primary Care (SQIPRICA) Arbeitsgruppe wurden 24 evidenzbasierte Qualitätsindikatoren entwickelt, die auf den schweizweit verfügbaren Abrechnungsdaten der obligatorischen Krankenpflegeversicherung (OKP) angewendet werden können. Dabei wurden internationale Leitlinien und Qualitätsindikatoren als Basis genommen und auf die Schweizer Verhältnisse angewendet. Die vorgeschlagenen Indikatoren decken zum einen Effizienzgesichtspunkte ab (Fokus Kosten) und adressieren zum anderen Qualitäts-Themen wie die Arzneimittelsicherheit und die adäquate Versorgung bestimmter Patientengruppen wie ältere Personen oder Patienten mit chronischen Erkrankungen.

Fünf der 24 Indikatoren sind bereits seit 2018 in Verträgen zwischen der Helsana Krankenversicherung und Ärztenetzen umgesetzt, die Vorbereitungen für den zukünftigen Einsatz von zwei zusätzlichen Indikatoren sind im Gange. Ziel ist, Qualität zu messen und das Qualitätsniveau in den gemessenen Dimensionen transparent zu machen sowie Qualitätsunterschiede aufzuzeigen.

Das Poster stellt einerseits die vorgeschlagenen evidenzbasierten Indikatoren und ihren Entwicklungsprozess vor. Andererseits wird die vertragliche Umsetzung innerhalb der Ärztenetze präsentiert und die geplanten Evaluationen und Weiterentwicklungen skizziert. Das SQIPRICA-Projekt bezweckt, die für Public Health zentrale Diskussion um mehr Versorgungsqualität und stärkere Vernetzung im Schweizer Gesundheitswesen anhand konkreter Vorschläge zu lancieren. Das Poster gibt somit einen Einblick in aktuelle Qualitätsbemühungen von Ärztenetzen und Krankenversicherung, die auf Evidenz aufbauen.

**P 18**

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**Micronutrient status among Swiss children and adolescents: a pilot study****Background:**

Micronutrient deficiencies and suboptimal status in early life can lead to chronic conditions, such as anaemia and intellectual disability, and later in life, to long-term health problems (e.g., cardio-vascular disease, cancer, osteoporosis).

**Objective:**

To explore micronutrient status in Swiss children and adolescents in a pilot study.

**Methods:**

In 2017, 24 healthy children and adolescents aged 11 to 17 years living in Lausanne were randomly recruited from the population registry (participation rate: 20%). The sample was completed with a convenience sample (n=8). Plasma concentrations of several vitamins and minerals as well as urinary mineral concentrations from a single overnight spot were determined using standard analytic procedures. Usual fruit and vegetable intake was assessed through two non-consecutive computer-assisted 24-hour recalls and a food frequency questionnaire.

**Results:**

Measured plasma concentrations (median; P25-P75) were the following: vitamin A (1527 nmol/l; 1398-1727), vitamin B1 (17.7 nmol/l; 16.5-18.35), vitamin B12 (222 pmol/l; 177-272), vitamin C (62 umol/l; 47-71), vitamin E (21.8 umol/l; 19.4-24.6), folic acid (FA, 10.9 nmol/l; 9.5-13.9),  $\beta$ -carotene, (3716 nmol/l; 2979-4204), ferritin (42 ug/l; 24-63), and selenium (103 ug/l; 91-126). Urinary iodine concentration was 149 ug/l (99-188). Large difference across age groups (<14.4 vs.  $\geq$ 14.4y) was observed for FA (12.3 vs. 10.3 nmol/l, P=0.03, Mann-Whitney U test). No large difference was observed between genders, even for ferritin: 44 vs. 42 ug/l (P=1.00). Daily median (P25-P75) fruit and vegetable intake was 1.3 (0.3-1.9) and 1.3 (0.8-2.1) portion(s), respectively. Fruit intake was correlated to plasma FA (Pearson's r=0.55, P<0.01), and vegetable intake to  $\beta$ -carotene (r=0.45, P=0.04). Compared to published data in Swiss adults, we found lower values for vitamins A, B1, B12, E, FA and ferritin, and higher values for iodine, selenium and vitamin C. We could not establish the percentage of children/adolescents below cut-offs for deficiency due to the absence of references in Switzerland or Europe, except for ferritin (21% below 15 ug/l).

**Conclusions:**

This was the first study in Switzerland investigating the status of a wide range of vitamins and minerals among children. Representative national data are needed to 1) define population reference values, and 2) assess the risks of deficiencies and/or suboptimal status in Swiss children/adolescents.

**P 19**

Vorname | Name | Affiliation

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Co-Autor

Magali Rios-Leyvraz, Murielle Bochud, René Tabin, Bernard Genin,  
Michel Russo, Chin B Eap, Pascal Bovet**How to monitor caffeine intake in children? A comparison between questionnaire and 24-h urine excretion****BACKGROUND**

Caffeine intake may have increased in children and adolescents due to the consumption of caffeinated beverages. Assessing caffeine intake is traditionally done with questionnaires, but highly challenging due to the multiple dietary sources. Measuring urinary excretion of caffeine and selected metabolites could be an alternative, but has never been evaluated in children. The objectives of this study were 1) to estimate caffeine intake in children in Switzerland with a questionnaire and 2) to assess to which extent it correlates with urinary excretion of caffeine and its metabolites.

**METHODOLOGY**

A cross-sectional study of healthy children between 6 and 16 years of age was conducted in one region of Switzerland. The participants filled in two semi-quantitative food frequency questionnaires (on day 1 and day 2) and collected one 24-h urine (day 2). Caffeine intake was estimated with the questionnaires. Caffeine, paraxanthine, theophylline, and theobromine excretion were measured in the 24-h urine sample. Intake estimates and excretion were compared using Pearson correlation coefficients.

**RESULTS**

A total of 94 children were included (mean age: 10.6 years; 42% female). Based on questionnaire, the mean daily caffeine intake estimate was 36 mg (range: 0-176) and 1.1 mg/kg (range: 0.0-4.9). Seven children (8%) had a caffeine intake above the upper recommended level of 3 mg/kg per day. The main sources of caffeine intake were tea (30%), cocoa milk (29%), chocolate (23%), soft and energy drink (16%), and mocha yoghurt (8%). The mean 24-h urinary excretion of caffeine was 0.3 mg (range: 0.0-1.5), paraxanthine 1.4 mg (range: 0.0-7.1), theophylline 0.1 mg (range: 0.0-0.4), and theobromine 12.8 mg (range: 0.4-59.9). The correlation between caffeine intake estimates and excretion of caffeine was 0.34; the correlation with the excretion of metabolites was lower (paraxanthine: 0.26; theophylline: 0.24; theobromine: 0.13).

**CONCLUSIONS**

Caffeine intakes in a sample of children in Switzerland was relatively low. The major sources of intake were tea, cocoa milk, and chocolate. Self-reported caffeine intake correlates modestly with 24-h urinary excretion of caffeine and some of its metabolites.

**P 21**

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Magali Leyvraz, Daniela Anker, Yvan Mivelaz, Stefano Di Bernardo,  
Bruno R da Costa, Nicole Sekarski, Arnaud Chiolero**Childhood carotid intima-media thickness after intrauterine growth restriction****BACKGROUND:**

Increasing evidence suggests that cardiovascular disease (CVD) development is related to risk factors originating in the first 1000 days of life, for instance, intrauterine growth restriction (IUGR). Carotid-intima media thickness (CIMT) is a marker of CVD risk. Studies suggest that CIMT could be higher among IUGR children.

**OBJECTIVE:**

Our objective was to systematically review studies that assessed the association between IUGR and CIMT in children.

**METHODS:**

We followed methods outlined in a published protocol for a systematic review on risk factors and determinants of CIMT in children (PROSPERO registration: CRD42017075169). MEDLINE, EMBASE, and CENTRAL were searched up to September 2017. Full-text articles published in English or French were considered for inclusion if their definition of IUGR incorporated a fetal measure of growth retardation assessed, for example, via ultrasound biometry or artery Doppler, and CIMT was assessed by ultrasonography from birth to 18 years. CIMT summary data reported separately for IUGR and control children and association estimates were extracted. The study quality and reliability of CIMT measurement were systematically assessed. Random effects meta-analyses were performed and sources of heterogeneity explored. Funding: SNSF 32003B-163240.

**RESULTS:**

A total of 8 observational studies involving overall 623 children (176 IUGR and 447 controls) assessed the association between IUGR and CIMT. Seven studies were conducted in Europe and one in North America. One study was conducted in term children only, one study in premature children only, and the rest comprised both term and preterm children. Age at CIMT assessment ranged from 0 to 15 years. Five studies identified a higher CIMT among IUGR children compared to controls, one no difference, and two a lower CIMT. The pooled standardized mean difference between IUGR and controls was 0.35 (95% CI: -0.06 to 0.77; I<sup>2</sup>: 77%). Further results will be available by August 2019.

**CONCLUSION:**

On average, IUGR children tended to have a higher CIMT compared to controls. However, a substantial heterogeneity was found, requiring further sensitivity and subgroup analyses. This systematic review will improve the knowledge on the overall strength and direction of this relationship in children. It will eventually inform CVD prevention in a life-course epidemiology perspective.

**P 22**

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**Impact of school vaccination policy change on school doctors' vaccination behavior 2018-19****Objectives:**

The goals of this study are 1) to evaluate the impact of the school vaccination policy change in the Canton of Zurich in 2015 on the vaccination behavior of school doctors employed outside the city of Zurich since the last survey in 2013-14, 2) to examine the school doctors' vaccination behavior towards HPV recommendations for boys and girls.

**Subjects and Method:**

A questionnaire sent to school doctors of the Canton of Zurich (excluding those of the city of Zurich) was evaluated.

**Results:**

After 3 mailings and 1 telephone call, 69% (202 out of 291) of the school doctors completed the questionnaire. Preliminary data showed that 81% was aware of the change in the school vaccination policy and 73% already vaccinated before this revision. Of those who were aware of the policy change, 34% were motivated to vaccinate while this percentage was only 10% among those who weren't aware of the change. Compared to the survey in 2013-14, there was no change in vaccination behavior of school doctors after the policy change to encourage vaccination. However, the percentages of the reasons for not vaccinating in the schools differed: 51% referred the children to their private physicians/pediatricians for missing vaccinations, 44% cited lack of privacy, 18% said additional help to vaccinate was needed and 5% stated there was no legal support from the school board. In the last survey the percentages were 71%, 52%, 6% and 11% respectively. 94% of the school doctors recommended HPV vaccination to the girls while 86% to the boys. However, only 1% of the respondents did not recommend HPV vaccination to the girls whereas it was almost 10% to the boys. Additionally, 74% of the school doctors vaccinated boys for HPV in their practice compared to 80% for girls; 5% vaccinated boys and girls only in the schools.

**Conclusions:**

Despite the changes in policy, the vaccination behavior of the targeted school doctors did not change. However, the reasons for not vaccinating in the schools shifted, with less referral to the GPs/pediatricians, need for privacy and support from the school board, but more need for additional staff to vaccinate. Incentives and other changes would be needed to encourage school doctors to vaccinate more, such as providing additional staff to vaccinate in the schools, as done in other parts of Switzerland. Only after 2 years of including boys in the HPV vaccination recommendation, school doctors are almost equally recommending and vaccinating both genders.

**P 23**

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**SCaNDIUM (School Nurses Diseases Inclusion Management)****Hintergrund**

Gut 20% der Schülerinnen und Schüler in der Volksschule sind mit chronischen medizinischen Belastungen konfrontiert. Neben primären chronischen Erkrankungen wie Diabetes, Epilepsie und Asthma sind dies zunehmend auch sekundäre chronische Erkrankungen, bei denen sich im Verlauf eine akute, oft lebensbedrohliche Problematik (z.B. Herzerkrankungen, extreme Frühgeburtlichkeit etc.) in eine chronische Erkrankung mit Bedarf nach lebenslanger medizinischer Behandlung oder Begleitung wandelt.

Immer wieder bestätigt sich, dass das Management von krankheitsbedingten chronischen Belastungen in der Schule zwar auf grosses Interesse und Engagement der Lehrerschaft stösst, aber in der konkreten Situation schwierig und anspruchsvoll ist. Es fehlt an klaren Zuständigkeiten, genügend Ressourcen, fachlichen Kompetenzen und festgelegten Prozessen.

Im anglo-amerikanischen Raum und in Skandinavien gibt es sogenannte School Nurses. Neben Aufgaben in Gesundheitsförderung und Prävention sind sie auch teilweise mit der Betreuung von chronischen kranken Kindern in der Schule betraut. Im deutschsprachigen Raum ist das Konzept der School Nurse weitgehend unbekannt.

**Projektplan**

Das Ziel des vorliegenden Projektes (SCaNDIUM) ist es daher, das Modell einer School Nurse in Deutschschweizer Volksschulen zu entwickeln. Dabei sollen von Anfang an alle Beteiligten, insbesondere auch die Schulen und Lehrpersonen, aber auch Betroffene (Eltern und Schülerinnen und Schüler), schulärztlichen Dienste, Patientenvereinigungen etc. eingebunden werden.

**Projektschritte****Konzept Entwicklung**

- o Literaturrecherche zu unterschiedlichen School Nurse Modellen auf internationaler Ebene (Januar 2019)
- o Literaturecherche (Wissenschaftliche und Grey Literatur) zur Situation in der Schweiz und in den Nachbarländern (März 2019)
- o Networking mit Schlüsselorganisationen wie RADIX, Scolarmed, Pädagogische Hochschulen, usw. (Jan – April 2019)
- o Fertiges Konzept erarbeiten (bis Mitte 2019)

**Implementation Planung**

- o in Zusammenarbeit mit Schlüssel Organisationen in der Schweiz (Sommer – Herbst 2019)
  - Gleichzeitig Acquire von Funding (Anfang 2019)
  - Pilotprojekt durchführen mit einer Pilotschule (ab Herbst 2019)
  - Evaluation des Pilot Projektes (2020-2021)
- o Formative und Summative Teile

**Weitere Schritte**

Es ist vorgesehen, das Projekt basierend auf den Erfahrungen im Pilot und in Zusammenarbeit mit Schlüsselorganisationen auf weitere Schulen in der Deutschschweiz auszudehnen (ab 2021).

P 24

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### **Well-being and coping of adolescents with ADHD symptoms and the role of protective factors**

A vast number of studies report the negative effects experienced by children and adolescents with symptoms of attention deficit/hyperactivity disorder (ADHD). Core deficits in the area of executive functions lead to challenges in academic, social, and emotional domains (Barkley, 2014), even at subclinical levels (Breslau et al., 2009). Affected children and adolescents have more difficulties coping with school demands (Frazier, Youngstrom, Glutting, & Watkins, 2007) and experience lower levels of well-being in different areas of life (Danckaerts et al., 2010). Because of the various negative effects on those affected and the resulting serious economic burden, ADHD has become a major public health concern (Rowland, Lesesne, & Abramowitz, 2002).

Despite the negative effects resulting from ADHD symptoms, a minority of affected adolescents seem to be successful and satisfied in various areas of life (Biederman, Mick, & Faraone, 1998). Presumably, various protective factors buffer the negative effects of individuals' ADHD-related symptoms. It is crucial to better understand the factors and processes that can help those affected to achieve success and personal well-being. However, research on protective factors regarding ADHD symptoms is still in its infancy.

The aim of the present study is to extend knowledge about relevant protective factors for adolescents with ADHD symptoms at the upper-secondary level within a mixed-method-design. The quantitative school-based sample consists of 1006 adolescents (58.4% female), aged between 14 and 25 years ( $M = 18.22$ ,  $SD = 1.67$ ) from baccalaureate and vocational education and training schools in the German-speaking part of Switzerland. Data gathered from a paper-and-pencil survey will be analysed within a developmental psychopathology framework to examine the dynamic interplay among the risk factor ADHD symptoms; individual protective factors; emotional support from private life, school, and work; well-being; and performance. Complementary, in-depth interviews with well-adjusted adolescents with ADHD symptoms will be conducted to identify further critical protective factors and better understand the risk–resilience processes.

The main ambition of the study is to gain important insights into crucial protective factors for affected adolescents that can contribute to effective treatment and prevention of ADHD symptoms and their consequences.

**P 25**

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**Promotion de la santé et prévention en milieu scolaire (PSPS) : un éclairage concernant les obstacles rencontrés sur le terrain**

Introduction – L'école est un lieu privilégié de promotion de la santé et de prévention. Comme le relèvent Simar, Darlington, Bernard et Berger (2018), c'est à deux niveaux et en deux temps que l'école est concernée : en lien avec leur vie future, afin de concourir à l'amélioration de la réussite des élèves, et davantage en lien avec leur vie présente, pour contribuer à renforcer leur santé, ce qui soutient les apprentissages et la réussite scolaire (1). Cependant différents obstacles peuvent compromettre la mise en œuvre et/ou l'efficacité des mesures proposées. L'objectif de cette communication est de proposer une catégorisation des enjeux sous-jacents à ces obstacles. Ceci devrait permettre de renforcer le rôle protecteur de l'école et des professionnels ayant des mandats de santé en milieu scolaire.

Méthode – La catégorisation que nous proposons est issue d'une réflexion menée dans le cadre d'une formation destinée à des enseignants vaudois ayant des fonctions particulières dans le domaine de la promotion de la santé et de la prévention (médiateur-trice-s scolaires et délégué-e-s PSPS).

Résultats – Nous avons identifié cinq catégories d'enjeux qui portent sur des considérations théoriques, socio-politiques, relationnelles, temporelles et professionnelles. Chaque enjeu est composé de différentes dimensions qui peuvent contraindre, voire, lorsqu'elles sont en trop fortes tensions, limiter l'action de ces professionnels.

Discussion – Nous présenterons ces différents enjeux et les potentielles complications qui s'y rapportent. En effet, comme l'ont mis en évidence les travaux de Simar et Jourdan (2010, 2011), les enseignants doivent composer avec une grande complexité afin de négocier avec les enjeux de l'éducation à la santé et de déployer des pratiques promotrices de santé (2). Puis nous discuterons de l'apport de cette catégorisation pour la formation des enseignants ayant un mandat de santé et des outils qui peuvent être développés pour soutenir l'engagement de ces professionnels.

Mots clés : promotion de la santé et prévention en milieu scolaire, enjeux, professionnels ayant un mandat de santé en milieu scolaire

(1) Simar, C. ; Darlington, E. ; Bernard, S. ; Berger, D. (2018). Promouvoir la santé à l'école : enjeux et perspectives scientifiques. Association Française des Acteurs de l'Éducation. « Administration et Éducation ». N° 157, pp. 143-150. p. 146.

(2) Simar, C. ; Darlington, E. ; Bernard, S. ; Berger, D. (2018). Promouvoir la santé à l'école : enjeux et perspectives scientifiques. Association Française des Acteurs de l'Éducation. « Administration et Éducation ». N° 157, pp. 143-150. p. 148.



**P 26**

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**Geneva trends of overweight and obesity among schoolchildren to 5-6-years-old from 2003 to 2018****Background:**

Childhood overweight and obesity and their harmful health consequences throughout the life-course are a growing worldwide public health problem. The purpose of the study is to evaluate the evolution of the prevalence of overweight and obesity among 5-6-years-old schoolchildren in Geneva from 2003 to 2018.

**Methods:**

Cross-sectional study at nine time points, conducted on public school since 2003 to 2018. During a systematic health check at school, data on body height and weight of 5–6-year-old children attending public schools in the Canton of Geneva were obtained. 11'032 girls and 11'742 boys were recruited for this study. Cole's references were used to calculate and to define body mass index.

**Results:**

In 2017-18, the prevalence of overweight was 10.2% for both sexes, (12.0% for girls and 8.2% for boys) while 3.2% were classified as obese (3.4% for girls and 3.0% for boys). In the case of girls, the overweight prevalence increases of 2.5 points ( $p=0.14$ ), as opposed to boys whom a significant downward trend was observed (-3.5 points ( $p = 0.0287$ )) from 2008. Since 2010 a relatively marked and statistically significant increase obesity prevalence of 1.9 points ( $p=0.0130$ ) and is roughly the same between boys and girls for this age group.

**Conclusions:**

Stabilization in the prevalence of childhood overweight and obesity was observed, it is consistent with the overall results in other Switzerland cities, as well as with other countries worldwide. Nevertheless, it requires follow-up and implementation of new public policies to achieve the maintenance and even decrease of these malnutrition states.

**Keywords:**

Childhood, prevalence, obesity, overweight, body mass index.

**P 27**

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Christina/Schindera, Tayfun/Güngör, Marc/Ansari, Fabiën/Belle,  
Katrin/Scheinemann, Philipp/Latzin, Claudia/Kuehni**Pulmonary late effects in Swiss childhood cancer survivors after hematopoietic stem cell transplantation****Background:**

Childhood cancer survivors (CCS) treated with hematopoietic stem cell transplantation (HSCT) have an increased risk to develop pulmonary late effects. This study investigates prevalence and risk factors for self-reported pulmonary late effects in a national cohort of CCS treated with HSCT.

**Method:**

As part of the Swiss Childhood Cancer Survivor Study, we sent a questionnaire to all CCS diagnosed 1976 – 2010, aged 15 years was the strongest predictor to develop pulmonary problems (OR 7.7, 95%CI 1.9-30; P=0.004).

**Conclusion:**

This cohort of CCS after HSCT has a high prevalence of self-reported pulmonary late effects. The burden might be even higher with longer follow-up times and objective pulmonary assessments. Clinicians need to follow and counsel this population at risk to minimize further pulmonary damage.

**P 28**

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### **Associations between vaccination coverage of childhood preventable diseases and incidence rates in Switzerland, 1980-2017**

#### Objective:

To evaluate the impact of vaccinations on incidence rates for childhood preventable diseases in children in Switzerland (CH), with comparison in selected countries.

#### Methods:

Incidence rates and vaccination coverage for children from 1980 to 2017 were collected for the following infectious diseases: DTP, POL, MMR, pneumococcal, meningococcal, Hib, HPV, Hep B and TBE. For the incidence rate, population data for children ages 0-15 from each country was used. To correct the incidence of the age distribution, the median was compared with the mean. Incidence and coverage data stemmed from the websites of the FOPH, WHO, ECDC and CDC. Swiss data were compared with data from Austria (AT), USA, United Kingdom (UK), Germany (DE) and France (FR).

#### Results:

Since the introduction of vaccination, the incidence of the childhood preventable diseases mentioned above in CH has been decreasing, except for pertussis and TBE. For example, measles incidence in CH among all age groups decreased 99%, from 113 to 0.8 per 100 000 persons between 1987 and 2016 and at the same time, coverage increased from 70% to 94%. Measles incidence among all age groups in the UK decreased from 185 to 0.8, in DE from 0.9 to 0.4, in FR from 0.7 to 0.1 and in the USA from 1.2 to 0.03 per 100 000 persons between 1985 and 2016. Concurrently, coverage increased in the UK from 68% to 92%, in DE from 50% to 97% and in FR from 35% to 90%, but decreased in the USA from 97% to 92%. Reported pertussis incidence in CH among children less than 5 years old increased from 11.3 to 15.8 per 100 000 persons between 2006 and 2014 while coverage increased from 94% to 96%. Pertussis incidence among children in the UK increased from 10.9 to 21.4 per 100 000 persons with coverage increasing from 92% to 94% between 2009 and 2016. During the same period, the incidence rate in AT was 11.9 to 82.2 with coverage increasing from 83% to 87%. Pertussis incidence in the USA among children increased from 15.2 to 65.9 per 100 000 persons between 1991 and 2016, although coverage increased from 69% to 95%.

#### Conclusions:

The strategies in vaccinations programs have a positive impact on incidence rates; however, with the current measles and pertussis outbreaks globally, more efforts are needed to ensure their effectiveness and maintain their acceptance. If in CH, an elimination strategy for the infectious diseases with higher incidence is implemented, as in the case of measles, their vaccinations may also be highly successful.

**P 29**

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**Furniture-Student Mismatch**

Students spend most of their time in the classroom in a sitting position. Non-ergonomically designed furniture may increase discomfort, musculoskeletal symptoms, and pain, which commonly results in irregular posture during school hours.

The aim of the study was to evaluate the furniture mismatch between existing classroom furniture and students' anthropometric measures.

To calculate the mismatch, eight anthropometric measures (popliteal height, knee height, thigh thickness, elbow height sitting, shoulder height sitting, subscapular height, hip width, buttock-popliteal length) and six furniture dimensions (seat height, seat depth, seat width, upper edge of backrest, sitting desk clearance, desk height) were measured.

A total of 139 students, aged  $16,6 \pm 1,4$  from the carpentry high school in Slovenia, participated in the study. The highest mismatch was found for seat to desk clearance (98%), followed by seat width (41%), seat height (32%), and desk height (30%). However, the levels of mismatch varied between the high school grades.

The high mismatch between the furniture and students' anthropometry indicates that there is a need to ergonomically redesign school furniture in Slovenian high schools. Furthermore, the data obtained could be considered when designing new school furniture in Slovenia. Studies with larger sample sizes assessing multiple age groups are desired to better understand the student-furniture mismatch.

**P 30**

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**Le Pôle qualité de l'Observatoire valaisan de la santé****Contexte :**

La surveillance et l'amélioration de la qualité des soins sont un enjeu majeur pour les citoyens, les patients, les prestataires de soins et les autorités sanitaires. Dans un contexte de concurrence accrue entre prestataires de soins, d'exigence de transparence des citoyens et afin d'informer la population et les décideurs dans le domaine de la santé, le canton du Valais s'est doté en 2001 d'un outil de surveillance sanitaire, l'Observatoire valaisan de la santé (OVS). En 2014, l'OVS s'est doté d'un « Pôle qualité » et dont nous décrivons ici les missions et le fonctionnement.

**Missions :**

Les missions du Pôle qualité de l'OVS se fondent sur les « Lignes directrices pour une politique de surveillance de la qualité des soins et de la sécurité des patients en Valais », adoptées par le Conseil d'État en 2013, ainsi que sur les dispositions légales cantonales. Le Pôle qualité a pour mission notamment de suivre et interpréter les indicateurs nationaux de la qualité des soins et de la sécurité des patients. Il assure la diffusion des indicateurs auprès des autorités de surveillance, des prestataires de soins et de la population.

**Fonctionnement :**

D'une part, le Pôle travaille sur mandat en étroite collaboration avec les autorités de surveillance du canton (Service de la santé publique (SSP) / Département de la santé, des affaires sociales et de la culture (DSSC)) afin d'analyser les résultats des indicateurs nationaux de la qualité des soins de l'OFSP et de l'ANQ. D'autre part, le Pôle offre un appui méthodologique et scientifique aux prestataires de soins, en particulier pour l'interprétation et l'usage des indicateurs de qualité. Il participe aux séances de la Plateforme qualité cantonale réunissant le SSP et les prestataires de soins, et propose une formation à l'interprétation des indicateurs sanitaires pour les professionnels de santé en activité ou en formation. Par ailleurs, il collabore avec la Commission cantonale d'experts pour la sécurité des patients et la qualité des soins (CSPQS), dont il assure le secrétariat.

**Conclusions :**

Le Pôle qualité de l'OVS est un outil permettant la surveillance et l'amélioration de la qualité des soins en Valais, à l'interface entre les prestataires de soins et les autorités de surveillance sanitaire.

**P 31**

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**Coverage Rates, Completeness, and Timeliness of Recommended Immunizations in Swiss  
 Preschool Children**

**Background:**

Low vaccination coverage rates and incomplete vaccinations are a risk for the individual and population protection from vaccine-preventable diseases.

**Aim:**

To describe vaccination patterns for nationally recommended basic vaccinations in a cohort of Swiss children aged up to 37 months.

**Methods:**

We conducted a descriptive study based on administrative claims data in cohorts of Swiss non-preterm children born between January 2010 and December 2016 insured with a single health insurer (Helsana). We assessed coverage rates and completeness for the nationally recommended basic vaccinations (i.e., diphtheria, tetanus, acellular pertussis [DTaP], Haemophilus influenzae type b [Hib], poliomyelitis [IPV], measles, mumps, and rubella [MMR]) for each birth cohort at the age of 13, 25, and 37 months. Additionally, we analyzed timeliness of the vaccinations using inverse Kaplan-Meier curves and standardized the results to the Swiss population.

**Results:**

The study population comprised 563,216 children. At 13 months of age, overall coverage rates for the first dose of DTaP, Hib, IPV, and MMR amounted to 93.8%, 93.2%, 93.7%, and 67.2%, respectively. At 25 months of age, we found a complete vaccination status for DTaP, Hib, IPV (4 doses each), and MMR (2 doses) in 68.0%, 65.9%, 67.1%, and 62.9% of the children, respectively, with slightly increased rates at 37 months of age. In contrast, 4.1% of all analyzed children received none of the recommended basic vaccinations at 25 months of age. Overall, we observed continuously increasing coverage rates across birth cohorts for all vaccinations, levelling off after a peak in the 2015 birth cohort. Children were mainly vaccinated within the recommended time window for each vaccination.

**Conclusion:**

National and international goals for vaccination coverage were not reached in Swiss preschool children. However, vaccination rates increased over time, and the majority of vaccinated children received the vaccines under study within the recommended time windows.

P 32

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### **Characterisation and protein intake analysis of no- to high meat consumption, based on the Swiss National Nutrition Survey menuCH**

Today's high interest for no- or low-meat diets is driven by evidence-based associations between high meat consumption and unhealthy lifestyle factors as well as increased risk of various chronic diseases. This study aims to characterize no-, low- and high-meat consumers and describe their protein intake using data from the Swiss nutrition survey menuCH.

This first national survey assessed descriptive factors by a questionnaire and dietary intake by 24-hour dietary recall (24 HDR) across all three linguistic regions, German, French and Italian of Switzerland (N=2057). Data from the questionnaire (food avoidance) and two 24 HDRs were used to categorize total participants (N) into four subgroups: no meat (4.4%); low (15%), medium (65.6%), or high-meat eaters (15%), based on meat-energy contributions of 0; 0-2.4; 2.4-18.7; 18.7-48.4, respectively. Contributions of overall macronutrients and protein from the different food groups were described for each subgroup to identify quantitative and qualitative differences. Multinomial logistic regression analysis was applied to predict the probability of belonging to one of the four subgroups according to the following sociodemographic and behavioral variables: sex, language region, age, nationality, marital status, education, gross household income, BMI, physical activity, smoking, dietary supplements and overall health status. The subgroups differed in protein intake with 11.5%, 12.8%, 15.4% and 19.1% of total energy intake for no-, low-, medium- and high-meat diets, respectively, weighted for sampling design, non-response, weekdays and season. In general, no- and low-meat consumers included a greater variety of foods contributing to protein intake than meat consumers, including more dairy products and meat-alternatives. None of the subgroups met the Swiss Food-based Dietary Guidelines of three portions of dairy products per day. The regression analysis showed that sex, taking dietary supplements or not and BMI were important determinants of the subgroups: women had a higher predicted probability than men to be no- and low-meat eaters and for these same subgroups, individuals showed higher probabilities for taking dietary supplements. Overweight and obese participants showed higher probabilities to be high-meat eaters.

These findings show considerable differences in protein intake and in variety of protein-food selections, between extremes of meat intake (no- to high meat consumption).

Future surveys should include frequency methods to allow conclusions about habitual meat intake or avoidance and health status screening to analyse individuals health data.

**P 33**

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**Second Malignant Neoplasms in Children and Adolescents after Childhood Cancer – a Report from the Swiss Childhood Cancer Registry****Background:**

Second malignant neoplasms (SMNs) are among the leading causes of death in children diagnosed with cancer after their primary disease and acute treatment toxicities. We identified SMNs in childhood cancer patients in Switzerland up to the age of 21 years and analyzed their survival to identify risk factors for mortality.

**Methods:**

We used data from the Swiss Childhood Cancer Registry (SCCR) to identify children with a primary childhood cancer (according to ICC-3) diagnosed under the age of 16 years between 1976 and 2016. We identified those who had developed SMNs up to the age of 21 years and followed their survival until death or loss to follow-up. We used the Kaplan-Meier method to generate survival curves and Cox proportional hazards regression to estimate associations with risk factors.

**Results:**

We identified 8,312 childhood cancer patients (median age at diagnosis 6.1 years, 44% females). Of those, up to the age of 21 years, 130 (1.6%) had developed one SMN and three (5y was seen in 58% (n=78) and was associated with an increased hazard ratio of death (HR 2.4 [95%-CI 1.2-4.8]).

**Conclusion:**

A proportion of childhood cancer survivors develop SMNs before the age of 21 years which affects negatively their survival. Awareness of SMNs in this patient population is important and strategies for early detection of SMNs should be investigated with a particular focus on those who are later in their follow-up.



**P 34**

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**Prevalence of common mental disorders and mental health service utilization in young Swiss adults**

**Background:**

Mental health disorders are highly prevalent and constitute one of the leading causes of years lost to disability worldwide. Despite this significant burden, there are as yet hardly any epidemiological data on the prevalence of mental disorders, the treatment gap, or service utilization in Switzerland, particularly for young people. This study aimed to assess the prevalence of several common mental disorders, service utilization, and the treatment gap for young adults in Switzerland.

**Methods:**

Data were collected in the Swiss Youth Epidemiological Study on Mental Health, a cross-sectional study of Swiss young adults' mental health and wellbeing. For this study, the Swiss Federal Statistical Office provided a nationally representative sample of 17-22 year-olds. In total, 3840 participants completed the survey for a response rate of around 40%. The survey assessed symptoms of anxiety and depression using two Patient Health Questionnaire (PHQ) screeners (GAD-7 and PHQ-9, respectively) and symptoms of attention deficit hyperactivity disorder (ADHD) using the Adult ADHD Self-Report Scale Screener. All participants reported their lifetime perceived need for mental health care and lifetime and current mental health service utilization in order to assess the treatment gap. Analyses were weighted according to the sampling plan that was stratified by gender, nationality, and canton.

**Results:**

Almost a quarter (24.7%) of participants met the criteria for anxiety, depression, or ADHD. Women had a significantly higher prevalence of anxiety (17.3%) and depression (23.9%) than men (9.1% and 11.5%, respectively) and were more likely to use mental health services. Men were more likely to report risky cannabis, illicit drug, and weekly alcohol use, while women reported higher risky use of prescription drugs. Among those meeting the criteria for anxiety, depression, or ADHD, only around half perceived the need for help during their lifetime, while less than 20% reported currently utilizing professional mental health services.

**Conclusion:**

The current prevalence of anxiety, depression, and ADHD in young Swiss adults is higher than many international estimates. As in other Western countries, the prevalence for these common mental disorders has probably been increasing. Young adults' low recognition of need and service utilization should be addressed through mental health literacy interventions.

P 35

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### Are Patients with Subclinical Hypothyroidism at Risk of Depressive Symptoms?

#### Introduction:

Subclinical hypothyroidism (SHypo) may be associated with several negative health outcomes; including depressive symptoms. However, evidence for this association is conflicting across a large number of studies, in part due to inconsistencies in definitions and cut-offs. By analyzing individual participant data (IPD) from several studies we have the possibility to disentangle sources of heterogeneity, to explore for effect modification and to standardize definitions and analyses. The results will help to inform clinicians and guidelines, and may give some indication whether thyroxine therapy should be considered in the context of depressive symptoms.

#### Methods:

We conducted a systematic review of cohort studies to assess the association between SHypo and depressive symptoms. We requested IPD from cohorts identified through a search of EMBASE and MEDLINE and through the Thyroid Studies Collaboration ([www.thyroid-studies.org](http://www.thyroid-studies.org)). The outcome was depressive symptoms at first follow-up, measured on any validated depression scale. We calculated conversion factors to convert all scores into the Beck Depression Inventory (BDI) scale (range: 0-63, minimal clinically important difference: 5). SHypo was defined as thyroid stimulating hormone  $\geq 4.5$  mIU/L in combination with normal free thyroxine levels. We performed a two-stage IPD analysis. In each cohort, we estimated the mean difference (MD) in depressive symptoms scores between those with SHypo and euthyroid controls adjusted for depressive symptoms at baseline. Further, we adjusted the multivariable linear regression analysis for age and sex. We pooled the study effect estimates by using a random effects model. Heterogeneity was assessed by I<sup>2</sup>.

#### Results:

Among six cohorts, we analyzed data from 23,374 participants (65% female, mean age  $60 \pm 13$  years, SHypo N=1,468). At baseline, there was no difference in BDI scores between SHypo (9.7) and controls (10.3).

After a mean follow-up time of  $8.2 \pm 4.3$  years BDI scores did not differ between SHypo participants and controls (pooled MD 0.2, 95% CI -0.2 to 0.6, I<sup>2</sup> 0.0%) The results remained robust in sensitivity analyses, excluding participants taking thyroid or antidepressant medication (N=22,527).

Conclusion: In this large study of prospective cohorts, SHypo was not associated with an increase in depressive symptoms. Depressive symptoms do not seem to be a good indication for thyroxine therapy if no overt hypothyroidism is present.

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**P 36**

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**Projekte zur Erreichbarkeit von vulnerablen Familien in der Schweiz****Background:**

Schwangerschaft und frühe Kindheit sind prägende Phasen im Leben. Die Familie stellt das entscheidende Bezugssystem für das Kind dar und trägt wesentlich zur Verringerung von Risikofaktoren und Aufbau von Schutzfaktoren bei. Kinder, die in psychosozial belasteten Familien aufwachsen, haben ein erhöhtes Risiko für abweichende Entwicklung und beeinträchtigte Gesundheit. In der frühkindlichen Prävention und Gesundheitsförderung ist die Unterstützung von Familien daher zentral. Belastete Familien haben jedoch oft schlechteren Zugang zu Betreuungsangeboten und nutzen diese weniger. Da bislang keine Übersicht über bestehende Angebote oder deren Wirksamkeit vorlag, wurden im Rahmen einer wissenschaftlichen Übersichtsarbeit im Auftrag des BAGs, evaluierte Angebote für Familien in vulnerablen Situationen, Wirksamkeitsparameter und Erreichbarkeit der Zielgruppen recherchiert und beurteilt.

**Methode:**

Basierend auf internem Projekt-Wissen, Literatur- und Internetrecherchen sowie Anfrage der kantonalen Gesundheitsdepartemente wurden evaluierte Projekte für vulnerable Familien/werdende Mütter recherchiert, und die Projektevaluationen nach Wirksamkeitsparametern analysiert. Als Vulnerabilitätsfaktoren wurden Armutsgefährdung, häusliche Gewalt, psychische Krankheit oder Suchtproblematik der Eltern und Migrationshintergrund definiert. Der Fokus lag auf Angebote für die frühe Kindheit, 0 - 4 Jahre inkl. Schwangerschaft.

**Ergebnisse:**

Es besteht ein vielfältiges Angebot für vulnerable Familien, darunter auch viele evaluierte Projekte, besonders im Bereich der Frühen Förderung. Die Abdeckung ist kantonal unterschiedlich. Nur wenige Kantone haben einen Überblick über regionale Angebote. Evaluationen der Projekte sind sehr heterogen, von Teilnehmerbefragungen bis zu Interventionsstudien mit Kontrollgruppen. Vernetzung, Niederschwelligkeit, MultiplikatorInnen und geschulte Schlüsselpersonen sind Prädiktoren für die Erreichbarkeit der Zielgruppe.

**Konklusion:**

Die grosse Anzahl von Anbietern und das fehlende Wissen der kantonalen Behörden zu lokalen Programmen erlauben nicht, konkrete Versorgungslücken zu identifizieren. Um das Angebot für vulnerable Familien bedarfsgerecht auszubauen, wäre eine Charakterisierung der nicht erreichten bzw. nicht versorgten Mütter/Familien wichtig. Eine umfassende Übersicht der Angebote auf einer nationalen Plattform/Datenbank zu bestehenden Programmen könnte sowohl Implementierung relevanter Angebote als auch Beratung von Eltern verbessern.

**P 37**

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### **Towards an automatic assessment of impaired handwriting (and visuo-motor skills) in children with ADHD**

#### **Background:**

Attention-deficit/hyperactivity disorder (ADHD) represents a major public health problem with a broad range of negative outcomes for the affected individuals and with a serious social and financial burden to families and society. More than 50% of children with ADHD suffer from impaired handwriting (HW). Impaired HW and fine motor (FM) skills lead to emotional frustration and interfere with the ability to demonstrate knowledge or complete school work. As children spend up to 60% of their day performing HW and other FM skills, these skills represent an important factor for school achievement and even predict it.

Given this importance of FM and HW skills, reliable, valid and easily applicable methods to measure these skills are particularly relevant. However, such an instrument is still missing. Digital innovations offer opportunities to address this problem. A promising tool are digital pens that can measure graphomotor parameters such as stroke size pressure and writing speed. In fact, initial studies on motor skills of children with ADHD provide first hints on the usability and acceptance of digital pens. This pilot study aims to test the feasibility of automatically assessing HW and visuo-motor skills via digital pens and to investigate differences in graphomotor parameters between children with and without an ADHD diagnosis.

#### **Method:**

Forty 8-12-year-old children (20 children with ADHD; 20 without ADHD) will participate in the study. Children with an ADHD diagnosis are recruited by the Social-Pediatric Centre in Winterthur, while control children are recruited from public schools. Both groups perform a visuo-motor and a HW test. As control variables, ADHD symptoms (Conners 3) and cognitive abilities (WISC-V) will be assessed.

#### **Results:**

Differences in HW parameters are expected such that children with ADHD diagnosis perform worse in the visuo-motor and HW test, exert more pressure and write with decreased speed relative to typically developing children.

#### **Conclusion:**

The study will provide first evidence on the feasibility of automatically assessing HW and visuo-motor skills with a digital pen. Furthermore, it offers insights on characteristic differences in HW parameters between children with ADHD and typically developing children. Given the high public health relevance of HW problems, these findings represent a promising step towards a systematic assessment and development of training interventions in the context of ADHD.