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1

IMPACT OF VIOLENCE RELATED ADVERSE CHILDHOOD EXPERIENCES ON HEALTH

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BACKGROUND: Growing evidence suggests a graded relationship between Adverse Childhood Experiences (ACE) and unfavorable health outcomes. But most studies were conducted with adults. The importance of ACEs on future health outcomes was demonstrated by Felitti & Anda.

OBJECTIVES: To document the prevalence of violence related ACEs in a representative sample of students and explore their contribution to different health indicators or outcomes.

DESIGN/METHODS: Data are derived from a large multidimensional study on interpersonal violence in teens. A questionnaire was completed by 8,194 students 14–18 yo. in school, after a one-stage stratified cluster sampling of high schools students in the province. Adverse childhood experiences included: being victim of physical and/or sexual abuse, witnessing violence, witnessing father-to-mother and mother-to-father psychological and physical violence. Health outcomes considered: use of health care services, medication, serious accident, drug abuse, condom use, pregnancy, psychological distress, suicide ideations. The study was accepted by the ERB.

RESULTS: 76% of girls and 68% of boys reported at least one ACE, and 24% of girls and 16.5% of boys reported 3 or more ACEs, for a difference statistically significant between sexes for 3 or more ACEs. We found a statistically significant and increasing difference between 0 and 2 or 3 ACEs for the following health outcomes, ie, more teens reporting: use of health services, medication in past year, serious accident, substance use 3 times or more/week for boys, psychological distress, suicide ideation. We found a statistically significant difference between 0 and 3 ACEs for the following health outcomes, ie, more teens reporting: substance use 3 times or more/week for girls, higher number of sexual partners, pregnancies; and lower condom use for girls. Logistic regression analysis controlling for age shows that number of ACEs increases the risk for all health outcomes with OR ranging from 1.2 to 1.7, the highest being suicidal ideation and medication use, for both sexes; sexuality related indicators for girls; use of health services, injuries and psychological distress for boys.

CONCLUSION: Violence related adverse events have a major burden on subsequent health and health risks in teens. It is important to inquire, when teens are consulting, about personal / family violent events, being either victimized or witness. We should also pay more attention to cumulative effects of these events. At least for those with 2 ACEs or more, intervention should be offered.

2

EXCESSIVE LABORATORY MONITORING FOR REFEEDING SYNDROME: OPPORTUNITIES FOR ENHANCEMENT

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BACKGROUND: Anorexia nervosa (AN) is a complex medical condition affecting mainly adolescents and young adults. Despite the risk of refeeding syndrome, recent literature is supporting more aggressive inpatient nutritional rehabilitation. To aid physicians in monitoring and preventing refeeding syndrome, current guidelines recommend daily laboratory testing in the first week of hospitalization and 2–3 times/week for the following 3 weeks. Our hypothesis is that the number of recommended analysis is too important and the cost/benefit could be improved.

OBJECTIVES: The aim of this study is first to evaluate the incidence and risk factors of refeeding syndrome in adolescents with AN in a tertiary pediatric center specialized in the treatment of ED, and second to determine the proportion of pertinent blood tests, realized in patients admitted for nutritional rehabilitation, according to their state of malnutrition.

DESIGN/METHODS: A retrospective chart review of medical admissions occurring between May 2014 and May 2015 in a tertiary pediatric hospital was performed. Patients were included if they were younger than 18 years old, admitted for protocol-based refeeding (enteral feeding), and

met criteria for AN whether restrictive or purging sub-type. For patients with multiple admissions, each admission was analyzed separately. Patients with bulimia nervosa or patients presenting with a pre-existing comorbidity causing electrolyte abnormalities were excluded. Laboratory testing in our setting was done routinely upon admission and then repeated according to the attending physician's clinical judgment.

RESULTS: Of the 99 patient encounters included in the study, the mean age was 14.6 years, with female predominance (97%). The mean admission BMI was 15.3 ± 2 (z-score -2.6 ± 1.4). The mean length of hospitalization was 40.3 days ± 21.8 . No cases of refeeding syndrome were observed. We had 1289 laboratory tests performed, 13 per patient encounter. Of these, only 1.5% were abnormal values (n=16 phosphorus, n=2 magnesium, n=2 potassium) and 0.85% led to supplementation (n=8 phosphorus, n=2 magnesium, n=1 potassium). Patients with abnormal values had similar age, BMI, length of illness and number of hospitalizations compared to patients with normal values. No critical values were identified. The total cost for laboratories performed was 148 926.80\$, on average 1504\$/admitted patient.

CONCLUSION: In our studied population, no cases of refeeding syndrome were observed. Although we performed a lower number of laboratory test than currently recommended without any consequences on outcome or management, we believe there is potential for improvement in those numbers. Further studies are needed to determine the frequency of laboratory testing required to monitor refeeding syndrome.

3

FACILITATING ENGAGEMENT WITH SPEECH AND LANGUAGE SERVICES IN CHILDREN OF ADOLESCENT MOTHERS

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BACKGROUND: The relationship between early language delay and lower socioeconomic status is well established. This trend is particularly troubling when considering the outcomes of children born to adolescent mothers, whose incomes tend to fall well below the poverty line and whose difficult social circumstances may undermine the provision of an enriching home literacy environment for their children. Among the children of adolescent mothers involved in a Teen-Tot clinic, almost half of the children were identified with an expressive speech and language delay by the age of 18 months. Despite the successes of early intervention, it is believed that less than 25% of adolescent mothers involved with the Teen-Tot clinic whose children were identified with a speech delay followed-up with the recommended hearing assessment and referral to preschool speech and language services.

OBJECTIVES: The purpose of this study was to better understand factors that would facilitate engagement with speech and language services for children of adolescent mothers, and to explore alternative delivery models for this service.

DESIGN/METHODS: Adolescent mothers receiving care at a Teen-Tot clinic were invited to: 1) complete a survey that asked about their home literacy environment, their perception of their child's speech and language development, and perceived barriers to accessing community-based speech and language services; and 2) participate in a single speech and language education session followed by a focus group to elicit their feedback about alternative delivery models for speech and language services. Survey data were analyzed using descriptive statistics, and the focus group discussions were analysed using a descriptive qualitative approach.

RESULTS: Survey data revealed significant barriers to engagement with community-based speech and language services. When asked about preferred delivery models for speech and language services, focus groups participants indicated that they were most interested in attending group speech and language sessions offered within the Teen-Tot clinic by a speech and language professional.

CONCLUSION: There is a high prevalence of early speech and language delay among the children of adolescent mothers. Many of these mothers

face difficulties engaging with traditional speech and language services due to systemic barriers and personal circumstances. Our study revealed that group speech and language sessions offered within the setting of a Teen-Tot clinic may be an effective strategy for engaging young mothers in addressing their children's early speech and language delay and ultimately facilitating positive developmental and socio-economic outcomes.

4

SPORT MOTIVES AND PSYCHOACTIVE SUBSTANCE USE OF YOUNG ATHLETES: DOES THE IMPORTANT THING IS REALLY TO TAKE PART?

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BACKGROUND: As for ergogenic substances, studies show that groups of young athletes are more likely to use psychoactive substances than their peers. The links underlying these two contrasting health habits yet stay elusive.

OBJECTIVES: As a possible explanation, this study examines the relationship between sport motives and psychoactive substance use of young athletes within a sample of participants enabling generalization of findings to diverse sport practice.

DESIGN/METHODS: Using data issued from a larger ERB approved cross-sectional study of adolescents aged 16–20 years from the French-speaking part of Switzerland (2009–10), further weighted for regional representativeness, 894 participants reported practicing sports outside academic obligation. These adolescent athletes (AA) were asked how strongly each of 13 sport motives fitted to their sport practice (on a 4-grade scale further dichotomized between absolutely and others). AA also reported on their smoking habit (at least daily), hazardous drinking (binge drinking at least once in the past month) and cannabis use (at least once in the past month). Significant associations ($p < 0.05$) at the bivariate level (chi-square test) between sport motives and substances used were subsequently included in a multivariate logistic regression (Adjusted Odds Ratio [95%CI]) accounting for sport type (individual/group), level (leisure/competition), and weekly time devoted to sports (≤ 3.5 , 3.6–10.5, 10.6–17.5, > 17.5 hours) among other variables (age, SES, academic track). Analyses were computed separately between genders.

RESULTS: *To have fun* was the single most frequent sport motive AA of both genders reported on, while male AA were more likely to depict for *competition*, *earning money*, and *winning first place*, and female AA *to workout physically* and *become thinner*. At the multivariate level, *to become thinner* (3.66 [1.17–11.49]; smoking) and *because my parents practiced sports* (3.80 [1.13–12.82]; cannabis) remained positively associated with substance use of male AA. For female AA, *for health* (0.59 [0.37–0.94]; hazardous drinking) and *competition* (0.38 [0.15–0.98]; smoking; 0.51 [0.27–0.94]; hazardous drinking) were negatively associated with substance use, while *to become thinner* (2.98 [1.73–5.13]; hazardous drinking) and *to develop your body* (2.23 [1.40–3.56]; hazardous drinking) were positively linked to it.

CONCLUSION: The numerous associations found between sport motives and psychoactive substance use of male and female AA shed light on issues likely shared by these two theoretically conflicting health habits. So that young athletes can benefit from all the aspects of sport practice, focusing on the right goals seems fundamental.

5

LOOKING BEYOND THE TRANSPLANT: THE EFFECTS OF HEART TRANSPLANT ON PATIENT EDUCATION AND RISK BEHAVIOUR

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BACKGROUND: We suspected that adolescent heart transplant patients had a different profile of risk behaviours and educational functioning than the general population. To plan for appropriate clinical support for them, we need to move beyond suspicion to actual data. This information will provide insight into the lives of heart transplant adolescents and contribute to a plan for appropriate care.

OBJECTIVES: To plan for appropriate clinical supports for adolescents who have undergone heart transplants based on their psychosocial needs.

DESIGN/METHODS: A chart review was conducted on patients who had undergone a heart transplant and were born between 1983 and 2000. Data regarding educational supports and achievement along with psychosocial outcomes and factors including job status, mood, bullying and alcohol or drug use was collected. Prevalence measurements were calculated based on binary numbers assigned to yes and no answers. Unknown data was not included.

RESULTS: There were 70 patients who met our search criteria. Our data showed 44% of patients demonstrated academic/intellectual abilities below age expected levels. At least 25% had special educational needs (including intellectual or learning disability, or individualized educational plan), 17% were bullied and 34% had a mood rating of 5 out of 10 or lower. Examination of risk behaviours revealed that 30% of patients consumed alcohol below the legal drinking age, fewer than 20% had tried drugs, and 8% had smoked at least one cigarette.

CONCLUSION: Our study demonstrates that adolescents who underwent heart transplantation are at risk of being below age appropriate grade level at school. Furthermore, at least a quarter of the patients require special educational supports. This is a finding not discussed in the literature previously. The values for alcohol, drugs and cigarette use are lower than provincial norms. Interventions to promote educational attainment, address mood and help adolescents cope with bullying should be given priority, while not ignoring risk behaviours even though they occur less frequently than in the general population.

6

EMOTIONAL SUPPORT FOR SIBLINGS OF CHILDREN WITH CHRONIC ILLNESS

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BACKGROUND: Siblings of sick children are not often the focus of the family's attention. Families with a sick child are commonly stressed by time, emotions and finances. Sibling mental health can be difficult for parents to appreciate (Roche et al., 2016) and many studies reveal the developmental importance of sibling relationships (Feinberg et al., 2012). An annual event was created at our tertiary care pediatric centre to celebrate and support siblings of patients with chronic complex medical issues. The primary purpose of this event was to raise awareness for sibling support and to connect families with possible community supports.

OBJECTIVES: This study had two primary objectives. First, we studied if parents of complex pediatric patients recognize emotional stress on their other children. Secondly, we inquired if these parents are accessing psychological support resources for these siblings.

DESIGN/METHODS: The third annual sibling celebration events was held by the pediatric resident advocacy group at our tertiary care pediatric centre. Awareness of the event was created by posters distributed in the hospital and in the community. Over 20 families and 100 people total attended this event. Caregivers who attended the sibling celebration event were given the opportunity to complete a survey addressing the emotional health of siblings. The survey also collected demographics, and invited comments about the event for quality assurance.

RESULTS: Parental surveys were administered and 20 responses were collected. All parents surveyed reported a perceived impact of chronic illness on the well sibling(s). Most caregivers reported impact was moderate or significant (85%). The majority of primary caregivers (67%) were concerned about the emotional health of the siblings. The majority (90%) of all caregivers reported not accessing resources for emotional support of the siblings. There were also comments regarding stressors and factors contributing to why sibling emotional supports were not being accessed.

CONCLUSION: Parents of children with chronic illness perceive that emotional stress is an significant issue for their healthy children. Despite this being a recognized need and worry, the majority of these parents are not accessing psychological supports for the siblings. Reasons for not accessing resources are multi-factorial, and should be explored further in future studies. Preliminary results suggest lack of time, limited available resources in the community and financial stresses are predominant challenges. Exploring this topic further is