



RESEARCH ARTICLE

The Health and Well-being of Children and Adolescents Accessing In-Patient Psychiatry: A Brief Report

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Abstract

Objective: People with mental illness have high rates of physical illness that are not detected and that shorten their lifespan. Health behaviours are central to physical health, and many children and adolescents with psychiatric illness may be at risk for poor physical health. The purpose for this study was to explore the self-reported health behaviours and well-being of pediatric psychiatric patients and their association with mental health problems. **Methods:** Pediatric patients hospitalized for psychiatric care were invited to complete a survey containing items on amount of physical activity, nutrient intake and sleep, a standardized perceived stress scale, and the Strengths and Difficult Questionnaire. **Results:** Informed consent was provided by 161 patients who completed the survey. Youth reported: engaging in very little physical activity, eating fruits and vegetables about 2-3 times per week, not sleeping well and very high perceived stress. **Discussion:** Implications for practice include increasing opportunities for and monitoring of health behaviours in youth hospitalized for psychiatric illness. Further research is needed to explore interventions designed to improve the physical health and mental well-being of youth with psychiatric illness and possibly the inpatient environment.

Key Words: *well-being, health and psychiatric illness, health behaviours, activity, nutrition, sleep, stress and outlook*

Résumé

Objectif: Les personnes souffrant de maladie mentale ont des taux élevés de maladie physique qui ne sont pas détectés et qui réduisent leur durée de vie. Les comportements liés à la santé sont au centre de la santé physique, et bien des enfants et adolescents souffrant de maladie psychiatrique peuvent être à risque d'une mauvaise santé physique. Le but de cette étude était d'explorer les comportements liés à la santé et au bien-être auto-déclarés par des patients psychiatriques pédiatriques et leur association aux problèmes de santé mentale. **Méthodes:** Les patients pédiatriques hospitalisés pour des soins psychiatriques ont été invités à remplir un sondage dont les items portaient sur la quantité d'activité physique, l'apport en nutriments et le sommeil, une échelle normalisée du stress perçu, et un questionnaire sur les forces et difficultés. **Résultats:** Un consentement éclairé a été donné par les 161 patients qui ont rempli le sondage. Les adolescents déclaraient très peu d'activité physique, mangeaient fruits et légumes environ 2 à 3 fois par semaine, ne dormaient pas bien et leur perception du stress était très élevée. **Discussion:** Les implications pour la pratique sont notamment de plus grandes possibilités d'améliorer et de surveiller les comportements liés à la santé chez les adolescents hospitalisés pour une maladie psychiatrique. Il faut plus de recherche pour explorer les interventions destinées à améliorer la santé physique et le bien-être mental des adolescents souffrant de maladie psychiatrique et possiblement, l'environnement des patients hospitalisés.

Mots clés: *bien-être, maladie physique et psychiatrique, comportements liés à la santé, activité, nutrition, sommeil, stress et perception*

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People with mental illness have high rates of physical illness that are not detected and that result in a shorter lifespan compared to the general population (De Hert et al., 2011; Phelan, Stradins, & Morrison, 2001). A growing body of literature has indicated that children and adolescents (herein youth) with emotional and behavioural disorders also have a greater prevalence of physical health conditions than the general population. Common physical health conditions for these youth include respiratory problems (e.g., asthma, allergies; Aarons et al., 2008; Chavira, Garland, Daley, & Hough, 2008; Goodwin, Lewinsohn, & Seeley, 2004; Hedden, Blau, Lipari, & Rubenstein, 2017), infectious diseases (e.g., flus, colds, etc.; Aarons et al., 2008), weight problems (Aarons et al., 2008; Hedden et al., 2017; Nelson et al., 2013), somatic complaints (e.g., migraines, stomachaches; Crawley et al., 2014; Yacob et al., 2013), sleep problems (Van Dyk, Thompson, & Nelson, 2016; Lavato & Gradisar, 2014; Crawley et al., 2014; Gregory & Sadeh, 2012; Reigstad, Jorgensen, Sund, & Wichstorm, 2010; Moreau, Belanger, Begin, & Morin, 2009), and gastrointestinal disorders (Yacob et al., 2013; Laget et al., 2006). These physical health consequences can last into adulthood (Aarons et al., 2008; Bardone et al., 1998; Wickrama, Wickrama, & Lott, 2009) as can the poor mental well-being of youth with physical illness (Anderson, Cohen, Naumova & Must, 2006; Cohen, Pine, Must, Kasen, & Brook, 1998; Goodwin et al., 2004; Gregory, Caspi, Moffitt, O'Conner, & Pouton, 2005; Morehouse, Kusumakar, Kutcher, LeBlanc, & Armitage, 2002). Moreover, physical health conditions have been shown to adversely impact clinical outcomes for youth with moderate to severe emotional and behavior disorder accessing intensive treatment (Van Dyk, Nelson, Epstein, & Thompson, 2014). Thus, assessment and intervention strategies should not focus exclusively on psychiatric disorder and symptoms but also include a comprehensive assessment of both mental well-being and physical conditions for youth with mental illness.

The growing number of youth accessing in-patient psychiatric care may make them a particularly high-risk population for comorbid physical health problems (Canadian Institute for Health Information, CIHI, 2015; Ghandi et al., 2016). Moreover, health behaviours during childhood can predict health in adulthood (Nigg & Amato, 2015) though engaging in optimal or even good health practices may be difficult for youth with psychiatric illness. One's mood (depression or anxiety) can influence the motivation or ability to monitor health behaviours, such as engaging in physical activity, healthy eating, and getting adequate sleep, which may compromise the immune system and create a higher risk for physical health problems (Herbert & Cohen, 1993) and poor mental well-being. In fact, a strong association to inadequate physical activity and vegetable consumption has been shown for youth reporting psychological distress (Arbour-Nicotopoulos, Faulkner, Irving, 2012). Youth with psychiatric disorders have been shown to be three times more likely than the general population to have low activity

levels, and this finding is especially true for youth with mood disorders (Mangerud, Bjerkeset, Lydersen, & Indredavik, 2014). Sleep disturbance in youth with psychiatric disorder is well-documented (Ramtekkar & Ivanenko, 2015) though there is a dearth of research that has been focused on youth subjective sleep quality. While nutrient intake for adults with depression and other mental illness (Sathyanarayana Rao, Asha, Ramesh, & Jagannatha Rao, 2008), and children with Autism (Hyman et al., 2012) has been shown to be inadequate, scant research has been focused on youth hospitalized for psychiatric disorders. Moreover, youth with mood disorders tend to hold more negative perceptions of their overall physical health compared to youth without mood disorders (Hedden et al., 2017). Lastly, prolonged or chronic stress can have significant impacts on child health including behavioural, physical and mental health (Schneiderman, Ironson, & Siegel, 2005; Rosmond, 2005). Taken together, little is known about the health behaviours and perceived stress of youth accessing in-patient psychiatry though these aspects of life can have profound impacts on illness and recovery, and physical and mental well-being.

The goal of the present report is to explore and describe the self-reported general health behaviours, and perceptions of stress and health of children and adolescents accessing in-patient psychiatric treatment. Due to the exploratory nature of the study, no hypotheses were formulated. This report is part of a larger study on psychosocial experiences of youth hospitalized for psychiatric care. Institutional clearance was provided by the Research Ethics Boards of Grand River Hospital and the University of Guelph.

Methods

Participants were youth who were hospitalized for psychiatric care. Youth with developmental disability or active psychosis were excluded. Youth 14 years old or older and caregivers (parental) of youth 13 years and younger were informed by hospital staff that a study was in progress and requested consent to release their name and contact to a research assistant (RA) who could describe the study in detail. For those who consented, the RA described the study and obtained informed consent for the youth to complete a questionnaire while in hospital. Consent from youth younger than 13 years was also obtained. The youth completed the questionnaire in a quiet space in the hospital unit. Data were collected from October 2015 to March 2016.

The setting was a child and adolescent in-patient psychiatry (CAIP) unit in a regional hospital where assessment, crisis intervention, stabilization and treatment are provided. Treatment involves a multi-disciplinary team including psychiatrists, mental health nurses, social workers, child and youth workers, a school teacher and a music therapist who also address lifestyle choices, coping skills, nutrition, exercise and sleep, and addictions or drug misuse, and encourage health behaviours.

Measures

The questionnaire contained standardized measures of self-reported mental health problems, health behaviours and perceived stress. Mental health problems were captured with the Strengths and Difficulties Questionnaire (SDQ; Goodman, Ford, Simmons, Gatward, & Meltzer, 2000). The SDQ contains five subscales: emotional problems; hyperactivity, conduct problems, peer problems and prosocial activities. It has been shown to be valid and reliable (Goodman, 2001; Goodman et al., 2000; Goodman & Goodman, 2009; Goodman, Meltzer, & Bailey, 1998; Lundh, Wangby-Lundh, & Bjarehed, 2008) and has been used extensively with youth with mental illness (Vostanis, 2006). Reliability analysis revealed an alpha value of 0.6 for this study. Perceived stress was measured with the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983), the 14-item version. Participants rated the degree to which situations were appraised as stressful on a five-point scale. Example items include “How often in the past month have you: felt that you were on top of things? ... felt that you were unable to control the important things in your life?” The validity, reliability and predictive capacity of the PSS have been reported (Cohen, 1986; Cohen et al., 1983). Reliability analysis revealed an alpha value of 0.8 for this study.

Individual items on health behaviours were developed from standardized measures (Physical Activity Questionnaire; Crocker et al., 1997; The Canada Food Guide; Health Canada 2007; World Health Organization Quality of Life; WHOQOL, 1995) in order to make comparisons to normative data. For physical activity the question was “In the past seven days how many times did you do sports, dance, or play games in which you were very active?” For nutrition intake, it was “In the past seven days how many times did you eat fresh fruits or vegetables?” These items are consistent with recent research on health behaviours of youth with psychological distress (Arbour-Nicitopoulos et al., 2012). The item on sleep was “I have trouble falling or staying asleep” and for satisfaction of overall health it was “How happy/satisfied are you with your overall health?” Response options were based on a five-point scale ranging from 1 (never/none) to 5 (six or more times per week, very often or very satisfied). Primary diagnoses were provided by the most responsible psychiatrist.

Data Analysis

Demographic characteristics, and mental and physical health characteristics were presented with descriptive statistics.

Results

Of the 233 youth who met inclusion criteria, 161 participants (72%RR) completed the survey. Youth ranged in age from eight to 18 years with a mean of 15.41 (SD1.4), and most (n=121, 75%) were female (Table 1). The main

primary diagnoses were major depression, anxiety, adjustment, attentional/hyperactivity disorders and parent-child relationship disorder. Youth rated their emotional problems and their overall total difficulties in the severe category. Youth reported that they often have trouble falling or staying asleep (mean 4.3/5 with 5 as very often). They reported being very active about once or twice in the previous week, and eating fresh fruits or vegetables two to three times in the previous week. They were generally not satisfied with their overall health. The mean score on perceived stress was 40.56 (SD 7.67) which is considerably higher than the sample of adolescents with psychiatric illness reported by Martin and colleagues (mean 38.8; SD 10.21; $t = 7.7914$, $p = 0.0001$) in 1995 (Martin, Kazarian, & Breiter, 1995).

Discussion

Youth hospitalized for psychiatric disorder reported engaging in very little physical activity and consuming few fruits or vegetables. They also reported significant sleep difficulties and perceived stress and very low satisfaction of their physical health. These results suggest concern for the mental and physical well-being of these youth is warranted. For comparison to recommendations, guidelines for physical activity for Canadian youth (aged 12-17 years) is 60 minutes of moderate to vigorous activity daily (Canadian Physical Activity Guidelines, nd); the youth in this sample reported engaging in this level of activity about once or twice that week. In the Canada Food Guide, for children aged nine to 18 years, six to eight servings of fruits and vegetables per day are recommended depending on age and gender whereas the youth in this study reported consuming fruits and vegetables two to three times within the previous week. For comparison to reports of Canadian youth aged 15 years (WHO, 2000), the proportion of Canadian female youth who reported exercising at least twice per week was 54% compared to 37% of the female patients in this study, and Canadian male youth reported 75% while male patients reported 43%. The proportion of daily fruit and vegetable consumption for Canadian youth was 65% for females and 61% for Canadian males compared to consumption of fruit and vegetables six or more days per week by 27% of female patients and 33% of male patients in this study. In the whole WHO sample representing 26 developed countries, about 90% of youth reported feeling healthy or very healthy while only 30% of the patients in this study reported being satisfied or very satisfied with their health.

There is a strong link between these health behaviours (i.e., healthy eating, exercise and sleep patterns) and mood or mental health, and physical and cognitive health that can extend into adulthood (Center for Disease Control and Prevention CDC, 1996; Reiner, Niermann, Jekauc, & Woll, 2013; Shevtsova, Tan, Merkley, Winocur, & Wojtowicz, 2017; Yoo, Gujar, Hu, Jolesz, & Walker, 2007). Collectively, these behaviours can have a significant impact on development including optimal cognitive, physical and

Table 1. Youth characteristics, n = 161

Age, mean (SD)	15.42 (1.40)
Gender, no. (%)	
Female	121 (75)
Male	37 (23)
Grade, no. (%)	n = 148
3-6	3 (1.8)
8	6 (3.8)
9	25 (15.6)
10	47 (29.4)
11	37 (23.1)
12	30 (18.8)
Strengths and Difficulties Questionnaire, mean (SD)	157 ≤ n ≤ 161
Emotional problems	7.51 (2.40)**
Conduct problems	3.05 (2.10)
Inattention-hyperactivity	6.99 (2.68) *
Peer problems	4.32 (2.52) *
Prosocial behaviour	8.06 (3.01)
Total	21.74 (5.75) **
Primary Diagnoses, n (%)	
Major Depression	91 (57%)
Adjustment disorder	22(14%)
ADHD/ADD	17(11%)
Social Anxiety	14 (9%)
Substance misuse	11 (7%)
General Anxiety disorder	10 (6%)
Health Behaviours, mean score (SD)	151 ≤ n ≤ 160
Sleep	4.3 (1.13)
Physical Activity	1.13 (1.22)
Nutrition (fruits and vegetable intake)	2.66 (1.14)
Satisfaction with overall health	1.47 (1.12)
Perceived Stress	40.56(7.67)**
* High score; ** Very high score	

intellectual development, and positive impacts on perceived stress, sleep and outlook. These behaviours have also been shown to prevent health problems, such as overweight and obesity, eating disorders and vitamin deficiencies, and they are associated with the prevention of long-term health problems such as cancer, heart disease and stroke. Therefore, recommending or providing interventions that are designed to improve these behaviours to improve overall health, and teaching strategies (including modelling) to help youth learn how to maintain these healthy patterns, can be an important focus of an inpatient or outpatient mental health treatment plan. Not only can these interventions improve

physical health, they also can significantly improve mental health. The benefits of engaging in these health behaviours can be especially important in illnesses such as depression in which some of the core symptoms (e.g., decrease motivation, sleep/appetite changes, fatigue, etc.) directly interfere with health behaviours. It is also possible that the addition of interventions to promote health patterns could have a positive impact on the side effects of some medications used to treat psychiatric illness. For example, some of these side effects include increased blood sugar, cholesterol and abdominal girth, and these effects are especially found with second generation antipsychotics (Üçok & Gaebel, 2008). If these medications are used as a part of the treatment plan then healthy lifestyle behaviours are even more important to instill in children and youth.

These findings highlight the need for routine screening and monitoring of physical health behaviours and well-being in child and adolescent patients with psychiatric illness. Early identification, as well as management of risky health behaviours (and poor outlook) may serve as points of intervention to promote overall well-being and offset the compounded risk of subsequent physical poor health in those with mental illness. Moreover, these findings may encourage a comprehensive approach to treating youth with psychiatric illness that includes attention to health behaviours to promote physical and mental well-being, and attention to providing a setting conducive for health such as dedicated space and equipment for exercise and addressing environmental factors as best as possible to support sleep (see e.g., DuBois & Hadi, 2016).

Perceptions of high stress and poor health were also concerning for this sample. Satisfaction with health has been reported to be related to exposure to health risks and overall utilization of health services (WHO, 2000) and therefore may be an important clinical focus for youth with a poor perception of their health. Similarly, perceived stress can impede physical activity (Stults-Kolehmainen & Sinha, 2014) and can impede cognitive tasks such as attention and concentration that are needed for academic success (Shankar & Park, 2016). Moreover, high perceived stress and the perception of stress affecting health have been shown to place individuals at increased risk for premature death (Keller et al., 2012). Thus, these findings support investment in the promotion of overall health and well-being for youth with psychiatric illness that includes a focus on health behaviours, stress management and perceptions of well-being.

This report highlights an area requiring greater attention for youth with psychiatric disorder, though it is not without limitations. The study was conducted in one hospital providing child and adolescent psychiatric care to a region and may not be representative of all Canadian youth with psychiatric illness. It is important to note that the behaviours reported by the youth could be manifestations of their psychiatric illness. Moreover, the self-reported problems youth

reported could reflect a reporting bias. It should also be noted that youth were asked about their health behaviours within the last seven days which may have included the period of crisis that precipitated the admission and the period of adjustment to the hospital setting. Given the dearth of research on the health behaviours of youth hospitalized for psychiatric illness, the representativeness of these ratings is not known. With respect to diet and exercise, it is possible that changes such as a decreased appetite or less motivation to exercise manifest gradually over several months leading up to the admission, and it is also possible that some youth with good health behaviours prior to admission maintain them while hospitalized. It should be noted that youth were assessed by nurses and were only approached about the study if they were stable and able to provide full and informed consent. Regarding sleep, however, youth were asked about difficulty falling or staying asleep over the past month, and it should be noted that sleep habits could change due to changes in mental illness severity and there could be secondary changes related to the structure of the unit. Nevertheless, youth reported poor health behaviours while hospitalized which may suggest that consideration of clinical aims and the environmental context is warranted. In addition, this exploration of health behaviours was designed to be brief and to inform future research and practice but may have benefitted from additional measures on intention and self-efficacy, and objective measures. Lastly, reliance on self-report measures and recall may not provide precision but may provide a general sense of health behaviours.

In sum, youth hospitalized for psychiatric illness reported behaviours that can lead to poor health. They reported engaging in very little physical activity, eating few fruits and vegetables and poor sleep. They also reported very high perceived stress and were very dissatisfied with their overall health. These behavioural and perceptual factors are very important to overall physical health and mental well-being. These factors may be very critical for these youth because some of the symptoms of psychiatric illness (e.g., low motivation) may make it difficult to maintain health behavioural patterns while at the same time the side effects of medication (e.g., weight gain) may make engaging in these health behaviours both difficult and critical. While these findings are merely observations, they do provide a baseline that may be useful for gauging improvements. Greater attention to the delivery of interventions to address overall physical and mental well-being in psychiatric care and the in-patient setting appear warranted.

Acknowledgments / Conflicts of Interest

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