



RESEARCH ARTICLE

Sexual Health of Adolescent Patients Admitted to a Psychiatric Unit

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Abstract

Objective: To review sexual health screening practices during admission to an adolescent psychiatry unit. **Method:** Retrospective chart review of randomly selected youth admitted over a one-year period (2013). Data extracted included demographics, reasons for admission, sexual health history, as well as any comorbid behaviours noted. The main outcome measure was whether sexual health details were documented at any time during admission; if so, this information was extracted for analysis. Statistical analysis was done using univariate associations and logistic association. **Results:** Mean age of subjects (n=99, 79 females and 20 males) was 15.24 years (SD = 1.30). Most common reasons for admission were suicidal gestures/self harm (n=57, 58%) and mood disorders (n=53, 54%). Thirty-seven patients (37%) had sexual health information documented in their charts. No demographic variables were significantly associated with being asked sexual health questions. Patients who had mood disorder diagnoses had 6 times the odds (95%CI: 1.18 to 29.96, P=0.03) of sexual health questions being documented compared to those not diagnosed with mood disorders. **Conclusions:** Screening for sexual health concerns is not being documented in the majority of adolescent psychiatry inpatients. Omitting sexual health screening during hospitalizations represents a missed opportunity for investigation and management of sexual health issues in this high-risk group. As many adolescents, particular those struggling with mental illness, do not attend preventative health visits, screening for pregnancy risk and other reproductive health needs is recommended at every adolescent encounter and in all settings.

Key Words: *sexual health, inpatient psychiatry, hospital screening*

Résumé

Objectif: Examiner les pratiques de dépistage de la santé sexuelle durant l'hospitalisation dans une unité de psychiatrie pour adolescents. **Méthode:** Une revue rétrospective de dossiers d'adolescents choisis au hasard ayant été hospitalisés sur une période d'un an (2013). Les données extraites comprenaient des données démographiques, les raisons de l'hospitalisation, les antécédents de santé sexuelle, et tout comportement comorbide observé. La principale mesure de résultat était si les détails de la santé sexuelle étaient documentés à un moment de l'hospitalisation, si c'était le cas, cette information était extraite aux fins d'analyse. L'analyse statistique a été effectuée à l'aide d'associations univariées et d'association logistique. **Résultats:** L'âge moyen des sujets (n = 99, 79 filles et 20 garçons) était de 15,24 ans (ET = 1,30). Les raisons les plus communes de l'hospitalisation étaient les gestes suicidaires ou l'automutilation (n = 57, 58 %) et les troubles de l'humeur (n = 53, 54 %). Trente-sept patients (37 %) avaient de l'information sur la santé sexuelle

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documentée dans leur dossier. Aucune variable démographique n'était significativement associée au fait d'être interrogé sur la santé sexuelle. Les patients ayant des diagnostics de troubles de l'humeur avaient 6 fois plus de probabilités (IC à 95 % 1,18 à 29,96, $P = 0,03$) d'avoir des questions de santé sexuelle documentées que ceux n'ayant pas de ces diagnostics. **Conclusions:** Le dépistage des problèmes de santé sexuelle n'est pas documenté chez la majorité des adolescents hospitalisés en psychiatrie. L'omission du dépistage de la santé sexuelle durant les hospitalisations représente une occasion ratée d'investigation et de prise en charge des questions de santé sexuelle dans ce groupe à risque élevé. Comme bon nombre d'adolescents, en particulier ceux qui sont aux prises avec la maladie mentale ne font pas de visites de santé préventives, le dépistage du risque de grossesse et d'autres besoins de santé reproductive est recommandé pour toute rencontre avec un adolescent et dans tous les contextes.

Mots clés: *santé sexuelle, hospitalisation en psychiatrie, dépistage à l'hôpital*

Introduction

Adolescence is a dynamic period of physical and cognitive development associated with puberty and increasing independence from parents (Findlay, Pinzon, Goldberg & Frappier, 2008). The formation of sexual identity and intimate relationships is an important aspect of adolescent social development; as such, adolescence represents a time of sexual exploration for many youth. Beyond the social and physical development of young adulthood, adolescence is also well recognized as a period where mental health (MH) disorders can first manifest (Kessler et al., 2007).

It is estimated that 10-20% of Canadian youth are affected by a mental illness. (Canadian Mental Health Association, 2008) Pertaining to sexual health, adolescents with MH conditions have been found to engage in riskier sexual health practices as compared to matched youth without psychiatric illness (Ramrakha, Caspi, Dickson, Moffitt & Paul, 2000; Maclean, Xu, French & Ettner, 2013). As an example, a cross sectional study of a birth cohort at age 21 years showed that those with depressive, substance abuse, as well as schizophrenia spectrum disorders were significantly more likely to engage in sexual intercourse prior to the age of 16 years compared to those without those diagnoses (Ramrakha et al., 2000). Similarly, psychiatric patients with axis II disorders, as outlined in the DSM-IVR (including paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent and obsessive-compulsive disorders) (American Psychiatric Association, 2000) were more likely to have engaged in intercourse before age 16 years (Maclean et al., 2013). In another study, adolescents with substance dependence, anxiety, depressive, antisocial, mania, or schizophrenia spectrum disorders had a statistically significant increased lifetime risk of a sexually transmitted infection (STI) (Ramrakha et al., 2000). Furthermore, depressed mood in youth has been linked with less frequent condom use as well as having unplanned sex while using a substance (Brown et al., 2006; Wilson, Asbridge, Kisely & Langille, 2010). With regard to pregnancy risk, adolescent girls with a major mental health disorder, such as major depression, bipolar disorder, or a psychotic disorder, are three times more likely to get pregnant than those without a mental illness, and the rate of teenage pregnancy

in this group has been declining at a far slower pace than the rate in adolescent females without a MH diagnosis (Vigod et al., 2014).

Given the reality that a proportion of adolescents with MH diagnoses will require hospital admission as a consequence of their distress or impairment, and that adolescents with MH diagnoses are at higher risk of participation in risky sexual behaviours, the hospital setting should provide an opportunity to screen at-risk youth for sexual health issues and provide treatment and counseling that in turn may contribute to better sexual health outcomes. Further, sexual health practice screening may be considered especially important in this population given that medical follow-up in this cohort is lower than rates compared to youth without MH diagnoses (Gavin et al., 2014).

The objective of the current study was to review sexual health screening practices for youth admissions to a tertiary care pediatric inpatient psychiatry unit as completed by health care providers over the course of admission. To our knowledge, this is the first large Canadian study to examine sexual health screening practices in a youth psychiatry inpatient setting. By completing this review, we hoped to better understand sexual health care practices associated with this population and the health services utilized during the hospital stay.

Methods

We completed a retrospective chart review of youth admitted to a psychiatric inpatient ward at a tertiary care centre over a twelve-month period from January 2013 to December 2013. A data abstraction sheet was created by the authors (SVZ, MH) and trialed on 10% of patients to ensure feasibility. One hundred charts were randomly selected and reviewed from a total of 323 patients admitted during the study inclusion timeframe. Data collected on the abstraction form included: demographic information (such as age, gender, grade and attendance at school, and living situation); psychiatric diagnoses at admission and discharge; as well as co-morbid behaviours such as substance use and self-harm. Information regarding sexual health was collected from the charts, including: sexual orientation; gender

identity; engagement in sexual activity; age of sexual initiation; number of sexual partners; contraception and consistency of use; STI and pregnancy history and symptoms. In the event that no information was available in the chart, the option “not documented” was used and included in the data sheet. The study was reviewed and approved by our institution’s Research Ethics Board prior to data retrieval.

We examined the univariate associations between demographic variables and whether sexual health questions were asked (Yes or No) during the admission assessment or/and throughout the patient’s stay in hospital; the Pearson’s Chi-square test of independence and Fisher’s exact test were used for categorical variables while the Mann-Whitney U test was used for continuous variables. Logistic regression was used to further examine variables that are associated with sexual health questions being asked at any point of the admission. Four variables were determined to be included in the model a priori based on clinical expertise/relevance: age, gender, place of residence and having PTSD as discharge diagnosis. Age was categorized into less than 16 and equal or greater than 16. Variables that achieved statistical significant ($P < 0.05$) in univariate analysis were also included in the model. Hosmer and Lemeshow test was used to assess the fitness of the model.

Results

Demographics

Of the 100 charts included, one chart did not have data available from the psychiatric admission and was therefore excluded leaving 99 charts for analysis. Seventy-nine of the ninety-nine charts (80%) reviewed were female patients and 20 were male patients. No transgender patients were identified. The mean age of patients was 15.24 years ($SD = 1.30$, range 10-18 years). Mean length of hospital stay was 11.15 days ($SD = 7.75$ days). With respect to living arrangements prior to admission ($n=92$), the majority of patients ($n=75$, 82%) resided at home with at least one biological parent, eight lived in foster care, four in a group home, two with friends and one patient identified a local shelter as their residence. With regards to academic performance, 71.3% of patients ($n=67$) reported difficulties at school and 10% ($n=10$) reported not attending school at all.

Mental Health

The most common reasons documented for admission were suicidal gestures/self harm ($n=57$, 58%), mood disorders (ie. Major depressive disorder (MDD), dysthymia, bipolar disorder) ($n=53$, 54%), and/or anxiety disorders (ie. anxiety not otherwise specified (NOS), post-traumatic stress disorder (PTSD), panic disorder, social anxiety disorder, obsessive compulsive disorder (OCD)) ($n=25$, 25%). Other reasons for admission included parent-child relationship problems (PCRP) ($n=8$, 8%), attention deficit and

Table 1. Most common diagnoses provided at discharge

Discharge diagnoses	n (%)
Major Depressive Disorder	57 (58)
Parent Child Relationship Problem	42 (42)
Generalized Anxiety Disorder/Anxiety NOS	28 (28)
Substance Use/Abuse Disorder	13 (13)

hyperactivity disorder (ADHD) ($n=6$, 6%), psychosis ($n=6$, 8%), and adjustment disorder ($n=6$, 6%). Table 1 lists the most common diagnoses provided at discharge (many patients had more than one discharge diagnosis). A history of a previous psychiatric admission was found in 55 of the 99 patients (56%).

Mental Health Co-morbid Behaviours

At the time of first assessment, and during admission stays, many patients were noted to have co-morbid MH behaviours. The most common of these included a history of non-suicidal self-injury (NSSI) ($n=62$, 63%), and substance use ($n=44$, 44%), with marijuana ($n=37$, 37%) and alcohol ($n=20$, 20%) being the most common substances reported. A history of disordered eating behaviours or eating disorders (EDs) was also documented in 21 patients (21%).

Sexual Health

Only thirty-seven patients (37%) had sexual health related information documented in their charts, either completed at the time of admission ($n=22$, 25%), and/ or throughout the admission ($n=23$, 29%). Just over two-thirds (68%) of patient charts had no sexual health related information documented at any point.

Of the 33 total patients with documentation regarding current sexual activity, 17 (52%) were documented as being sexually active. Three patients had documentation of previous sexual abuse/sexual assault. With regards to sexual orientation, 12 patients identified as heterosexual, three as homosexual, one as bisexual, one unsure and the remainder undocumented. Seven patients had information documented regarding gender identity. In those who were documented as sexually active ($n=17$), two patients had documentation regarding age of sex initiation and seven had documentation regarding number of partners. The most frequently reported contraception used was condoms and the oral contraceptive pill (six patients reported using each). One patient reported using transdermal contraception and one reported using injected hormonal contraception. Three patients reported using no protection at all. Six patients reported using protection consistently and six reported inconsistent contraception use. A history of STI screening was asked in 13 patients with only one having been screened.

Table 2. Univariate associations between demographic variables and sexual health questions being asked at any point during the admission (n=99, yes=37)

Variables	Missing	No		Yes		P value
		n/Median	%/IQR	n/Median	%/IQR	
Gender (n %)	0					0.201
Female		47	59.5	32	40.5	
Male		15	75	5	25	
Age (n %)	1					0.211
<16		36	67.9	17	32.1	
≥16		25	55.6	20	44.4	
Place of residence (n %)	8					0.351
Not with Biological family		8	50	8	50	
With biological family		47	62.7	28	37.3	
Financial Concerns (n %)	2					0.411
No		51	63.7	29	36.3	
Yes		9	52.9	8	47.1	
Attending School (n %)	3					0.312
No		8	80	2	20	
Yes		51	59.3	35	40.7	
Difficulties at school (n %)	5					0.871
No		17	63	10	37	
Yes		41	61.2	26	38.8	
Age (Median, IQR)	1	15	14.0, 16.0	16	15.0, 16.0	0.173
Grade (Median, IQR)	24	10	9.0, 11.0	10	9.0, 11.0	0.373
Length of Stay (Median, IQR)	18	9	6.0, 15.0	11.5	4.3, 18.3	0.343

continued

Fifty-seven patients had documentation regarding abdominal pain (n=18 had abdominal pain, n=39 had no pain) and eight patients had information documented regarding vaginal discharge (n=2 had discharge, n=6 had none). In terms of investigations done while admitted, pregnancy tests were done on 14 patients and screening for STIs in nine patients. Twelve patients were referred to adolescent health outpatient clinic at the time of discharge (four patients no showed to clinic).

Based on univariate comparisons, no demographic variables were significantly associated with sexual health information being asked/documentated at any point during the admission (see Table 2). However, patients who had mood disorder as discharge diagnosis were significantly more likely to be asked about sexual health information. Mood disorder was included in the multiple logistic regression along with the four pre-specified covariates, and remained as the only significant variable in the model.; patients who

received a mood disorder diagnosis had six times the odds (95%CI: 1.18 to 29.96, P=0.03) of sexual health questions being documented compared to those not diagnosed with a mood disorder (see Table 3).

Discussion

Our study demonstrated that sexual health screening was not documented routinely in the vast majority of reviewed cases. The Centers for Disease Control and Prevention (CDC) and the Canadian Paediatric Society (CPS) recommend routine STI screening for all sexually active females (Allen & MacDonald, 2014; Gavin et al., 2014). Additionally, screening for reproductive health needs, such as pregnancy risk, is recommended at every adolescent encounter in all settings, since adolescents are known to avoid preventive health visits (Allen & MacDonald, 2014; Gavin et al., 2014). We were unable to find other published

Table 2. continued

Variables	Missing	No		Yes		P value
		n/Median	%/IQR	n/Median	%/IQR	
Discharge Diagnosis						
Mood disorder (n %)	0					0.0451
No		15	83.3	3	16.7	
Yes		47	58	34	42	
Anxiety disorder (n %)	0					0.481
No		33	66	17	34	
Yes		29	59.2	20	40.8	
Suicidal ideation (n %)	0					1.002
No		61	62.2	37	37.8	
Yes		1	100	0	0	
Eating disorder (n %)	0					0.722
No		57	63.3	33	36.7	
Yes		5	55.6	4	44.4	
Social admission (n %)	0					0.091
No		36	70.6	15	29.4	
Yes		26	54.2	22	45.8	
Psychosis (n %)	0					0.152
No		57	60.6	37	39.4	
Yes		5	100	0	0	
PTSD (n %)	0					0.322
No		57	64.8	31	35.2	
Yes		5	45.5	6	54.5	
¹ Pearson's Chi-Square test was used to examine the univariate association ² Fisher's exact test was used to examine the univariate association ³ Mann-Whitney U test was used to examine the univariate association {Please confirm if superscript numbers are required.}						

studies examining specific reproductive health screening procedures in youth or adult psychiatry inpatient settings. In the outpatient primary care setting, it has been shown that adherence to sexual health screening guidelines is low. One study evaluating clinician adherence to sexual health screening guidelines during adolescent routine well visits revealed that pediatric primary care clinicians have a low rate of patient sexual history documentation and STI testing (Goyal, Witt, Hayes, Zaotis & Gerber, 2014). Interestingly this study found that factors associated with sexual health documentation were older patient age, non-private insurance, patient being of Black race, and care by a female health provider (Goyal et al., 2014). How to best provide medical care for psychiatric inpatients has not been studied extensively. In general, adult psychiatric patients appear less likely to receive necessary medical care when compared with control populations (Goldman, 2000) and medical comorbidities prolong the length of stay for adults on an inpatient psychiatry ward (Lyketsos, Dunn, Kaminsky & Breakey, 2002). In that vein, there is mounting research

exploring ways for care coordination and collaboration across healthcare providers and systems. For example, one adult psychiatric hospital evaluated the medical care their patients received after a switch in their protocol and found that having internists (medical/non-psychiatric doctors) responsible for medical care on the psychiatric unit was well received by the treating psychiatrists, internists and allied health care on the units as compared to psychiatrists being responsible for all patient care (Saik, Sheitman, Mann, Stelle & Osberg, 2007).

There is a clear need for coordinated, collaborative care for youth admitted with MH diagnosis. Although setting up proper medical follow up and referrals post discharge is important, the inpatient setting is not only a time for screening and identification of sexual health needs but also for treatment. There is limited research evaluating collaboration among healthcare providers regarding sexual health screening and treatment of youth admitted on a psychiatric unit. A small Canadian study (n=32) reviewed a pilot of collaborative service between Child and Adolescent Psychiatry

Table 3. Logistic association examining the association between sexual health question being asked at any point of admission and age, PTSD diagnosis, mood disorder diagnosis and financial concerns(n=99)

	Estimates	Lower 95% CI	Upper 95% CI	P-value
Female	1.48	0.42	5.16	0.54
Age≥16	1.70	0.69	4.20	0.25
Not living with biological family	1.69	0.50	5.71	0.40
PTSD as discharge diagnosis	1.73	0.43	6.91	0.44
Mood disorder as discharge diagnosis	6.02	1.18	30.65	0.03
Hosmer and Lemeshow test (P=0.16)				

and Adolescent Medicine (Johnson, Barrett, Horricks, Akintan & Van Blyderveen, 2014). An advanced practice registered nurse assessed and treated youth on the inpatient psychiatry unit during their admission after identification by a mental health provider's sexual health assessment of the patient done at admission. They found that the teens on the adolescent inpatient mental health ward had higher risk taking behaviour related to sexual health as compared to the Canadian average statistics. One third of their sample had sexual health issues requiring intervention, including pelvic inflammatory disease (PID), pregnancy and STIs (Johnson et al., 2014).

The lack of apparent sexual health screening in our study is concerning given research has demonstrated that risky sexual behaviours occur regularly in those with a range of MH diagnoses. Symptoms of depression (a discharge diagnosis provided in over half of patients reviewed in the current study) have been found to be a significant predictor of increased sexual activity and decreased condom use (Brown et al., 2006; Wilson et al., 2010; Anatale & Kelly, 2015; Jackson, Seth, DiClemente & Lin, 2015) and yet only a minority of those with this diagnosis were appropriately screened for sexual health behavior and/or concerns. Screening at-risk adolescents regarding their sexual health is also important as research suggests risky sexual behaviours can persist into adulthood in patients with MH diagnoses. A study done by Gonzalez-Torres et al. examined the lifetime sexual behavior of a group of adult psychiatric inpatients, demonstrating low rates of condom use with one-third of the inpatients having paid for sexual intercourse and others engaging in sexual encounters with intravenous (IV) drug users and HIV-positive partners (Gonzalez-Torres et al., 2010). Although minimal sexual health-related data was available in the present study, our findings lend credence to previously demonstrated findings that youth with psychiatric conditions engage in sexual health behaviours that have the potential to increase risk; only 50% of patients in our cohort that were asked about contraception use or methods acknowledged using contraception consistently. As youth

mental health and substance use can affect capacity to use birth control correctly and consistently, (Rehm, Shield, Joharchi & Shuper, 2012; Jaccard 2009) this represents a missed opportunity to counsel around birth control options.

Additionally, documentation regarding comorbid behavior pointed to high rates of NSSI, substance use and disordered eating/EDs, suggesting that a proportion of patients are engaging in a variety of maladaptive coping behaviors. In keeping with theme, it would be prudent to ensure that patient assessments include questions that target and explore high risk sexual activity to ensure that opportunities for support, guidance, health care screening, and education are not missed.

Although not directly related to our primary objective, high rates of documented academic difficulties and/or truancy among reviewed patient charts is relevant as school absence places youth at increased risk for adverse outcomes, including risky sexual behaviours and teen pregnancy (Kearney, 2008). The specific struggles experienced and reasons for school absenteeism were beyond the scope of this study but this remains an important area in which to focus future research. In the current study, although few patients were admitted with concerns relating to family dynamics or conflict, PCRP was the second most common discharge diagnosis. This is also significant because research has shown that adolescents who reported feeling connected to parents and family were more likely than other teens to delay initiating sexual intercourse (Resnick et al., 1997). Additionally, strong communication between youth and parents has been associated with higher youth self-esteem and self-reliance, as well as later age of sex initiation and lower frequency of sex during adolescence than their peers (Steinberg, 2001; McNeely et al., 2002).

In our study, pregnancy and STI tests were done on a low proportion of patients. As adolescents with major MH disorders are more likely to experience pregnancy during adolescence than other youth, (Vigod et al., 2014) it would be important to take all opportunities available to screen this

population for pregnancy. Pregnant adolescents are at high risk for worsening MH conditions, (Hodgkinson, Beers, Southammakosane & Lewin, 2014) substance use, (Shaw, Lawlor & Najman, 2006) domestic violence, (Newman & Campbell, 2011) and children of teen mothers are at higher risk of prenatal death, premature birth and low birth weight as well as having growth and developmental concerns (Shaw et al., 2006; Black, Fleming & Rome, 2012; Morinis, Carson & Quigley, 2013). Failing to evaluate pregnancy risk in the hospital setting represents a missed opportunity for teen pregnancy prevention (Coles, Lau & Akers, 2016); and for youth who are pregnant, failing to screen represents a missed opportunity for support and further management.

Patients with a diagnosis of PTSD at discharge were not more likely to have had sexual health history documentation. Given the strong connection between sexual abuse/assault and mental health conditions, such as PTSD, (Kmett & Eack, 2016) there is an opportunity for increased education among health care providers to ensure that patients' needs are being met fully.

Our study demonstrated an inconsistency in sexual health related patient procedures, investigations, referrals and management in a large proportion of patients. We have identified a need to develop a standardized approach for ensuring these youth are screened at the time of admission and/or throughout their inpatient psychiatric stay. If a consistent approach to these questions is established within a pediatric healthcare setting, it is anticipated that a greater proportion of youth would be identified, which would in turn result in the appropriate steps taken to offer sexual health counseling during their inpatient stay, as well as appropriate follow-up measures taken following their discharge. Future research in this area must also consider the known social determinants and adverse childhood events (ACES) that often contribute to sexual health and mental health risks for youth, including poverty, poor educational attainment, abuse and/or neglect, and family dysfunction (Felitti et al., 1998). Establishing concrete guidelines to addressing sexual health in this cohort, with the knowledge of an adolescents' social history and ACES, could help with identifying those at higher risk for poor sexual health outcomes. The identification of current barriers to screening for sexual health is an important area of further research. Furthermore, the development and implementation of a screening questionnaire to be completed with the youth at the time of admission would be of value and a possibility for further research after implementation. These efforts will require strong collaboration and communication among healthcare providers across disciplines and across health care systems.

The current study is not without its limitations. We completed a retrospective review that inherently would have relied on the presence of documented information available in the chart. It is possible that some of the sexual health related questions might have, in fact, been asked, but not formally

documented. We feel the likelihood of this is low given the detail by which other issues, including review of symptoms pertinent to mental health conditions, social history, and presence of support structure were present. Moreover, because of the low number of charts with sexual health documentation available, we may not have had statistical power to detect true associations between variables. Finally, the applicability of our study to other centers may be limited as practices for psychiatric inpatient sexual health screening and patient admission to hospital may vary widely.

Conclusion

This study highlights the need for a consistent, standardized approach to sexual health in adolescents with psychiatric conditions in the inpatient setting. Sexual health screening should be undertaken at every encounter regardless of the setting with special attention to groups at higher risk (Gavin et al., 2014). Omitting screening in this unique population represents a missed opportunity for anticipatory guidance, preventative sexual health care education and investigation and management of sexual health issues. Further research is required to help determine ways to improve health care provider sexual health screening adherence, as well as better coordination and collaboration between healthcare providers and systems.

Acknowledgments / Conflicts of Interest

An earlier and condensed version of this work was presented at the North American Society for Pediatric and Adolescent Gynecology Annual Meeting, 2016, in Toronto and at the Canadian Paediatric Society Annual Meeting, 2016, in Prince Edward Island, Canada. The authors have no financial relationships to disclose.

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