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High-Risk Sexual Behaviour in Young People with Mental Health Disorders

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Abstract

Objective

This study aimed to determine the prevalence of high-risk sexual behaviours, sequelae and associated factors in young people attending a youth mental health service.

Methods

The study design was a cross-sectional survey of 103 young people aged between 15-25 years carried out across four specialist mental health clinics. A questionnaire on the sexual health of secondary level students was adapted for this study. Mental health symptomatology was assessed through the Brief Psychiatric Rating Scale (BPRS).

Results

The mean age was 20.9 (SD±2.8) years, with 50.5% being female, 41.7% male and 7.7% transgender. A total of 52.4% (N=54) attended the psychosis (EPPIC) clinic; 15.6% (N=16) attended ultra-high risk for psychosis (PACE) clinic; 19.4% (N=20) attended personality disorders (HYPE) clinic; and 12.6% (N=13) attended mood clinic (YMC). The mean BRPS score was 47.7 (SD±12.2). A total of 77.7% of young people had previously been sexually active and of these, 37.5% did not use consistent contraception; 26.3% had been pregnant, of which 95.2% were unplanned. A total of 68.8% reported having been tested for sexually transmitted infections and 25.5% tested positive. The

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severity of symptoms or clinical characteristics were not associated with engagement in high risk sexual behaviours.

Conclusions

These results indicate that young people with mental health disorders have high needs in regard to their sexual health, which could be addressed by incorporating sexual health referral pathways into early intervention services.

Keywords

Young people, mental health, sexual health, sexual risk

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Introduction

It has been well-established that adolescence is a period of increased risk for both mental health disorders and high risk sexual behaviours (Bennett and Bauman, 2000). In Australian populations, both the onset of mental health disorders and engagement in high-risk sexual behaviour peaks in adolescence and young adulthood (Milnes et al., 2011); however, the relationship between the two and its implication for clinical practice is not fully understood.

International studies suggest that young people with mental health disorders engage in the same type of high-risk sexual behaviour as their peers in the general population, but at a higher rate (Donenberg and Pao, 2005; Ramrakha et al., 2000). This includes a younger age at first sexual experience, increased sexual activity, a higher number of sexual partners and a higher incidence of transactional sex (Agardh et al., 2012; Brawner et al., 2012; Turner et al., 2011; Buffardi et al., 2008). These high-risk sexual behaviours have been reported across a range of mental health disorders, including depression, mania, borderline personality disorders, psychosis and substance dependence disorders (Chanen et al., 2007; Stewart et al., 2012; Brown et al., 2010). Furthermore, young people with multiple, concurrent mental health disorders engage in high-risk sexual behaviours at

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higher rates than young people with a single mental health disorder (Ramrakha et al., 2000).

In addition, young people with mental health disorders also report low levels of contraceptive and condom use, leading to a higher risk for sexually transmitted infections (STIs) (Lehrer et al., 2006; Shield et al., 2005; Stewart et al., 2012). General practice is a common setting for routine sexual health promotion and testing for young people in Australia (Booth et al., 2004). However, young people affected by mental health disorders are less likely to attend mainstream health services (Cummings and Melissa, 2012), indicating a need for the integration of sexual health services within mental health services.

This study aimed to determine (i) the prevalence of high-risk sexual behavior and associated sequelae within a cohort of young people attending a youth mental health service; and (ii) whether an association exists between symptomatology, a history of non-consensual sex, substance abuse disorders, gender, sexual identity and the engagement of high-risk sexual behaviour. The findings will add to our understanding of the sexual health of young people with mental health disorders in Australia. We hypothesized that young people with more severe mental health symptoms would have a higher prevalence of high-risk sexual behaviour (increased sexual activity, inconsistent contraceptive use,

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increased frequency of drug use during sex) and their sequelae (increased prevalence of pregnancy and sexually transmitted infections). We also hypothesized that this high risk sexual behaviour would be associated with a history of non-consensual sex, substance abuse, gender identity and sexual identity.

Methods

Setting

The study took place at Orygen Youth Health (OYH), the State Government funded youth mental health service for young people residing in northwestern to western metropolitan Melbourne, Australia. OYH operates across four streams of care: First episode psychosis (Early Psychosis Prevention and Intervention Centre (EPPIC)) (McGorry et al., 1996), ultra-high risk for psychosis (Personal Assessment and Crisis Evaluation (PACE)) (Yung et al., 2007), borderline/severe personality disorder (Helping Young People Early (HYPE)) (Chanen et al., 2014), and mood disorders (Youth Mood Clinic (YMC))(Rice et al., 2017).

Participants - Inclusion and exclusion criteria

Young people were eligible to participate if they were aged between 15 and 25 and were a current client of OYH. Participants with insufficient fluency in English were not eligible to be included in the study. Participants were recruited from both the outpatient

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and inpatient settings. Members of the research team met with case-managers from each of the clinics to identify potential participants. Case-managers were asked to inform the client of the study and if they were agreeable, then a meeting was arranged between a member of the research team and the client. Prior to the meeting, participants were informed by their case manager that the study comprised of a questionnaire about their mental health and their sexual health.

Study design

The study design was a cross-sectional survey.

Instruments and measures

Items relating to sexual risk behaviour were adapted from an instrument developed by the Australian Research Centre in Sex, Health & Society (ARCSHS) (Smith et al., 2009). These included age at first sexual experience, current sexual partners, drug use whilst having sex, condom and contraceptive use, history of sexually transmitted infections, and history of pregnancy. Age at first sexual experience was defined at age at which oral sex first occurred. Questions relating to pregnancy were also extended to participants whose sexual partner or partners had become pregnant. Further questions were developed to include experience of non-consensual and transactional sex. Participants had the option of answering these questions via self-report or by interview.

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The number of sexual partners was dichotomised to less ≤3 in the last 12 months and e 3 in the last 12 months in accordance with previous research carried out on secondary school students (Smith et al., 2009). To facilitate analyses, gender was categorized into "male", "female" and "transgender and gender diverse". The latter included participants who were transgender, non-binary or not sure of their gender.

Mental health symptomatology was assessed using the Brief Psychiatric Rating Scale (BPRS), which has been validated in terms of reliability and sensitivity (Hedlund and Vieweg, 1980). The BPRS contains 24 items, which measure affective, anxiety and psychotic symptoms. BPRS scores have been correlated to Clinical Global Impression ratings as follows: 'Mildly ill' corresponded approximately to a total score of 31,'moderately ill' to a score of 41, 'markedly ill' to a score of 53, 'severely ill' to a score of 70 and 'extremely ill' to a score of 85 (Leucht et al., 2005). An audit tool was developed to obtain information from the participants' clinical file, including formal diagnoses given by the treating team and clinic allocation. Diagnoses were assigned by treating psychiatrist.

Statistical Analysis

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Data analysis was carried out in SPSSv22. Data were screened for inconsistencies and missing values. BPRS scores were normally distributed and therefore means and standard deviations are presented and ANOVA analysis was performed to determine if BPRS scores differed amongst the different clinics attended. In addition, Chi-square analyses were carried out between sexual behaviour and each of the following categories: gender, substance abuse, sexual identity and non-consensual sex. These had been identified as potential mediating factors for high-risk sexual behaviour (Schuster et al., 2013; Elkington et al., 2010; Shrier et al., 2001; Turner et al., 2011). Given the number of Ç² analyses conducted as per Table 5, a Bonferonni correction was applied to maintain statistical significance equivalent to p=0.05. Sixty Chi-square analyses were carried out, giving an equivalent p-value of 0.0008. As a result, only p-values of <0.0008 were taken to be statistically significant. Standardized residuals (SR) are presented within the Chi-square analysis. In Table 4, thirteen t-tests were performed and therefore only p values of <0.003 were taken to be statistically significant.

Ethical Approval

Ethical approval was granted by The Human Research Ethics Committee at Melbourne Health. All participants provided written consent. Ethical approval was granted for young people aged between 15 to 17 years to be able to provide written consent for themselves,

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if they had decisional capacity. Participants were reimbursed $20 for their time and travel costs.

Results

Participant characteristics

A total of 163 participants were approached and of these, 116 agreed to participate in the study and 103 completed the assessment. Response rates were similar across clinics, with 65.7% (N=54) from EPPIC clinic, 69.6% (N=16) from PACE clinic, 71.4% (N=20) from HYPE clinic and 68.4% (N=13) from YMC. The mean age was 20.9 (SD±2.8) years, with 50.5% (N=52) being female, 41.7% (N=43) male and 7.7% (N=8) transgender or gender diverse. In regard to sexual identity, 54.5% (N=56) identified as heterosexual, 32% (N=33) identified as bisexual or pansexual, 4.9% (N=5) as homosexual, 7.7% (N=8) as unsure or other, and 1% (N=1) as asexual. The demographic and clinical characteristics of participants are presented in Table 1.

Diagnoses and Symptomatology

A total of 52.4% (N=54) attended the EPPIC clinic; 15.6% (N=16) attended the PACE clinic; 19.4% (N=20) attended the HYPE clinic; and 12.6% (N=13) attended the YMC clinic. The mean BPRS score was 47.7 (SD±12.2) and there was no statistically significant difference between severity of global psychiatric symptomatology across

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clinics (F=0.38; df=3; p= 0.77). Information relating to the symptomatology and diagnoses of participants is presented in Table 2.

Sexual Behaviour

The mean age at first sexual experience was 16.5 (SD±1.9) years. A total of 77.7%, (N= 80) had been sexually active and 63.8% (N=51) had been sexually active within the last month. Within the last 12 months, 61.5% (N=48) had a regular sexual partner and 36.2% (N=29) had more than three partners. Detailed information on sexual behaviours are presented in Table 3. Among the young people who had ever been sexually active, 48.8% (N=39) had talked about pregnancy with their previous sexual partner and 59.5% (N=47) had talked about condom use. However, 37.5% (N=30) did not consistently use any form of contraception, 63.8% (N=51) did not use consistent barrier contraception and 62.5% (N=50) did not use consistent non-barrier contraception. Among young people who had been sexually active, 15.2% (N=12) used alcohol frequently during sex. The same proportion (15.2%, N=12) used cannabis frequently and 8.9% (N=7) used amphetamines frequently during sex.

Sequelae - Sexually Transmitted Infections (STIs)

Of those who had been sexually active, 68.8% (N=55) of young people had been tested for an STI and 25.5% (N=14) had a positive test for an STI. The commonest STI reported

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was chlamydia (71.4%, N=10), followed by gonorrhoea (14.3%, N=2) and genital warts (14.3%, N=2).

Sequelae - Pregnancy

Of those who had been sexually active, 26.3% (N=21) had been pregnant (five pregnancies related to males whose partners had been pregnant) and 95.2% (N=20) of those pregnancies were unplanned. Nearly half of the pregnancies ended in termination (N=9, 45.0%), while six pregnancies ended in miscarriage and five resulted in a live birth.

Associated Factors

It was investigated whether a number of demographic and clinical factors were associated with high-risk sexual behaviours and the results of these analyses are presented in Table 4, Table 5 and in the supplementary tables. The severity of global psychiatric symptomatology (as measured by the BPRS) was not associated with sexual activity, drug use during sex, communication with sexual partners, contraceptive use, STIs or pregnancy. Furthermore, there were no associations between a history of non-consensual sex, co-morbid substance abuse, sexual or gender identity and high-risk sexual behaviours.

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Discussion

Summary of findings

Young people with a mental health disorder in this study had a high prevalence of high-risk sexual behaviours and their sequelae. These high-risk sexual behaviours were homogeneous across specialist clinics and psychiatric symptomatology. Additionally, there was a high incidence of pregnancy, STIs and inconsistent contraceptive use.

Mental Health and Sexual Behaviour

The results add to previous findings indicating inconsistent condom use in young people with first episode psychosis (Brown et al., 2010) and depression (Brown et al., 2006), and an increased incidence of STIs in people with borderline personality disorder (Chanen et al., 2007). Contrary to our hypothesis, we found no significant association between either the severity of symptomatology or clinical and demographic characteristics and high risk sexual behaviour. This suggests that sexual behaviour needs to be addressed across all mental healthcare services, rather than target young people with specific diagnoses or symptomatology.

Compared to a national sample of secondary school students, young people with mental health disorders tended to engage in high-risk sexual behavior at higher rates (Mitchell et al., 2014). A higher proportion of young people in this study had ever had sex compared

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to secondary school students (77% vs 33.7%, respectively) (Mitchell et al., 2014). Out of those who had been sexually active, 36.2% had more than three sexual partners in the last 12 months compared to 23.2% of secondary school students. Consistent condom use was higher in secondary school students than in young people in this study (43% vs 36.3% comparatively) and STIs and rates of pregnancy were higher in the study sample compared to secondary school students.

Clinical Implications

These findings highlight the necessity for youth mental health services to address the sexual health of their clients. A framework for incorporating sexual health into a youth mental healthcare service has been trialed in Australia with headspace; however, it is yet to be expanded into wider use (Edwards et al., 2014). There are different methods by which the sexual health of young people could be addressed. First, the initial assessment of a young person presenting with a mental health disorder could include a discussion of sexual behaviour and sexual health, particularly in relation to STI testing, contraceptive use and pregnancy. It is possible that by routinely incorporating sexual health into the initial assessment, it may overcome the initial barrier that many young people face in discussing sexual health with their mental health provider. Second, youth mental health services could provide additional services on site, such as general practitioners or sexual health nurses, thereby providing a 'one stop shop'. Finally, mental health professionals

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could be 'upskilled' and receive training on how to identify high-risk sexual behaviour in young people with mental health disorders and facilitate and advise on screening, referrals and appropriate treatment if indicated. At a service level, it is important that the healthcare setting environment is inclusive to all young people and respectful to the diversity of gender and sexual identity.

Strengths and Limitations

These findings need to be considered within the limitation of the study. The study sample was self-selecting and there was no comparison group. Furthermore, the instrument we used relied upon self-report for contraceptive use, history of STIs, history of pregnancy and non-consensual sex, likely leading to an under-estimation of the actual rates of STIs, pregnancy and non-consensual sex, and a possible over-estimation of contraceptive use. There are a number of strengths to this study, such as the inclusion of young people affected by a range of mental health disorders and also diversity in regards to gender and sexual identity. The study also utilized well validated instruments for measurement of symptoms and the use of a questionaire from a school based survey, thereby allowing comparisons with this population.

Conclusion

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The establishment of early intervention services and youth mental health services more broadly represents a unique opportunity to ensure that the sexual health of young people affected by mental health disorders is addressed. This study addresses some of the gaps in the literature and highlights the need for clinical pathways to address the sexual health of young people with mental health disorders.

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Declaration of Conflicting Interests

The Authors declare that there is no conflict of interest.

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Table 1. Participant Characteristics		
	N	%
Gender		
Female	52	50.5
Male	43	41.8
Transgender	3	2.9
Non-binary	3	2.9
Not sure	2	1.9
Marital Status		
Single	64	63.4
In a relationship/married	23	22.8
Living with someone as married	7	6.9
Separated/Divorced	7	6.9
Sexual identity		
Heterosexual	56	54.4
Bisexual	26	25.2
Pansexual	7	6.8
Homosexual	5	4.9
Aromantic	1	0.9
Not sure	5	4.9
Other	3	2.9
Country of birth		
Australia	84	81.6
Other	19	18.4
Aboriginal or Torres Strait Islander	4	3.9
Clinic		
EPPIC	54	52.4
PACE	16	15.6
HYPE	20	19.4
YMC	13	12.6
	Mean	SD
Age	20.9	2.8
BPRS score (168 max)	47.7	12.2

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BPRS = Brief Psychiatric Rating Scale

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Table 2. Psychiatric Diagnoses and Symptomatology				
Clinic	**EPPIC**	**PACE**	**YMC**	**HYPE**
BPRS Score	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
	47.8 (14.5)	44.8 (10.4)	45.4 (6.4)	48.1 (9.7)
Primary diagnoses	N (%)	N (%)	N (%)	N (%)
First Episode Psychosis*	27 (50.0)			
Bipolar Disorder with Psychosis	6 (11.1)			
Psychotic Disorder NOS	6 (11.1)			
Schizophreniform disorder	3 (5.6)			
Drug-induced psychosis	3 (5.6)			
Schizophrenia	2 (3.8)			
Delusional disorder	2 (3.8)			
Schizoaffective disorder	1 (1.9)			
Depressive disorder with psychosis	4 (7.4)	8 (50.0)		
Generalised Anxiety Disorder		2 (12.5)		
Hypomania		2 (12.5)		
Schizotypal Personality Disorder		1 (6.3)		
No formal diagnosis		1 (6.3)		
Bipolar Affective Disorder		2 (12.5)	3 (23.1)	
Major Depressive Disorder			9 (69.2)	
Generalised Anxiety Disorder			1 (7.7)	
Borderline Personality Disorder				20 (100)
Comorbid Diagnoses				
Comorbid diagnoses present	44 (81.2)	5 (31.3)	10 (76.9)	15 (75.0)
Generalised Anxiety Disorder	5 (9.3)	4 (25.0)	8 (61.5)	9 (45.0)
Post-Traumatic Stress Disorder	4 (7.4)	1 (6.3)	1 (7.7)	1 (5.0)
Major Depressive Disorder	15 (27.8)	1 (6.3)		13 (65.0)
Obsessive-Compulsive Disorder	1 (1.9)	1 (6.3)		
Social Anxiety Disorder	3 (5.6)			
Gender Dysphoria	1 (1.9)			
Panic Disorder	1 (1.9)			
Bipolar Affective Disorder	4 (7.4)			1 (5.0)
Autism Spectrum Disorder	1 (1.9)		1 (7.7)	1 (5.0)
Personality Disorder or Traits	9 (16.7)		1 (7.7)	
Anorexia Nervosa			1 (7.7)	
Bulimia Nervosa			1 (7.7)	

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Eating Disorder NOS				2 (10.0)
Adjustment Disorder				1 (5.0)
Attention-Deficit Hyperactivity Disorder				1 (5.0)
Comorbid Substance Abuse				
Substance Abuse Disorder present	20 (37.0)	3 (18.8)	5 (38.5)	5 (25.0)
Alcohol	5 (9.3)	1 (6.3)	2 (15.4)	3 (15.0)
Cannabis	16 (29.6)	1 (6.3)	3 (23.1)	2 (10.0)
Amphetamines	12 (22.2)	1 (6.3)	1 (7.7)	2 (10.0)
*In the psychosis clinic, a formal diagnosis tends not be made until after a person has attended the service for a period of three months in order to facilitate longitudinal assessment. Until the diagnosis is established, the term 'first episode psychosis' is used.				

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Table 3. Sexual Behaviour in participants who had ever been sexually active (N=80)		
	N	%
Sexual Activity		
Sexually active within last month	51	63.8
Regular sexual partner in last 12 months	48	61.5
>3 partners in last 12 months	29	36.2
Communication		
Talked about pregnancy with previous sexual partner	39	48.8
Talked about condom use with previous sexual partner	47	59.5
Contraceptive use		
Consistent barrier contraception	29	36.3
Consistent non-barrier contraception	30	37.5
Consistent use any type of contraception	50	62.5
Pregnancy		
Ever been pregnant (self or partner)	21	26.3
Of those who reported pregnancy:		
Unplanned pregnancy	20	95.2
Result		
Live birth	5	23.8
Miscarriage	6	28.6
Termination	9	42.8
Not Reported	1	4.8
Sexually Transmitted Infections		
Ever been tested	55	68.8

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Ever tested positive	14	25.5
Frequent drug use during sex		
Alcohol	12	15.2
Cannabis	12	15.2
Amphetamines	7	8.9
Mean age of first sexual intercourse	Mean	SD
	16.5	1.9

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Table 4. Comparison between general psychopathology and High-Risk Sexual Behaviour			
	BPRS		
	t-test	df	P
Sexual Activity			
Ever been sexually active	0.86	101	0.48
Regular sexual partner in last 12 months	-0.31	99	0.73
>3 partners in last 12 months	0.98	99	0.20
Sexually active within last month	-0.78	76	0.36
Frequent drug during sex			
Alcohol	0.57	77	0.32
Cannabis	0.62	77	0.97
Amphetamines	1.04	77	0.12
Contraceptive use			
Consistent barrier contraception	-1.01	101	0.46
Consistent non-barrier contraception	-0.48	101	0.19
Consistent contraception (any form)	-1.06	101	0.99
Pregnancy and STIs			
Ever been pregnant (self or partner)	0.92	84	0.66
Ever been tested	0.75	84	0.49
Ever tested positive	0.97	84	0.34
*$p<0.003$ was taken as the level of significance when a Bonferroni correction was applied			

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Table 5. Associations between sexual behaviour and characteristic of participants

	History non-consensual sex	Comorbid Substance Abuse	Gender	Sexual Identity
	Ç²	Ç²	Ç²	Ç²
Sexual Activity				
Ever been sexually active	10.5	9.9	1.5	3.2
Regular sexual partner in last 12 months	17.2	0.8	13.1	10.1
>3 partners in last 12 months	10.2	6.7	3.8	16.3
Sexually active within last month	9.0	1.2	20.3	3.2
Frequent drug use during sex				
Alcohol	1.1	4.5	0.16	17.1
Cannabis	2.7	11.6	1.1	2.2
Amphetamines	0.9	11.9	1.6	4.4
Communication with last partner				
Talked about pregnancy	12.4	3.3	7.3	45.8
Talked about condom use	9.1	3.8	10.0	55.2
Contraceptive use				
Consistent barrier contraception	1.6	0.6	5.1	12.0
Consistent non-barrier contraception	8.1	0.9	7.7	9.5
Consistent contraception (any form)	4.9	0.05	9.1	13.4
Pregnancy and STIs				
Ever been pregnant (self or partner)	7.9	1.8	5.2	2.7
Ever been tested for STIs	8.2	3.9	4.0	3.8
Ever tested positive for STIs	7.9	.07	2.5	4.2

*p-value <0.0008 was taken as the level of significance when a Bonferroni correction was applied

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