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Prevalence of mental health problems in Australian university health services

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One fifth of Australians have experienced a mental disorder in the previous 12 months (ABS, 2008) The highest prevalence is for young adults with more than a quarter (26%) of people aged 16-24 years and a similar proportion (25%) of people aged 25-34 years having had a mental disorder. These age groups account for the highest proportion of university students (ABS, 2007). In a recent study (Stallman, 2008) it was found that that students within a university health service waiting room were significantly more distressed than the general population resulting in impairment in their capacity to study and work. This study was conducted just prior to an exam period and given the extensive level of prevalence it was important to determine whether this was a seasonal effect associated with it being around exam time or more indicative of typical levels of distress found in students. Thus it is vital to see if the findings of the previous study where students were surveyed just prior to exam time can be replicated in this study where students were surveyed at the start of the first semester, as well as to ascertain the level of disability associated with these problems and the utilisation of services for psychologically distressed students.

Mental health problems are one the three major causes of the burden of disease in Australia (Begg et al., 2007). In addition there is an increasing awareness of the elevated risk of mental health problems in university students (e.g. Eisenberg, Gollust, Golberstein, & Hefner, 2007; Monk, 2004). In an attempt to quantify the prevalence of depression and anxiety symptoms in university students in general practice, Shiels et al (2008) mailed a screening instrument to a sample of students registered with a community general practice. Almost half (47%) screened positive for anxiety, while 10% screened positive for depression. The generalisability of these results may have been limited by the recruitment method and response rate. In a recent study of Australian students, Stallman (2008) surveyed all students who

attended a university health service, with a 100% response rate. Using the K10 as a screen for anxiety-mood disorders, this study found a much higher prevalence of mental health problems in students than in the general population. Using the conservative categories commonly used in general practice, as outlined in the *Victorian Population Health Survey 2001* (2002) it was found that more than half (53%) of students in the university health service waiting room reported experiencing elevated levels of distress, with 26.6 % reporting high or very high levels of distress indicative of serious mental illness (Stallman, 2008). In contrast, rates of about 36% for elevated levels of psychological distress and 12.6% high or very high levels distress are found in the general population (ABS, 2001). Compared to the national benchmark it appeared that simply being a student may constitute a risk factor for mental health problems.

Two other worrying results from this study were the level of disability associated with high levels of psychological distress and the low level of help-seeking in students with high psychological distress. Increasing distress was associated with a reduced capacity for work or study (Stallman, 2008). Students experiencing very high levels of distress were on average unable to work or study for eight days within the previous four weeks and had on average another nine days of reduced capacity for work resulting in some impairment for around 60% of time. Few students (36.3%) with high or very high level of distress had sought professional assistance. This is similar to the general population rate of 35% (Andrews, Henderson, & Hall, 2001) and despite university health service students attending the general practice for other complaints, having access to GPs without any out of pocket expenses, and having access to free on-campus counselling services.

With increasing concerns internationally about psychological problems experienced by students and demands for services, it is important to quantify the level of student psychological morbidity and disability to enable benchmarking. Given the extent of these previous findings, it is important to determine whether the results reflect the time of year and influence of exam pressure or whether they are indicative of the prevalence rates of psychological problems in university health services more generally.

The aim of the present study is to replicate the previous university health service prevalence study across multiple sites and at a different time in the academic year to:1) determine whether the prevalence of psychological distress experienced at the beginning of the academic year is comparable to that found previously at the end of the academic year; 2) compare the health service prevalence rate with the general population; and 3) describe the disability and service utilisation of psychologically distressed students.

Method

Participants

Participants were 1168 students attending the health service at three large Queensland universities consisting of six campuses, four metropolitan, one regional, and one rural. The majority of patients were female (74.5%), undergraduate (78.4%) full-time (94.1%) and domestic students (73.7%). The age of the sample was positively skewed with the majority of patients (67.2%) being aged between 18 and 24 years ($M = 22.72$ years, $SD = 5.99$ years).

Measures

Demographics. Demographic questions included gender, age, attendance (full-time, part-time), student type (domestic, international) and level of study (undergraduate or postgraduate).

Psychological Distress: The K10 (Kessler, Barker et al., 2003), a measure of non-specific psychological distress, was used to screen for DSM-IV anxiety-mood disorders within the previous 28 days. Scores range from 10 to 50. The K10 has been shown to be able to discriminate with high sensitivity and specificity between cases and non-cases based on DSM-VI DSM-IV anxiety-mood disorders that meet the severity criteria for the Substance Abuse and Mental Health Services Administration's definition of serious mental illness (SMI) when compared to diagnoses generated from comprehensive diagnostic interviews. Based on K10 validation studies (Kessler et al., 2002; Kessler, Barker et al., 2003) and how the K10 is used generally within general practices, scores of 30 to 50 were classified as probable SMI, while scores of 20 to 29 were classified probable mild–moderate mental illness (MMI) and scores of 10 to 19 were classified probable noncases. MMI refers to respondents estimated to meet criteria for a DSM-IV anxiety-mood disorder but not a SMI. Elevated levels of distress have been shown to suggest a mild to moderate mental illness that meets criteria for a DSM-IV anxiety-mood disorder but not a serious mental illness Kessler and colleagues MMI has been identified as being of considerable public health importance because of its high prevalence, burden and risk of transition to SMI. (Kessler, Merikangas et al., 2003).

Disability. To assess clinically significant distress or impairment in social, occupational, or other important areas of functioning, the K10 also contains an additional four questions to assess disability. Disability is measured by two questions: a) In the last four weeks, how many days were you totally unable to work, study, or

manage your day to day activities because of these feelings? and b) (Aside from those days), in the last four weeks, how many days were you able to work, study, or manage your day to day activities but had to cut down on what you did because of these feelings? Responses to these questions were analysed separately, and are referred to as Days out of Role (DOR), and Days Cut Back (DCB), respectively.

Service Utilisation. Service utilisation was measured by asking students how many times during the past four weeks they had seen a doctor or health care professional such as psychiatrist, psychologist etc. about the feelings reported on the K10.

Attribution of Psychological Distress. In order to control for the confounding contribution physical illness can have to psychological distress, students were asked to rate on a five point scale, (1 = none of the time; 5 = all of the time) in the last 4 weeks how often have physical health problems been the main cause of these feelings?

Procedure

The survey was administered as part of the Health Services quality assurance practice and received ethical exemption from the Queensland University of Technology Human Research Ethics Committee. Each student visiting the university health services was asked by reception staff to complete the survey. Two universities health services collected surveys for three consecutive weeks and for logistical reasons, one university collected surveys for 1 week. All surveys were collected between weeks two and four of the first semester, 2008. Students who had multiple visits to the service during the collection time were only asked to complete the questionnaire on their first visit. Students placed completed questionnaires in a box in the reception area.

Results

Response Rate

Response rates varied between universities from excellent to average: 94.6% (57.1% of the sample), 81% (27.7% of the sample), 35% (15.2% of the sample).

Sample Homogeneity

A one-way univariate ANOVA revealed no significant differences between participating universities on the level of psychological distress reported by students (F (2, 1165) = .12, p = .89). There was also no significant difference between level of psychological distress and week of the semester (F (3, 1164) = 1.34, p = .26).

Sociodemographics of the sample are summarised in Table 1. A comparison of psychological distress across demographic variables revealed no significant differences between students' level of distress on gender, age group, attendance, student level or status (domestic/international).

Prevalence of Psychological Distress

Overall, 45.1% (n = 527) of students attending the Health Services reported elevated scores on the K10. Around a quarter (24.4%, n = 285) reported scores between 20 and 24 which suggested they are likely to have a mild psychological disorder, 11.8% (n = 138) were likely to have a moderate disorder with scores between 25 and 29, and 8.9% (n = 104) scored between 30 and 50 which suggests that they were likely to have a severe mental illness (SMI). When the more common, but less conservative cut offs on the K10 are used (as used in major Australian epidemiological studies (e.g. ABS, 2006), the percentage of students in the elevated range rises to 83.9% with 31.7% and 33.0% of students reporting distress levels in the mild and moderate ranges respectively. Only 10.2% (n = 53 out of 527) of students perceived most or all of their distress was the result of a physical health problem.

Table 2 presents a comparison of the percentage of students across levels of psychological distress in this sample with the Semester 2 (Stallman, 2008) and the 2001 National Health Survey samples (ABS, 2001). A two-sample between proportions t-test showed a significant difference between academic semesters and elevated levels of distress (t_z=2.70, $p < .01$) with students having greater psychological distress towards the end of semester 2 than at the beginning of semester 1. There was an 8% drop in percentage of students reporting elevated distress levels in semester 1 compared with semester 2. First semester university health service students had significantly greater elevated psychological distress compared with the general population sample (ABS, 2001) (t_z=10.66, $p < .001$). Students had more than four times the proportion of very high levels of distress than the general population (8.9% vs. 2.2%).

Psychological Distress and Disability

The number of days out of role (DOR) as a result of psychological problems ranged from zero to 27 days in the past 28 days and zero to 28 days for days cut back (DCB). A MANOVA with Bonferroni correction was used to assess for differences in the number of DOR and DCB between different levels of psychological distress. There was a significant difference in level of disability dependent on level of psychological distress (multivariate $F (6, 2186) = 78.04$, $p < .001$). Post hoc pairwise comparisons demonstrated that DOR and DCB were significantly higher at each level of psychological distress. Table 3 shows the mean number of disability days for each level of distress. As level of psychological distress increased so did the number of DOB and DCB. Students who experienced very high levels of psychological distress had approximately one week where they were unable to meet their work/study commitments (DOR) and a further eight days of reduced capacity (DCB).

Service Utilisation

Health care service utilisation relating to psychological distress ranged from zero to 12 consultations in the previous four weeks. The means and standard deviations for each level of distress are presented in Table 4. Overall, 39.4% of students reporting high or very high levels of psychological distress had consulted a health care professional for assistance for the psychological distress during the previous four weeks compared with 11.7% of students overall. The majority of those who saw any health professionals had one consultation (49.7%), 27.3% had two consultations, 15.4% had three or four consultations and 7.7% had more than five consultations.

Of health professionals accessed, general practitioners were most frequently consulted (73.4%), with significantly fewer people consulting counsellors (24.5%; χ^2 (1, 1121) = 74.49, p < .01) or specialist mental health professionals such as psychiatrists (21.0%; χ^2 (1, 1121) = 143.97, p < .01) or psychologists (18.2%; χ^2 (1, 1121) = 88.64, p < .01).

Discussion

One aim of this study was to replicate the Stallman (2008) end of year prevalence study of psychological distress in a university health service at a different time of year and across sites to assess the consistency of psychological problems across time and universities. Almost half of the students in this sample reported elevated levels of distress, one fifth reported levels indicative of moderate and severe psychological disorders. There were greater numbers of students reporting elevated levels of distress in semester 2 compared with semester 1 (53% vs. 45.1%), suggesting that distress does increase to some extent with increasing academic

demands or a cumulative build up of distress throughout the year but that this only accounts for a small proportion of the variance.

There was no significant difference between levels of distress amongst the three universities that participated in this study or between campuses that included urban, regional and rural locations. This suggests that the prevalence is fairly consistent across university general practices, at least in Australia.

Increasing levels of distress in students resulted in increasing disability with days out of role more than doubling with each level of distress. Students reporting very high levels of psychological distress lost on average a total of 14.98 days in the previous four weeks due to disability compared with 1.7 days for students reporting low levels of distress. This has implications for the capacity of students to manage their workloads and complete assessment in a timely manner. If they are unable to do this they risk spending time trying to 'catch up', further increasing pressures on them.

Similar to the general population (Andrews et al., 2001; Thompson, Hunt, & Issakidis, 2004; Yung, Organ, & Harris, 2003) and the previous student survey (Stallman, 2008), the majority of students in this sample with high to very high levels of distress had not sought assistance from a health professional. Of those who did, the majority consulted with their GP, which is consistent with the general population (Andrews et al., 2001). However, students were more likely to access counsellors than the general population, most likely reflecting the increased access university students have to counsellors. The much higher percentage of students accessing psychiatrists (21.0% vs. 2%) and psychologists (18.2% vs. 5%) however, may reflect increased referrals for mental illness by university general practitioners, and/or a greater uptake of specialist mental health services by students. Service utilisation increased with increasing levels of psychological distress.

In contrast to the general population, there were no significant differences between students on demographic variables. Females did not report greater distress than males, and 18 to 24 year old students did not have the highest prevalence rate with similar prevalence rates being found across most age groups. This may be the result of males attending university health services being more aware or willing to report distress than the general population, or that university life is a risk factor for mental health problems irrespective of demographics.

Limitations

It needs to be kept in mind when interpreting these results that the K10 is a screening measure for anxiety and mood disorders and has been validated against clinical diagnoses but is not equivalent to diagnoses. Its sensitivity and specificity suggest it can be used to estimate prevalence rates though and enables to comparison with other population surveys using the same measure. The results from this study seem to be generalisable to students who use university health services. Further research is needed to determine whether these findings are representative of Australian university students in general and are applicable at international university health services.

Implications

This study provides further evidence for the finding of high prevalence rates of psychological problems in students attending university health services and that psychological problems can affect students' capacity to engage fully in academic work. The high prevalence rates highlight the importance of both detecting students who have psychological problems but also the need for adequate and appropriate intervention options to enable students to reach their academic potential. The difficulty with referral is that fewer than 19% of Australian university counsellors for

example, have specialist training in mental health and students frequently lack access to mainstream mental health services (Urbis JDH, 2007). The co-location of specialist mental health professionals, such as psychiatrists and clinical psychologists, within university health services is important in providing a continuum of care and sharing of information between practitioners to ensure minimally sufficient and integrated interventions for students.

The high prevalence of psychological problems compared with the general population highlights the importance of a focus on mental health promotion and the prevention within universities. The skills to manage day to day events and challenges associated with tertiary study, balancing study and other commitments, as well as working towards their goals is important to student psychological wellbeing. Activities aimed at enhancing resilience and wellbeing and the promotion of mental health knowledge may also contribute to more very distressed students seeking professional services.

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Table 1. *Sociodemographics and chi-square analyses of differences between groups*

on psychological distress

	n^*	%	χ^2	p
Gender			6.88	.08
Male	295	25.5		
Female	862	74.5		
Attendance			4.58	.21
Full-time	1077	94.1		
Part-time	67	5.9		
Status			2.14	.54
Domestic	814	73.7		
International	291	26.3		
Level			9.57	.14
1st year undergrad	348	30.6		
Other undergrad	544	47.8		
Postgrad	247	21.7		
Age Group			17.80	.27
Under 18 years	98	8.3		
18 – 24 years	770	67.2		
25 – 34 years	225	19.7		
35 – 44 years	41	3.6		
45 – 54 years	11	1.0		
55 – 64 years	3	0.3		
Overall	1168	100		

* missing data accounts for differences in *N*

Table 2. *Level of psychological distress of university sample compared with the Semester 2 and National Health Survey samples*

Level of distress	Semester 1			Semester 2[1]			General Population[2]	
	Males	Females	Total	Males	Females	Total	Males	Females
	%	%	%	%	%	%	%	%
Low (10-19)	61.4	52.9	54.9	65.5	44.9	47.0	85.8	79.6
Moderate (20-24)	19.7	25.9	24.4	13.8	28.4	26.4	8.3	10.6
High (25-29)	10.8	12.1	11.8	12.1	16.2	15.8	3.1	5.5
Very High (30 – 50)	8.1	9.2	8.9	8.6	10.6	10.8	2.7	5.4

Note. [1] Stallman, 2008. [2] ABS, 2001

Table 3. *Means, Standard deviation, Multivariate F values for number of disability days for each level of psychological distress*

Disability	Level of Distress	n	M (days)	SD (days)	F	p
Unable to work	Low	600	.39	1.16		
	Medium	273	1.23	2.13	152.60	<.001
	High	132	2.91	3.80		
	Very High	99	6.19	6.22		
Reduced Activities	Low	600	1.37	3.12		
	Medium	270	3.22	4.67	101.10	<.001
	High	130	5.21	5.13		
	Very High	97	8.79	6.99		

Table 4. *Means, Standard deviation, and 95% Confidence Interval for health professional consultations for each level of distress.*

Level of psychological distress	*n*	*M*	*SD*	95% Confidence Interval	
				Lower Bound	Upper Bound
Low (10-19)	600	.15	.59	.07	.23
Moderate (20-24)	273	.37	1.01	.25	.49
High (25-29)	132	.56	1.08	.39	.73
Very High (30 – 50)	99	1.33	2.12	1.14	1.53