Psychological distress among university female students
and their need for mental health services

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Accessible summary

- The purpose of this research was to assess psychological distress among university female students and identify their mental health service needs.
- Rates of elevated symptoms of depression and anxiety among university women students was 22.5% and 21.2%, respectively, which is similar to women of the same age in the general population. The mean level of depressive symptoms was however lower among the female students.
- Results showed that little less than one-third of psychologically distressed women students had received professional help, and only 1.4% had received mental health counselling from nurses.
- Most of the distressed female students experienced mild to moderate levels of depressive and anxiety symptoms, which indicates a need for prevention or early intervention measures.
- This need is a challenge for nurses working in the primary care sector, including the educational system. They are in a unique position to screen for psychological distress and provide or initiate preventive services or early interventions, including outreach programmes within schools where most young people are reachable.

Abstract

Psychological distress among university students, especially young women, is of increasing concern. This study focuses on the prevalence of psychological distress among female university students and their need for mental health services. The analysis is based on two cross-sectional surveys, an internet survey among women students attending the University of Iceland in the spring of 2007, and a postal survey of Icelandic female adults conducted in the Fall of 2006. Psychological distress was measured with the Symptom Checklist-90 Depression and Anxiety subscales. The prevalence of above-threshold depression and anxiety among the university women students was 22.5% and 21.2% respectively. Results showed that the mean depression score was significantly lower among the students than among women of the same age in the general population. However, little less than one-third of students with elevated distress levels received any professional help. Only 1.4% of the distressed students received mental help care from nurses. The high proportion of distressed female students not receiving professional help is a challenge to the primary health-care system and the nursing profession. This also raises questions about the adequacy of the current system of health-care delivery and the potential advantages of on-campus health services, in closer proximity to the students.
Psychological distress, in the form of depression and anxiety, is of growing concern, especially among women (Seedat et al. 2009). The onset of distress is often in young adulthood (Kessler et al. 2007) when many women seek education and begin their professional career. The purpose of this research was to assess psychological distress among university female students and identify their mental health service needs.

The term psychological distress is widely used within nursing and other health sciences but most often vaguely and without a specific definition. Ridner (2004) has identified attributes of the concept, frequently encountered in nursing care, including change in emotional status, feelings of discomfort and harm, inability to cope effectively, and overt or covert communication of the discomfort and feelings of harm. According to Mirowsky & Ross (2003) psychological distress is an unpleasant subjective state, which takes two major forms, depression and anxiety. Each is represented by mood and malaise. Mood refers to feelings and malaise to physical symptoms the person experiences. Depression and anxiety are related forms of distress largely sharing the same social map (Mirowsky & Ross 2003). This paper focuses on both forms of distress.

Studies repeatedly report gender differences in psychological distress among young adults and students. Only a few of these studies have compared student and general population samples. One study among undergraduate students in Canada showed that 30% of students had elevated psychological distress scores, which were significantly higher than those among young adults and adults in the general population in Canada. The prevalence rates were higher in women (35.2%) than in men (23.6), and results also showed decreasing distress with more years at the University, or 34% among first-year students compared with 26.1% among fourth-year students (Adlaf et al. 2001). Similarly, a US undergraduate study found that women had higher levels of psychological symptoms, that is, anger, anxiety and depression, than men, and students older than 25 years had lower levels of depression and anger symptoms than younger students. When results were compared with a sample of young adults, and a representative adult sample, the differences in psychological distress were not significant (Rosenthal & Schreiner 2000). Nerdrum et al. (2006) found that 21% of first year college students in Norway had significant symptoms of psychological distress and the prevalence was significantly higher among women (22.9%) than among men (16.2%). Cohabiting men, born in Norway, who had a father with a higher educational level were the least likely to suffer from psychological distress. Verger et al. (2009) studied the prevalence of psychological distress among first-year students in six French universities. They reported a prevalence of 25.7% in the total sample, 15.7% among the men and 33.0% among the women. A Turkish study found that university students who were in their first and second year of study had higher levels of depression, anxiety and stress than older students and women had higher levels of anxiety and stress than men. Also, the students had higher mean scores of depression, anxiety and stress than a normative sample, and students who were satisfied with their studies also had lower levels on all three subscales (Bayram & Bilgel 2008). Finally an Australian study by Stallman (2010) reported high prevalence of serious psychological distress (19.2%) among university students and significantly higher than among the general population. Main predictors of distress were age between 18 and 34 years, female gender, full-time student status, the year before completion of undergraduate degree and financial problems.

Mental health counselling services have been provided in US, Australian and European universities for a number of years. Based on an extensive literature review, Kitzrow (2003) estimated that students’ mental health problems are getting more serious and complicated and that the need for counselling services has increased. Student counselling centre directors have also concluded that the number of students with serious psychological problems on campus has increased (Gallagher 2010). This contradicts results from Erickson Cornish et al. (2000) who did not find a consistent increase in students’ distress during a 6-year period in the late eighties and nineties. At a US university, Soet & Sevig (2006) found that 30% of students had had mental health counselling in their lifetime and 20% were currently in therapy. Women, Caucasians and graduate students were more likely to have been in counselling. The most frequent problems were depression, eating disorders and anxiety. A study by Benton et al. (2003) showed that students seeking help related to mental health over a 13-year period were mostly women (63.9%) and undergraduate students, especially in their senior year. Three quarters of students attending mental health services were younger than 25 years. Results also showed that during this period, students’ visits because of depression had doubled and problems were becoming more complex. Lucas & Berkel (2005) studied psychological distress and vocational problems among US students who had sought assistance at a university counselling centre. Sixty-eight per cent were women and the mean age of the total group, who sought help, was 23 years. Most commonly reported symptoms were anxiety, depression, isolation, inadequacy in relationships and role difficulties related to both student and worker roles.

As the above review indicates, psychological distress in the form of depression and anxiety symptoms is a rather
common experience among college students (Lindsey et al. 2009, Zivin et al. 2009), especially women (Weitzman 2004) and nurses working in the primary care sector need to be aware of and address this need. Although distress rates are rarely compared between college and general populations, the available results indicate that the prevalence tends to be somewhat higher among college students.

This study assesses psychological distress and health service needs in university female students within an Icelandic context. University-based mental health services do not exist in Iceland and students receive primary care at community health centres and specialty mental health services from office-based specialists and hospitals, as does the general adult population. Research indicates that 10–18% of the student body receives university mental health services when available (Stecker 2004, Rosenthal & Wilson 2008, Gallagher 2010). Users of services are mostly women (Benton et al. 2003, Lucas & Berkel 2005) who also experience higher levels and rates of psychological distress (Adlaf et al. 2001, Weitzman 2004). This study focuses on female students, as epidemiological studies show that women suffer more often than men from psychological distress, depression and anxiety, and female students also seek mental health services more often (Benton et al. 2003, Lucas & Berkel 2005). At the time of the study, women were 62.7% of all registered students in Icelandic universities (Hagstofa Islands 2007). Most are at an age when psychological distress is relatively common. This is also a time of life transitions when young women choose and prepare their professional career and at the same time many also begin family life and motherhood.

The study addresses the following research questions:
1. What is the prevalence of psychological distress in the form of depression and anxiety in female university students?
2. What are the levels and rates of psychological distress in the form of depression and anxiety among female university students compared with women in the general adult population?
3. What proportion of psychologically distressed female students receives mental health services?
4. What hinders female students in seeking mental health care?
5. Do women students feel there is need for mental health services at the university?

Method

Design and sample

The study is based on a cross-sectional internet survey among female students attending the University of Iceland in the spring of 2007. The total number of female students was 6302. Women of Icelandic nationality in the age range of 19–45, who had an e-mail address from the university, were eligible for the study. All students at the University of Iceland automatically receive an e-mail address from the Office of Registration. The eligible population consisted of 4894 women, 1144 (23.4%) graduate students and 3750 (76.6%) undergraduate students. Of those, a large random sample of 2000 women students was drawn to ensure high statistical power and provide sufficient number of individuals having high distress and needing mental health services. The student sample was stratified by level of study to more accurately reflect the proportion of graduate and undergraduate students. E-mail addresses of 14 women had been represented twice, leaving a sample of 1986 female students. In order to compare distress levels between female students and women in the general population, the study also used an Icelandic sample of women, age 18–75, who responded to a national postal health survey of Icelandic adults, the Health and Context of Living Survey, conducted in the Fall of 2006 (60% response rate) (Vilhjalmsson 2007, 2011).

Procedure for internet survey

Permission for the internet survey was granted by the Rector of the University of Iceland, The National Bioethics Committee and The Data Protection Authority. Data gathering took place from 30 March to 29 April 2007. Three days prior to the beginning of data gathering an introductory letter was sent out through e-mail. The introductory letter provided information about the aims of the research, the research procedure and ethical considerations. Subsequently, students received an electronic questionnaire that included questions about symptoms of depression and anxiety and background data like age, marital status, student status and the faculty in which the student was enrolled. An informed consent for participation was not specifically requested as answering the questionnaire was considered consent to participate. Neither researchers nor participants were able to see respondents e-mail addresses as they were covered in the K2 software. Two reminder letters were sent by e-mail during the data gathering phase. The first letter was sent 2 weeks following the questionnaire and the second was sent 1 week later. Data gathering ended 4 weeks after the electronic questionnaire had been sent. Most participants responded during the first 2 days of data collection.

Of the total student sample 743 women completed and returned the electronic questionnaire yielding a response rate of 37.4% (15.2% of the study population). The response rate was somewhat higher among nursing and
social science students, but lower among students in business and economics. Also it was somewhat higher in the graduate student group than among undergraduates. However, no significant age differences were observed between the sample and the student population.

Measures and statistical analysis

Psychological distress in the student and general population samples was measured with the Depression and Anxiety subscales of the Symptom Checklist-90 (SCL-90) a psychiatric self-report inventory (Derogatis et al. 1973). The Anxiety subscale consists of 10 items (e.g. suddenly scared for no reason, feeling tense or keyed up) and the Depression subscale consists of 13 items (e.g. feeling no interest in things, feeling low in energy or slowed down). Respondents were asked to indicate to what extent they had experienced each item during the past 7 days using a Likert scale from 0 indicating no experience of the symptom to 4 indicating that the experience of the symptom was severe. Item scores were added together and the observed summary scores ranged from 0–35 on the Depression subscale (Chronbach’s alpha = 0.905) and 0–24 on the Anxiety subscale (Chronbach’s alpha = 0.788). Reliability coefficients (Chronbach’s alphas) for the depression and anxiety subscales in the general population sample were 0.911 and 0.832 respectively. Respondents who scored in the upper 20% of depression and anxiety scores were identified as distressed (Comstock & Helsing 1976, Vilhjálmsdóttir & Vilhjálmsdóttir 1998). The general population Health and Context of Living Survey, using the SCL-90 Depression and Anxiety subscales, found an upper 20% threshold of 7 for depression and 5 for anxiety (Vilhjálmsdóttir 2007). These thresholds were used for the student sample to distinguish between distressed (above threshold) and non-distressed (below threshold) students.

Students were also asked if they felt a need for assistance because of their mental health, if they were currently receiving professional help and if so from what professional. Finally, students were asked if they believed there was a need for special mental health services at the University of Iceland.

In addition to descriptive statistics, one-way ANOVA and independent sample t-tests were used to detect significant differences between groups and the level of significance was set at $P = 0.05$.

Findings

The mean age of the sample was 27.9 years (SD = 6.3), 35.1% were from 19 to 24 years of age, 34.7% from 25 to 29 years of age, 20.7% from 29 to 39 years of age and 9.5% from 40 to 45 years of age. Almost 80% (78.3%) of the women were full-time students, 68.8% were married or in a relationship and 31.2% were single or divorced. The greater part of the women had no children (59.4%) and 40.6% were mothers.

Based on the student internet survey, the Pearson correlation between the depression and anxiety summary scores was 0.712 indicating high significant correlation. The prevalence of above-threshold depression (a score of 7 or higher) was 22.5% and the prevalence of above-threshold anxiety (a score of 5 or higher) was 21.2%. Ninety-eight out of 714 women students scored above threshold on both scales. Sixty point nine per cent of the women students reporting above-threshold depression also reported above-threshold anxiety and 64.9% reporting above-threshold anxiety also reported above-threshold depression. The most frequent summary scores for above-threshold anxiety were 5 and 6 and the most frequent summary scores for above-threshold depression were 7 and 8.

As seen in Table 1, distress levels were similar between female students and the general population of young and adult women. However, the mean level of depression was significantly lower among women students compared with the general population of young women in the same age

| Table 1 | Comparison of psychological distress between women students and general population women |
|----------------|-------------------------|-------------------------|-------------------------|
| **Women students** | **Young women** | **Adult women** |
| **Age 19–45** | **Age 19–45** | **Age 18–75** |
| $(n = 743)$ | $(n = 412)$ | $(n = 750)$ |
| **X (SD)** | **% elevated distress (n/nk)** | **X (SD)** | **% elevated distress (n/nk)** | **X (SD)** | **% elevated distress (n/nk)** |
| Depression | 4.27 (6.4) | 22.5 (163/723) | 5.12* (7.14) | 24.0 (96/401) | 4.58 (6.85) | 20.8 (146/701) |
| Anxiety | 2.72 (3.57) | 21.2 (154/727) | 3.05 (4.19) | 23.0 (94/407) | 2.72 (4.21) | 18.9 (136/718) |

*Comparison with female students is statistically significant at $P < 0.05$. 
1Data from the Health and Context of Living Survey (Vilhjálmsdóttir 2007).
range. The prevalence rates of elevated depression were not significantly different among the three groups of women.

Results (not shown in Table 1) also showed that single students had significantly higher levels of depressive and anxiety symptoms than cohabiting students or those in steady relationships. Other student background characteristics were not significantly related to distress (age, faculty, or graduate vs. undergraduate status).

The women students were also asked if they felt they needed help because of their mental health. Twenty-eight per cent of the sample responded positively. Eight per cent reported that they were currently using mental health services mainly from psychologists (35.6%), psychiatrists (28.8%) or a complimentary/alternative therapist (11.0%). Only 5.5% received treatment from a physician other than psychiatrist and 1.4% from nurses. Table 2 shows that of those who scored above-threshold on anxiety, 60.1% felt they needed mental health care, and of those who scored above-threshold on depression, 68.3% said they were in need of mental health care. However, Table 2 also shows that only 26.0% of those scoring above-threshold on anxiety had received professional help, and only 28.8% of those scoring above-threshold on depression.

Among the women students, the odds of perceived need for mental health services were 6.67 times higher for the above-threshold compared with below-threshold anxiety group, and the odds of actually using such services were 5.53 times higher in the above-threshold group. Comparable odds-ratios for above- vs. below-threshold depression were 11.49 and 7.66 respectively. Women students who were not receiving services they thought they needed (n = 130) were asked what was hindering them. The most frequently reported reasons were lack of time (32.4%), not knowing where to seek help (22.2%), too costly (lack of money) (21.6%) and prejudice/stigma (3.4%). Asked whether they thought student health services should be established at the university 86.6% answered positively.

**Table 2**

Perceived need for mental health care and received care by psychological distress

<table>
<thead>
<tr>
<th></th>
<th>Low anxiety</th>
<th>High anxiety</th>
<th>OR</th>
<th>Low depression</th>
<th>High depression</th>
<th>OR</th>
</tr>
</thead>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>n = 92</td>
<td></td>
<td>n = 88</td>
<td>n = 110</td>
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<tr>
<td>Current use of</td>
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<td>26.0</td>
<td>5.53***</td>
<td>5.0</td>
<td>28.8</td>
<td>7.66***</td>
</tr>
<tr>
<td>mental health</td>
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<td>n = 40</td>
<td></td>
<td>n = 28</td>
<td>n = 47</td>
<td></td>
</tr>
</tbody>
</table>

***p < 0.001.

OR, odds ratio.

**Discussion**

This study indicates that the level and prevalence of psychological distress among Icelandic female university students is similar to the female general population. However, the mean level of depression was significantly lower among the students compared with Icelandic women in the same age range. This contradicts international research findings, which most often show that students have higher levels of psychological distress than the general population (Adlaf et al. 2001, Bayram & Bilgel 2008, Stallman 2010). Also, when comparing the prevalence of distress among Icelandic female students to students cross-nationally, the level of psychological distress seems somewhat lower in the Icelandic sample (Adlaf et al. 2001, Wong et al. 2006). This could be related to the fact that the mean age of the Icelandic students in this study was rather high and about 65% of them were older than 25 years. Research has shown that older students tend to be less distressed than younger students (Rosenthal & Schreiner 2000, Stallman 2010). Results from Thome (1998) show that Icelandic women with lower education are more depressed than women with higher education, post partum. This suggests that education may serve as a protective factor against psychological distress (Mirowsky & Ross 2003).

Only about 26–29% of students in this research who experienced above-threshold psychological distress, and felt they needed assistance, actually received professional help. This is a large proportion of women not receiving needed help at a time when the incidence of psychological distress is high (Kessler et al. 2007). This is comparable to results reported in a US study by Rosenthal & Wilson (2008). In Australia Stallman (2010) also found that only 34.3% of those who had high levels of psychological distress in a university student population had sought professional help because of the distress. Of those seeking help, the majority went to their general practitioner (GP). This differs from the results of the current study, as the Icelandic female students mostly received assistance from health-care professionals who do not mainly work within the primary health-care system.

The current study indicated that 21.2–22.5% of female students may need some kind of professional help because of their psychological distress and most experienced moderate levels of distress, close to the respective thresholds, indicating a need for early intervention or preventive
measures. It is important to keep in mind that although studies report increased prevalence rates of depression, the good news is that a large proportion of cases (between 25% and 50%) can be prevented (Beekman et al. 2010), challenging nurses to focus more on community-based preventive work. However this study showed that only 1.4% of the respondents received mental health counselling from nurses. Nurses’ mental health work could for instance pertain to primary and secondary prevention tasks like the ones involved in student mental health services. Nurses working in the primary care sector, including the educational system, are in a unique position to screen for psychological distress and provide or initiate preventive services. Research results by Vilhjálmsdóttir et al. (2001) have shown that young people in Iceland often postpone a visit to the GP in comparison with older age groups and are generally in less contact with the primary health-care system. Many of the students attending the University of Iceland come from different parts of Iceland and do not have direct access to their GPs or primary health-care centre. Therefore the nursing profession could develop outreach programmes not the least within schools where most young people are reachable. It is noteworthy that 28% of the student sample expressed a need for mental health services. More in-depth research is needed to identify the specific needs of university women students so the services can be developed accordingly. Advanced practice psychiatric nurses could take on this important task and create a sound clinical foundation for preventive and early interventions according to clients needs.

It is worth noting that the response rate in the internet survey was lower than expected or 37.5%. This may partly be because data gathering took place during Easter and close to the semester’s final exams. Also, the women may have had concerns about responding through the internet, even if confidentiality was assured. It can also be argued that women with more symptoms of depression or anxiety were less likely to respond to the questionnaire because of their distress. In view of these considerations, the results should be interpreted with caution.

**Conclusion**

The study found that levels of psychological distress in female students were similar to general population women, but depression levels were lower than in the general population of women in the same age range. Between 21.2% and 22.5% of the female students were psychologically distressed and only about one-third of them had received mental health services, with lack of time and not knowing where to seek help as the main hindrances. Many university students come from different geographical areas and do not have direct access to their GPs or primary health-care centres. It is also noteworthy that about 87% of the sample thought that mental health services should be provided at the University. The results of this research indicate that health care on campus, or in close proximity to students, that is, inexpensive and easily accessible, should be a service option provided by school authorities or the primary health-care system.

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