Original Study

Psychological Distress and its Correlates among University Students: A Cross-Sectional Study

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A B S T R A C T

Study Objective: Mental health disorders are common among university students. In addition to the normal stressors of everyday life, students must deal with stresses related to their education. Our aim was to identify the mental health status of university students and its correlation with socio-demographic, academic performance, and menstrual features.
Design: A cross sectional study was conducted among undergraduate health students using the Symptoms Checklist-90- Revised (SCL-90-R). The Global Severity Index (GSI), raw scores of SCL-90-R subscales, and correlated factors were reported and analyzed.
Results: A total of 171 health students completed the survey. Psychopathological symptoms were found in 23% of the student. Depression was the most prevalent mental reported symptom (100%). There was no significant association between the symptoms and variables such as age, gender, living in university dormitories, marital status, field of study, academic performance, and the day of menstrual cycle while filling the form. GSI scores were significantly related to regular menses. The odds of being identified as a mentally unhealthy individual was 0.37 times lower for those who experienced regular menstrual cycles.
Conclusion: Psychological distress is prevalent among health students and tends to be reported more by female students with irregular periods and during luteal phase of menstrual cycle. Preventive and treatment programs need to be developed. It is also recommended that SCL-90-R be administered at least 7 days after the end of menstrual bleeding.
Key Words: Mental health, Youth, Health students, SCL-90-R, Menstrual cycle, Premenstrual syndrome

Introduction

The demanding nature of studies in health sciences and the growing population of the university students in Iran involve a best screening of psychological distress.[1] Determining the mental health status of students in health sciences can definitely help to detect mental problems and develop proper treatments prior graduation from university. Several reports indicate that prolonged psychological distress is associated with burnout, reduced academic achievement, unprofessional fieldwork performance and mental disability.[1] It is also obvious that promoting mental wellbeing of health students may prevent health-damaging behaviors, improve their quality of life and have a great impact on the quality of care services that they will provide for people as future professionals.[2] Furthermore the direct cost of mental health services may represent a considerable amount of total health spending.[2]

While a substantial evidence-base on Iranian students' well-being exists in medicine, data in the arena of health sciences are relatively sparse. Findings by Nojomi and Gharayee in medical students showed that alarmingly high proportions (19.4%) of them may be in the clinical range of psychological disturbance.[3] Other investigators from Germany reported similar findings.[4] This rate was 8% reported by Divaris and his colleagues with regard to dental undergraduates' general health and psychological distress.[1]

Empirical observations in Iran indicate that even though the majority of health students complete their studies within the 8 semesters of the regular curriculum, only a small proportion of them meet the professional qualifications as a health care provider prior to graduation. It may be deduced that this poor academic performance be related to psychological distress that students undergo during their training courses.

Nevertheless, to our knowledge, no investigation has examined the mental well-being in Iranian health students. Moreover, findings on the association of female health students' psychological distress with the menstrual phase have not been established worldwide. By using Symptom Checklist-90 Revised (SCL-90-R) questionnaire, we aimed at identifying the mental health status of the university students and its correlated factors including academic performance, menstrual characteristics, and socio-demographic factors. We also wanted to investigate whether female respondents' reports of psychological symptoms differ in different phases of menstrual cycle. Our second goal is based on a presumption that adolescents with premenstrual disorders gain higher scores on SCL-90-R than those without premenstrual disorders.[5] Symptoms of premenstrual syndrome (PMS) are usually demonstrated during menstruation and premenstrual phase, so if the time when women with PMS report their symptoms is concurrent with

their premenstrual phase, it is possible that the psychological symptoms are over-reported and their scores on SCL-90-R may be misleading. Nevertheless, we finally embarked upon this investigation in order to add to the knowledge base of health students' well-being and psychological distress and subsequently to inform and sensitize educators, researchers, and stakeholders about this topic that has received little attention.

Materials and Methods

The Study Sample and Design

A cross sectional study was conducted in Sabzevar University of Medical Sciences during 2013 scholastic year. Sabzevar is a city in Khorasan province located in the east of Iran. The majority of Iranian students enroll in health schools right after high school and admissions are based primarily upon competitive national exams. In Sabzevar University, 3 major health studies including public, environmental, and occupational health are presented with a total of 183 enrolled students. Health studies are structured around a traditional, mostly lecture-based, 4-year curriculum. The first 2 years are focused on didactic activities on biomedical and health introductory courses. During the second and third years, students undergo pre-clinical training. Clinical training is conducted in the fourth year.

After obtaining ethical approval, all students from the total 3 health schools were initially contacted and invited to participate in the research from April to June 2013; 171 students agreed to participate for a response rate of 93.4%. Students were approached during scheduled classes or seminar sessions. The purpose and the anonymous and voluntary character of the study were explained. The survey was administered in paper and pencil form which required approximately 25 minutes for completion. The participants were asked to voluntarily answer the questions in their classroom break time.

Psychological Assessment Measure

Psychological symptoms were assessed by SCL-90-R which is essentially a psychiatric self-report instrument. SCL-90-R was introduced by Derogatis[6] and consists of 90 questions in total and is divided into 9 symptom dimensions, namely somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Respondents rate the 90 symptoms of distress on a 5-point Likert scale (0 = "not at all" to 4 = "extreme"). The mean score of all items are calculated as the Global Severity Index (GSI) and then transformed to T scores. For this study, we used the normative scores and thresholds suggested for young non-patients.[6] Moreover, it is also important to investigate the properties of self-report questionnaires such as SCL-90-R in each new population since they have specific characteristics that make them sensitive to linguistic and cultural factors. For this reason, the SCL-90-R was translated into the official language of Iran (Farsi) and its psychometric properties were supported in an independent study.[3] Its reliability proved to be good with a correlation coefficient of 0.97 on pre-test and post-test assessments. Its validity as a measure of general symptom distress was also good since internal consistency for all dimensions of the questionnaire was more than 0.70.[3] The sensitivity and specificity of the questionnaire comparing to DSM III-R was 0.94 and 0.98 respectively.[3] Hence, we applied the Iranian version of the SCL-90-R for this study which has been shown to perform well in terms of reliability and internal consistency.[7]

Additional Measures

A questionnaire for collecting data on demographic, menstrual characteristics, and academic performance of the study sample was also designed. This questionnaire consisted of 3 sections. Section 1 included questions about socio-demographic information such as age (years after birth date), marital (single or married), residency (living on or off campus), and economic status (monthly family income). Section 2 included questions for females about menstrual characteristics such as the regularity of menstrual cycles, the duration of menstrual bleeding, and the duration of menstrual cycle. Another question in this section was the menstrual phase of the students at the time of filling the questionnaires. Section 3 included questions about educational and academic performance in health schools based on the average score of final grades (ranging from 0 to 20) in previous semesters.

Analytical Approach

Statistical analysis was conducted using the SPSS version 16. All tests were carried out at the 5% level of significance. The data were firstly analyzed in a descriptive fashion. A t test was used for comparison. Additionally, a Spearman correlation analysis was used to assess any relation between the demographic features, academic performance, and menstrual characteristics information provided by the students and the GSI scores. Chi-square analysis was also used to determine the correlation between some qualitative variables and the mental health status. We also generated normalized GSI (T) scores centered at 50 separately for males and females used a T score ≥ 63 definition for a psychological morbidity (cut-off score).

Finally, a logistic regression analysis was performed to determine variables that contribute to GSI scores in students. The normal or abnormal mental health status based on the GSI cut-off point was used as the dependent variable, and demographic and menstrual characteristics were considered as independent variables.

Ethics Approval

The study was approved by the Ethics Committee of Sabzevar University of Medical Sciences. All participants gave their written consent.

Results

In all, 183 undergraduate students were approached from 3 health schools. One hundred seventy-one students