

RATES OF ANXIETY AND DEPRESSION AMONG HIGHER EDUCATION STUDENTS IN LIBYA - 2015

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Abstract

This study was carried out to determine the rates of anxiety and depression among higher education students in Libya. The purpose of the study was to provide basic-data required by the university health program for planning related to the health need for students. The study sample consisted of 1300 higher education students from different high institutes and different disciplines. The self-rated health questionnaire included anxiety and depression and the associated social and economic factors were during class time. Data were analysed using the statistical software package SPSS version 16. Overall 8.8% of respondents reported diagnosed with anxiety, and 4.3% with depression. The salient gender differences were found, more female student reported anxiety and depression than male students. This study suggests that social and cultural factors seem to play a major role in determining the state of health especially mental health.

Keywords: Anxiety, Depression, Students.

1. INTRODUCTION

Higher education students do not only have to deal with the stress of academia, they must also contend with various life stress such as developing their independence, and separation from parents (Oxington, 2005). Moreover, there are many features making students an important group to study. Firstly- students' health is a very important issue, because they are a substantial proportion of the youngest adults. Secondly- according to the recent Health Promoting University Project (WHO Regional Office of Europe, 1998) more research is needed on effective health education and health promotion programmes in HES. Also Musaiger, (2004) indicated that there is a great lack of quantitative and qualitative research and recommended for effective action, to study factors contributing to the occurrence of students health problems in the Eastern Mediterranean Region. Thirdly- in order to make an international comparison for the commonest health problems between students from different countries, such as mental health disorders. Therefore, the attention on the health of university students has increased in recent years (Cheung, 2007; Malinauska, 2006; Stock et al., 2003; Oliveira et al., 2008; Mikolajczk et al., 2008).

According to a Mental Health Advisor at University of De Montfort, who is supporting students who are experiencing mental health difficulties (2007), mental health disorders are very common, and they can significantly affect people in their relationships, their work, and the quality of life. Having a mental illness is difficult, not only for the person concerned, but also for their family, friends and people they work with university and college life has become more stressful for many students and this stress can cause symptoms to develop or worsen. Coping with the contrast between school and university work, working independently, exams, housing and money worries, all of these can cause anxiety and depression (Ashton & Kamali, 1995; Backels & Wheeler, 2001).

Anxiety and depression are the most common challenges to students' mental health, because they are concerned about their studies (Sam and Eide, 1991; Webb et al, 1996; Wardle et al, 2004; Rab et al, 2008; Mikolajczyk et al, 2007). The Royal College of Psychiatrists in the UK suggest that students are 1.64 times more likely to experience symptoms of mental ill health than other young people (Harrison, 1999). According to National Statistics (2001), one in four students will experience a mental health problem during their studies in England. Also in Pakistan 43.7% of students reported anxiety and 19.5% depression (Rab et al., 2006).

There are many reasons why students show these levels of stress (e.g. the pressure of work, assessment, relationship problems, money worries, drinking and drug use).

The aim of this study is to determine the rate of anxiety and depression symptoms among higher education students in Libya, and to observe the impact of social factors such as accommodation during semester, social support and monthly income.

2. METHODOLOGY AND METHOD

Recently, the number of surveys among student population has increased (Cheung et al., 2007; Malinauska et al., 2006; Stock et al., 2003), and the questionnaire method has been widely used as the data collection instrument. The use of anonymous questionnaires shows a higher response rate among students, presumably because they find it impersonal and confidential (Oppenheim, 1992). Other advantages of the questionnaire are speed, low cost, its ability to be sent through e-mail or post, and it allows a large sample of students to participate so that statistical analysis is possible.

2.1. Instrument

This study used a questionnaire as its data collection tool, and the questionnaire was designed in English, developed from previously published tools (e.g., American College Health Association – National College Health Assessment 2005; WHO five Well-Being Index 1998 version; National Health Interview Survey(USA) 2007; Global School-based Students Health Survey GSHS 2005; Coin 1998; Cohen et al., 1983). Several studies on student health have used questionnaires as an instrument for data collection (e.g. Meland, 2006; Kakeshita, 2006; Stock et al., 2003). The questionnaire was translated into Arabic; the translation was performed twice independently to check for inconsistencies.

2.1.1 Social-Demographic Variables

The questions in this part measure the socio-demographic variables of the respondents, and are adopted from the Global School-based Student Health Survey (GSHS, 2005), and the same questions were used in the American College Health Association (ACHA, 2005). These characteristics are related to the health risk behaviours in this study, to describe how health risk behaviours vary by demographic characteristics, and to help the researcher to recommend specific recommendations. It is also intended to help policy makers and programme planning.

Seven variables were used to assess participants' socio-demographic information as independent variable (gender, age, year of study, discipline, religion, accommodation and income situation).

Gender: It was determined by the question: "*What is your sex?*" Female is coded as 0, while male is coded as 1. Age was verified by the question: "*How old are you?*" Four age groups were created by coding the ages into categories: < 20 year, 20-24.9, 25-29.9, and ≥30. Since there is more than one age group, the variable is entered as a dummy (categorical) variable with the lowest age group (< 20) as a reference group.

Nationality: participants were asked to indicate their nationality: "*What is your nationality?*" The optional responses were (Libyan and other). Also participants were asked: "*Where were you born?*" There were same optional responses (Libyan and other). **Religion:** Participants were asked to report their religion: "*What is your religion?*" Most Libyan people are Moslem; therefore just two options were given for this question; "Islam" and "other". Another question related to religion was asked to the participants.

"*How strongly do you agree with the following: My religion is very important in my life?*" Five options were given for this question (Strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree and strongly disagree).

Year of study: students were asked to indicate their year of study at university or college by: "What year are you studying in at your university or college?" There were six options: (1st year undergraduate; 2nd year undergraduate; 3rd year undergraduate; and 4th year undergraduate; 5th year or more undergraduate and special year). **Discipline:** Participants were asked to report their disciplines; "What discipline do you study at university/college?"

Moreover, participants were asked one more question related to their study, which was: "How important is it for you to have good grades at university?" There were four possible responses: (Very important, somewhat important, not very important and not at all important). **Monthly income** was determined by the question: "What is the monthly income at your disposal after paying rent and utilities?" The respondents had to indicate the amount of money. Then respondents were asked: *Would you say the amount of money you have is (Sufficient or insufficient)?* Self-rated sufficiency of monthly income was coded on a four-point scale (from always sufficient, mostly sufficient, mostly insufficient and always insufficient) and a cut off were set between the two lower categories and the two higher ones. Thus, participants were asked this question: "How do you finance your studies?" The optional responses which were given to participants were (Parents' support, job during semester, job during breaks, scholarship and other, please specify). The same questions were used by Stock et al., 2003.

Social contacts and social support: In terms of coping with stress, social support mostly has a positive effect. Social support was originally defined according to the number of people including family and friends, who support a person when he/she feels distressed. In recent times this has been developed to include also the satisfaction with social support. It was measured from the citation of Sarason's standardized measurement instrument, the Social Support Questionnaire - SSQ (Sarason et al., 1983). The following question was used:

"How many people do you know- including your family and friends- who support you whenever you feel down?"

The answering categories were: None, one person, two- three persons and more than three persons. Three persons and under (low social support) were coded as 0, whilst more than three persons (high social support) was coded as 1.

Furthermore, the satisfaction with social support was measured by the following question in Sarason's Social Support Questionnaire:

Are you on the whole satisfied with support you get in such "situations?"

The answering options were on a five-point scale which ranged from: "Very satisfied" (one point) to "Very dissatisfied" (five points).

Living during university/college: Reb et al., (2008) indicted those students who live on a university campus are more likely to suffer from health problems (mental health). Therefore, participants were asked to report: *"Where do you live (During university/college term time)?"*

Five options were given (I live alone, I live together with my wife/husband, I live with my parents, U/C accommodation and other).

2.1.2 Anxiety And Depression

As anxiety and depression are common challenges to students' mental health (Wardle et al., 2004; Khalek and Alansari, 2004; Rab et al, 2006), in this study students were asked one question which is related to anxiety and depression. This question was developed from the American College Health Association Survey -ACHA (2005).

"Within the last school year, have you been diagnosed with anxiety?"

"Within the last school year, have you been diagnosed with depression?"

The options were "yes" or "no"

The American College Health Association Survey asked participants two questions separately; one about anxiety and the other related to depression, thus, the questions used "School year"

In this study, the two questions were combined into one question in order to reduce the number of questions in the study, and "School year" was changed to "academic year" to be more suitable for university/college students.

"Within the last academic year, have you been diagnosed with anxiety or depression?"
The options were "yes anxiety" or "yes depression" or "no".

2.2 Data Collection

Based on previous studies (e.g. Chmara et al., 2007; Cheung et al., 2007; Abolfotouh et al., 2008), a random sample of 1300 volunteer undergraduate students from different universities (Tripoli, Benghazi, Omar El-Mukhtar, Sebha, Sirt and Misrata University) and 3 colleges (higher medical technology institute, higher industrial technology institute and higher computer technology institute) in Libya, which include both urban and rural areas, was selected by using random sampling. Also participants in this study were from different disciplines (engineering, medicine, science and arts). Data were collected over a period of 4 months.

2.3 Ethical Issues

In this study, the researcher informed the respondents of the nature and aims of the study, and the type of questions by using a participant information sheet. In addition, the questionnaire was anonymous, and the information gathered was used only for the purpose of the study.

2.4 Data Analysis

The data were analysed using the SPSS version 16 computer software programme.

3. RESULTS

The results detailed in this section are classified and categorised under subheading to describe the prevalence of anxiety and depression indicators, broken down by age, and gender. This allows the results to be clearly and concisely compared with previous research carried out in this area of interest. Most of the findings presented in this section are based on collapsing response options to questionnaire items.

3.1 Study Respondents

Participants from nine Libyan higher education institutes, 6 universities (Tripoli, Benghazi, Omar El-Mukhtar, Sebha, Sirt and Misrata University) and 3 colleges (higher medical technology institute, higher industrial technology institute and higher computer technology institute), completed surveys for these analyses. Out of 2000 questionnaires distributed, 1500 were returned from those students who attended lectures on the day of collection. Therefore a 75% response rate was achieved. 200 respondents were excluded because they had missing demographic data. This study used data from 1300 completed surveys for these analyses.

3.2 Characteristics Of The Study Sample

Descriptive characteristics of the study sample are shown in Table (1). The sample includes 1300 higher education students, and it consists of 439 (33.8%) males and 861 (66.2%) females. Respondents were aged between 17 -34 years. The average age was 20.95, with a standard deviation of 2.37. The majority of participants were females because most of the students in the faculties were females. The growth in female student enrolment in higher education is a positive aspect of the Libyan education policy. The number of female university students has increased dramatically, in addition to female students enrolled in higher technical institutes. Females were concentrated in the humanities and males in science, engineering and business faculties. The sample included students from different disciplines and institutes, and from 9 campuses.

Table 1. Descriptive characteristics of the study sample

Demographic Variables	Male (n=439)		Female (n=861)		Total (n=1300)	
	N	%	N	%	N	%
Age (year)						
<20	109	30.2	251	69.8	360	77.6
20-24.9	288	33.9	560	66.1	848	65.2
25-29.9	40	49.4	41	50.6	81	6.2
≥30	2	18.1	9	81.9	11	0.85
University/college Location						
North	126	45.3	152	54.7	278	21.4
South	53	19.6	217	80.4	270	20.8
East	24	16.4	122	83.6	146	11.2
West	236	38.9	370	61.1	606	46.6
Year of study						
Year 1	188	43.5	244	56.5	432	33.2
Year 2	86	24.2	270	75.8	356	27.4
Year 3	82	25.8	237	74.2	319	24.5
Year 4	58	40	87	60	145	11.1
Year 5	19	59.4	13	40.6	32	2.5
Special year*	6	37.5	10	62.5	16	1.3

• Special year = some faculties have one year for training (e.g. medicin faculty).

3.3 Demographic And Social Economic Variables

3.3.1 Accommodation During Semester Term

Respondents were asked to report their living place during semester by the question: “Where do you live (during university/college time)?” As shown in table 2, most of respondents 81.7% reported living with their parents, whereas just 13.7% reported that they lived in university/college accommodation.

3.3.2 Social Support

Respondents were asked to indicate how many people they know-including their families and friends- who support them wherever they feel down. Also the satisfaction with social support was measured by the question: “Are you on the whole satisfied with support you get in such situations?” Social support in this study was categorized into two groups, low social support (three or less persons) and high social support (more than three persons). Overall, 39.5% of students reported having low social support, and 60.5% of students reported having high social support.

As shown in table 2, among the total sample the satisfaction with social support was significantly different among female and male students, and showed that 11.7% of the sample reported themselves to be dissatisfied with social support (59.2% female, 40.8% male), and 44.9% of the sample reported to be somewhat satisfied (67.3% female, 32.7% male), and 43.4% of the sample reported to be very satisfied (67% female, 33% male) with social support.

1. **Monthly income:** Perceived income sufficiency was measured by the following question: “Would you say that the amount of money you have is (Not sufficient or sufficient)?” The subject perception of having a sufficient income was higher, about three-quarter of students reported that having a sufficient income, and there was a significantly gender difference, with more females than males reported having sufficient income (See table 2).
2. **Finance of study:** Also participants were asked to indicate how they finance their studies, overall, three-quarters of students reported that they finance their studies by parental support, whereas just

9.2% of students reported having a job during semester. Most students who supported their studies by a job during semester were males (See table 2).

3. **Anxiety disorder and depression:** Anxiety and depression were measured by the following question: “Have you ever been diagnosed with anxiety disorder or depression?” Distribution of anxiety and depression by gender is shown in tables (3 and 4). Overall, 8.8% of respondents reported anxiety and 4.3% depression. The prevalence of anxiety and depression is significantly higher among female students than male (9.5 %, 7.3 %, respectively).

Table 2. Demographic and social economic variables

Variables/Options	Gender			Z
	Female (n=861)	Male (n=439)	Total (n=1300)	
Accommodation during semester				
Alone		17 (3.9%)	21 (1.6%)	001.
My parent		325 (74%)	1101 (84.7%)	
U/C Accommodation		97 (22.1%)	178 (13.7%)	
Total	861 (100%)	439 (100%)	1300 (100%)	
Satisfaction with social support				
Dissatisfied	90 (10.5%)	62 (14.15)	152 (11.7%)	NS
Somewhat satisfied	186 (21.6%)	101 (23%)	287 (22.1%)	
Satisfied	585 (67.9%)	276 (62.9%)	861 (66.2%)	
Total	861 (100%)	439 (100%)	1300 (100%)	
Monthly income				
Insufficient	198 (23%)	154 (35.1%)	352 (27%)	001.
Sufficient	663 (77%)	285 (64.1%)	948 (73%)	
Total	861 (100%)	439 (100%)	1300 (100%)	
Finance of study				
Parents support	773 (89.8%)	231 (52.6%)	980 (77.2%)	.001
Job during semester	32 (3.7%)	89 (20.3%)	120 (9.2%)	
Scholarship	48 (5.6%)	50 (11.4%)	98(8.5%)	
Job during breaks	8 (0.9%)	69 (15.7%)	77 (5.9%)	
Total	861 (100%)	439 (100%)	1300 (100%)	

Table 3. Distribution of anxiety by gender.

Anxiety	Sex		
	Female	Male	Total
No	779 (99.5%)	407 (92.7%)	1186 (91.2%)
Yes	82 (9.5%)	32 (7.3%)	114 (8.8%)
Total	861 (66.2%)	439 (33.8%)	1300 (100%)

Table 4. Distribution of depression by gender.

Depression	Sex		
	Female	Male	Total
No	827 (96.1%)	417 (95%)	1244 (95.7%)
Yes	34 (3.9%)	22 (5%)	56 (4.3%)
Total	861 (66.2%)	439 (33.8%)	1300 (100%)

Table 5. The effect of each independent variable on anxiety.

Step 1	B	S.E	Wald	df	Sig	Exp(B)
Gender	.167	.287	.339	1	.560	1.182
Age	.082	.060	1.898	1	.168	1.086
Year of study	-.007	.097	.005	1	.944	.993
Accommodation during semester	.083	.277	.090	1	.764	1.087
Monthly income	-.019	.150	.016	1	.901	.981
Satisfied with social support	-.516	.102	25.707	1	.000	.597

B = the coefficients. S.E = standard errors. Wald = the wald chi-square statistic. Sig = associated P-value.

Exp (B) = odds ratio.

Table 6. The effect of each independent variable on depression.

Step 1	B	S.E	Wald	df	Sig	Exp(B)
Gender	-.362	.220	2.702	1	.100	.696
Age	.079	.044	3.183	1	.074	1.082
Year of study	-.046	.132	.119	1	.944	.993
Accommodation during semester	.013	.205	.004	1	.949	1.013
Monthly income	-.061	.108	.321	1	.571	.941
Satisfied with social support	-.226	.077	8.538	1	.003	.798

The above tables (5 & 6) explain the effect of each independent variable on anxiety and depression. Just, the satisfied with social support variable has significant negative effect on anxiety and depression as Sig = .000 for anxiety and Sig = .003 for depression which both less than 0.05. None of other independent variables show any significant effect.

4. DISCUSSION

This section discusses the results and implications of future research and practice. In this study, a sample of higher education students in Libya was studied in order to evaluate the rates of anxiety and depression among Libyan higher education students. This study had two important properties concerning our data collected from the higher education (University/college) students: firstly, this population was qualified as a major sector of young adults, secondly, our further social opinion leaders (Arzu Daskapan, 2006). Attention on the health of higher education students has increased in recent years (Al-Isa, 1999; Soriano et al, 2000; Stock, 2003; Wardle et al, 2006; Mikolajczyk et al, 2007; and Rab et al, 2008). Providing data on the health status and prevalence of many lifestyle behaviours related to leading causes of mortality and morbidity among higher education students will support the development of health promotion in future strategies for this population. Despite this fact, to our knowledge, there is a serious lack of research that has assessed health status related lifestyle behaviours for higher education students in Libya.

Analysis of the mental health data in this study showed that overall 8.8% of students reported anxiety and 4.3% depression. Our study also found a gender difference where female students on average had higher anxiety than male students (9.5% compared to 7%), but lower rates of depression (4% compared to 5%).

The study found low rates of anxiety and depression among higher education students in Libya compared with students from European countries and England. Moreover, the results as shown in tables (5 & 6), show

that only the variable 'satisfied with social support' has significant negative effect on anxiety and depression due to associated P-value = .000 for anxiety, and .003 for depression, which are both less than 0.05. This means that high satisfaction can lead to no anxiety and depression. These findings support those by Mikolajczyk et al (2007) and Takakura et al (2005).

Therefore, the low rates of anxiety and depression might be explained by the high levels of social support which were reported by students who participated in this study (60.5% of students reported having more people supporting them). Previous studies (Mikolajczyk et al., 2007 and Takakura et al., 2005) suggest that students with adequate social support have greater protection from major life stressors and also adjust better to those stressful situations. A reduction in social support may thus explain part of the rise in depression, because insufficient social support has been found to be a major risk factor in mental disorder, especially when faced with major stress. According to the Faculty Advisory Council and the Student Advisory Committee (2007), if students' social support was lacking, their risk for health complaints greatly increased. Likewise, a study of Japanese students also found that lack of social support was significantly related to more stress responses, such as anxiety and depression (Okayasu et al., 1992).

In this present study, findings show that the prevalence of anxiety and depression is significantly higher among female students than male students, which is reflected in data observed from seven other Arabic countries, Kuwait, Saudi Arabia, Emirates, Oman, Egypt, Syria and Lebanon, in research conducted by Abdel-Khalek and Alansari (2004). It is possible that females are less able to cope with the great pressure which occurs during their studies

In Libya, the prevalent rate of depression is low compared with the prevalence in European countries Mikolajczyk et al (2007) indicated a higher prevalence of depressive symptoms among students from Eastern European countries with gender difference (more females than males), in Germany 26.7% / 22.8%, in Denmark 24.9% / 12.1%, in Poland 45.5% / 27.3%, in Bulgaria 42.9% / 33.8% for female and male students respectively. Likewise, Stewart (2001) indicated that a survey by the Mental Health Foundation reported that 50% of university students in England showed signs of clinical anxiety and more than one in 10 suffered from clinical depression.

The possible explanation of our finding of low a percentage of students (female and male) who reported being diagnosed with anxiety and depression is that, in our sample, most students are living with their families (84.7%), and that was found by Rab and Nasir (2008), to be the most important reason which alleviates depression among university students in Pakistan. In Pakistan, the significant higher rate of depression was among students living in college dormitories compared with those living at home, and there was a tendency for more students residing in dormitories to report anxiety than those living at home.

Also, our findings show lower rates of depression and anxiety among female students than in Pakistan (43.7% of students reported anxiety and 19.5% depression), and this Pakistani study showed that students living in university dormitories were significantly more depressed and anxious than those living at home. Students in their first 2 years of medical school were more stressed, but those who had more friends were less anxious and depressed (Rab and Nasir, 2008).

Another major factor of being low the rate of anxiety and depression among higher education students in Libya is the sufficient income (73% of students reported sufficient income), especially with free high education in Libya. Also most students in our study reported financing their studies by parents' financial support, so there is no need for students to devote additional time to working while studying.

In contrast with students from European countries, students have to deal with various life stressors for example, academic stressors, developing their independence, separation from parents, tuition fees, and housing especially with general high costs of living. As a result, some students in European countries devote additional time to working while studying. According to Mikolajczyk et al (2007), there was an association between income perceived as insufficient and higher levels of depressive symptoms among European university students.

There is one limitation in the present study which must be considered: This study showed that there is no statistically significant relationship between mental health disorders such as anxiety and depression and some independent variables such as 'gender', 'age', 'year of study', 'accommodation during semester' and

'monthly income'. However, previous studies (Abdel-Khalek & Alansari, 2004; Mikolajczyk et al, 2007; Rab & Nasri, 2008) showed that these variables do have a significant effect on mental health disorders such as anxiety and depression. As these results refute past findings, possible reasons may be due to the limited data collected. As shown in table 4) the cases of 'no' (1244) are the overwhelming majority, whereas for the group 'yes' (56), the statistical size is close to zero. The overall percentage of students answering 'no' for depression is 95.7%. The same conclusion can be made for anxiety. In conclusion, our study found a low rate of anxiety and depression among higher education students in Libya compared with students from other countries.

Therefore, our findings suggest that social and cultural factors seem to play a major role in determining the state of health, especially mental health. Consequently, observational studies reported a strong link between mental health problems and the rate of smoking and alcohol misuse (Russell and Robert, 2005). Barbara (2004) indicated that psychiatric disorders were three times more common among young people who reported regular alcohol use than among teenagers who did not drink, and about half of the frequent cannabis users had a mental health problem compared with only one in 10 of those who reported never having used cannabis. There is a need for further research, which should be carried out with larger sample groups to find out mental health status related lifestyle behaviours (e.g. smoking, alcohol and drugs use). It will be helpful to accurately identify perceived health status and subsequently recommend changes for promoting health among students and young people in general.

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