ORIGINAL ARTICLE

Associated factors of stigma toward people with mental illness among university and school students

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Abstract

Purpose: This study aimed to explore the associated factors of stigma towards people with mental illness among Omani school and university students.

Design and Method: A cross-sectional study among 371 school and university students with a multivariable linear regression model to identify the associated factors of personal and perceptions of stigma.

Results: Male students, those with highly educated mothers, have high monthly income, higher mental health knowledge, employed fathers, and received focused education on mental illness showed fewer stigmatizing attitudes.

Implications for Practice: Enhancing the knowledge about mental illness among school and university students and their families can play a significant role in reversing stigma.

KEYWORDS

adolescents, mental health literacy, mental health stigma, university students

1 | INTRODUCTION

Globally, there are 450 million people diagnosed with a mental illness, and one in four individuals will be affected at some stage in their lives (World Health Organization WHO, 2019). The prevalence of mental illness in all Arab countries ranges between 12.29% and 14.34% (Global Burden of Disease Collaborative Network, 2017). People with mental illness are at higher risk of experiencing poor academic performance (Bruffaerts et al., 2018); poor relationship with peers, family, and community members (Moore et al., 2018); low self-esteem (Stuart et al., 2019); and a high risk of developing diabetes, heart problems, stroke, and respiratory conditions (Correll et al., 2017). Yet, almost 66% of people do not seek medical treatment for their mental illness because of fear of causing damage to family reputation,

reduced marriage prospects, discrimination, social exclusion, and stigma (World Health Organization WHO, 2018, 2019).

It is estimated that four out of five people who have a mental illness experience stigma (Mohammadzadeh et al., 2020). The general population holds a negative view of people with mental illness (Al-Alawi et al., 2017). Stigma crosses all boundaries of gender, nationality, and culture as it is present in both developing and developed countries (Fox et al., 2018; Morgan et al., 2018; Zolezzi et al., 2018). Stigma is an act that brings a great deal of suffering for those people who experience its consequences in everyday life (Link & Stuart, 2017). For example, the public perceives people with mental illness as dangerous (Pescosolido et al., 2019) and violent (Reavley et al., 2016). Students in schools and universities are also reluctant to date people who have a mental illness, have them as neighbors, or

make friendships with them (Al Omari et al., 2019; DuPont-Reyes et al., 2020). The public stigma towards people with mental illness experience is usually followed by self-stigma where they also view themselves negatively (Ayenalem et al., 2017). Mass media plays a significant role in supporting stigma as it portrays people with mental illness as being unsafe, violent, unpredictable, and weak (Chatterjee & Singh, 2018). The work with correcting societies' perception of people with mental illness, therefore, needs to be based on evidence that takes into consideration all aspects contributing to the stigmatizing attitudes.

In Arab countries, stigma toward people who have a mental illness can impede the person's ability to seek help and receive effective treatment (Mohammadzadeh et al., 2020; Zolezzi et al., 2018). An Omani study showed that the general public held negative attitudes towards individuals with mental illness (Al-Alawi et al., 2017). Stigma towards people with mental illness is further exacerbated by myths about the causes of mental illness; for example, some Arabs believe it is caused by evil spirits, black magic (Sehr), or the evil eye (Hasad) (Alahmed et al., 2018; Merhej, 2019; Zolezzi et al., 2018). As a result, families often seek the help of Sheikh (Islamic scholar) rather than mental health professionals which may lead to delays in diagnosis and treatment and the worsening of the person's illness (Al-Adawi, 2017; Merhej, 2019). One of the suggested solutions to decrease stigma and improve help-seeking behaviors and pathways to care is to increase the general population's level of mental health literacy (Huang et al., 2019). Previous studies reported a significant increase in knowledge and a decrease in stigma among adolescents as a result of education programs (Campos et al., 2018; Yang et al., 2018).

Oman is a developing country located on the southeastern coast of the Arabian Peninsula in Western Asia and the majority of the Omani population are young (Al Alawi et al., 2016). The Omani Government pays special attention to promoting general health among the population (Al Maqbali et al., 2019). However, stigma towards people with mental illness is still prominent within the community (Al-Alawi et al., 2017). There is a dearth of studies conducted in the Arabic region, which explored stigma towards people with mental illness among school and university students. The aim of the current research was to explore the associated factors of stigma towards people with mental illness among Omani school and university students.

2 | METHODS

A cross-sectional design was utilized in this study

2.1 | Sample and settings

The sample comprised of school and university students who were: (1) Omani (2) aged 15–24 years; (3) registered students in the current semester, and (4) able to read and understand the Arabic language. This age group (youth) was selected for the current study as at this critical age many ongoing changes in physical, psychological, and social dimensions are emerging. Any interruption in this normal process can lead to significant negative ramifications on the person's psychological development, which may alienate the individuals from their community. The total number of adolescents, who aged between 15 and 19 years old is 637,256 persons. To calculate the sample size, Sloven's formula was used $n = N/(1 + Ne^2)$. The formula can be explained as n = number of individuals that should be included in the study, N = total available population, and e = the margin of error which is usually set to 0.05.

$$n = 637256/(1 + 637256*(0.05)^2) = 399 \text{ participants}$$

A sample of university students from all over Oman who attend one of the largest and only governmental university in Oman was recruited for the research. Similarly, a sample of government school students from different Omani governates was recruited. Of 600 surveys circulated among school (300) and university (300) students, 371 completed the survey which makes the response rate 62%.

2.2 | Data collection

The study was approved by the Research and Ethics Committee in the College of Nursing at Sultan Qaboos University (REC/2018-2019/1) and the Ministry of Education (2819186833). This study was conducted in line with the recommendations from the declaration of Helsinki. After obtaining the ethical approval, research assistants approached the potential participants in schools and universities and explained to them the purpose, methods, and significance of this study. Participants who were interested received an envelope containing an information sheet, consent form and the self-report survey to be completed in their free time. All students under 18 were required to have their parents' written consent before participating in the research. Students were instructed to read the information sheet; sign the consent forms (if they were ≥18 years); complete the survey and place the completed survey in a sealed envelope in the designated collection place at the administrative office at the university or participating schools.

3 | MEASUREMENT

3.1 | The outcome variable: Stigma

Stigma was measured by the Peer Mental Health Stigmatization Scale (PMHSS); developed by McKeague et al. (2015). The survey measures personal stigma and community stigma and consists of 24 items measuring with possible ranging scores between 16 and 80: stigma awareness (8 items), stigma agreement (8 items), Positive reactions (8 items). An Overall stigma score (16 items) is retrieved from those different dimensions. Higher scores indicate a more negative attitude toward people with mental illness. Students reported their responses

to all items using a five-point Likert scale with 1 = disagree completely and 5 = agree completely. The survey is valid and reliable (Cronbach alpha = 0.753). Permission to use the survey was obtained from the originators of the survey.

3.2 | The explanatory variables: Demographics and the mental health knowledge

(1) Demographics

Students were requested to provide some information, for example, their age, gender, education level, family income, parents' level of education, and self-reporting of mental and chronic illnesses.

(2) The Mental Health Knowledge Questionnaire (MHKQ).

Mental health literacy was measured using the Mental Health Knowledge Survey; which consists of 20 items with possible ranging scores (0–20) and was developed by the Chinese Ministry of Health (2010) to survey people 15 years and over about their knowledge of mental health. A total score is produced by summing all items; one point is given to each correct answer and a higher score reflects greater knowledge. Cronbach's alpha value is 0.68.

The surveys were translated to Arabic language using the World Health Organisation (WHO) translation guideline (World Health Organization WHO, 2019). The researchers conducted forward and back translation; pre-testing and cognitive interviewing were completed to produce the final copy of the survey. The Cronbach alpha for PMHSS was 0.761 and the Kuder–Richardson for MHKQ was 0.65 in the current study. The Cronbach alpha for PMHSS was 0.761 and the Kuder–Richardson for MHKQ was 0.65 in the current study. No revision was needed or introduced to the translated versions of the questionnaires.

3.3 | Data analysis

Data were entered into the SPSS Version 23.0 for Windows (SPSS Inc.) installed on a computer protected by password at the principal investigator's office and only the principal investigator had the access to the computer. Descriptive statistics and correlations were carried out to describe sample characteristics and knowledge scores. Inferential statistics including independent t-test and analysis of variance were used to test the differences between means of the dependent continuous variable "Overall stigma" level and the demographic data (e.g., gender, self-reporting with mental illness, self-reporting of chronic illness, and parents' level of education). Multivariable linear regression was conducted to identify to what extent variables (demographics; mental health literacy) were associated with stigma towards people with mental illness among the school and university students.

In the multivariable linear regression model, the variables of interest, which were identified in previous literature as significant, and which were significant at the bivariate level were all included in the regression model. The included variables on the nominal level were; gender (Female/Male), study level (University/School), history of chronic illness (Yes/No), and received education about mental illness (Yes/No). The first step was to create dummy variables of the categorical variables of ordinal level, namely mother's level of education, and monthly income. In the next step, a correlation matrix and a scatterplot were run to test the multicollinearity between the independent variables. All correlations were less than 0.7 indicating no problematic multicollinearity. Similarly, the visual inspection of the scatterplots showed no linear correlation between the independent variables. Statistical significance was set at $p < 0.05$.

4 | RESULTS

A total of 371 students participated in the study with an overall mean age of 19.8 years (16.72 for school students and 21.85 for university students). The majority of participants were females (85%) and at the university level (59%), followed by 12th grade students (19.4%). Only 4.3% of the participants were diagnosed with a mental illness and few (12.7%) reported having a family member or friend diagnosed with a mental illness (12.7%). See Table 1.

The average level of mental health stigma was 45.32 (SD = 9.28). The mean stigma score was higher among the male adolescents (m = 48.11, SD = 7.24), t (369) = 2.918; $p < 0.01$; university students (m = 47.57, SD = 9.58), t (369) = 5.84; $p < 0.01$; adolescents who previously attended workshops about mental illness (m = 47.49, SD = 10.64), t (369) = 2.751; $p < 0.05$; and adolescents who had history of chronic illness (m = 48.26, SD = 12.53), t (369) = 2.195; $p < 0.05$ compared with their counterparts (Table 2). Overall stigma had a significant weak negative correlation with knowledge about mental illness (r = −0.133, $p < 0.001$) and a positive significant relationship with the age (r = 0.266, $p < 0.001$).

A multiple linear regression model was conducted to identify associated factors with stigma. In the beginning, dummy variables were created from variables with more than two categories. Then, a correlation matrix was created to test the multicollinearity and the association between variables was found to be less than 0.7. The independent variables identified in previous literature as significant and were significant at the bivariate level were entered into the model. The final model was significant compared with the constant (F (11, 359) = 8.69, $p < 0.001$). R^2 and adjusted R^2 of the final model were 0.210 and = 0.186, respectively. Participants' perceptions of stigma towards people with mental illness were significantly associated with gender, mothers' level of education, monthly income, health literacy, and receiving focused education on mental illness. Being a male adolescent; studying at university; having higher mental health knowledge, and attending prior workshops related to mental illness was associated with higher stigma scores. That is, adolescents were more aware of mental health stigma which means more acceptance of their peers with mental illness and more likely to interact with them. However, having a high income (more than 2000 Omani

	School age (n = 152)	University age (n = 219)	Overall (n = 371)
	M (SD)	M (SD)	M (SD)
Age, mean (SD) range (16–24)	16.79 (0.81)	21.89 (1.15)	19.8 (2.70)
Knowledge, mean (SD) range (4–20)	12.95 (2.40)	13.74 (2.48)	13.42 (2.47)
Stigma, mean (SD) range (19–78)	42.08 (7.77)	47.57 (9.58)	45.32 (9.28)
Characteristic	n (%)	n (%)	n (%)
Gender			
Male	7 (4.6)	47 (21.5)	54 (14.6)
Female	145 (95.4)	172 (78.5)	317 (85.4)
Mother's education level			
Illiterate	21 (13.8)	58 (26.5)	79 (21.3)
Elementary	24 (15.8)	49 (22.4)	73 (19.7)
Secondary	57 (37.5)	55 (25.1)	112 (30.3)
University	50 (32.9)	56 (25.6)	106 (28.6)
Father's education level			
Illiterate	5 (3.3)	30 (13.7)	35 (9.4)
Elementary	18 (11.8)	43 (19.6)	61 (16.4)
Secondary	46 (30.3)	72 (32.9)	118 (31.8)
University	81 (53.3)	73 (33.3)	154 (41.5)
Self-report of mental health problem	7 (4.6)	9 (4.1)	16 (4.3)
Friend diagnosed with mental illness	11 (7.2)	44 (20.1)	55 (14.8)
Family member diagnosed with mental illness	13 (8.6)	34 (15.5)	47 (12.7)
Self-report of chronic illness	13 (8.6)	29 (13.2)	42 (11.3)
Received education about mental illness	23 (15.1)	76 (34.7)	99 (26.7)
Visit a psychologist	16 (10.5)	35 (16)	51 (13.7)

TABLE 1 Sample characteristics by age group (N = 371)

Abbreviation: SD, standard deviation.

riyals per month) was associated with a more stigmatizing attitude toward people with mental illness (Table 3).

5 | DISCUSSION

This study explored the associated factors of mental health stigma among Omani school and university students toward people with mental illness. The results showed that gender, mothers' level of education, monthly income, health literacy, and receiving focused education on mental illness were all significantly associated factors with mental health stigma.

The descriptive findings show a low rate of school and university students who were diagnosed with mental illness although about one in ten had a family member or a friend diagnosed with a mental illness. Contradictive findings were reported in different Arab countries with both low prevalence (4%–8% in Egypt, Sudan, and Kuwait) (Dardas et al., 2016), and other higher prevalence in a similar context and neighboring countries such as Saudi Arabia, 28.5% (Alghadeer et al., 2018), and Jordan, 34% (Dardas et al., 2017). The health-seeking behavior influenced by the existing stigmatization towards persons with mental illness might explain the low rate of diagnosed persons with mental illness in our sample, meaning that this low prevalence does not necessarily reflect the actual number of persons with mental illness. This calls for immediate action to detect and treat this prevailing public health issue. There is also a need for a national strategy to educate the population and encourage young people to seek treatment. Furthermore, there is a need for comprehensive

TABLE 2 Bivariate statistics of mental health stigma among university students and school teenagers in Oman

Characteristic	Stigma score, M (SD)	p-value
Age group		**<0.001**
School-age	42.08 (7.77)	
University-age	47.57 (9.58)	
Gender		**0.004**
Male	48.11 (7.24)	
Female	44.84 (9.51)	
Mother's education level		**0.002**
Illiterate	46.27 (9.52)	
Elementary	45.64 (8.21)	
Secondary	42.72 (8.19)	
University	47.24 (10.30)	
Father's education level		0.626
Illiterate	46.97 (11.33)	
Elementary	45.93 (8.66)	
Secondary	44.93 (8.41)	
University	44.99 (9.76)	
Family income		**0.008**
Less than 500	47.60 (8.163)	
501–1000	43.72 (9.319)	
1001–1500	45.62 (7.900)	
1501–2000	49.79 (14.513)	
More than 2000	43.13 (7.394)	
Attend workshop about mental illness		**0.006**
Yes	47.49 (10.64)	
No	44.52 (8.61)	
Did you visit psychologist before		0.264
Yes	46.67 (8.4)	
No	45.1 (9.4)	
Family member diagnosed with mental illness		0.470
Yes	46.23 (7.57)	
No	45.19 (9.5)	
Friend diagnosed with mental illness		
Yes	45.05 (7.58)	0.82
No	45.36 (9.55)	
Diagnosed with chronic illness		**0.029**
Yes	48.26 (12.53)	
No	44.94 (8.72)	

Abbreviation: SD, standard deviation.

TABLE 3 Associated factors with mental health stigma

Associated factors	β	SE	t	p-value
Constant	51.927			
Female (relative to male)	−1.568	1.337	−1.173	0.242
University students (relative to school-students)	4.611	1.066	4.328	**<0.001**
Mothers education level (relative to illiterate)				
Elementary	0.004	1.403	0.003	0.997
Secondary	1.076	1.348	0.799	0.425
University	−3.291	1.348	−2.441	**0.015**
Income (relative to > /=1000 RO)				
1001–2000	−1.466	1.486	−0.987	0.324
More than 2000	4.282	1.570	2.727	**0.007**
History with chronic illness	−1.695	1.409	−1.203	0.230
Received education about mental illness	−2.596	1.059	−2.451	**0.015**
Health literacy knowledge	−0.641	0.190	−3.380	**<0.001**
Model R^2	0.20			

Abbreviation: SE, standard error.

population-based studies to address current belief systems regarding mental illness.

As expected, this study found a negative correlation between mental health stigma and previously attended workshop(s) about mental illness and mental health. This finding is in line with other findings highlighting the reverse relationship between self-stigma and health literacy (Crowe et al., 2018; Hwang, 2020). Specific interventions and educational programs at the community level such as Mental Health First Aid or community awareness programs to increase the community knowledge in this area could be planned and implemented. There is existing evidence that Mental Health First Aid training could improve the knowledge and skills of the trained persons to better understand, interact with, and help persons with mental illness (Burns et al., 2017; Hart et al., 2018; Rose et al., 2019). School nurses and decision-makers need to consider these significant associated factors and start increasing knowledge about mental illness among school and university students. This can be achieved by including more topics about mental illness in the curricula and providing regular workshops to students. Social media which includes mental health-promoting messages can also be an effective intervention (Halsall et al., 2019).

Besides health literacy, gender was among other factors associated with mental health stigma. Gender and age are well-documented factors found to associate with adolescents' mental health stigma (DuPont-Reyes et al., 2020; Heary et al., 2017). A most recent study showed that boys, from different ethnicities, seem to be more stigmatizing than girls (DuPont-Reyes et al., 2020).

For example, they showed less knowledge and more negative attitudes as well as greater avoidance of peers with mental illness compared to girls (DuPont-Reyes et al., 2020). With regard to age, contradictive findings were reported in a literature review (Kaushik et al., 2016) in which the authors identified several studies confirming that younger people were more accepting compared to adults. The literature review also reported that other studies found that adolescents 14–18 years were less stigmatizing compared to children aged under 12 towards peers with different mental health difficulties (Kaushik et al., 2016). Knowledge about adolescent characteristic factors affecting stigma is essential in planning an effective intervention targeting the younger population.

Another contribution of the current study is the confirmation that the stigma score was higher among the university-aged group compared to the school-aged group. That is, the university-aged group was more aware of stigma which means that they were more accepting of their peers with mental illness and more likely to interact with them. Previous research showed that knowledge about mental health was positively associated with increased age and higher levels of education (Kaushik et al., 2016). Another sociodemographic factor associated with mental health stigma in the current study was the monthly income of the household. Previous research found that the beliefs of children and adolescents regarding mental health stigma are associated with socioeconomic status (DuPont-Reyes et al., 2020). Further studies are required to validate the current study findings in the Omani context. Empowering women may influence the young generations' attitudes and beliefs to reverse stigma. The family interventional program can have a double positive impact on reducing stigma. Healthcare providers and decision-makers need to target the family in future plans.

6 | LIMITATIONS

This study does not come without some limitations. The self-reported nature of the questionnaires, the cross-sectional design, and the relatively small sample size of the study are limiting factors for the generalizability of the findings. However, the variety of the sample with regard to gender, age groups, and the geographical representation of the participants could all be factors enhancing the generalizability. However, the generalizability to other populations might be limited because the sample selected based on prevailing characteristics of a specific population at a certain point in time might differ from those included in the current study.

7 | RECOMMENDATIONS

Findings from this study suggest that mental health literacy needs to be investigated thoroughly, along with strategies implemented to combat mental health stigma, especially in relation to mental health literacy, both on personal and community levels. Although the findings of this study confirm the previous studies' findings of

stigma, culture may shape the perception and attitudes of people toward stigma. More qualitative research is therefore needed to clarify the nature of stigma and the influence of culture. In addition, a feasible and implementable strategy using the available techniques could be used to: (1) facilitate the delivery of health-promoting messages, (2) target the younger populations to combat the negative effects of social stigmatization of mental illness, and (3) minimize the effects of personal stigma on the health-seeking behaviors. Thus, both healthcare authorities and the public health sector, as well as the ministries of education and higher education are highly recommended to collaborate interprofessionally and work on several levels including the community, the family, the schools, and the universities to promote mental health awareness and stigma-awareness.

8 | CONCLUSIONS

We observed some potentially modifiable associated factors with stigma including knowledge level, and young adults and their parents' level of education. Taking the aforementioned factors into consideration like enhancing the knowledge about mental illness among school and university students and their families can play a significant role in reversing this phenomenon and translating this acquired knowledge to attitude and practice. Furthermore, our findings in the context of Omani culture confirm the previously reported international findings. Thus, international anti-stigma campaigns are needed to combat the prevailing negative attitudes towards people with mental illness. In addition, a broader investigation of stigma towards people with mental illness among adolescents is recommended.

9 | IMPLICATIONS FOR PSYCHIATRIC NURSING PRACTICE

Our findings show an association between stigma and young individuals' health literacy in form of attendance of workshops on mental health, higher mental health knowledge, and studies at the university level. As one of the main objectives of psychiatric health nursing is to provide holistic care including helping patients to overcome stigmas associated with mental illness, the mental health nurses could initiate a movement to enhance, maintain, and promote mental health literacy among the young population. Several areas within the scope of psychiatric nursing practice could be used to enhance young people's positive attitudes towards individuals with mental illness. One example is the use of social media, another is to provide focused education in educational institutions on different levels, and to target school and university students' course curricula for inclusion of mental health-related topics. Furthermore, mental health nurses in collaboration with school nurses could plan family interventional programs on how to foster a positive attitude towards mental illness within the family expecting a positive impact on reducing stigma in the society.

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