

Correlates and Predictors of Stigmatization of Patients With Mental Illness Among Nursing Students

Sawsan Abuhammad, PhD, RN; Reem Hatamleh, PhD, RN, RMW BSc; Kimberly Howard, MSN; and Muayyad M. Ahmad, PhD, RN

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ABSTRACT

The purpose of the current study was to explore knowledge of, attitudes about, and perception of stigma among nursing students in relation to mental illness, and to identify the predictors of stigma toward patients with mental illness based on nursing students' characteristics, knowledge, and attitude. A cross-sectional survey was conducted on 169 participants from a university in Jordan. The regression model predicted a relatively moderate proportion of variance in stigma per-

ception. Significant predictors in the model were family income, father's educational level, and experience with mental health patients. Findings of the current study showed that undergraduate nursing students who had experience with patients with mental illness hold relatively positive perceptions toward mental health patients. Enhancing the content of nursing curriculum regarding issues related to patients with mental illness could help students develop better assessment skills, have more posi-

tive attitudes, and gain more accurate knowledge about mental illness.

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Perceived public stigma is the extent to which individuals expect that others will devalue or discriminate against someone with a mental illness (Carroll, 2018; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989). Link and Phelan (2006) defined stigma as "the co-occurrence of its components—labeling, stereotyping, separation, status loss, and discrimination" (p. 367). In addition, they state: "for stigmatization to occur, power must be exercised" (Link & Phelan,

2006, p. 528).

Mental health is defined as a state of psychological well-being, or an absence of mental disorders or problems (World Health Organization [WHO], 2014). In Jordan, like many other developing countries, mental health disorders are considered taboo and are hidden (Ahmad et al., 2018; WHO, 2016). The National Centre for Mental Health (NCMH) estimates that more than 20% of the Jordanian population experiences a mental health disorder, and for reasons such as avoiding stigma and financial costs, most individuals do not seek treatment (National Mental Health Team [NMHT], 2010; WHO, 2016).

According to the NMHT (2010), less than 3% of governmental health expenditure is directed toward mental health, and most of the limited mental health funding goes toward treatment of mental health problems in hospitals. However, the NCMH reviewed its mental health policies and has tried to apply a new comprehensive strategy for combating mental illness (Hijiawi et al., 2013). Treatments for mental health problems in Jordan are paid for by public social insurance (Department of Statistics [DOS], 2012). More than 80% of patients with mental illness have free access to essential psychiatric medication (DOS, 2012). However, there is a shortage of mental health training programs for health care workers in Jordan. In 2008, the WHO (2011) established a community-based training program in Jordan for mental health. The goal for this program was to build capacity for health care workers to provide care to patients with mental illness.

Most mental health problems are intensified by wars and conflict (WHO, 2016). During the past 20 years, refugees have come to Jordan from Syria, Iraq, and Yemen (WHO, 2016). Mental health problems are increasing in young Jordanian individuals due to conflict and wars (WHO, 2016). Due to this increase of mental health problems, many international organizations and United Nations agencies have come to Jordan to intervene in

the treatment of these problems. However, programs implemented by many of these agencies are not sustainable in the long term due to lack of funding (Jordan Ministry of Planning and International Cooperation, 2013).

Knowledge of nursing students' attitudes toward mental illness will enable their teachers to prepare them to care for the increasing number of young patients with mental illness (Morrisette & Doty-Sweetnam, 2010). Attitudinal change is an important objective of mental health nursing (Ketola & Stein, 2013). As such, it is important to examine the attitudes of nursing students in all years of baccalaureate nursing programs toward individuals with mental illness. The current study examined the attitudes of these students at a major school of nursing in Jordan. No studies have been conducted to detect Jordanian nursing students' attitudes toward patients with mental illness, or to examine the effect of students' demographic data on their attitudes toward mental illnesses.

Investigation of the attitudes of nursing students is relevant because they may work in multidisciplinary settings after graduation with individuals diagnosed with different mental illnesses (Arbanas, Bosnjak, & Sabo, 2018; Ivey, Ivey, Myers, & Sweeney, 2005). Understanding the attitudes and biases of nursing students prior to their transition into nursing practice could inform interventions that would help neutralize or eliminate stigmatization or biases. Researchers have neglected this group and focused on mental health problems primarily within the medical environment (Gureje, Lasebikan, Ephraim-Oluwanuga, Olley, & Kola, 2005; Hunter, Weber, Shattell, & Harris, 2015; Link, Yang, Phelan, & Collins, 2004).

Furthermore, literature shows that the impact of stigma has a profound effect on patients with mental illness (Crowe et al., 2016; Knaak, Mantler, & Szeto, 2017). Jordanian society, like other societies, tends to have negative feelings about mental illness, which may intensify the feelings of discrimi-

nation and shame of a patient with mental illness (Ahmad & Dardas, 2016; Rayan & Jaradat, 2016).

Given the gaps in existing literature, researchers conducted the current study on undergraduate nursing students enrolled in all four years of college. The objectives of the study were to: (a) explore the knowledge of, attitudes toward, and perceptions of stigma among undergraduate nursing students in relation to mental illnesses; and (b) identify the predictors of stigma toward patients with mental illness based on nursing students' characteristics, knowledge, and attitudes.

METHOD

Design

The current study used a cross-sectional design to collect data from a convenience sample of nursing students at a major school of nursing in Jordan.

Instruments

The study survey comprised three instruments: (a) Attitudes Towards Acute Mental Health Scale (ATAMHS), (b) Mental Health Knowledge Schedule (MAKS), and (c) Devaluation-Discrimination (DD) scale. Participants' sociodemographic information was also collected.

Sociodemographic Characteristics. Participants answered questions regarding their age, gender, academic level, family income, mother's educational level, father's educational level, and whether they knew any friends or family members with mental illness or had experience caring for individuals with mental illness.

Mental Health Knowledge Schedule. The MAKS (Evans-Lacko et al., 2010) comprises 12 items. The first six items, which cover the mental health knowledge areas of help-seeking, recognition, treatment, employment, support, and recovery, were considered in the current study. A 5-point Likert scale was used, and response options ranged from 1 (*totally disagree*) to 5 (*totally agree*). The total score was calculated by adding the response values for items one

to six and can range from 6 to 30, with higher scores indicating more knowledge about mental illness. The translated mental health knowledge in the current study had a Cronbach's alpha score of 0.74.

Attitudes Towards Acute Mental Health Scale. The ATAMHS comprises two parts and measures the attitudes of nursing students toward patients with mental health problems (Baker, Richards, & Campbell, 2005). The first part of the scale, which was used in the current study, comprises 25 items that measure attitudes toward mental health. This measure uses a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicate more positive attitudes toward mental health. The scale was validated by Gang, Song, Park, and Yang (2014). Cronbach's alpha for the ATAMHS was 0.72 (Baker et al., 2005). The translated ATAMHS in the current study had a Cronbach's alpha of 0.85.

Devaluation–Discrimination Scale. The DD scale is used to measure the extent to which an individual believes that others will devalue or discriminate against someone with a mental illness (Link et al., 1989). The scale measures perceived discriminatory behaviors against individuals with mental illness. It comprises 12 items, one half of which are reverse scored. Responses are measured using a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*a great deal*), with higher scores indicating more positive attitudes toward individuals with mental illness. The internal consistency reliability of the DD scale ranged between 0.72 and 0.88 among outpatient participants (Alvidrez, Snowden, Rao, & Boccellari, 2009; Vauth, Kleim, Wirtz, & Corrigan, 2007). The translated DD scale in the current study had a Cronbach's alpha of 0.73.

Translation Process

To validate the ATAMHS, the MAKS, and the DD scale and adapt them to the Arabic culture, researchers translated the original English ver-

sion into Arabic following the method of Netemeyer, Bearden, and Sharma (2003). To establish semantic equivalence, the translation of the ATAMHS, MAKS, and DD scale took place in three steps. First, each scale was translated into Arabic by a pair of bilingual nurses (S.A., R.H.). Second, a subsequent pair of bilingual nurses translated the scale back into English. Then, a pilot study was conducted on 20 students to ensure that the wording and instructions of the survey questionnaires were clear and easy to understand. To establish content equivalence during the translation process, researchers considered cultural differences. Disagreements were discussed until consensus was achieved. To enhance content validity, researchers checked each item's wording, response formats, and instructions.

Sample and Setting

Sample size was calculated based on multiple linear regression analyses using G*Power 3.0 software (Faul, Erdfelder, Lang, & Buchner, 2007). Based on an alpha level of 0.05, a power of 0.80, and a moderate effect size of 0.15 with nine predictors, the minimum sample size needed for the standard simultaneous regression was 114. The assumptions of multiple regression testing showed no violations of linearity, normality, or homoscedasticity.

Participants were recruited from a nursing school in Jordan with a body of 2,300 graduate and undergraduate nursing students of 11 nationalities. Approximately 90% ($n = 2,070$) are undergraduate students. Only Jordanian students were recruited, as students of other nationalities may have a different experience and cultural attitude toward patients with mental illness. Participants were selected from all four years of the program. One class was randomly selected from each year, and all Jordanian students in the selected class were invited to participate. A total of 210 questionnaires were distributed and 169 were returned, with a response rate of 80.5%.

Procedure

To facilitate recruitment, informational brochures describing the purpose, benefits, and risks of the study were given to students in each selected class. In addition, the purpose of the study was explained to students by one of the research team members (S.A.). All students who showed interest in participation received the study questionnaire. Completion of the questionnaire took approximately 30 minutes. Participants left the completed questionnaire in a special collection box after researchers announced its location.

Ethical Consideration

The current study was approved by the review board of the Faculty of Nursing where the study was conducted. Participants who met study criteria were approached by researchers and given a detailed consent form to sign if they agreed to participate. Students were assured that participation was voluntary, and there would be no penalty if they decided not to participate. Researchers kept the students' information private and maintained participants' confidentiality by using codes for their identity. The study conforms to Declaration of Helsinki recognized standards of ethics.

Data Management and Analyses

SPSS version 25 was used for data entry and analysis. Initially, distributions of each variable were analyzed using frequency distributions, means, and standard deviations. There were few missing data, which were replaced with the relevant means for normally distributed variables and with the median for skewed data.

RESULTS

Participants' Characteristics

The total sample size was 169 participants. Participants' mean age was 20.7 (range = 18 to 25 years, $SD = 1.49$ years). There were 124 (73.4%) female students. Most ($n = 149$ [88.2%]) participants were single. Approximately 50% of students had an average or above average Jordanian annual family

TABLE 1

PARTICIPANTS' CHARACTERISTICS (N = 169)

Characteristic	n (%)
Gender	
Female	124 (73.4)
Male	45 (26.6)
Marital status	
Single	149 (88.2)
Married	15 (8.9)
Divorced	5 (3.0)
Education	
First year	25 (13.6)
Second year	46 (27.2)
Third year	46 (27.2)
Fourth year	52 (30.8)
Annual family income (Jordanian dinars) ^a	
1,000 to 1,200	51 (30.2)
1,201 to 3,600	33 (19.5)
3,601 to 5,000	49 (29.0)
>5,000	36 (21.3)
Father's educational level	
Illiterate	21 (12.4)
Secondary degree	56 (33.1)
Associate degree	42 (24.9)
Bachelor's degree	37 (21.9)
Master's degree/PhD	13 (7.7)
Mother's educational level	
Illiterate	28 (16.6)
Secondary degree	71 (42.0)
Associate degree	43 (25.4)
Bachelor's degree	23 (13.6)
Master's degree/PhD	4 (2.4)
Experience with mental illness	
No	97 (57.4)
Yes	72 (42.6)

^aOne Jordanian dinar is equal to 1.4 U.S. dollars.

income (>3,600 Jordanian dinars [JD; 1 JD = 1.4 U.S. dollars]). Seventy-two (42.6%) students reported having experience with patients with mental illness. Details on participants' characteristics are presented in **Table 1**.

The mean score for the MAKs was

17.66 ($SD = 5$), with a range of 6 to 29. The mean score for the ATAMHS scale was 76.03 ($SD = 13.94$), with a range of 34 to 108. The DD scale had a mean score of 37.79 ($SD = 7.56$), with a range of 22 to 59. These scores reflect that study participants had relatively

positive attitudes toward mental illness. Descriptions for the study scales are presented in **Table 2**. Means and standard deviations for items with the two highest and lowest scores on each scale as rated by participants are presented in **Table 3**.

The theoretical importance of variables such as knowledge about mental illness and attitude toward patients with mental illness, as well as the correlational level and literature review, guided the authors for selection of the study predictors for stigma perception toward patients with mental illness. Only three variables (low family income, low educational level of father, and more experience with mental health patients) showed significant correlation ($p \leq 0.05$) with higher stigma perception (**Table 4**).

Simultaneous multiple linear regression was performed to predict stigma toward patients with mental illness based on nursing students' characteristics, knowledge, and attitudes. No violation of the assumption of multicollinearity was found, as the tolerance results range between 0.51 and 0.90. Analysis revealed that the model was able to predict a relatively moderate proportion of variance in stigma perception ($F = 2.69$, $p = 0.006$, $R^2 = 0.13$). From the nine predictors in the model, only three (family income, father's educational level, and experience with mental health patients) were significant predictors. Variables that reflect knowledge and attitude were not significant predictors. Results of regression analysis are presented in **Table 5**.

DISCUSSION

The current study aimed to explore the knowledge of, attitudes toward, and perceptions of stigma among nursing students in relation to individuals with mental illnesses, and to identify predictors of stigma toward patients with mental illness based on nursing students' characteristics, knowledge, and attitude.

Researchers found that undergraduate nursing students who had experience with mental illness had positive

TABLE 2**DESCRIPTION OF STUDY SCALES**

Scale	Mean (SD)	Median	Minimum	Maximum	Percentile 25	Percentile 75
ATAMHS	76.0 (13.9)	78	34	108	67.5	84.5
MAKS	17.7 (5)	19	6	29	13	22
DD scale	7.8 (7.6)	37	22	59	33	44

Note. ATAMHS = Attitudes Towards Acute Mental Health Scale; MAKS = Mental Health Knowledge Schedule; DD = Devaluation–Discrimination.

TABLE 3**SCALE ITEMS WITH HIGHEST AND LOWEST SCORES AS RATED BY PARTICIPANTS**

Scale Item	Mean (SD)
Mental Health Knowledge Schedule	
Psychotherapy (e.g., counseling, talk therapy) can be an effective treatment for people with mental health problems.	3.18 (1.54)
If a friend had a mental health problem, I know what advice to give him/her to get professional help.	3.05 (1.68)
Most people with mental health problems go to a health care professional to get help.	2.67 (0.95)
Most people with mental health problems want to have paid employment.	2.90 (1.04)
Attitudes Towards Acute Mental Health Scale	
Alcohol abusers have no self-control.	3.70 (1.12)
Psychiatric illness deserves as much attention as physical illness.	3.63 (1.29)
Patients who abuse substances should not be admitted to acute wards.	2.43 (1.13)
Mental illnesses are genetic in origin.	2.53 (1.17)
Devaluation–Discrimination scale	
I believe that a former mental patient is just as trustworthy as the average citizen.	3.84 (1.39)
I believe that entering a mental hospital is a sign of personal failure.	3.43 (1.26)
I would willingly accept a former mental patient as a close friend.	2.65 (1.03)
I would accept a fully recovered former mental patient as a teacher of young children in a public school.	2.78 (1.33)

attitudes toward mental health patients. Varying perspectives were held by nursing students. Some of the students' inaccurate knowledge was related to the following misconceptions: medication is not an effective treatment for individuals with mental health problems; psychotherapy (e.g., counseling, talk therapy) can be an effective treatment for individuals with mental health problems; and individuals with severe mental health problems can fully recover. Searching the literature did not

clearly demonstrate nursing students' level of knowledge about individuals with mental illness. The current investigation provides useful points of comparison for highlighting differences between individuals with mental illness from developing countries such as Jordan with those from developed countries. In addition, considering the effect of knowledge and attitude as an integral concept was a unique contribution to the existing literature. Previous studies have reported that numerous

factors might be involved in the attitudes of nursing students toward adults with mental illness, including contact and experience (Arbanas et al., 2018; Carroll, 2018; Corrigan & Wassel, 2008; Wallach, 2004). This finding is similar to that of studies that found that although psychiatric–mental health nurses had positive perceptions of patients with mental illness, their practice did not always reflect their perceptions, which highlighted a need for role clarification and skills training

TABLE 4

CORRELATIONS BETWEEN STUDENTS' CHARACTERISTICS AND DEVALUATION-DISCRIMINATION SCALE (N = 169)

Characteristic	Statistical Correlation	Significance Level
Age ^a	-0.09	0.228
Gender ^b	0.01	0.938
Year at university ^c	-0.04	0.585
Family income ^c	-0.25	0.001
Father's educational level ^c	-0.16	0.039
Mother's educational level ^c	-0.05	0.518
Experience with patients with mental health problems ^b	0.15	0.050
Knowledge total score ^a	0.05	0.484
Attitude total score ^a	0.09	0.229

^a Pearson correlation.

^b Point biserial correlation.

^c Spearman correlation.

for nurses (Howard & Gamble, 2011; Ketola & Stein, 2013).

The current study showed that nursing students were uncertain about their roles and lacked appropriate skills and training. Robson and Haddad (2012) found that nurses had a positive attitude toward patients with mental illness; however, there was a need for training nurses to provide better care to mental health patients. Results from the current study can be used to help develop a mental health teaching program focused on the needs observed in this study. For example, nursing students who participated in the current study showed low levels of knowledge about mental illness, as demonstrated in their responses to the items: "Most people with mental health problems go to a health care professional to get help" and "Most people with mental health problems want to have paid employment." In addition, nursing students showed poor attitudes toward mental illness, as demonstrated in low scores in the items: "Patients who abuse substances should not be admitted to acute wards" and "Mental illnesses are genetic in origin."

In studies that addressed biases toward individuals with mental illness, it was found that the public assigns negative attitudes toward patients with mental illness (Crowe et al., 2016; Timmins, Corroon, Byrne, & Mooney, 2011). In a study conducted in Jordan among nursing students, it was found that nursing students had significant positive attitudes toward patients with mental illness in five categories. These categories included authoritarianism (i.e., whether they viewed patients with mental illness as inferior), benevolence (i.e., having positive attitudes toward individuals with mental illness), mental hygiene ideology (i.e., viewing individuals with mental illness as capable of change and needing treatment), and interpersonal etiology (i.e., whether they believed that mental illness stems from childhood problems) (Hamaideh & Mudallal, 2009). The students' attitudes in the current study were relatively moderate toward patients with mental illness. However, the fact that the highest mean score on the DD scale was for the item "I believe that a former mental patient is just as trustworthy as the average citizen" re-

flects a positive attitude toward patients with mental illness. On the other hand, stigma toward patients with mental illness appears in participants response that they would not accept a "fully recovered former mental patient" as a teacher for young school children.

Neither the level of knowledge nor the attitude of students were correlated significantly with the DD scale. The only variables that showed significant correlation, indicating more stigma, were low family income, low educational level of the father, and more experience with mental health patients. These variables were also the only significant predictors for stigma level. Therefore, researchers conducted an additional analysis to examine whether students in different years of college have different experiences. The result was logical, showing that students in the fourth year, who had more experience with patients with mental illness than students in the first and second years, had more positive attitudes toward individuals with mental illness. This result reflects the exposure that nursing students in their fourth year of college have gained throughout mental health courses, which are offered during the third and fourth years of study. Furthermore, the lower students' socioeconomic level, the more negative perceptions they had toward patients with mental illness. One unexpected finding was that nursing students who had experience with patients with mental illness still had some level of stigma about these patients. According to Knaak et al. (2017), such a finding highlights a need for role clarification and skills training for nurses. Role clarification and skills training will help reduce stigma among nursing students by enhancing inter-professional collaboration and alleviating anxiety and fear regarding mental illness. In addition, students who have a relative or who know someone with mental illness may have stigma due to community influence.

LIMITATIONS

The convenience sampling technique used in the current study limits

TABLE 5

PREDICTORS OF STIGMA AMONG NURSING STUDENTS (N = 169)

Students' Characteristics	Beta Coefficient	95% Confidence Interval	t Test	Significance Level
Age	-0.17	[-1.97, 0.11]	-1.65	0.102
Gender	-0.03	[-3.22, 2.09]	-0.40	0.688
Year at university	0.02	[-1.23, 1.71]	0.23	0.821
Family income	-0.25	[-2.67, 0.65]	-3.24	0.001
Father's educational level	-0.16	[-2.15, 0.02]	-1.96	0.050
Mother's educational level	0.01	[1.21, 1.26]	0.09	0.923
Experience with patients with mental health problems	0.18	[0.10, 2.37]	2.31	0.022
Knowledge total score	-0.02	[-0.26, 0.22]	-0.27	0.792
Attitude total score	0.04	[-0.06, 0.11]	0.57	0.573

Note. R = 0.363, R² = 0.132, adjusted R² = 0.121, F = 2.69, and p = 0.006.

generalizability of the findings. In addition, the study was unable to identify differences between students who took courses on mental health, ethical issues, and communication and those who did not. Future studies should be conducted using a longitudinal design rather than a cross-sectional one to explore students' attitudes over time more accurately.

IMPLICATIONS AND RECOMMENDATIONS

Future nurses who have direct and indirect contact with patients with mental illness have a responsibility to assess, advocate for, and educate patients, as well as make referrals to specialized help. Patients with mental illness will benefit from screening opportunities that are offered using the ATAMHS and DD scale instruments. Nurses play a vital role in educating individuals in the community about the importance of their role in decreasing stigma about mental illness, as well as in increasing the effectiveness of treating patients with mental illness. Moreover, clinical research could use

the ATAMHS and DD scale as tools to assess the success of new programs and interventions for patients with mental illness. Assisting future nurses in determining their strengths and weaknesses, increasing their awareness of the importance of decreasing stigma, and enhancing attitudes toward mental illnesses could decrease stigma for future nurses and patients with mental illness.

The current study emphasized the importance of inspecting the content of nursing curriculum regarding issues related to stigma toward patients with mental illness. Ensuring a curriculum that includes education on stigma toward patients with mental illness would allow nursing students to better care for these patients. Although the current study found that undergraduate nursing students who had experience with patients with mental illness hold a positive perception toward these patients, additional educational preparation can positively alter students' perceptions about and stigma toward mental illness.

It is recommended that future studies consider the type of courses that

students completed. More specifically, mental health courses could affect the knowledge, attitudes, and perception of stigma among nursing students. In addition, future research is needed to explore whether nurses who gain knowledge during nursing school related to preventing stigma toward patients with mental illness are able to identify and provide early interventions for individuals at risk of mental illness.

REFERENCES

Ahmad, M.M., & Dardas, L.A. (2016). Jordan: Aspiration for a culturally-sensitive nursing model. In J.J. Fitzpatrick & A.L. Whall (Eds.), *Conceptual models of nursing: Global perspectives* (pp. 164-175). Upper Saddle, NJ: Pearson.

Ahmad, M.M., Musallam, R., Habeeb Allah, A., Al-Daken, L., Abu-Snieneh, H., & Al-Dweik, G. (2018). Maturity level of the stigma concept as associated with cancer diagnoses in the nursing literature. *Asian Pacific Journal of Cancer Prevention, 19*, 479-485.

Alvidrez, J., Snowden, L.R., Rao, S.M., & Boccellari, A. (2009). Psychoeducation to address stigma in black adults referred for mental health treatment: A randomized pilot study. *Community Mental Health Journal, 45*, 127-136. doi:10.1007/s10597-008-9169-0

Arbanas, G., Bosnjak, D., & Sabo, T. (2018).

- Impact of a nursing in psychiatry course on students' attitudes toward mental health disorders. *Journal of Psychosocial Nursing and Mental Health Services*, 56(3), 45-51. doi:10.3928/02793695-20171024-01
- Baker, J.A., Richards, D.A., & Campbell, M. (2005). Nursing attitudes toward acute mental health care: Development of a measurement tool. *Journal of Advanced Nursing*, 49, 522-529. doi:10.1111/j.1365-2648.2004.03325.x
- Carroll, S.M. (2018). Destigmatizing mental illness: An innovative evidence-based undergraduate curriculum. *Journal of Psychosocial Nursing and Mental Health Services*, 56(5), 50-55. doi:10.3928/02793695-20180108-04
- Corrigan, P.W., & Wassel, A. (2008). Understanding and influencing the stigma of mental illness. *Journal of Psychosocial Nursing and Mental Health Services*, 46(1), 42-48. doi:10.3928/02793695-20080101-04
- Crowe, A., Averett, P., Scott Glass, J., Dotson-Blake, K.P., Grissom, S.E., Ficken, D.K.,... Holmes, J.A. (2016). Mental health stigma: Personal and cultural impacts on attitudes. *Journal of Counselor Practice*, 7, 97-119. doi:10.22229/spc801925
- Department of Statistics. (2012). *Jordan population and family health survey 2012*. Retrieved from http://dos.gov.jo/dos_home_e/main/linked-pdf/HealthPopulation2012.pdf
- Evans-Lacko, S., Little, K., Meltzer, H., Rose, D., Rhydderch, D., Henderson, C., & Thornicroft, G. (2010). Development and psychometric properties of the mental health knowledge schedule. *Canadian Journal of Psychiatry*, 55, 440-448. doi:10.1177/070674371005500707
- Faul, F., Erdfelder, E., Lang, A.G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral and biomedical sciences. *Behavior Research Methods*, 39, 175-191.
- Gang, M., Song, Y., Park, S.Y., & Yang, S. (2014). Psychometric evaluation of the Korean version of the Attitudes Toward Acute Mental Health Scale. *Journal of Psychiatric and Mental Health Nursing*, 21, 939-948. doi:10.1111/jpm.12164
- Gureje, O., Lasebikan, V., Ephraim-Oluwanuga, O., Olley, B.O., & Kola, L. (2005). Community study of knowledge of and attitude to mental illness in Nigeria. *British Journal of Psychiatry*, 186, 436-441. doi:10.1192/bjp.186.5.436
- Hamaideh, S.H., & Mudallal, R. (2009). Attitudes of Jordanian nursing students towards mental illness: The effect of teaching and contact on attitudes change. *College Student Journal*, 43, 335-346.
- Hijawi, B., Elmoussaad, H., Marini, A., Funk, M., Skeen, S., Al Ward, N.,...Ayoub, Z. (2013). WHO proMIND profiles on mental health in development: Hashemite Kingdom of Jordan. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/92504/9789241505666_eng.pdf?sequence=1&isAllowed=y
- Howard, L., & Gamble, C. (2011). Supporting mental health nurses to address the physical health needs of people with serious mental illness in acute inpatient care settings. *Journal of Psychiatric and Mental Health Nursing*, 18, 105-112. doi:10.1111/j.1365-2850.2010.01642.x
- Hunter, L., Weber, T., Shattell, M., & Harris, B. (2015). Nursing students' attitudes about psychiatric mental health nursing. *Issues in Mental Health Nursing*, 36, 29-34. doi:10.3109/01612840.2014.935901
- Ivey, A., Ivey, M., Myers, J., & Sweeney, T. (2005). *Developmental counseling and therapy: Promoting wellness over the lifespan*. New York, NY: Lahaska Press.
- Jordan Ministry of Planning and International Cooperation. (2013). *The millennium development goals* [article in Arabic]. Retrieved from http://www.mop.gov.jo/EchoBusV3.0/SystemAssets/gov_plan_new.pdf
- Ketola, J., & Stein, J.V. (2013). Psychiatric clinical course strengthens the student-patient relationships of baccalaureate nursing students. *Journal of Psychiatric and Mental Health Nursing*, 20, 23-34. doi:10.1111/j.1365-2850.2012.01878.x
- Knaak, S., Mantler, E., & Szeto, A. (2017). Mental illness-related stigma in healthcare: Barriers to access and care and evidence-based solutions. *Healthcare Management Forum*, 30, 111-116. doi:10.1177/0840470416679413
- Link, B.G., Cullen, F.T., Struening, E., Shrout, P.E., & Dohrenwend, B.P. (1989). A modified labeling theory approach to mental disorders: An empirical assessment. *American Sociological Review*, 54, 400-423. doi:10.2307/2095613
- Link, B.G., & Phelan, J.C. (2006). Stigma and its public health implications. *Lancet*, 367, 528-529.
- Link, B.G., Yang, L.H., Phelan, J.C., & Collins, P.Y. (2004). Measuring mental illness stigma. *Schizophrenia Bulletin*, 30, 511-541.
- Morrisette, P.J., & Doty-Sweetnam, K. (2010). Safeguarding student well-being: Establishing a respectful learning environment in undergraduate psychiatric/mental health education. *Journal of Psychiatric and Mental Health Nursing*, 17, 519-527. doi:10.1111/j.1365-2850.2010.01551.x
- National Mental Health Team. (2010, June). *National report on mental health system and services in Jordan: The higher council for science and technology*. Retrieved from https://jordankmportal.com/system/resources/attachments/000/000/319/original/National_Report_on_Mental_Health_System_and_Services_in_Jordan_2010.pdf?1455906364
- Netemeyer, R.G., Bearden, W.O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. Thousand Oaks, CA: Sage.
- Rayan, A., & Jaradat, A. (2016). Stigma of mental illness and attitudes toward psychological help-seeking in Jordanian university students. *Research in Psychology and Behavioral Science*, 4, 7-14.
- Robson, D., & Haddad, M. (2012). Mental health nurses' attitudes towards the physical health care of people with severe and enduring mental illness: The development of a measurement tool. *International Journal of Nursing Studies*, 49, 72-83. doi:10.1016/j.ijnurstu.2011.07.011
- Timmins, F., Corroon, A.M., Byrne, G., & Mooney, B. (2011). The challenge of contemporary nurse education programmes. Perceived stressors of nursing students: Mental health and related lifestyle issues. *Journal of Psychiatric and Mental Health Nursing*, 18, 758-766. doi:10.1111/j.1365-2850.2011.01780.x
- Vauth, R., Kleim, B., Wirtz, M., & Corrigan, P.W. (2007). Self-efficacy and empowerment as outcomes of self-stigmatizing and coping in schizophrenia. *Psychiatry Research*, 150, 71-80. doi:10.1016/j.psychres.2006.07.005
- Wallach, H.S. (2004). Changes in attitudes towards mental illness following exposure. *Community Mental Health Journal*, 40, 235-248.
- World Health Organization. (2011). *WHO-AIMS report on mental health system in Jordan*. Retrieved from http://www.who.int/mental_health/evidence/mh_aims_report_jordan_jan_2011_en.pdf
- World Health Organization. (2014, August). *Mental health: A state of well-being*. Retrieved from http://www.who.int/features/factfiles/mental_health/en
- World Health Organization. (2016, July 13). *Strengthening the mental health system in Jordan*. Retrieved from <http://www.emro.who.int/jor/jordan-news/strengthening-the-mental-health-system-in-jordan.html>

Dr. Abuhammad is Assistant Professor, Maternal and Child Health, and Dr. Hatamleh is Associate Professor, Midwifery, Faculty of Nursing, Jordan University of Science and Technology, Irbid, Jordan; Ms. Howard is Information Science and Research Specialist, Master of Library and Information Science, Medical College of Wisconsin, Milwaukee, Wisconsin; and Dr. Ahmad is Professor, Adult Health, Clinical Nursing Department, School of Nursing, University of Jordan, Amman, Jordan.

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Address correspondence to Muayyad M. Ahmad, PhD, RN, Professor, Adult Health, Clinical Nursing Department, School of Nursing, University of Jordan, Queen Rania Street, Amman, Jordan 11942; e-mail: mma4@ju.edu.jo.

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