ORIGINAL RESEARCH

Patient in health scale validation and self-management among Omani patients with mental health problems

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Abstract

The literature contains insufficient data relating to different approaches used by adults for managing their mental disorders, particularly in Oman. Most of the studies have been conducted in Western parts of the world, focusing on managing physical chronic illnesses. Therefore, this study aimed to assess adult Omani mentally ill patients' self-management behavior and to evaluate the validity and reliability of the Arabic version of the Partners in Health (PIH) Scale. Quantitative data were collected from 246 eligible adult participants who were diagnosed with different mental health illnesses from Oman's largest psychiatric and mental health hospital- Al Masarra Hospital. Data were collected using 12 items on the Arabic-translated PIH scale. While descriptive data analysis was used for quantitative data, content validity, and Cronbach's alpha coefficient were used to measure the validity and reliability of the PIH scale, respectively. Results showed that the Arabic version of PIH is valid (I-CVI was greater than 0.79 for all items, and S-CVI was found to be higher than 0.80) and reliable (0.92); Omani mentally ill patients have moderate self-management behavior in general, but specifically, they showed a lower level of knowledge and recognition of the symptoms and management of their mental illness. However, they also showed a moderate adherence to treatment and coping with the disease. It is concluded that the Arabic valid and reliable PIH can be used to measure self-management behavior among the mentally ill Arab population. Healthcare providers in Oman are recommended to integrate health literacy, self-management assessment, and education in their clinical care.

Keywords: Partners in health; mental health; self-management; mental illness; instrumentation testing

Introduction

In the context of mental health, self-management is a comparatively new approach. This concept entails the addressing of stressors encountered in the daily lives of healthy individuals, prevention and management of mild mental disorders, and execution of targeted healthcare and health promotion campaigns for individuals with serious mental disorders. The main objective of self-management is to support individuals who have any mental disorder in reviving their potential to perform their routine activities and minimizing their dependence on others, including health services and community services (deinstitutionalization). Theoretically, this approach concurs with the concepts of cognitive-behavioral theory, self-control regulation theory, and social learning theory (Wolf, 2011). Richard and Shea (2011) have defined self-management as "the ability of the individual, in conjunction with family, community, and healthcare professionals, to manage symptoms, treatments, lifestyle changes, and psychosocial, cultural, and spiritual consequences of health conditions" (p. 261). This description of self-management is in agreement with the concept of empowering individuals with mental illnesses.

In the mental health field, empowerment has emerged as a strong concept in the delivery of primary healthcare and health promotion. According to the World Health Organization and the European Commission (2010), empowerment refers to "the level of choice, influence, and control that users of mental health services can exercise over events in their lives" (p. 2). Empowerment essentially involves the dissolution of formal and informal barriers and the transformation of power relations among persons, groups, communities, governments, and services. It can,

therefore, be stated that the promotion of empowerment in individuals with mental illnesses through improving their self-management attitudes ensures that the authoritarian relationship that exists between patients and healthcare providers is transformed into a relationship with almost equal powers. In other words, control is given back to mentally ill individuals, and a constructive relationship based on empathy and care is built between healthcare providers and patients (Crepaz-Keay, 2010). Researchers have identified many other advantages of the implementation of the self-management concept among patients with chronic and mental disorders. Besides decreasing healthcare costs, health stress, pain, fatigue, disability, and stigma, it encourages health-promoting activities and improves the efficiency of communication between patients and healthcare providers (Wolf, 2011). It must be kept in mind that implementing the self-management approach in mentally ill individuals calls for using contemporary strategies and skills, including effective collaboration between patients, families, and friends of patients and a multidisciplinary healthcare team.

Assessing self-management behavior in individuals with mental illness is crucial for delivering tailored care that aligns with patients' specific needs. The Partners in Health (PIH) scale, established by Battersby et al. (2003), is a widely recognized instrument for gauging self-management behavior in patients with chronic diseases. Notably, in the absence of validated and reliable scales designed for measuring self-management among mentally ill patients, the PIH scale has been chosen to evaluate self-management knowledge and behavior among Omani patients grappling with mental health issues. While the PIH scale has traditionally been employed in various studies to assess self-management knowledge and behavior in patients with chronic physical illnesses, its potential utility extends to the measurement of self-management in mental health disorders.

Mental illnesses have emerged as a group of disorders that affect a large number of individuals all across the world. Management and prevention of these disorders require the application of high-tech, evidence-based interventions and approaches like self-management. Several strategies have been proposed for implementing self-management goal setting, improving problem-solving skills, identifying different issues a mentally ill patient faces, and addressing these issues (Crepaz-Keay, 2010). Similar approaches are used for the self-management of patients with other physical disorders. According to Schulman-Green et al. (2012), there are three components of self-management of a chronic illness: 1) consideration of the particular requirements of the illness, which involves the determination of health and illness requirements, knowing one's health requirements, and executing activities that promote good health; 2) active psychological, physical, spiritual and social resources; and 3) living with chronic illness, which means making adjustments according to the illness, processing feelings, integrating the features of the illness into one's life, and increasing the meaning of life, which leads to personal growth. The effectiveness of the self-management approach is based on collaborative efforts from patients, healthcare workers, family members, friends, and the community (Grady & Cough, 2014). Still, self-management is affected by clinical (such as the nature of illness and treatment), demographic (cultural and socio-economic features), and systematic (strength of the relationship between patient and healthcare providers) factors (Schulman-Green et al., 2012).

The World Health Organization (WHO) has noted in its Mental Disorders Fact Sheet (2018) that around 433 million individuals all across the world are suffering from cognitive or mental diseases that include dementia (50 million), schizophrenia and other psychoses (23 million), bipolar affective disorder (60 million), and depression (300 million). Regrettably, the literature is devoid of any research study that reports statistical data relating to the prevalence of mental illnesses in the adult population of Oman. Nevertheless, 197 Omani individuals with mental illness took part in a previous research, which was conducted by Al-Alawi et al. (2016) to investigate their perceived stigma of mental disorders. Out of these 197 patients, 38.7% (16.8% female and 21.9% male) were diagnosed with psychotic disorders, 87.9% (52.5% female and 35.4% male) with mood disorders and 60.3% (21.8% female and 38.5% male) with depression. The prevalence of depressive symptoms in Omani Universities has also been studied by Al-Busaidi et al. (2011), who have investigated the associations between these symptoms and gender, academic year, and institution.

According to this study (Al-Busaidi, 2011), 133 students (67 females and 66 males) suffered from depression in varying grades. Based on the PHQ-9 diagnostic criteria, this diagnosis was made by applying a cut point of over 11. However, depression was not found to be associated with gender, academic year, and institution. Even though these reports do not indicate the actual prevalence of mental disorders in Oman, data relating to the prevalence of mental disorders among young individuals and adolescents can give some insight into the data relating to the prevalence of the same among the adult population of Oman. The prevalence of depressive symptoms and mental disorders in school-going youth has been reported to be 16–17% in Oman (Afifi et al., 2006; Jaju et al., 2009). More importantly, social anxiety disorder is more prevalent among Omani students than among the corresponding population in the world. It has also been correlated with gender (Al Sharbati et al., (2012). Though mental health services that adhere to the Western Bio-Psychosocial treatment model are available in Oman, they are not equally accessible to individuals

living in different parts of the country. Many Omani patients still opt to use folk medicine to manage their mental illnesses, as stigma relating to such illnesses continues to impede Omani patients from consulting professional mental health workers (Al-Adawi, 2017; Musharrafi et al., 2017). Reports indicate that mental disorders have emerged as a considerable health issue in Oman. They have become one of the important priorities of the Oman Health Vision 2050 (Sultanate of Oman Ministry of Health, 2014). Considering the deficient literature relating to mental health illnesses in Oman, comprehensive studies are required to be conducted before culturally customized evidence-based mental healthcare practices can be developed and new approaches like self-management can be introduced for Omani patients with mental disorders.

The literature contains insufficient data relating to different approaches used by adults for managing their mental disorders, particularly in Oman. The majority of the studies have been conducted in Western parts of the world, with a focus on the management of physical chronic illnesses (Bodenheimer et al., 2002; Holman & Lorig, 2000; Ploeg et al., 2017; Ward et al., 2014). Only a small number of studies have been related to the management of mental disorders (Berry et al., 2019; O'Keeffe et al., 2016; Switsers et al., 2018). To date, the management of mental disorders by Omani individuals, particularly the self-management, has not been studied. According to Al-Lawati et al. (2008), the threat posed by chronic disorders can be addressed effectively by emphasizing community preventive healthcare services more than focusing on acute curative care services. Similarly, more efforts must be made to prevent chronic disorders and promote good health. The exploration of individuals' understanding and self-management of mental disorders is of crucial importance to this connection (Crepaz-Keay, 2010). Therefore, this research aims to evaluate the self-management behavior of adult Omani individuals suffering from mental disorders by investigating their knowledge, compliance with treatment plans, recognition and management of symptoms of mental illness, and strategies at work for adjusting to mental illness. Because this study was conducted in an Arabic-speaking context with participants who speak Arabic as first language, the translated version of the Partners in Health Scale was used to collect the data. Therefore, the second research aim was to analyze the reliability and validity of the Arabic version of the Partners in Health (PIH) scale.

Method

Quantitative data were collected from individuals with mental illness- without differentiating the type of their illness- in Oman using a cross-sectional descriptive and methodological study design that considered the data collection partners' content validity, reliability, and internal consistency in health (PIH) scale. Approval from the Research Ethics Boards at Sultan Qaboos University and Oman Ministry of Health was obtained before the research to comply with ethical considerations. Two hundred and forty-six (246) individuals 20 years of age or higher who had been diagnosed with any chronic mental disease for over one year were contacted to enroll in this research. It was confirmed that these individuals were physically and mentally capable of reading and writing Arabic, filling out the questionnaire, and giving consent for the study. Forensic mentally ill patients, patients with severe cognitive or mental disorders, and ones whose carers indicated they were incapable of filling out the questionnaire and giving consent were excluded from the research. Informed consent was obtained verbally from selected candidates. For this purpose, the candidates were informed about the study's objectives, benefits and risks relating to the research, and confidentiality. They were also told they had the right to ignore any question they did not want to answer and withdraw their participation without any penalties.

The data collection was carried out at Al Masarra Hospital. The sample size was computed using $n = z^2 p * (1-p)/w^2$. In the abovementioned equation, n refers to the estimated sample size; z refers to the normal distribution, which was 1.96 at 95% confidence; and p refers to the estimated proportion of candidates who demonstrated the understanding and application of self-management (20% as per the estimate). Finally, w refers to the research's margin of error (5%) (Charan & Biswas, 2013; El Khoury & Antoine-Jonville, 2011). The Partners in Health (PIH) scale was developed by Battersby et al. (2003) to measure the generic self-management of chronic disorders. The PIH scale contains 12 items demonstrating significant validity and reliability (Cronbach's alpha for PIH scale items=0.81) (Battersby et al., 2003, 2015; Shand et al., 2019; Smith et al., 2016). The 12 items relate to the four aspects of self-management: knowledge and understanding (items 1, 2, 4, and 8), compliance with the treatment plan (items 3 and 5), recognition and management of mental disorder symptoms (items 6, 7, and 9), and finally coping (items 10, 11 and 12). A 9-point scale is used for every question. Responses range from 0, referring to worst, to 8, referring to best possible self-management. In addition to questions corresponding with the study topic, other questions relating to demographic and socio-economic factors like gender, age, marital status, qualification, year of diagnosis, location of residence, income, profession, and culture are also included in the questionnaire.

Before using and translating the PIH scale, the first author obtained permission from the scale developers. Two translators then translated the PIH scale into the Arabic language. Principles and guidelines provided by Geisinger (1994) and Van de Vijver and Hambleton (1996) were followed for this culturally sensitive task. Translators were recruited carefully so that colloquialism, jargon, slang, and bias relating to items, methods, and structure could be avoided. The scale was again translated from Arabic to English to ensure that the translation had been performed accurately and resulted in equivalent content. According to translators, the Arabic PIH scale required no further modification, as it was culturally customized and did not show any cultural discrepancy. An expert panel comprising six health educators, clinicians, and nurses checked the translated questionnaire for completeness, clarity, and validity. Finally, the reliability of the Arabic PIH scale was checked by evaluating the answers obtained from the questionnaires filled out by the selected candidates. Internal consistency was determined by computing Cronbach's alpha for all items. Cronbach's alpha had to be equal to or greater than 0.7 to allow usage of the Arabic PIH scale. The Social Package of Social Sciences software [SPSS version 24] was used to analyze completed questionnaires. The data analysis used descriptive statistics, including mean, frequency, standard deviation, and percentages.

Results

As mentioned earlier, 246 candidates were selected for this study. Of these, 63% (156) were male, while 37% (90) were female. The candidates' age was 18–68, with an average of 42 years. Moreover, these candidates had passed 1–35 years with their illnesses, and the average time passed after the diagnosis was 13 years. Their average income was 850 Omani riyal per month (around 2,600 USD, 42 SD) **(Table 1)**. An expert panel used the Item and Scale Content Validity Index (I-CVI & S-CVI) to determine the content validity of the Arabic PIH scale. The panel experts rated the 12 items of the PIH scale on a Likert scale from 1 to 4 (1: not relevant, 2: somewhat relevant, 3: quite relevant, and 4: very relevant). The experts rated all items as either very relevant or quite relevant. This was followed by determining I-CVI using the formula Total number of ratings/raters, as shown in Table 2. Scale content validity was evaluated by computing the universal agreement (UA) among experts on rates (S-CVI/UA). For this purpose, all items were added with I-CVI, and the sum was divided by several items, as shown in Table 1. The I-CVI values ranged between 0 and 1. According to Zamanzadeh et al. (2015), I-CVI should be greater than 0.79 to indicate relevance, and S-CVI/UA should be ≥ 0.80. The Arabic PIH scale demonstrated considerable validity in this study, as I-CVI was greater than 0.79 for all items, and S-CVI was higher than 0.80, as shown in Table 2. Moreover, the expert panel was satisfied with the completeness and clarity of the scale **(Table 2)**.

Cronbach's alpha was determined for all dimensions of the Arabic PIH scale. The sum of the dimension values was then determined to compute the scale's reliability, as shown in Table 3. As discussed earlier, the four dimensions of the scale were 1) understanding and knowledge, 2) compliance with the treatment plan, 3) recognition and management of disease symptoms, and 4) coping with the illness. Once completed questionnaires had been collected from all candidates, internal consistency was determined by computing Cronbach's alpha, which was found to be 0.92 for the complete scale. Cronbach's alpha values for knowledge, compliance, management, and coping were found to be 0.90, 0.88, 0.87, and 0.81 respectively **(Table 3)**. The Arabic PIH scale is a unidimensional scale with a range of 0–96. On this scale, 0 refers to poor self-management, while 96 refers to very impressive self-management (Hudon et al., 2019). Among the participants in this study, the score range for the first dimension (knowledge and understanding) was between 0 and 32. For the second (compliance with treatment), the third (recognition and management of symptoms), and the fourth (coping) dimensions, the score ranges were 0–16, 0–24, and 0–24, respectively. As per the results, the average score for patients' knowledge and understanding of their illnesses was 11 out of 32 (SD: 1.87). The average score for compliance with the treatment plan was 17 out of 24 (SD: 3.22). The average score for patients' recognition and management of symptoms was 9 out of 24 (SD: 5.11). Finally, the average score for coping with the illness was 23 out of 32 (SD: 1.02). The average overall score for self-management demonstrated by patients was 60 out of 96, indicating a moderate level of self-management.

Discussion

The PIH scale has been used and validated by several researchers worldwide, including Australia, the Netherlands, France, Peru, and China, to investigate self-management of physical chronic disorders. The novelty of the current study lies in the fact that the PIH scale has been converted into the Arabic language for the first time and used by the Arabic community for investigating their behavior relating to self-management of chronic mental health disorders. During this research, the Arabic PIH scale was demonstrated to be an efficient, valid, and reliable scale that can be used for the evaluation of the self-management of chronic mental disorders demonstrated by an Arabic population. The original PIH scale, which is in the English language, was translated into Arabic to be used in the Omani community. The psychometric characteristics (internal consistency and content validity) demonstrated by the Arabic PIH scale were

good enough. The Arabic PIH scale was found to be valid, as its content validity, assessed through the Item and Scale Content Validity Index Universal Index (I-CVI & S-CVI/UI), was higher than 80%. The scale was also found to be reliable, as it demonstrated sufficient internal consistency. Cronbach's alpha was computed to evaluate the internal consistency of the Arabic PIH scale, which was found to be 0.92 for all dimensions. In particular, for the first, second, third, and fourth dimensions, Cronbach's alpha was found to be 0.90, 0.88, 0.87, and 81, respectively. The validity exhibited by the Arabic version was quite comparable with the high validity scores recorded for the original PIH scale by other researchers in the past. These assessments have been made in different parts of the world using different tools for the evaluation of validity (Hudon et al., 2019; Peñarrieta et al., 2020; Petkov et al., 2010; Veldman et al., 2017; Xiaofei et al., 2017).

Table 1. Demographic Items

Demographic Items	Frequency (n)	Percentage (%)
Gender		
Male	156	63%
Female	90	37%
Education		
Elementary school	48	20%
High school	103	42%
Diploma	55	22%
Bachelor	38	15%
Higher education	2	1%
Marital status		
Single	153	62%
Married	22	9%
Divorced	51	21%
widowed	20	8%
Location of living		
In Muscat (Capital city)	35	14%
Outside Muscat	211	86%
The family type where you live		
Nuclear	67	27%
Extended	179	73%
Employment		
Employed	191	78%
Unemployed	55	22%

Table 2. Item and scale content validity index/universal agreement (I-CVI & S-CVI)

Items	Agreements (relevant and quite relevant) by experts (n=6)	I-CVI
Item 1	6	1
Item 2	5	0.83
Item 3	6	1
Item 4	6	1
Item 5	6	1
Item 6	6	1
Item 7	6	1
Item 8	6	1
Item 9	5	0.83
Item 10	6	1
Item 11	6	1
Item 12	6	1
I-CVI/UA = 0.83		

Table 3. Internal consistency coefficient (Cronbach's alpha) for the total scale and dimensions

PIH Scale Dimensions	Cronbach's Alpha	Items dimension
Knowledge	0.90	4
Adherence to treatment	0.88	2
Recognition and management of the symptoms	0.87	3
Coping	0.81	3
Total	0.92	12

The reliability of the Arabic PIH scale determined during this research using Cronbach's alpha coefficient was 0.92. This reliability was greater than the reliability of the PIH scale reported in China by Xiaofei et al. (2017), which was 0.865. The scale's reliability was reported by Hudon et al. (2019) to be 0.85 in France, by Petkov et al. (2010) to be 0.88 in Australia, by Veldman et al. (2017) to be 0.77-0.88 in the Netherlands, and by Peñarrieta et al. (2020) to be 0.84 in Peru. During the current study, the PIH scale's research reliability was measured separately for every dimension. Other researchers determined the reliability of different dimensions after merging two (Veldman et al., 2017) or three (Peñarrieta et al., 2014; Chiu et al., 2016). The increased reliability exhibited by the Arabic PIH scale may be due to one of the following reasons: 1) the Arabic PIH scale is very comprehensive, concise, and precise; 2) it exhibits impressive clarity of language; 3) participant response rates were high; 4) a well-trained research assistant collected data; 5) candidates were given enough time to complete and return the questionnaire; and 6) an efficient tool was used for the determination of reliability and validity. Overall, the self-management behavior demonstrated by participants in this study was moderate (average score of 60 out of 96). Upon evaluation of different dimensions of self-management, it was found that patients' compliance with the treatment plan and coping with the illness was moderate, as indicated by the average scores for compliance (17 out of 24) and for coping (23 out of 32). Regrettably, the patients' understanding and knowledge about mental illness were not up to the mark, as indicated by the average score (11 out of 32). Behavior relating to the recognition and management of symptoms was also poor, as shown by the average score (9 out of 24). Because this is novel research aimed to evaluate the self-management behavior of mental disorder patients living in Oman using the PIH scale, results obtained during this study cannot be compared with the results of other studies. Most other studies have evaluated self-management of chronic physical disorders like cancer, diabetes, and hypertension. The results of these studies cannot be compared with those of this study because of the entirely different nature of the disorders.

As discussed above, Omani patients with mental disorders exhibit insufficient understanding and knowledge about their disorders. Similarly, these patients do not recognize and manage the symptoms of their illnesses efficiently. These findings concord with the results reported by Degan et al. (2019). In their research, 87% of candidates demonstrated a low to moderate level of knowledge about their mental disorders. Similarly, Friis et al. (2016) reported that Danish mentally ill patients do not have sufficient understanding and knowledge about their disorder as compared to the corresponding knowledge exhibited by patients with diabetes, cancer, and other chronic physical disorders. Degan et al. (2019) further added that patients with mental disorders demonstrated unsatisfactory behaviors regarding the recognition and management of symptoms. This was because they had insufficient skills in collecting health information, consulting healthcare services, and appraising health information. Another study determined there was a correlation between patients' insufficient knowledge of their mental illnesses and patients' basic education and intellectual, visual, and verbal capabilities (Lincoln et al., 2008). This finding is quite understandable, as a low level of basic education, low intellect, or any discrepancy with verbal or visual potential may hinder patients from learning about their illnesses. In the same vein, only 62% of candidates in the current study had completed their elementary or high school education. This was probably one reason for their low knowledge, recognition, and management of symptoms. Besides basic education and intellect, other demographic factors might have affected these dimensions of self-management. Mental disorders continue to be stigmatized in Oman, and mentally ill patients are, therefore, reluctant to get corresponding healthcare and health education services (Al-Adawi, 2017; Musharrafi et al., 2017). More importantly, mental healthcare facilities in Oman are scarce and are not evenly distributed across the country. For these reasons, all Omani individuals with mental disorders are incapable of accessing mental healthcare services evenly.

Omani healthcare settings mostly make use of traditional concepts relating to the delivery of healthcare services. This impedes the empowerment of Omani individuals, who continue to rely on the authoritative healthcare system and hesitate to improve their knowledge and make decisions about their health and treatment. In other words, the Omani healthcare system encourages passive reception of healthcare by mentally ill patients who do not get

involved in the planning and execution of their treatment. Another factor impeding patients' efforts to improve their knowledge is the difference in the language of patients and healthcare providers; in many cases, the latter are non-Arabic speakers. In addition, easily understandable and accessible resources for improving patients' knowledge are limited. Community services for mentally ill patients in Oman, like community nurses who may offer healthcare services at patients' residences, are also negligible. This may impede patients' potential to recognize and manage their symptoms.

Despite insufficient knowledge about their mental illness, participants selected for this research demonstrated a moderate level of compliance with treatment and a coping attitude toward their illnesses. This contradicts the findings of other studies, which have reported that insufficient knowledge demonstrated by patients of mental illness often leads to improper interpretation of health information and low levels of recognition and management of symptoms, thereby making patients demonstrate low scores for self-management. These factors mostly result in higher rates of complications and adverse outcomes in mentally ill patients (Krishan et al., 2012). Family members and the social circles of patients living in Oman can play a crucial role in improving patients' behavior relating to different dimensions of self-management. Satisfactory behaviors of patients relating to compliance with treatment plans and coping with disease symptoms probably related to the results that 73% of candidates were living with extended families and 62% were unmarried. Support provided by family members can substantially improve a patient's behavior in managing and coping with their diseases. Most of the individuals had also been living with their diseases for several years (average time passed:13 years). Patients may have gained skills in managing their diseases over time.

Schulman-Green et al. (2012) have stated that self-management essentially involves the potential of patients and their friends and families to observe the illness with the help of emotional, behavioral, and cognitive strategies for ensuring good quality of life. Some important strategies in this connection are regular checking of physical indicators, addressing particular requirements related to disabilities and illnesses, demonstrating compliance with complicated treatment plans, exhibiting careful behavior relating to engagement in physical activities and intake of proper diet, making adjustments as per social and psychological requirements, and participating actively in collaboration with healthcare workers (Grady & Cough, 2014). Al-Mandhari et al. (2009) have highlighted the effect of Omani culture on patients' behavior toward their diseases. According to these researchers, Omani individuals are still strongly connected with their family members and depend on them to make all kinds of life decisions, including disease management. Advice given by elderly family members is still considered and given importance. Cultural values and traditions also affect patients' behavior toward their diseases. Al-Adawi (1993) has highlighted that in the Omani family system, the entire family takes responsibility for caring for patients suffering from any chronic disorder. Unnecessary care given to these patients often makes them more dependent on others, and eventually, these patients tend to rely on others for most of their routine activities.

Even though the study was conducted based on data obtained from the largest psychiatric and mental health hospital in Oman, which welcomes patients from different regions of the country, it cannot be stated that the selected sample represented the entire Omani population with a mental health disorder. Because most (63%) of the selected candidates were male, the sample could not accurately represent both genders. The PIH scale used in this research suits Western countries with individualistic self-management approaches. This scale is not suitable for a population where entire families are involved in making decisions and caring for mentally ill patients. Considering the revolutionary changes made in the healthcare systems worldwide for the empowerment of patients, thereby encouraging behaviors like self-management, the mental healthcare system in Oman needs to adopt new approaches in a culturally sensitive manner. Healthcare providers and patients must be guided about contemporary approaches like self-management so that the latter can take better care of themselves and carry out routine activities without depending on others. Suitable interventions must be made to fill the knowledge gaps demonstrated by patients.

Conclusion
The Arabic PIH scale has proven to be a reliable and valid tool for evaluating self-management behavior demonstrated by mentally ill patients in any Arab community. Mentally ill patients living in Oman generally demonstrate moderate levels of self-management behavior. Specifically, the level of compliance with a treatment plan and coping with the disease is moderate. However, these patients have insufficient knowledge about their condition. Moreover, a low level of recognition and management of symptoms has been demonstrated by mentally ill Omani patients. Future studies must consider the validation of the Arabic PIH scale in different Arabic communities. Potential associations between self-management behavior demonstrated by mentally ill patients and their demographic factors, like education, gender, age, and income, and types of their mental illness must be investigated. The collection of qualitative data shows the self-

management behavior of patients. In addition, the self-management approach must also be studied from the perspectives of healthcare providers and family members.

References
Afifi, M., Al-Riyami, A., Morsi, M., & Al-Kharusil, H. (2006). Depressive symptoms among high school adolescents in Oman. Eastern Mediterranean Health Journal, 2(2), S126-37. PMID: 17361684.

Al-Adawi, S. (2017). Mental health services in Oman: The need for more cultural relevance. Oman Medical Journal, 32(2), 83. https://doi.org/10.5001/omj.2017.17

Al-Adawi, S. (1993). A glimpse into traditional outlook towards health: A literature review. Journal of Medical Humanities, 14(2), 67-79. https://doi.org/10.1007/BF01140207

Al-Alawi, M., Al-Sinawi, H., Al-Maqbali, M., Al-Hatmi, H.(2016). Perception of Stigma among Attendees of Tertiary Care Psychiatric Clinic in Oman. International Journal of Public Health and Safety, 1 (108). https://doi.org/10.4172/ijphs.1000108

Al-Busaidi, Z., Bhargava, K., Al-Ismaily, A., Al-Lawati, H., Al-Kindi, R., Al-Shafaee, M., Al-Maniri, A. (2011). Prevalence of depressive symptoms among university students in Oman. Oman Medical Journal, 26(4), 235-239. https://doi.org/10. 5001/omj.2011.58

Al-Lawati, J.A., R. Mabry, & Mohammed, A.J. (2008). Addressing the threat of chronic diseases in Oman. Preventing Chronic Diseases, 5(3), 1-7. PMID: 18558048; PMCID: PMC2483565.

Al-Mandhari, A., Al-Adawi, S., Al-Zakwani, I., Al-Shafaee, M., & Eloul, L. (2009). Relatives' advice and health care-seeking behaviour in Oman. Sultan Qaboos University Medical Journal, 9(3), 264. PMC3074806

Al-Sharbati, M., Al-Adawi, S., Petrini, K., Bait Amer, A. S., Al-Suleimani, A., Al-Lawatiya, S., ... Al Hussaini, AA. (2012). Two-phase survey to determine social anxiety and gender differences in Omani adolescents. Asia-Pacific Psychiatry, 4(2), 131-139. https://doi.org/10.1111/j.1758-5872.2012.00181.x

Battersby, M., Harris, M., Smith, D., Reed, R., & Woodman, R. (2015). A pragmatic randomized controlled trial of the Flinders Program of chronic condition management in community health care services. Patient Education and Counseling, 98(11), 1367-1375. https://doi.org/10.1016/j.pec.2015.06.003

Battersby, M., Ask, A., Reece, M., Markwick, M. and Collins, J. (2003). The Partners in Health scale: The development and psychometric properties of a generic assessment scale for chronic condition self-management. Australian Journal of Primary Health, 9, 41-52.

Berry, N., Lobban, F., & Bucci, S. (2019). A qualitative exploration of service user views about using digital health interventions for self-management in severe mental health problems. BMC Psychiatry, 19(1), 35. https://doi.org/10.1186/s12888-018-1979-1

Bodenheimer, T., Lorig, K., Holman, H. & Grumbach, K. (2002). Patient self-management of chronic disease in primary care. Journal of the American Medical Association, 288(19), 2469–2475. https://doi.org/10.1001/jama.288.19.2469

Charan, J., & Biswas, T.(2013). How to calculate sample size for different study designs in medical research? Indian Journal of Psychology Medicine, 35(2), 121-126. https://doi.org/10.4103/0253-7176.116232

Chiu, T. M. L., Tam, K. T. W., Siu, C. F., Chau, P. W. P., & Battersby, M. (2017). Validation study of a Chinese version of Partners in Health in Hong Kong (C-PIH HK). Quality of Life Research, 26(1), 199-203. https://doi.org/10.1007/s11136-016-1315-5

Crepaz-Keay, D. (2010). Self-management of mental health problems. Empowerment in Mental Health – Working together towards leadership. Leuven, Belgium: World Health Organization.

Degan, T. J., Kelly, P. J., Robinson, L. D., Deane, F. P., Wolstencroft, K., Turut, S., & Meldrum, R. (2019). Health literacy in people living with mental illness: A latent profile analysis. Psychiatry Research, 280, 112499. https://doi.org/10.1016/j.psychres.2019.112499

El Khoury, D., & Antoine-Jonville, S. (2011). Intake of Nutritional Supplements among People Exercising in Gyms in Beirut City. Journal of Nutrition and Metabolism, 2012, 1-12. http://dx.doi.org/10.1155/2012/703490.

Friis, K., Lasgaard, M., Osborne, R. H., & Maindal, H. T. (2016). Gaps in understanding health and engagement with healthcare providers across common long-term conditions: a population survey of health literacy in 29 473 Danish citizens. BMJ Open, 6(1), e009627. https://doi.org/10.1136/bmjopen-2015-009627

Geisinger, K. (1994). Cross-cultural normative assessment: Translation and adaptation Issues influencing the normative interpretation of assessment instruments. Psychological Assessment, 6(4), 304-312. https://doi.org/10.1037/1040-3590.6.4.304

Grady, P.A., & Gough, L.L. (2014). Self-management: A comprehensive approach to management of chronic conditions. American Journal of Public Health, 104(8): e25-e31. https://doi.org/10.2105/AJPH.2014.302041

Holman, H., & Lorig, K. (2000). Patients as partners in managing chronic disease. British Medical Journal, 320(7234), 526–527. https://doi.org/10.1136/bmj.320.7234.526

Hudon, É., Chouinard, M. C., Krieg, C., Lambert, M., Joober, H., Lawn, S., ... & Hudon, C. (2019). The French adaptation and validation of the Partners in Health (PIH) scale among patients with chronic conditions seen in primary care. PLOS One, 14(10), e0224191. https://doi.org/10.1371/journal.pone.0224191

Jaju,S., Al-Adawi,S., Al-Kharusi, H., Morsi, M., & Al-Riyami, A. (2009). Prevalence and age-of-onset distributions of DSM IV mental disorders and their severity among school going Omani adolescents and youths: WMH-CIDI findings. Child and Adolescent Psychiatry and Mental Health, 3(1), 29. https://doi.org/10.1186/1753-2000-3-29

Krishan, S., von Esenwein, S. A., & Druss, B. G. (2012). The health literacy of adults with severe mental illness. Psychiatric Services, 63(4), 397-397. https://doi.org/10.1176/appi.ps.20120p397

Lincoln, A., Espejo, D., Johnson, P., Paasche-Orlow, M., Speckman, J. L., Webber, T. L., & White, R. F. (2008). Limited literacy and psychiatric disorders among users of an urban safety-net hospital's mental health outpatient clinic. The Journal of Nervous and Mental Disease, 196(9), 687-693. https://doi.org/10.1097/NMD.0b013e31817d0181

Musharrafi, S., Al-Ruzaiqi, W., & Al-Adawi, S. (2017). Mental health stigma among Oman Medical Specialty Board (OMSB) residents. European Psychiatry, 41, S516. https://doi.org/10.1016/j.eurpsy.2017.01.675

O'Keeffe, D., Hickey, D., Lane, A., McCormack, M., Lawlor, E., Kinsella, A., ... Clarke, M. (2016). Mental illness Self-Management: A randomized controlled trial of the wellness recovery action planning intervention for inpatients and outpatients with psychiatric illness. Irish Journal of Psychological Medicine, 33(2), 81–92. https://doi.org/10.1017/ipm.2015.18

Peñarrieta-de Cordova, I., Albornoz-Jiménez, C. F., Gutiérrez-Gómez, T., León-Hernández, R., de Jesús Malibrán-Luque, D., & Colmenares-Diaz, R. (2020). A self-management measurement: Validity of the Partners in Health Scale (PHS) instrument in Peruvian elderly population. Journal of Hospital Administration, 9(4), 20-26. https://doi.org/10.5430/jha.v9n4p20

Peñarrieta-de Córdova, I., Barrios, F. F., Gutierrez-Gomes, T., del Socorro Piñonez-Martinez, M., Quintero-Valle, L. M., & Castañeda-Hidalgo, H. (2014). Self-management in chronic conditions: partners in health scale instrument validation. Nursing Management, 20(10), 32-37. https://doi.org/10.7748/nm2014.02.20.10.32.e1084

Petkov, J., Harvey, P., & Battersby, M. (2010). The internal consistency and construct validity of the partners in health scale: validation of a patient rated chronic condition self-management measure. Quality of Life Research, 19(7), 1079-1085. https://doi.org/10.1007/s11136-010-9661-1

Ploeg, J., Matthew-Maich, N., Fraser, K., Dufour, S., McAiney, C., Kaasalainen, S., Markle-Reid, M., Upshur, R., Cleghorn, L., & Emili, A. (2017). Managing multiple chronic conditions in the community: A Canadian qualitative study of the experiences of older adults, family caregivers and healthcare providers. BMC Geriatrics 17(40), 1-15. https://doi.org/10.1186/s12877-017-0431-6

Richard, A.A., & Shea, K. (2011). Delineation of self-care and associated concepts. Journal of Nursing Scholarship, 43(3), 255–264. https://doi.org/10.1111/j.1547-5069.2011.01404.x

Schulman-Green, D., Jaser, S., Martin, F., Alonzo, A. Grey, M., McCorkle, R., Redeker, N., Reynolds, N., & Whittemore, R. (2012). Processes of self-management in chronic illness. Journal of Nursing Scholarship, 44(2), 136-144. https://doi.org/10.1111/j.1547-5069.2012.01444.x

Sultanate of Oman Ministry of Health. (2014). Health Vision, 2050. Retrieved from http://www.nationalplanningcycles.org/sites/default/files/planning_cycle_repository/oman/health_vision_2050_oman.pdf

Shand, L., Higgins, R., Murphy, B., & Jackson, A. (2019). Development and validation of the healthcare providers patient-activation scale. Patient Education and Counseling, 102(8), 1550-1557. https://doi.org/10.1016/j.pec.2019.03.005

Smith, D., Harvey, P., Lawn, S., Harris, M., & Battersby, M. (2017). Measuring chronic condition self-management in an Australian community: factor structure of the revised Partners in Health (PIH) scale. Quality of Life Research, 26(1), 149-159. https://doi.org/10.1007/s11136-016-1368-5

Switsers, L., Dauwe, A., Varhoudt, A., Van Dyck, H., Lombaerts, K., Oldenburg, J. (2018). Users' perspectives on mHealth self-management of bipolar disorder: qualitative focus group study. JMIR Mhealth Uhealth, 5(6), e 108. https://doi.org/10.2196/mhealth.9529

Van de Vijver, F., & Hambleton, R.K. (1996). Translating tests: Some practical guidelines. European Psychologist, 1(2), 89-99. https://doi.org/10.1027/1016-9040.1.2.89

Veldman, K., Reijneveld, S. A., Lahr, M. M., Uittenbroek, R. J., & Wynia, K. (2017). The Partners in Health scale for older adults: design and examination of its psychometric properties in a Dutch population of older adults. Health Expectations, 20(4), 601-607. https://doi.org/10.1111/hex.12488

Ward, B.W., Schiller, J.S., & Goodman, R.A. (2014). Multiple chronic conditions among US adults: A 2012 update. Preventing Chronic Diseases, 11, 1-4. https://doi.org/10.5888/pcd11.130389

Wolf, H. (2011). Self-management and mental health, in Social Determinants and Mental Health. In S. Bährer-Kohler, Ed., Social determinants and mental health (pp. 249–262). Nova Science Publishers.

World Health Organization. (2018). Fact Sheet—Mental Disorders. Retrieved from https://www.who.int/news-room/fact-sheets/detail/mental-disorders

World Health Organization & European Commission (2010). User Empowerment in Mental Health: A statement by the WHO Regional Office for Europe. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0020/113834/E93430.pdf

Xiaofei, Z., Hui, F., Lawn, S., Mei, S., Smith, D., Jingxia, W., ... & Siyuan, T. (2017). Translation and initial psychometric evaluation of the Chinese version of the partners in health scale. Biomedical Research, 28(16), 7322-7329.

Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A. R. (2015). Design and implementation content validity study: development of an instrument for measuring patient-centered communication. Journal of Caring Sciences, 4(2), 165. https://doi.org/10.15171/jcs.2015.017