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The association of spiritual well-being and depression among patients receiving hemodialysis

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Abstract

Purpose: The purpose of this study was to identify the relationship between spiritual well-being (meaning/peace, and faith) and depression among Jordanian patients receiving hemodialysis. Methods: Cross-sectional descriptive correlation design was used to carry out on a nationally representative convenience sample of 158 patients receiving hemodialysis at five different hospitals in Jordan. Results: The mean total score of the depression was 17.8 of the 40. While the mean total score of the spiritual well-being was 36.9 of the 48. The Pearson's correlation coefficient test showed significant negative correlation between spiritual well-being and depression ($r = -.64$, $p < .005$). Conclusion: Healthcare providers should consider spiritual well-being in their assessment and interventions by helping the patients to establish meaning, peace, and faith to reduce patients' depression.

1 | INTRODUCTION

End-stage renal disease (ESRD) is a chronic and irreversible stage of kidney failure, which affected more than 4,097 patients in Jordan, of which 4,028 (98%) received hemodialysis treatment.[1] Patients receiving hemodialysis treatment have disrupted activities, recurrent hospitalizations, and dietary limitation that cause high rates of psychological complications.[2] Depression is common psychological problem among those patients with high prevalence rates.[3,4] High levels of depression lead to worse physical health status,[5] and increased rates of suicide.[6] In addition, the severity of depression may increase when the patients have inadequate levels of social support.[7]

There is significant evidence that psychological well-being could be related to other factors such as spiritual well-being.[8] Spiritual well-being is an important essence of patients' life, and it is the degree to which a person has a sense of well-being related to god and a sense of life purpose and satisfaction.[9] Spiritual well-being has two dimensions, horizontal dimension refers to the sense of purpose in life, peace, and life satisfaction; and vertical dimension refers to the sense of well-being related to god or higher power.[10] The literature shows that spiritual well-being could be used by patients with ESRD as a coping resource to reduce suffering, promote recovery, and to adjust their mental and physical health,[8,11] while spiritual struggle significantly correlated with worse mental and social health among the Brazilian patients with ESRD.[12] Spiritual well-being include various activities suitable for Muslim patients receiving hemodialysis such as reading spiritual materials (Quran or Athkar), utilizing art as a means of expressing spiritual thoughts and beliefs, utilizing meditation and praying, and fostering connectedness with patients' family or friends.[13]

The levels of spiritual well-being were considered neglected dimension when providing holistic nursing care for patients with chronic illness,[14] although the World Health Organization (WHO) indicated to include spiritual well-being in addition to physical, mental, and social domains in health services.[15] Moreover, spiritual well-being was correlated with spiritual beliefs and practices, and it was positively correlated with better social and functional well-being.[16]

The relationship between spiritual well-being and mental health was investigated among patients receiving hemodialysis, the findings showed significant positive correlation between mental health and spiritual well-being among Brazilian patients receiving hemodialysis,[17] and negative correlation between the perception of spirituality and depression among African-American patients receiving hemodialysis.[18] However, spiritual well-being is considered important and central aspects of lives of individuals and families; it may affect decision making, problem solving, and coping with life experiences.[19]

The levels of spiritual well-being among Jordanian and Muslim patients are not extensively and clearly articulated in the literature. Therefore, the current study describes the levels of spiritual well-being and depression, and reveals the association between depression and both domains of spiritual well-being (peace/meaning and faith) among Jordanian patients receiving hemodialysis in the context of the Arabic-Islamic culture when controlling the sociodemographic

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variables. These findings may improve psychosocial functioning, prevent the complications of depression, and improve quality of life and life satisfaction.[18,20]

2 | METHOD

2.1 | Design

Descriptive correlational and cross-sectional design was used to attain the aim of the study. Data were collected using self-reported questionnaire in regards to depression, social support, and spiritual well-being.

2.2 | Population and sample

Patients with ESRD receiving hemodialysis treatment were the target population for this study. By the end of 2012, there were 4,767 ESRD patients receiving hemodialysis treatment .[1] The accessible population was all patients receiving care in hemodialysis departments at Jordanian hospitals. The sample was recruited using nonprobability convenience technique. Patients were considered eligible for this study if they had ESRD and receiving hemodialysis for more than 3 months; to prevent the overlapping between depression and grieving symptoms, they should be 18 years old or above, and should have the ability to read and communicate in Arabic. Patients were excluded from participation if they had psychiatric or mental illness in their history and receive psychological treatment, or they had cognitive or intellectual incompetence. Sample size was calculated using G power,[21] applying correlation to two independent Pearson *r*s. The results show that the required sample size was 132 participants. To compensate the attrition rate, the researcher added 20% of to the estimated sample size. One hundred fifty-eight patients participated in the current study.

2.3 | Setting

By 2012, there were 75 hemodialysis units and more than 879 dialysis machines distributed all over the country.[1] The majority of patients with ESRD were found in the three largest cities of Jordan; Amman, Zarqa, and Irbid, which represented 75.7% of total numbers of Jordanian patients with ESRD.[1] Moreover, these three cities included more than 71% of total Jordanian population.[1] Therefore, the data were collected from patients at five different hospitals in the largest three cities in Jordan. The number of patients from each city was proportioned with the prevalence of hemodialysis cases in these cities.[1]

2.4 | Ethical considerations

Ethical approval was obtained from the institutional review board (IRB) of the Faculty of Nursing and from the data collection places. To protect the individuals' identity, subject's identification number was assigned to each participant at the beginning of the study, all participants understood that the participation is voluntary and they have the right to withdraw at any time without any penalty, and they did not face any potential risks or current benefits. All patients' detail is kept in electronic versions in the primary researcher's computer.

2.5 | Data collection procedure

Patients who were interested in participation were invited through invitation cover letters that include the study aims, significance, data collection instructions, required time to fill the questionnaire (about 10 minutes), contact information for the researcher, and a statement informing the participants that their privacy would be protected. The medical files were checked by the researcher to meet the inclusion and exclusion criteria. Then, a package of three self-reported questionnaire, in addition to the demographic profile, was distributed face to face to the patients who agree for participation during the hemodialysis session. If the patients faced some difficulty to fill the questionnaires because of hemodialysis procedure, appropriate assistance was provided.

2.6 | Measures

Data were collected using a self-reporting questionnaire that included two main parts, part one consists of the author-developed demographic profile (age, gender, education, employment status, marital status, medical history, dialysis vintage [length of time on dialysis], and number of dialysis sessions per week). Part two consists of the Arabic version of valid and reliable scales to measure depression, spiritual well-being, and perceived social support.

Depression was assessed using the Patients Reported Outcomes Measurement Information System (PROMIS) Emotional distress—Depression—short form scale was. It was developed by the American Psychiatric Association[22] to monitor the pure domains of depression among individuals aged 18 or above. It includes eight items about the clinical signs of depression during the past 7 days, which primarily focus on negative mood and negative view of self.[23] Each item has 5-point scale (1 = never; 2 = rarely; 3 = sometimes; 4 = often; and 5 = always), the total score ranges from 8 to 40. The higher score indicates greater severity of depression. The internal consistency for the study measures was calculated using Statistical Package for Social Science (SPSS) software.[24] For this scale the Cronbach's alpha coefficient was .85.

Spiritual well-being was measured using the Functional Assessment for Chronic Illness Therapy-Spiritual well-being (FACIT-SP-12). It was used to measure peace, meaning of life, and faith related to activities attempted, attitudes, and feelings experienced in the last week.[25] The FACIT-SP-12 includes two subscales, the meaning/peace subscale (eight items) assesses meaning or purpose in life and peace. Faith subscale (four items) assesses the role of faith in illness. These subscales are brief and have been validated in patients with advanced illness.[26] Each item has 5-point scale ranging from (0) "not at all" to (4) "very much." The higher score indicated better spiritual well-being. The FACIT-SP-12 was translated to Arabic language, the psychometric properties result shows that the scale had sufficient concurrent validity, and high reliability.[27] The Cronbach's alpha for this scale was .78.

TABLE 1 Description of sample characteristics ($N = 158$)

Variable	*N* (%)	*M*(*SD*)
Age		50.7 years (*SD* = 13.9)
Gender		
Male	97 (61.4)	
Female	61 (38.6)	
Educational level		
Secondary education or below	109 (69)	
More than secondary education	49 (31)	
Marital status		
Married	120 (75.9)	
Unmarried	38 (24.1)	
Employment status		
Not employed	132 (83.5)	
Employed	26 (16.5)	
Medical comorbidity status		
With comorbid diseases	106 (67.1)	
Free of comorbid diseases	52 (32.9)	
Dialysis vintage		5.9 years (*SD* = 5.1)

Multidimensional Perceived Social Support Scale (MPSSS) was used to measure the perception of social support from family, friends, and significant others.[28] This scale contains 12 items, each item has 7-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). The total score for MPSSS ranges from 12 to 84; (12–48) low acuity, (49–68) moderate acuity, (69–84) high acuity of perceived social support. In this study, the Cronbach's alpha for the MPSSS was .87.

2.7 | Data analysis plan

Data were analyzed using SPSS software (version 20).[24] Descriptive statistics (mean, median, and standard deviation) were used to describe and summarize the continuous variables (depression and spiritual well-being). Frequencies or percentages statistics were used to describe and summarize the nominal and ordinal variables such as demographics. Independent sample *t*-test was used to evaluate depression and spiritual well-being according to demographic characteristics. Partial correlation coefficient test was used to determine the association between the depression and spiritual well-being while controlling the patients' sociodemographic variables. All tests were conducted using two-tailed test, and $\alpha = 0.05$.

3 | RESULTS

One hundred fifty-eight patients were participated in the study. As shown in Table 1, patients' age ranged from 19 to 80 with the mean age of 50.7 ($SD = 13.9$). The majority of the sample was married (75.9%), males (61.4%), had secondary education or below (69%), not employed or retired (83.5%). The patients had received hemodialysis for an average period of 5.9 years (dialysis vintage). The mean dialysis time was 210 minutes, for three times a week for most of the participants.

The mean total score of the PROMIS Emotional distress—depression—short form scale was 17.8 (SD = 7.8) of 40, median was 16. In addition, 51.9% of the patients had no to slight depression, 25.3% had mild depression, 22.8% had moderate to severe depression, those patients should be assessed, followed up, and they should receive appropriate treatment for the clinical depression.[22] However, the highest scores of depression scale corresponded with most severity of depression.

The mean total score of the spiritual well-being scale (FACIT-SP-12) was 36.97 (SD = 7.9) of 48, median was 38.0. However, the highest score of spiritual well-being scale indicates the best spiritual well-being. Furthermore, the mean total scores for the meaning/peace subscales were 21.98 of 32 (SD = 7.11), and the mean total scores for the faith subscale was 14.98 of 16 ($SD = 2.0$).

There were significant differences in mean score of depression and spiritual well-being scores based on the patients' demographics (Table 2). Married patients showed higher depression $t\ (156) = -2.17$, $p = .031$ and lower spiritual well-being $t\ (156) = 2.10$, $p = .037$ compared to unmarried patients. Patients having secondary education or less had higher depression $t\ (156) = 2.15$, $p < .05$. By focus on specific domains of spiritual well-being, the mean total score of the meaning/peace subscale was higher among employed ($t = 2.4$, $p < .05$), unmarried patients ($t = 2.4$, $p < .02$), and those had more than secondary education $t = -2.8$, $p < .01$. In addition, the mean total score of the faith subscale has no significant differences with any of the patients' demographic variables.

The Pearson's correlation coefficient test showed significant negative correlation between the total score spiritual well-being and depression, while controlling the effect of confounding variables such as marital status, educational level, and perceived social support ($r = -.64$, $p < .005$). The results show that the controlling variables (marital status, educational level, and perceived social support) have no significant changes on the strength and direction of the relationships between the depression and spiritual well-being. However, higher levels of spiritual well-being are associated with lower levels of depression. Specifically, the correlation coefficient (r) between depression and the dimension "meaning\peace" was ($r = -.70$; $p < .01$) and the dimension "faith" was ($r = -.26$, $p < 0.01$).

4 | DISCUSSION

This study is the first Jordanian study to investigate the relationship between spiritual well-being (peace/meaning of life, and faith) and depression among Jordanian patients receiving hemodialysis. The results show that 48.9% of the total sample had mild to severe depression. These patients did not receive any psychological assessment or interventions, and their files show that they had never been screened for depression. Moreover, the findings show lower prevalence of depression compared with other studies that were conducted among Jordanian patients, and used different scales such as the Brief Symptom Inventory (BSI) and the Beck Depression Inventory (BDI-II).[4]

TABLE 2 Comparison of mean scores of spiritual well-being subscales and depression by demographic variables

Variable	Depression *M* (*SD*)	Total score of spiritual well-being *M* (*SD*)	Meaning/peace subscale *M* (*SD*)	Faith subscale *M* (*SD*)
Gender				
Male	17.51 (8.34)	37.18 (8.10)	22.2 (7.45)	14.7 (1.9)
Female	18.36 (7.01)	36.64 (7.59)	21.6 (6.58)	15.0 (2.0)
Presence of comorbid disease				
Yes	18.18 (7.91)	36.42 (7.89)	21.4 (7.20)	15.0 (1.85)
No	17.13 (7.72)	38.10 (7.84)	23.15 (6.83)	14.9 (2.3)
Employment status				
Employed	15.19 (6.45)	39.62 (7.20)	25.0 (6.23)	14.6 (2.17)
Not employed or retired	18.36 (8.01)	36.45 (7.94)	21.4 (7.1)	15.1 (1.97)
Marital status				
Married	18.59 (8.40)	36.23 (8.20)	21.3 (7.37)	14.9 (2.13)
Unmarried	15.45 (5.18)	39.29 (6.35)	24.1 (5.83)	15.2 (1.52)
Educational level				
Secondary or below	18.72 (7.92)	36.17 (7.5)	20.9 (7.09)	15.2 (1.5)
More than secondary	15.86 (7.37)	38.73 (8.5)	24.3 (6.66)	14.4 (2.73)

Therefore, both the BSI and the BDI-II scales were considered symptomatological scales, were developed to measure depressive symptoms that are of less degree than clinical depression.[29] While the PROMIS Emotional distress—depression—short form of the scale was developed to assess the clinical signs of depression in the clinical settings, so it includes eight items about the main criteria of depression.[22] Also it measures the negative mood, negative view for self, decreased positive effect, and negative social cognition.[23] However, the prevalence of depression in the current study indicated to the importance of psychological counseling, consultation, and follow-up to reduce the severity of depression.

The level of spiritual well-being among Jordanian patients receiving hemodialysis was measured using valid and reliable scale to assess the pure domains of spiritual well-being that include peace/meaning of life, and faith among patients with chronic illnesses. The results show high levels of spiritual well-being with mean scores of 36.9 of 48. These results were consistent with the findings of another study that used the same scale to assess the levels of spiritual well-being among Jordanian patients with cancer.[27] Moreover, the mean scores for the meaning/ peace subscales was lower than the faith subscale. Lazenby et al.[27] reported strong association between meaning/peace in life and functional well-being that may be deteriorated due to the chronic diseases, therefore, patients receiving hemodialysis have several functional and occupational limitations, which may decrease their sense of peace or meaning of life. In addition, 92% of the Jordanian population are Muslim,[41] therefore, the participants in the current study follow the Islamic religion and have the same cultural and traditional lifestyle that contributed to high scores on faith subscale.[16]

Muslims may use spiritual beliefs and practices as coping mechanisms to achieve a state of comfort, peace, and well-being. For example, believing that whatever happens to them is the will of god was used to mediate stress caused by dialysis or treatment procedures. Moreover, the dimensions of spiritual well-being among Arab Muslim participants in this study (peace/meaning of life, and faith) were intimately connected, their senses of peace/meaning of life was reflected through providing care or help for weak people, doing good deeds, and preventing bad behaviors. While their sense of faith was reflected through relationship with Allah, who provide them a sense of well-being and security. This relationship could be increased by religious practices, which includes some rites such as praying/attending the mosque, reading the Quran, and remembrance of Allah (Athkar). However, Muslims believes and practices may reflect high levels of spiritual well-being and its dimensions among patients.

Our results showed significant differences in marital status and educational level in relation to depression and spiritual well-being. Married patients reported higher depression and lower spiritual well-being than unmarried (single or widowed), which contradicted with another study conducted among patients receiving hemodialysis in Korea.[30] This association could be related to increase patient's burden caused by losing their social role as a wife, husband, mother, and/or father.[17] With regard to the educational level, patients with low educational level (have secondary education or below) reported higher depression than others. Bjelland et al.[31] reported that patients with low educational levels had very restricted occupational options, so they had the risk of developing physical and psychological health disturbances. Therefore, psychological interventions should target the married patients and those with low educational levels to promote their mental health and prevent the psychological disturbances caused by burden of ESRD and related treatments.[11]

The association between depression and spiritual well-being was negatively correlated, higher level of spiritual well-being (i.e., presence of peace/meaning of life, and faith) was associated with lower level of depression while controlling the social support as well as demographic variables. These findings are consistent with others who reported a

positive relationship between spiritual well-being domains (religiosity and religious coping, hope) and mental health among patients with chronic medical illnesses such as cancer or heart failure.[8,26] In addition, Martínez and Custódio[17] revealed strong negative association between spiritual well-being and poor mental health or presence of psychological stress among Brazilian patients receiving hemodialysis. These findings reveal that patients who have high levels of meaning of life, peace, and faith could be seem to have an ability to regulate their emotions, thus not becoming depressed so easily.[32]

4.1 | Implications

The results of the current study suggest to activate the roles of staff nurses working at the hemodialysis units and specialized psychiatric nurses to conduct spiritual interventions for patients with low levels of spiritual well-being by using the median of spiritual well-being scale as a cut-off point to indicate clinically significance of conducting spiritual interventions. These interventions include psychological and spiritual assessment, planning, interventions, and evaluation.

Spiritual assessment could be started by asking patients specific questions about the role of spiritual beliefs and practices in the patient's illness or recovery, and spiritual beliefs and practices that may affect the patient's treatment plan.[33] Example for these questions are as follows: Does the patient pray in his or her life? How does the patient express his or her spirituality? What type of spiritual/religious support does the patient require? How has the illness affected the patient and his or her family?. Before assessment, it is important to describe patients that why these questions are being asked and what is the importance of obtaining this information. The assessment should be conducted in a nonthreatening and nonjudgmental manner.

Planning spiritual care should include spiritual well-being in conjunction with standard healthcare treatments, and modify the treatment plan as needed based on patients spiritual needs.[34] Implementing spiritual interventions can include various actions such as encourage relationship between the patient and his or her family, reading spiritual materials (Quran or Athkar), utilizing humor, utilizing meditation or praying, or discussing with patients how to maintain inner peace, contribute to society, cope with life's stressors, and feel the connection with nature.[32] Moreover, spiritual interventions should be provided based on empathy and nonjudgmental love, affirm the worth dignity, nobility and humanistic desire of each person, and its response to both religious and nonreligious needs.

The psychiatric–mental health nurses have high level of expertise in the assessment, diagnosis, and treatment for patients and families, and have advanced education in a specific field that allow them to provide nursing care for patients and families with greater depth and breadth of knowledge. The roles of specialized psychiatric mental health nurses include providing guidance, coaching, and counseling to patients, families, and other care providers, including utilization and implementation of research, collaboration with interdisciplinary team to promote health services, and taking responsibility regarding quality improvement and policy development. Also specialized psychiatric mental health nurses have the authority to admit or refer patients, prescribe medications, and perform clinical and professional leadership.[35]

In Islam, nurses should administer spiritual interventions based on Islamic standards and Quran instruction, with emphasis on faith, peace, and meaning of life.[36] For example, the spiritual interventions include prayer, patience, altruism, kindness, forgiveness, thankfulness, meditation, remission, and repentance. All these practices were taken from Quran instructions.[36]

Over time, this may improve patients' spiritual attitudes, which could reduce depression and improve their mental and physical health status. Whether their condition improved or not, spiritual well-being has a positive impact on mental health outcomes and increase sense of internal control.[37] Therefore, patients with ESRD and receiving hemodialysis are highly encouraged to use spiritual well-being as an effective coping mechanism to reduce depression and improve mental health.[16,17]

4.2 | Limitation

There are number of limitations that should be addressed. First, the spiritual well-being is considered sensitive area of research to be assessed using self-reported questionnaires.[38] Therefore, the participants may report incomplete answers for the spiritual questions. Second, the majority of participants was Muslims and lives in Islamic country (Jordan). Therefore, our results may not be applicable to patients of other religious groups, or those in other geographic regions. Lastly, the convenience sampling method is considered easy, applicable, and appropriate for the research purpose, but this method has a chance to produce sampling bias. Also, it could reduce the generalizability of the study's findings.[39]

5 | CONCLUSIONS

Spiritual well-being (meaning of life, peace, and faith) is important for patients receiving hemodialysis to reduce depression. The findings of this study are relevant because depression can be a risk for as well as a consequence of the ESRD. Enhancing the spiritual well-being by applying spirituality-related interventions may reduce the severity of depression and improve the mental health status among this population.[40] However, facilitating spirituality-related interventions based on the patients' interest by nurses or healthcare providers could reduce depression. Further longitudinal or experimental research studies are recommended to understand the effectiveness of spiritual intervention programs on both physical and mental health among patients with different cultures, religions, or physical conditions.

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