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Relationship between spiritual well-being and Health-Related Quality of Life and some related factors in patients with AIDS/HIV

Original article

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Abstract: **Objective:** The study of effective factors on the quality of life (QoL), as an important criterion, in the outcome of new therapeutic and preventive strategies in human immunodeficiency virus (HIV) has been considered by researchers. To study the relationship between spiritual well-being and Health-Related Quality of Life (HRQoL) and some related factors in patients with Acquired Immunodeficiency Syndrome ([AIDS]/HIV).

Methods: In this cross-sectional study, 224 people were selected as the study population (112 were male and 112 were female) from patients with AIDS/HIV at the Behavioral Counseling Center of Shiraz with available sampling method. The research tool was Palutzian & Ellison well-being scale and QoL Questionnaire (SF-36). Data were analyzed using Pearson correlation test.

Results: There was a significant direct relationship between physical function dimensions ($P = 0.003$). There was a significant relationship between general well-being, mental well-being, and total spiritual well-being ($P < 0.001$). There was a statistically significant relationship between the dimensions of QoL and spiritual well-being with some age section of the patients, and their occupation and education ($P < 0.001$).

Conclusions: Spirituality has an impact on the QoL dimensions. Therefore, HIV positive people's quality of life could be improved by the possibility of the spiritual well-being promotion as a method of adaptation with the disease.

Keywords: *spiritual • well-being • quality of life • AIDS/HIV*

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1. Introduction

The pandemic of Acquired Immunodeficiency Syndrome (AIDS) has led to a major challenge for human, and undoubtedly it is becoming one of the most serious infective illnesses.[1]

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In Iran, the statistics of patients with AIDS/HIV in June 2019 were estimated to be 59,000 according to the World Health Organization.[2] The life quality of the patients with AIDS/HIV was studied in other researches. Quality of life (QoL) provide a comprehensive evaluation of the individual's well-being, patients, and role functioning through reflection and satisfaction experienced by people under their current life circumstances.[3]

The results of the study of the young patients in their early stages showed that there was a significant difference in the level of physical, mental health, personal independence, and spiritual areas.[4]

Many mental and social changes have been affected by the disease, so they require careful planning, including lifestyle changes, and creating the confidence without any fear about the future. All of these features also have a significant impact on the patients' recovery. Patients may have some mental problems, especially depression,[5] so many patients use medication, behavioral interventions and participation in training workshops for treating themselves. According to Bere, the behavioral interventions led to continuation of the therapy. In the meantime, spirituality may be a way also for these groups who are separated from the society,[6] so according to the study of Kremer that 65% of those who used spiritual treatment had positive thoughts and only 7% had negative thoughts.[7] There is a strong connection between religious beliefs and hope, and having the pessimistic view about the future is the biggest cause of the patients' suicide.[8]

Unlike other major diseases such as cancer, many patients with AIDS/HIV may experience discrimination arising from symptoms associated with the disease and may lead to social isolation and emotional distress, so identifying effective ways to cope with the related challenges with the patients with AIDS/HIV has become a controversial issue and hence increase the interest of researchers.[9]

The studies conducted so far in our country are about the causes and difficulties of the disease. Less attention has been paid to the spiritual aspects and the existential impact of it on the health and QoL of these patients. As a result, the researcher of this study decided to investigate the spiritual dimensions of the treatment.

2. Methods

2.1. Study design

This is a cross-sectional study and the study population included 224 people (112 were male and 112 were female) who were diagnosed with HIV positive or currently diagnosed with AIDS, and they are referred at the Behavioral Counseling Center of the Shiraz city.

The study was approved by the Ethics Committee of Shiraz Medical Sciences University with the plan number: 15355.

According to the statistics consultant, the stated formula below was used and the error of 0.05 and the test power of 90% were considered. Further, the media-call software was used and the sample size of 112 people in each group was considered who were randomly selected from the patients undergoing treatment in the sampling interval. The calculation was conducted when the sampling was completed.

$$\alpha = 0.05 \qquad \beta = 0.1 \qquad r = 0.3$$

$$N = \left[\frac{Z_{\alpha} + Z_{\beta}}{C}\right]^{2} + 3$$

$$C = \frac{1}{2} Ln \frac{1+r}{1-r}$$

The data were collected by applying a questionnaire after presenting a letter of introduction that had been received from the Hazrat-e-Fatemeh Nursing and Midwifery Faculty to Shiraz Behavioral Counseling Center and also obtained permission from the Vice-Chancellor of the Medical Sciences University.

The inclusion criteria were willingness to participate in the study, age above 18 years, positive HIV testing, having a file in Shiraz Behavioral Counseling Center, and having Iranian citizenship. The exclusion criteria included having a severe cognitive impairment such as mental retardation and mental disorders.

The QoL Questionnaire (SF-36) was developed by Ware and Sherburne. It has 36 phrases and 8 scaled scores: physical functioning, social role functioning, role limitations due to physical problems, role limitations due to emotional problems, psychological health, emotional well-being, bodily pain, and general health perceptions. In addition, the SF-36 provides two general measurements of the function: the overall score of the physical component, which also measures the physical dimension of the health, and the overall score of the psychological component, which evaluates the social psychosocial dimension.[10]

The scaled score in each of these sections ranged from 0 to 100 and higher scores showed a better QoL. The validity and reliability of this questionnaire have been confirmed in the Iranian population. The validity and reliability of the study by Montazeri et al.[11] are the basis of this study.

The Spiritual well-being Questionnaire was designed by Paloutzian and Ellisonin in 1982. The questionnaire consists of 20 phrases that include 10 questions of religious health and 10 other questions about the existential health of the individual and its range is between 20 and

120. The answers to these questions are categorized using 6-point Likert scale from the strongly disagree to strongly agree.[12]

This questionnaire was confirmed by Abbasi in Iran (2005). It was reported R = 0.82 for this questionnaire. Therefore, the validity and reliability of Abbasi's study are the basis of this study.[13]

2.2. Statistical analysis methods

Data were analyzed using Pearson correlation coefficient to measure the significance relationship of the variables with spiritual well-being. Besides, software used for analyzing the data was SPSS version 23 and $P < 0.05$ was considered as statistically significant.

3. Results

The results showed that dimensions of QoL had a direct relationship with spirituality well-being, so that the level of physical well-being dimension was significant with total spirituality well-being ($P < 0.001$). Also, role limitations due to physical problems, physical function, and bodily pain energy/fatigue, emotional well-being, social function, general health, and mental health had a significant relationship with spirituality well-being ($P < 0.001$). (Table 1)

There was a significant positive relationship between the dimensions of life's and the spiritual well-being in the patients over 28 age group (Table 2).

Among the housewives, there was a significant relationship among spiritual and physical well-being, mental well-being, and QoL ($P < 0.001$) (Table 3).

In illiterate people, there was no significant relationship with any of the two dimensions of spiritual well-being, and those who had elementary education had stronger spirituality and QoL than those with other educational levels ($P < 0.001$) as shown in Table 4.

Mean score of Social functioning domain in females was (76.45 ± 34.78) which is more than the males score (65.29 ± 36.40; $P = 0.020$). Additionally, the score of other domains were higher among women, while no significant difference was observed. (Table 5)

4. Discussion

In the present study, the role of spirituality in the QoL of patients with AIDS/HIV was investigated and the results showed that the aspects of QoL had a significantly positive relationship with the spiritual well-being. Siah's study showed a significant difference between the use of positive spirituality in patients and their QoL ($P < 0.001$).[14]

In Lee's study, the use of positive religious beliefs was significantly related to the positive areas of life satisfaction. However, religious negative thoughts were significantly associated with a high level of depression symptoms and the low level of QoL ($P = 0.22$).[9]

It is probable that negative religious coping may be created in the crisis situation and under extreme stress which is similarly to our study.[9]

In the study conducted by Lyon, spirituality was used in the daily life of adolescents and after a period of three months; it was shown that the rate of depression arising from the disease became reduced ($P = 0.002$) and it significantly increased the QoL.[15]

In another cross-sectional study conducted by Haseli in patients with HIV/AIDS, the mean score of the patients' QoL was 48.8 ± 14. This scale showed a

Index	Spiritual health					
	Total spiritual		Religious domain		Existential domain	
	Correlation	*P*-value	Correlation	*P*-value	Correlation	*P*-value
1- Physical function	0.196	0.003	0.041	0.545	0.319	<0.01
2- Role limitations due to physical problems	0.141	0.034	–0.067	0.317	0.336	<0.01
3- Role limitations due to emotional problems	0.217	<0.01	0.092	0.171	0.304	<0.01
4- Energy/fatigue	0.527	<0.01	0.28	<0.01	0.675	<0.01
5- Emotional wellbeing	0.566	<0.01	0.397	<0.01	0.621	<0.01
6- Social functioning	0.302	<0.01	0.206	0.002	0.337	<0.01
7- Pain	0.319	0.038	–0.017	0.799	0.277	<0.01
8- General health	0.48	<0.01	0.265	<0.01	0.63	<0.01
9- Physical health	0.268	<0.01	0.044	0.511	0.45	<0.01
10- Mental health	0.509	<0.01	0.311	<0.01	0.609	<0.01

Note: QoL: Quality of life.

Table 1. The relationship between spiritual well-being and QoL dimensions.

Age groups (years)	Index	Total spiritual		Religious domain		Existential domain	
		Correlation	*P*-value	Correlation	*P*-value	Correlation	*P*-value
18–28, $n = 34$							
	1- Physical health	0.079	0.657	0.030-	0.865	0.179	0.311
	2- Mental health	0.297	0.088	0.13	0.464	0.44	0.009
	3- Total quality of life	0.228	0.195	0.064	0.72	0.372	0.03
29–39, $n = 101$							
	1- Physical health	0.175	0.08	–0.048	0.635	0.373	<0.01
	2- Mental health	0.529	<0.01	0.38	<0.01	0.545	<0.01
	3- Total quality of life	0.391	<0.01	0.183	0.068	0.513	<0.01
40–50, $n = 68$							
	1- Physical health	0.433	<0.01	0.191	0.119	0.607	<0.01
	2- Mental health	0.621	<0.01	0.382	0.001	0.748	<0.01
	3- Total quality of life	0.585	<0.01	0.316	0.009	0.755	<0.01
51–61, $n = 21$							
	1- Physical health	0.564	0.008	0.393	0.078	0.636	0.002
	2- Mental health	0.486	0.025	0.318	0.161	0.563	0.008
	3- Total quality of life	0.585	0.005	0.397	0.075	0.668	0.001

Table 2. The relationship between spiritual well-being and QoL dimension according to age group.

Occupation	Index	Total spiritual		Religious domain		Existential domain	
		Correlation	*P*-value	Correlation	*P*-value	Correlation	*P*-value
Housewives, $n=87$							
	1- Physical health	0.49	<0.01	0.287	0.007	0.602	<0.01
	2- Mental health	0.727	<0.01	0.647	<0.01	0.712	<0.01
	3- Total quality of life	0.664	<0.01	0.505	<0.01	0.721	<0.01
Self employment, $n = 112$							
	1- Physical health	0.132	0.165	–0.504	0.57	0.32	0.001
	2- Mental health	0.411	<0.01	0.186	0.049	0.552	<0.01
	3- Total quality of life	0.307	<0.01	0.076	0.428	0.491	<0.01
Employee, $n = 20$							
	1- Physical health	0.082	0.733	0.180	0.448	0.386	0.093
	2- Mental health	0.59	0.006	0.356	0.123	0.752	<0.01
	3- Total quality of life	0.333	0.152	0.034	0.886	0.628	0.003

Table 3. The relationship between spiritual well-being and QoL dimension according to occupation.

statistically significant difference in the state of employment, marital status, and history of drug use ($P = 0.05$).[16]

According to studies, spirituality can focus on improving their emotional role positive spiritual as a coping strategy represent an understanding of the sacred as a source for renewal and because patients can have a special connection with something greater in times of stress.[17]

The patients often use religion for managing their difficult situations, finding meanings, and confronting with the guilt feeling in life, creating social well-being associated with the disease and improving the life satisfaction.[18]

The relationship between the dimensions of spirituality and QoL was also obvious in terms of the individuals' age in this study; the lowest number of people was in the age group of 51–61 and this group showed a significant relationship between the physical well-being, psychological health dimension. and the spiritual well-being.

As spiritual health patients feel supported and feel not alone, they do reframing in the stress situations and

Educational level	Index	Total spiritual		Religious domain		Existential domain	
		Correlation	*P*-value	Correlation	*P*-value	Correlation	*P*-value
Illiterate, *n* = 9							
	1- Physical health	–0.157	0.687	–0.533	0.14	0.228	0.556
	2- Mental health	0.457	0.217	0.467	0.205	0.374	0.322
	3- Total QoL	0.43	0.912	–0.294	0.443	0.359	0.343
Primary, *n* = 74							
	1- Physical health	0.698	<0.01	0.594	<0.01	0.693	<0.01
	2- Mental health	0.746	<0.01	0.643	<0.01	0.729	<0.01
	3- Total QoL	0.786	<0.01	0.673	<0.01	0.774	<0.01
Secondary, *n* = 62							
	1- Physical health	0.424	0.001	0.222	0.083	0.533	<0.01
	2- Mental health	0.507	<0.01	0.33	0.009	0.583	<0.01
	3- Total QoL	0.486	<0.01	0.284	0.025	0.586	<0.01
Diploma, *n* = 46							
	1- Physical health	0.003	0.933	–0.188	0.211	0.225	0.132
	2- Mental health	0.442	0.002	0.242	0.106	0.567	<0.01
	3- Total QoL	0.275	0.064	0.033	0.825	0.49	0.001
University, *n* = 28							
	1- Physical health	–0.234	0.231	–0.414	0.028	0.08	0.687
	2- Mental health	0.35	0.068	0.04	0.841	0.633	<0.01
	3- Total QoL	0.068	0.732	–0.231	0.237	0.432	0.022

Table 4. The relationship between spiritual well-being and QoL dimension according to education level.

QoL	Mean ± SD%		*P*-value
	Men	Women	
1- Physical function	75.74 ± 27.40	79.64 ± 25.20	0.269
2- Role limitations due to physical problems	77.00 ± 27.34	83.03 ± 25.16	0.087
3- Role limitations due to emotional problems	72.05 ± 22.11	72.61 ± 22.90	0.851
4- Energy/fatigue	51.38 ± 21.30	52.36 ± 23.19	0.742
5- Emotional wellbeing	53.71 ± 21.84	53.96 ± 19.14	0.928
6- Social functioning	65.29 ± 36.40	76.45 ± 34.78	0.02
7- Pain	67.03 ± 30.02	69.86 ± 29.66	0.487
8- General health	53.12 ± 18.39	53.31 ± 17.82	0.367
9- Physical health	272.90 ± 80.51	287.85 ± 81.16	0.168
10- Mental health	242.44 ± 78.25	255.40 ± 74.80	0.207

Table 5. QoL dimension score per gender group.

they tend to be spiritual when encountered with problems that are beyond their control and knowledge, thus engage in spiritual methods.[19,20]

These results differed from the study performed Skevington because people over 40 years of age had better mental and spiritual well-being than those under 40 years of age. The level of energy/fatigue deficit for the group above 40 years (3.01) was more than that of the group <40 years (3.15). However, these results were similar to those of the Lan's study. In this study, patients over 60 years of age had a weak QoL than others (*P*-value = 0.000).[21] Olson's study showed that the older age of patients with HIV/AIDS leads to more depression and worsening of disease progression, which may also affect social, functional, and emotional aspects.[22] Thus, it can be said that in diseases that have no social stigma, such as cancer and diabetes, the older people feel more support from the community; However, HIV

patients often lose their jobs due to negative perception of collaborators.[23,24]

From another perspective, the older people are more likely to get the physical illness than younger people because the vulnerability of older people is much higher; as a result, it affects the people's QoL.[25] This is also evident in the occupation of the patients with HIV/AIDS, so that the results of the current study are similar to those of Bakiono and Mekuria, which observed that not losing their jobs is a strong point for patients and so it will also affect their QoL.[26,27]

Hicasa's study also revealed that the score of physical well-being of 74 patients with an official occupation was >50, and 14 of them received a score <50. In the mental component summary (MCS) score, 47 people had MCS ≥ 50 and 41 of them had MCS ≤ 50; the score of 34 people in the social function domain was also MCS ≤ 50. In fact, people who had no jobs and were away from the society had the lowest social functioning score,[28] and those with formal occupation had more job security than other people; therefore, they had a higher score.

Occupation affects people's QoL because employed people have more self-esteem; there are fewer chances of using drugs and high-risk behaviors among them, and their occupation motivates them.[29]

This research has shown a significant relationship in terms of the educational level of the subjects for the QoL. The results of this study were compared with those of Gebremichael's study. In this study, illiterate women had better QoL and spiritual well-being than men.[20] The Yaya's study reported in some studies that individuals with higher level of education were likely to have the lowest overall QoL score. Education allows people to have better perception of health, to follow training and improving their QoL.[30] In Osei-Yeboah et al.'s[31] cross-sectional research, the QoL increased with the increase in the level of education, so that the mean score of illiterate people with a high QoL was lower than the participants in the high school with a high QoL. The participants who had poor QoL had a higher personal spiritual belief and they selected spirituality as a means to adapt to their illness. The evidence in other studies and comparing them with the present study results suggest that patients with lower education levels experience a QoL with the help of spirituality, but accepting spiritual solutions for people with a lower education level in Iranian culture is easier; also, by increasing the level of education, the best ways of the QoL are provided by increasing the level of education.

In the Alemayehu's study, educated people had a higher QoL than other people with lower education for the mental well-being and social functioning sections.[32]

When one's knowledge is more in the field of self-care and well-being, the more cognitive and social behaviors will be.[33] In other words, people with an acceptable level of education are more likely to be present in the community and their cognitive behavior will grow better.[34]

In the current finding, the mean ± SD score for physical health was 287.85 ± 81.16 and 272.90 ± 80.51 for females and males, respectively. The mean ± SD score for the men's mental health domain was 255.40 ± 74.80, which is lower than the females score 242.44 ± 78.25.

In Mbada's study on HIV patients which compare Health-Related Quality of Life (HRQoL) and performance-based measure of Functional Capacity (PMFC) between a homogenous samples and apparently healthy controls, female participants with HIV/AIDS had significantly higher Physical-health component score (48.97 ± 8.33 vs. 53.92 ± 5.99; $P < 0.05$) while mental-health Component Score was comparable.[35]

Tesfay demonstrated Females had low scores in all HRQoL domains.[36] While our findings indicate that women can be adapted to their diseases with the help of spirituality (as a factor) and hence they have been able to improve their QoL in comparison with men. In our society, women with HIV may suffer more pain. However, they take more ways to adapt to the diseases than men.

In the context of the limitations of this study, one can point out the problem of access to all patients in the community and as sampling was performed among patients referred by the medical center, it could be an obstacle to generalizability of the results throughout the country.

This study examined the dimensions of spirituality with all the components of QoL in terms of demographic characteristics; also, it showed the importance and applicability of spirituality as a means of coping and living with a disease.

It is suggested that the staff of healthcare systems should have more presence alongside the patients and take effective measures to help this vulnerable group through the establishment of workshops and providing solutions to improve their QoL and observing the feedback.

5. Conclusions

The younger people are more vulnerable and so the spiritual care should be considered; they need more attention and training and planning is needed to improve their QoL.

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Development of Clinical Research of Nemazee Hospital and Dr. Nasrin Shokrpour for editorial assistance.

Ethical approval

The consent form was completed by the subjects under the research. The research units were informed about the goals of the research, its confidentiality of information, providing information in general and ability to discontinue at each stage of the research by the subjects under the research. After obtaining written consent, the individuals were asked to complete the relevant questionnaire in a solitary and isolated environment.

Conflicts of interest

All contributing authors declare no conflicts of interest.

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