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THE EFFECT OF IMPLEMENTING PEPLAU'S THEORY OF INTERPERSONAL COMMUNICATION ON THE QUALITY OF LIFE OF PATIENTS WITH ACQUIRED IMMUNODEFICIENCY SYNDROME

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ABSTRACT

BACKGROUND AND OBJECTIVES. Patients with AIDS face many problems, including problems related to treatment, social and family exclusion, high treatment costs, and drug complications, which affect the quality of life of these patients and change it. The aim was to determine the effect of the application of Peplau's theory of interpersonal communication on the quality of life of patients with acquired immunodeficiency syndrome.

MATERIAL AND METHOD. This quasi-experimental study was performed on 50 AIDS patients referred to Shahrekord Behavioral Diseases Counseling Center. Simple random sampling was performed and then the sample was assigned to two groups experimental and control. The theory of therapeutic communication of Peplau on patients in the experimental group was performed individually and immediately after the intervention and three months later the quality of life questionnaire was completed in both groups. In this research, the data collection tool includes a demographic information questionnaire and a WHOQOL-BREF. The WHOQOL-BREF questionnaire measures the four domains of physical health, mental health, social relationships, and environmental health with 24 questions. The chi-square or Fisher's exact test, independent T-test and analysis of variance with repeated measurements were used to compare the quality of life of patients.

RESULTS. Data analysis showed no statistically significant difference in the mean score of quality of life between the experimental and control groups before the implementation of Peplau's interpersonal communication theory (p=0.927). But after the intervention, there was a statistically significant difference in the mean score of quality of life between the two groups (p<0.001).

CONCLUSION. Findings of the study show the positive effects of using Peplau's therapeutic communication model on quality of life. Therefore, this method is recommended as an effective and cost-effective care model for all patients referred to the Shahrekord Behavioral Diseases Counseling Center.

Keywords: *acquired immune deficiency syndrome, communication model Peplau therapy, quality of life*

INTRODUCTION

Infection with HIV and AIDS disease is the most important challenge to the health system in the past twenty years. Today, in its third decade, it has become a global epidemic and threatens the world community (1). According to the statistics of the World Health Organization, in 2021 there were 38.4 million people with HIV, of which 36.7 million were adults and 1.7 million were children. 85% of them are aware of their infection with the HIV virus (2).

In addition to the mentioned statistics, these diseases have many psychological consequences. AIDS is a chronic and debilitating disease, which causes a lot of damage to the quality of life of sufferers due to physical, psychological, social stigma, and financial impacts (3). Quality of life is a multidimensional concept that definition and evaluation are still controversial. In general, health is one of the most important indicators of life quality, which may be affected by a specific disease such as AIDS. Currently, evaluating the quality of life of

people with HIV and AIDS is a vital issue (4), and improving the quality of life is one of the important goals in the treatment of these patients (5). Physical disorders have a destructive effect on all aspects of a patient's life quality. These disorders can cause psychological problems, which are evident in chronic diseases (6).

AIDS causes a lot of emotional and social pressure on patients, their families, and the health care workers these patients. These psychological stresses appear as a series of psychological reactions such as discomfort, stress and anxiety, depression, fear, isolation, suicidal thoughts, and low self-confidence (7). Considering the unfavorable physical, mental, and social conditions of AIDS patients and the occurrence of many complications in them, proper communication with these patients is considered a basic principle when providing professional nursing care. Since nursing is a practical discipline based on professional knowledge, they must use their professional knowledge to develop and improve their skills in providing clinical care (8). In this regard, the theories presented by nursing scientists can be effective.

Peplau's theory focuses on the relationship between the patient and the nurse and considers nursing as a human relationship with a specific framework. Considers interpersonal communication to be one of the effective factors in increasing the understanding and recognition of patients' needs, problems, and expectations from the process of disease control, as well as motivating and involving patients to accept responsibility and help them recover, maintain and improve their health (9).

In 1952, Hildegard Peplau, a legendary nurse theorist, introduced the theory of interpersonal communication in nursing. She argued that the goal of the nurse-client relationship is to provide effective nursing care that promotes and maintains health (10). Peplau theorized that nurse-patient relationships must pass through three phases to be successful: (I) orientation, (II) working, and (III) termination. During the orientation phase, the researcher plays the role of a stranger. This step is to familiarize the patient with the researcher and start the intervention, where the researcher briefly communicates with the patient. Nurses need to create boundaries and maintain them in all stages of the process (11). The work phase has two sub-phases: identification and exploitation. During the working phase, power is transferred from the nurse to the patient as the patient becomes more independent in personal care. During the identification stage, the nurse may assume various roles. For example, a nurse may be a caregiver – substitute parent – teacher, or counselor. During the

operation phase, in the presence of a psychologist, a care plan will be formed according to the specific needs of each patient and the issues expressed by each patient (12). In the final stage, the nurse and the patient are released from the therapeutic relationship. At this stage, the nurse organizes activities to progress toward mutual social relations (13).

Concerning the mentioned materials, the quality of life of AIDS patients is affected by the disease and their experience of social stigma, rejection, social discrimination, exclusion from family and society, worthlessness, lack of support, need for education, economic problems, spiritual needs, stress, addiction, and sexual problems which can lead to physical, psychological, and social problems. Therefore, examining their quality of life helps in providing health and social services to these patients. This study was conducted to determine the effect of implementing the Peplau interpersonal communication model on the quality of life of AIDS patients referred to Shahrekord Behavioral Diseases Center.

MATERIALS AND METHODS

The present study is a semi-experimental study that was conducted in 2019. The research population included all AIDS patients referred to Shahrekord Behavioral Diseases Center for free care and medical services .

To determine the sample size taking into account the difference between the quality of life score before and after the intervention (equal to 11), the standard deviation before and after the intervention (11.8 and 10 respectively), as well as the first and second type error (0.01 and 0.05), the minimum required sample size in each group was calculated to be 19 people (14). Considering the dropout rate, 25 people were tested in each group.

After obtaining written and informed consent, eligible patients were included in the study. In this research, the easy sampling method was used. The distribution of samples was random base on radom allocation rule. The numbers from 1 to 50 were written and each number was put inside the envelope. One of the envelopes was randomly drawn from each patient who was willing to cooperate. If the number was even, the patient was included in the control group, and if the number was odd, the patient was included in the sample group. This process continued until the sample size was complete. First, the demographic characteristics questionnaire was completed by all the people participating in the research. Then, the quality of life questionnaire was given to all the test and control groups.

The inclusion criteria for the study include: the patient must be referred to the Behavioral Diseases Counseling Center, be over 18 years old, and be able and willing to communicate. First, the patients were selected based on the entry criteria, and then they were allocated to the test and control groups by simple sampling. In this research, the data collection tool includes a demographic information questionnaire and a WHOQOL-BREF questionnaire. Demographic characteristics of the patients were obtained with ten questions about age, sex, marital status, number of children, occupation, monthly income, education, drug addiction, how the disease was contracted, and history of blood transfusion. The WHOQOL-BREF questionnaire measures the four domains of physical health, mental health, social relationships, and environmental health with 24 questions (each domain has 6, 7, 8, and 3 questions, respectively).

The first two questions do not belong to any of the domains and evaluate the health status and quality of life in general, so this questionnaire has 26 questions in total (15). After obtaining the necessary permits from the Shahrekord University of Medical Sciences and the Shahrekord Behavioral Diseases Counseling Center, while attending the center, it was first explained to the clients in simple and understandable language that we intend to conduct such a study in cooperation with the Shahrekord University of Medical Sciences and to the patients. It was assured that all the information obtained is confidential and that the names of individuals will not be mentioned at any time and place. To perform the intervention, the researcher visited the clinic and explained the goals and method of the intervention to the patients.

Before intervention the questionnaire (quality of life) was completed in two group. The intervention was implemented in 4 stages (familiarization, identification, operation and closing phase) (Table 1). All the meetings were done with prior coordination and according to the schedule of the patient's attendance at the center to receive medicine and perform tests. Related brochures and pamphlets were used according to the different needs of each patient. Immediately after the intervention and three months after the intervention, the quality of life questionnaires were completed by both groups of patients. In this study, to comply with ethical principles the control group received routine care, and after three months when the study was over, educational pamphlets were also given to the control group. The total time of intervention lasted approximately one month.

Data analysis was done using SPSS 22 software. Descriptive statistics were used to describe central and dispersion indicators such as mean and standard deviation, as well as setting absolute and relative frequency tables. The chi-square or Fisher's exact

Table 1. Schedule of intervention

Stage	Model step Duration of session	Intervention
First	Information (familiarization) One session: 30-40 minutes for every group. The intervention population was divided into 4 groups	a. introducing the researcher to the patient, b. the objectives of the research were explained to the patient, c. the patient's expectations from the care team were determined.
Second	Identification 3 session Every session 30-45 minutes	collecting the physical and mental information of each patient by encouraging them to express their feelings, by a psychologist to find mental problems caused by the disease that has affected the patient's quality of life
Third	The Operation 2 session Every session 30-45 minutes The intervention population was divided into 4 groups	a. care planning in the presence of a psychologist according to the needs extracted in the identification period, focusing on one of the areas of quality of life; b. for example:interpersonal communication release the fear of diseases augmente communication reduce anxiety.
Fourth	The terminal stage One session: 30-40 minutes for every group The intervention population was divided into 4 groups	a. the final evaluation was done based on reaching the goals; b. reviewing the flow of communication; c. examining created the emotional and behavioral changes by a quality of life questionnaire.

test was used to compare demographic variables between groups. Also, independent T-test was used to between group comparisons and analysis of variance with repeated measurements were used to compare the quality of life of patients before the intervention, immediately, and three months after the intervention in each group separately.

RESULTS

The mean age of participants was 33.1±6.7 years and most of them were male (60%), married (42%), and had elementary education (46%). There was no significant difference between the two groups in terms of demographic variables (Table 2).

The Chi-square test showed that there was no significant difference between groups in terms of infection reason (p=0.94) and addiction status (p=0.48) (Table 3).

Before the intervention, the mean quality of life was 131.28±18.27 and 131.73±15.81 in the intervention and control groups respectively without any statistical significance (p=0.93). But the mean score of quality of life immediately after the intervention was statistically higher than the control group (223.53 versus 129.73, p<0.001). Moreover, quality of life scores was significantly higher in the intervention group three months after (247.31 versus 127.03, p<0.001). Within-group comparisons also confirmed that the performed intervention leads to a significant

Table 2. Comparison of groups in terms of demographic variable

Variable	Subgroup	Intervention		Control		p-value
		Number	Percent	Number	Percent	
Age	< 20 years	8	32.0	6	24.0	0.71
	20-30 years	8	32.0	6	24.0	
	30-40 years	8	32.0	11	44.0	
	40-50 years	1	4.0	2	8.0	
Gender	Female	9	36.0	11	44.0	0.56
	Male	16	64.0	14	56.0	
Marital status	Single	9	36.0	7	28.0	0.49
	Married	11	44.0	10	40.0	
	Divorced	5	20.0	6	24.0	
	Widow	0	0	2	8.0	
Education	Illiterate	6	24.0	5	20.0	0.91
	Elementary	11	44.0	12	48.0	
	Diploma	6	24.0	7	28.0	
	Graduate	2	8.0	1	4.0	
Monthly income	< 80 $	15	60.0	12	48.0	0.68
	80 $- 120 $	9	36.0	12	48.0	
	120 $- 160 $	1	4.0	1	4.0	

Table 3. Comparison of infection reason and addiction status between groups

Variable	Subgroup	Intervention		Control		p-value
		Number	Percent	Number	Percent	
Infection reason	Shared syringe	9	36	9	36	0.94
	Sex	7	28	7	28	
	Injecting contaminated blood	8	32	7	28	
	Vertical transfer	1	4	2	8	
Addiction status	Addicted	21	84	19	76	0.48
	Not addicted	4	16	6	24	

Table 4. Comparison of quality of life between group

Time	Intervention		Control		p-value
	Mean	SD	Mean	SD	
Before	131.28	18.27	131.73	15.81	0.93
Immediately after	223.53	29.42	129.73	16.51	<0.001
Three months after	247.31	32.45	127.03	17.22	<0.001
P-value	<0.001		0.20		

Table 5. Pair-wise comparisons of quality of life in each group

Group	Comparison	Mean difference	Standard error	p-value
Intervention	Before and immediately after	92.25	26.03	0.001
	Before and three months after	116.03	33.14	0.001
	Immediately after and three months after	23.78	31.43	0.001
Control	Before and immediately after	-1.99	7.30	0.19
	Before and three months after	-4.69	9.12	0.05
	Immediately after and three months after	-2.70	7.44	0.08

increase in the quality of life scores (131.28 versus 223.53, p<0.001) (Table 4).

LSD test showed that all the pairwise comparisons were statistically significant in the intervention group (p=0.001), but no significant difference was observed in the control group (Table 5).

Also, the results of the study showed that in the dimensions of physical health, mental health, social relations, environmental health, general health, and self-efficacy, the case group scored higher than the control group.

DISCUSSION

The findings showed that there was no statistically significant difference between the two test and control groups in terms of demographic variables that could affect the results of the study, and the two groups were homogeneous to these variables. At the beginning of the study, there was no significant difference between the two groups in quality of life scores (p=0.927), but the nursing intervention based on Peplau's theory of interpersonal communication resulted in elevated quality of life score (p<0.001). However, there was a significant difference in the changes in the quality of life score in the two groups, so the average change in the intervention group was 11.6 units and in the control group it was 4.6 units. Other studies confirm this result.

In 2012, Monteiro et al., investigated the factors that improve and weaken the quality of life as a prospective study (16). Although this research is not consistent with our research in terms of the study method and the number of people tested, the results of this study, like the current research, point to the positive effect of social communication on improving the quality of life.

In 2010, Basavarj et al., investigated the relationship and complexity of physical, psychological, and social factors as determinants of health-related quality of life (17). According to the results of this research, the impact of this disease on quality of life has emerged as a fundamental issue for infected people.

The study of Najomi et al., showed that patients with acquired immunodeficiency syndrome have an unfavorable situation in all areas of quality of life (18). Good communication with patients has an important effect on the satisfaction of these patients during the entire nursing care, as well as the correct and principled provision of nursing care using of effective communication skills, an essential and inseparable part of the nursing profession and one of the important tools of nurses to support patients and their family members. Communication skills are an important element in nursing care and nursing education. Meanwhile, effective communication is the most important factor in maintaining quality nursing care. The weakness in communication with patients can cause problems such as lack of access to important patient information, failure to correctly identify and diagnose patients' problems, misinterpretation of patient information, and creating a lack of trust between patients and health care providers, as well as stress in patients.

After studying in the case group and providing training and education related to the needs of patients problems related to social stigma, rejection, social discrimination, exclusion from family and society, worthlessness, lack of support, need for education, spiritual needs, stress, addiction and sexual problems had decreased to some extent. The family tried to understand more of the patients and also received the necessary training in relation to taking care of themselves and others.

Considering that in Iran, a specific nursing model is not used for the care of patients with HIV. According to the results of this study implementation the program based on the Peplau therapeutic communication model in patients with acquired immunodeficiency syndrome has the ability to be implemented, and the comprehensive and very good cooperation of patients and their families leads to positive results. The results of this research will help in clarifying the role of nurses and their potential abilities to provide effective solutions in improving the quality of life of patients in all dimensions.

CONCLUSION

According to the results of the present study, it can be seen that the implementation of Peplau's nursing theory has a positive effect on the quality of life of patients with acquired immunodeficiency syndrome. Therefore, it is suggested that this model be used by nurses to improve the quality of life of patients with acquired immunodeficiency syndrome and other chronic patients, and also as a framework for communicating with patients in different departments of the hospital in identifying and solving their problems.

Conclict of interest.

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