

The effect of Benson's relaxation method on hemodialysis patients' anxiety.

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Abstract

Introduction: Hemodialysis is one of treatments for patients with renal failure which leads to numerous psychotic and social problems in addition to mental disorders. The aim of this study is to examine the effect of Benson's relaxation method on hemodialysis patients' anxiety.

Materials and Methods: It is a clinical trial study carried out in Imam Ali and Khatam Al Anbia hospitals of Zahedan. 105 hemodialysis patients who had the study inclusion criteria were selected and divided into two groups of relaxation method and control. Data gathering tools included demographic information form, Spielburger anxiety evaluation questionnaire and Benson's relaxation registration checklist which were filled out two times before and after the intervention. Benson's relaxation practice has been done for four weeks, twice a day and each time for 15 to 20 minutes. Having gathered the data, they were analysed using SPSS statistical software version 16, k² test, paired sample t-test and ANOVA.

Results: The mean of hidden and obvious anxiety marks changes showed a significant difference after intervention in relaxation group (P=0.001) but it was not significant in control group. The mean of total anxiety marks also did not show a significant difference after the intervention than before it in relaxation group based on paired sample t-test (P=0.001).

Discussion: Results of the study showed that using those non-pharmacological methods confirmed by nurses like Bensons relaxation can be effective for declining and controlling hemodialysis patients' anxiety. The researcher recommends the nurses to pay more attention to Banson's relaxation method as a simple, cheap and effective one while taking care of the patients.

Keywords: Banson's relaxation, Hemodialysis, Anxiety.

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Introduction

Renal failure is considered of those diseases which includes the kidney inability to maintain liquid and electrolyte balance. Having considered its chronic nature, it affects patients' psychotic conditions in addition to its physical side effects [1,2]. Renal failure prevalence has been reported 350 cases out of 1 million individuals per year [3]. Its prevalence rate and incidence are at the last stage. Alternative treatments have increased from 49.9 for 1 million in 2000 to 63.8 for 1 million in 2006 [4]. There are 22000 hemodialysis patients in Iran according to statistics in 1393 and 20% is added to it annually [5] while its universal standards are 5 to 10% [6,7].

Available renal failure treatments methods include kidney transplantation, hemodialysis and PD [1,2] while they provide survival for the patients, they are stressors for them and affect their physical, mental and social performance [8]. Hemodialysis is the most common treatment method for chronic renal failure patients [2,9] which are a stressor. It imposes economic burden on society, pave the way for mental disorders in addition to many psychological and mental problems [10,11]. It is believed that these patients due to

chronic stress of the economic burden of disease, diet restrictions, performance restrictions, chronic related diseases, drugs undesired complications, change in self-understanding and fear of death are more prone to emotional problems [2,11] like insomnia, anxiety, anger, depression, denial, non-cooperation, physical complications stress, ineffectiveness and fear of death which affect their quality of life [12,13]. According to the carried out studies insomnia [14,15] and anxiety [16,17] are the most common of these emotional problems. Studies have shown that anxiety is one the common reported problems among the patients with chronic hemodialysis and its prevalence are from 45 to 89 [18-20]. Results of the study of Nazemian showed that half of hemodialysis patients (51.4%) had state anxiety and (49.7%) had trait anxiety [21]. Cukor reported that anxiety disorder of final renal failure stage patients is two times more than mean of general anxiety so it is emphasized to diagnose and cure anxiety for these patients [22]. Winkelmayer study also showed that taking anti-anxiety drugs (Benzodiazepines) have increased mortality among hemodialysis patients by 15% [23] therefore anxiety prevalence has been reported high among hemodialysis patients but its level is different. Klaric reported

that hemodialysis patients have a very high anxiety level compared to other chronic disease patients' especially ordinary people [24], thus nurses should be able to examine patients anxiety, prevent it and its side effects.

Some of anxiety control methods [25,26] for these patients are pharmacological and non-pharmacological ones. The common method of using chemical drugs against hemodialysis complications first is not related to nurses' responsibility and second they are dangerous.

Although taking drugs is the common treatment against anxiety, their side effects and temporary effect has led to researches related to non-pharmacological treatments or complementary alternative medicine which most have less side effects or can be used alone or simultaneously with other methods. If these method are combined, their treatment ability will increase [27,28], nurses can also use them. One of these interventions which have been used in different studies on patients is Benson's relaxation method [29,30] which is one of the effective ways to decrease hemodialysis patients anxiety. Benson's relaxation is one of the effective non pharmacologic methods and also one of the best muscle relaxing ways [31]. It creates balance between anterior and posterior hypothalamus, decreases sympotic nervous system and secretion of catechol amine which lessens muscular tension and undesired body physiologic effects [7,28,31,32]. Totally considering numerous hemodialysis patients who are ineluctable to undergo long term hemodialysis, their nursing care is of great importance. Their dependence on hemodialysis and changes or restrictions which exist in their life like fatigue, anxiety, sleep disorders make their treatment difficult moreover causes more complicated problems like incompatibility for them. Relaxation is weak in common nursing cares in Iran. Few studies have been carried out on the effect of relaxation on patients anxiety so we decided to do a comprehensive research to examine the effect of Benson's relaxation method on hemodialysis patients anxiety with regard to stated musts, anxiety control importance from different perspectives and verification of various resources about inadequacy of pharmacologic treatments on anxiety control and the necessity to have control plans therefore it can be used as a safe, cheap, simple non-aggressive method in nursing cares if effective. Finally increasing renal failüre patients' awareness of cares lessens treatment costs and economic burden of society or patients problems and paves the way for further researches.

Materials and Methods

This is a random witnessed clinical trial study which was carried out in 1394. Its population included hemodialysis patients in Khatam Al Anbia hospital And Imam Ali in Zahedan. Sample size was estimated based on carried out researches on similar cases [7] for the difference of anxiety and fatigue mark in two groups.

26 samples in each group were estimated to be examined but 35 persons in each group were estimated due to reduction. Patients were divided into two groups randomly using lottery

according to referring days of the week, then every day or shift of the hospitals was given randomly (head or tail) to group A (relaxation method), group B (Control). First every group was assigned a number and one of the numbers was taken using lottery so group A was formed. Later lottery was done between two remaining groups to choose group B. Finally lottery was done between one of the first or the second groups and group C to execute intervention according to the research plan. We consider age and sex factors to assimilate the samples. Having determined samples in groups using simple random method, two groups were analysed according to sex and age before instructional and pre-test sessions. Groups' assimilation was confirmed regarding age and sex. Only those patients who were 20 to 60 years old and had an active file in hemodialysis ward in addition to ability of relaxation entered the study. One of the important entrance criteria was achieving anxiety mark from 32 to 64 for obvious anxiety and 32 to 62 for hidden anxiety bases on Spielburger anxiety scale and those who had low, high and very high anxiety were not included in this study.

Data gathering tools in this study included research credit selection list, disease and personal information questionnaire, Spielburger hidden and obvious anxiety questionnaire and relaxation registration checklist. Demographic data and illness list was registered using interview and file registration in two sections.

A: personal information of research units which included age, height, sex, weight ,marital status, children numbers, job, education and residence.

B: illness status which included dialysis duration, blood test results and those data related to patients anxiety and fatigue point.

Spielburger hidden and obvious anxiety is the standard tool for measuring anxiety, which was designed and published by him. It has forty phrases related to obvious and hidden anxiety scale which includes twenty likerts' scale multiple choice questions. Research unit was used to determine obvious and hidden anxiety rate which assesses the anxiety as an attribute and status. Tested persons have to state their emotions at the time of filling the form while answering obvious anxiety scale. They should mention their usual emotions while answering hidden anxiety scale. The questionnaire reliability has been confirmed by Spielburger, Quick, Mahram and Nazemian [21,33,34] and it has been used in various researches in Iran and overseas [7,35-39]. Its reliability was R=89% in Nazemian's study using test re-test method for hemodialysis patients in Mashhad and it has been 0.91% and 0.90% based on Cronbach Alpha for attribute and status anxiety scale in Mahrams study respectively [21,33]. Relaxation registration checklist was filled by research units during one month. They reported the date, time and duration of relaxation. Relaxation registration checklist has been used in many researches [40]. Those patients who had the qualification were selected and entered the study.

Intervention group patients in three 60 minutes sessions (each group separately) at the time of referring to hemodialysis

wards were instructed how it is done in groups. The patients were also individually instructed sampling before, during and after the dialysis in the first week. Having coordinated with ward supervisor, Relaxation method training was done in a separate room which was assigned for patients rest. Training contents included questions and answers about benefits of the method and scientific show of the technique. The audio file of Benson's relaxation and the instructional pamphlet of doing Benson's relaxation were given to intervention group for better learning and using it in home. During the study patients were emphasized to perform Benson's relaxation method two times a day for 15 to 20 minutes in addition to four weeks in dialysis ward and home [29,41]. Daily relaxation registration checklist was given to this group after explanations. Calls and patients presence on days of dialysis were used to ensure the performance of relaxation technique. Only common cares of hemodialysis ward was performed for control group and no intervention were performed for them.

Data analysis method

Data were entered to SPSS 16 statistical software using the following methods:

To describe the attributes of research units in both groups descriptive statistics like mean and SD for quantitative

variables, frequency distribution for qualitative ones, even t-test, independent t-test and one sided variance analysis were used for results analysis.

To determine the normality of the data we used colmogroph Smirnov or Shaapirovilcz. Other parallel non parametric methods were used if data were not normal. Co-variance analysis method was applied to control confounding variables.

Results

Mean age of research units was 42.73 ± 12.16 which were in age range from 20 to 60. Results of one sided variance showed that there is not a significant statistical difference between two groups regarding age ($P > 0.05$). 59 men (56.19%) and 43 women (43.8%) were in two groups. Number of men and women were almost the same in relaxation group but in control group men (68.57%) comprised the majority of research units. 81 persons (77.14%) of research units were married so that married persons frequency per cent was (74.3%) in relaxation group and (80%) in control group. Considering the first purpose of this study according to even t-test, mean of obvious anxiety changes point did not show a significant difference after intervention than before the intervention in two relaxation groups ($P = 0.001$) but it is not significant in control group.

Table 1. Comparison of mean and SD of obvious anxiety mark changes, before and after the intervention in two groups according to one sided variance.

Group	Before intervention	After intervention	Paired sample t-test	P value	Mean of marks changes
Relaxation	46.79 ± 8.85	35.68 ± 5.88	-10.735	0.001	-11.10 ± 5.56
Control	43.80 ± 6.41	41.80 ± 7.99	-1.433	0.164	-2.00 ± 7.11
One sided variance analysis	P=0.185	P=0.001			P=0.001

Data are presented as mean ± SD.

Table 2. Comparison of mean and SD of hidden anxiety mark changes before and after the intervention in three groups of study according to one sided variance analysis.

Group	Before intervention	After intervention	Paired sample t-test	P value	Mean of marks changes
Relaxation	5.31 ± 7.43	45.48 ± 4.80	-6.844	0.001	-7.82 ± 6.15
Control	50.64 ± 7.44	49.96 ± 6.36	-0.665	0.512	-0.68 ± 5.11
One sided variance analysis	P=0.085	P=0.01			P=0.01

Data are presented as mean ± SD.

Considering the second purpose of the research, There is a significant difference between mean of obvious anxiety mark changes after the intervention than before it in relaxation group according to paired sample t-test ($P = 0.001$) but it is not significant in control group. The mean of obvious anxiety mark

changes has been significantly higher in relaxation group than the control group based on one sided variance analysis (Table 1). Considering the third purpose of the study, there is a significant difference between the mean of total anxiety mark

after intervention than before it based on paired sample t-test ($P=0.001$) but it is not significant in control group.

Table 3. Comparison of mean and SD of total anxiety mark changes before and after the intervention in three groups of study according to one sided variance analysis.

Group	Before intervention	After intervention	Paired sample t-test	P value	Mean of marks changes
Relaxation	100.42 ± 15.5	83.8 ± 10.5	-10.0	0.001	-16.61 ± 8.45
Control	98.9 ± 10.1	91.9 ± 13.3	-2.5	0.02	-6.78 ± 12.95
One sided variance analysis	P=0.112	P=0.007			P=0.001

Data are presented as mean ± SD.

Discussion

Results of this study showed that the mean of obvious and hidden anxiety marks in Benson's relaxation group has declined significantly than before the intervention. Obvious and hidden anxiety has decreased at the end of the fourth week than before the intervention (-11.1 ± 5.56) and (-7.82 ± 6.15) respectively (Tables 1 and 2). The difference of before and after the intervention had been significant for both obvious and hidden anxiety also it has been more prominent in obvious anxiety than the hidden anxiety (Table 3). Some of the studies which confirms this point are Gorji et al., the effect of applying Benson's relaxation method on hemodialysis patients: changes in stress, anxiety and understanding pain [30], Torabi et al., the effect of Benson's relaxation method and pressure massage on patients anxiety before kidney transplantation [41], Moghadam et al. the effect of Benson's relaxation on anxiety of patients waiting for heart catheterization [42] and Noori et al., the effect of reflective massage and Benson's relaxation method on hemodialysis patients anxiety [36].

Having examined the abovementioned studies, the study of Gorji et al., indicated the anxiety level decrease in Benson's relaxation method at the end of fourth week and he believed that decrease of anxiety and stress can relax the patients or be used in treatment or prevention of chronic diseases [30]. Probably the reason of compatibility of this study with the present study is using similar effective Benson's relaxation method regarding four key main stress eliminating elements. Results of the study of Torab et al., showed the decrease of patients' anxiety level who undergo Benson's relaxation or pressure massage but in witness group two times measures anxiety level was not significantly different with an interval of 30 minutes before the operation [41]. Probably the reason of this study compatibility with ours is applying Benson's relaxation method effectively, although the relaxation method technique is different in these two studies. Benson's relaxation method has been used for 20 minutes a day before kidney transplantation and only one time for evaluating patients' anxiety during the study. The results of Moghadam et al., also showed that Bensons' relaxation method decline the anxiety level of patients waiting for catheterization. The mean of anxiety have had a significant difference (-2.36) after

relaxation but in witness group anxiety level have had a considerable increase instantly before catheterization compared to their level of anxiety one hour before it [42]. Probably the reason of this study compatibility with our study is applying the effective method of Benson's relaxation although there are some differences in doing relaxation technique in these two studies. Zakeri measured and registered the anxiety one hour before the catheterization and 20 minutes after doing Benson's relaxation. The accurate comparison of anxiety level decline among our study with studies of Gorgi, Torabi and Moghdam is not possible due to different anxiety evaluation tools. Results of the study of Noori et al., showed by comparing the mean of anxiety before and after every four intervention separately among massage, relaxation and witness group using one sided variance analysis that this difference is not significant before every intervention but after every four intervention it is significant. The mean of anxiety level after every four intervention indicates the effectiveness of massage and relaxation method on patients' anxiety level decrease which is compatible with the present study results [36]. In the above mentioned study Benson's relaxation method has been used for 20 minutes before the stomach operation day and only one time during the study to examine patients anxiety while in the present study this technique has been used for 15 to 20 minutes two times a day and during one month. Having examined carried out researches, no available studies which had incongruous results with Benson's relaxation were found.

Having considered the total findings of result, research hypothesis based on the mean of hemodialysis patients' anxiety level mark changes is different in groups of Benson's relaxation and control before and after the intervention is accepted. The results show that:

The mean of hemodialysis patients' anxiety level mark changes was significantly higher in relaxation method group than the other group after the intervention. It can be concluded that results of the present and almost other similar studies indicates the effect of Benson's relaxation method on patients' anxiety level decrease. A difference in fatigue or anxiety level is sometimes observed in other studies or usefulness of these methods on anxiety is not shown; the reason of these differences may be searched among the effect of various

factors like intervention duration, method, dose or density of essence, few samples, evaluation tool, enough sensitivity of tool, education, age and psychotic factors which makes the difference in results of these studies.

At last the using Bensons relaxation method is recommended for similar clinical conditions to control patients' anxiety.

Having considered the general purpose of this study (the effect of Banson's relaxation method on hemodialysis patients' anxiety level) its Results and findings showed that Benson's relaxation method can effectively reduce the anxiety of these patients. It can also be said that anxiety level in control group had been almost unchanged due to not receiving non-pharmacological or complementary treatment to reduce or eliminate anxiety which indicates the importance of non-pharmacological or complementary treatments to reduce or eliminate anxiety. This study recommends Benson's relaxation method as a preferred non-pharmacological treatment regarding the high prevalence of anxiety and its side effects. It is a distinct prospect for using complementary medicine by nurses who take care of patients. They are one of the most important members of medical staff who have a critical role to protect and maintain the body and mind of patients. Some of their most important duties are examining and observing patients' verbal and non-verbal behaviours and determining their anxiety level also the most important purpose of medical team is saving patients' lives or minimizing the complications after and before the hemodialysis.

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