



## Relationship between Spirituality and sensation seeking with tanatophobia in hemodialysis patients

Ghasem Askarizadeh<sup>1</sup>, Mohammad Reza Babaei<sup>1</sup>, Mahsa Karamoozian<sup>2</sup>

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### Original Article

1. Department of Psychology, Faculty of Literature and Humanities, University of Shahid Bahonar, Kerman, Iran

2. **Correspondence to:** Department of Psychology, Institute of Neuropharmacology, Neuroscience Research Center, University of Medical Sciences, Kerman, Iran  
Email: karamoozian@gmail.com

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### Abstract

Patients are exposed to stressors such as death anxiety despite the effectiveness of hemodialysis in renal failure. The aim of this study was to investigate relationship between spiritual well-being and sensation seeking with death anxiety in hemodialysis patients. The statistical population included 215 hemodialysis patients in 2013 that 138 patients were selected by the convenience sampling method. Data was collected by using spiritual well-being scale, zuckerman's sensation seeking scale and templer death anxiety scale. Data analysis showed that there was statistically significant reverse relationship between sensation seeking and its components with death anxiety as well as between spiritual well-being and its components with death anxiety. The findings indicated significant relationship between sensation seeking and spiritual well-being with death anxiety. Regression analysis showed that predictive variables explain 22% of the variance of death anxiety. Therefore it can be concluded that efforts to promote spiritual well-being and sensation seeking of patients can have important role in reducing their death anxiety.

**Keywords:** Hemodialysis, Spirituality, Tanatophobia, sensation seeking

### Introduction

Today, chronic kidney failure is one of the chronic diseases which have become extensively prevalent in modern societies. It was major reasons of disability and death in global scale and requires to be earnestly addressed by kidney transplant, rehabilitation and training [1].

Chronic and disabling diseases have various psychiatric consequences so the emergence of psychiatric disorders is common in following of physical problems. Chronic kidney failure

refers to malignant and irreversible downturn of renal operation. The chief medication of kidney failure is dialysis and finally kidney transplant [2]. Dialysis is the last medication prescribed for the patients with suffering from acute and chronic irreversible renal failure [3]. According to the latest statistics released by the office of transplant and special diseases of Iranian ministry of health and medical education there are nineteen thousand dialysis patients in the Iran and every year forty

thousand new patients of renal failure join them [4]. Dialysis cannot repair all metabolic damages which caused by the kidney failure so it causes stress in them [3]. Furthermore, mental and behavioral disorders are consequences of hemodialysis [5]. According to the results of the trial conducted by Mullahadi et al. [2], 63.9% of the dialysis patients are suffering from severe sense of anxiety and 51.7% of them are chronically suffering from stress.

Types of anxiety are classified based on their origins. Death anxiety is one of the most important types of anxiety. It is defined as extraordinary and strange dread that is triggered when one's thought focuses on the very phenomenon of death as well as its text, context and aftermath. Since death has never been experienced by anyone and nobody has ever touched it so everyone becomes agitated whenever it is discussed [6]. Moreover, death anxiety is multidimensional structure pertaining dread, expectation anxiety and consciousness of the reality of dying and death that contains the motivational, cognitive and emotional constituents and changes by means of growth stages as well as the events of socio-cultural life [7].

The patients under hemodialysis are continuously agitated by the dread of death due to their stressful conditions [8]. There are various qualities and factors in relation to death which could either prepare the ground for the acceptance of this unavoidable reality or contrarily cause unmanageable levels of stress and anxiety regarding the reality. Spiritual wellbeing is those variables that present better understanding of this situation. Spiritual wellbeing represents mode of health that expresses one's positive emotions, behaviors and knowledge as regards oneself, the other, nature and supreme being [9].

Many researches have shown that spiritual wellbeing anticipates more mental and psychological health and less psychiatric agitation and death anxiety [10-15]. Any type of disorder in one's health and spiritual wellbeing can cause psychological agitation, emotional instability, stress and losing one's

meaning of life. Furthermore, there are numerous studies that support the hypothesis which spiritual wellbeing can promote one's techniques of coping with the difficulties, internal structures of person's body and it has meaningful correlation with such variables as psychological health, sensation welfare, life satisfaction and the quality of life [16-18].

Another variable of this research is sensation seeking. Sensation seeking is temperamental and personality-related variable which has biological basis and reflects personal differences in various stages of excitation. Sensation seeking is function of one's excitation capabilities. An individual with high degrees of sensation seeking prefers continuous brain stimulation. That person gets bored with the routine tasks and always seeks to heighten his own sensation by engaging himself in exciting experiences. An individual who is less sensation seeking prefers lower degrees of cerebral stimulation and can comparatively better endure the routines of life. Generally, the structure of sensation seeking is function of the change that requires one's central nervous system [19]. Zuckerman has shown that the degree of Monoamine Oxidase (MAO) has negative relationship with sensation seeking. Accordingly, the hyper-sensation-seeking people are lesser degree of MAO while the hypo-sensation-seeking have higher degree of MAO. In his studies, Zuckerman has also discussed the effect of hormones on sensation seeking. The study on hormonal activities of cortisol showed that this hormone has negative correlation with sensation seeking. To state the matter otherwise, these hormones are lower in the hyper-sensation-seeking persons and the decrease in cortisol good accounts for the fact that why the sensation seeking individuals are less suffering from agitation. Probably the lowness of their excitation makes them rather fearless. Thus one can imagine how the changes in cortisol degrees will impress the physiological systems including urinary tracts and renal activities.

Due to the importance of the notion of death anxiety in offering healthcare services to the

patients, this notion has been included among North American Nursing Diagnosis Association (NANDA) as nursing diagnosis [21]. Thus since the number of patients suffering from chronic renal failure is increasing and many psychological problems in hemodialysis patients and also no dependable research has been conducted to investigate relationship between spiritual wellbeing, sensation seeking and death anxiety among Iranian hemodialysis patients so we have devoted this research to the latter subject-matter.

### Method

This study is an analytical research. The statistical population included 215 hemodialysis patients of Kerman city in 2013 that they referred to four dialysis centers (Shafa hospital, Afzalipour hospital, Javad al-Aemme medical center, and Specific disease center). Based on Cochran formula, the total numbers of 138 patients were selected by using convenience sampling method. Inclusion and exclusion criteria include patient's interest in participating in the trial, suffering from the chronic progressed renal failure, having at least 6 months record of hemodialysis and lack of acute psychological disorder.

The data collection tool was consisting of three questionnaires:

*Spiritual Well-Being Scale (SWB)*: This scale was developed by Paloutzian and Ellison in 1982 and consists of 20 items and two subscales. Pearson's items are related to the spiritual well-being subscale and evaluate the rate of satisfactory relationship with God and items are about the existential well-being subscale measures the sense of purposefulness and satisfaction with life. Items are ranged six-degrees Likert from strongly agree to strongly disagree [22]. Paloutzian and Ellison reported Cronbach's alpha coefficient of religious well-being, existence, and total scale 0.91, 0.91, and 0.93 respectively [22]. Dehshiri and colleagues in a study on boy and girl university students reported through Cronbach's alpha for the total scale and subscale religious well-being and existential well-being subscale 0.90, 0.82,

and 0.87 respectively and with retest method was 0.85, 0.78, and 0.81. In this research the validity of scales has been assessed based on the scores of happiness, religiosity and mental disorder which are reported satisfactory [23]. In this research Cronbach's alpha has been calculated for total scale as 92% while its percentage for religious and existential semi-measures are 86% and 88% respectively.

*Zuckerman's Sensation Seeking Scale*: this scale has six different forms. In this study, the fifth form was used. This scale is consisted of four subscales; excitement and adventure, experience seeking, inhibition wiping and hating monotony. It has forty categories in two parts. Components of every test material are separated and recognized from each other by A and B elements, so that patients can respond to component of every substance [24]. The validity and reliability of this questionnaire has been approved by Hosseini [25] with high and desirable rate of 98%. In this research questionnaire's reliability according to Cronbach's alpha was 84%.

*Templer Death Anxiety Scale*: This scale is developed by Templer in 1970 and has had the most usage in its own kind. This scale has 15 items with True and False options and total scores was ranged from one to fifteen which higher scores indicate higher death anxiety [26]. Validity and Reliability of this scale in Iran and have reported reliability coefficient with 0.6 and internal consistency coefficient 0.73 [27]. In this research scale's reliability according to Cronbach's alpha was 78%.

The data was analyzed by Pearson correlation coefficient and regression analysis with SPSS-18.

### Results

In this study, a total of 138 dialysis patients were enrolled and they completed scales. All participants in this study responded to measures and none of them were excluded. In this study, 81 patients were women (%58.7), 57 patients were men (%41.3), and 15 patients were less than 50 years old (%10.8), and 123 patients (%89.2) were more than 50 years old.

**Table 1** Kolmogorov-Smirnov test to evaluate the normality assumption of variables

| Variable             | Kolmogorov-smirnov test | p     |
|----------------------|-------------------------|-------|
| Spiritual well-being | 0.768                   | 0.597 |
| Death anxiety        | 1.41                    | 0.066 |
| Sensation seeking    | 1.05                    | 0.221 |

As above Table, Kolmogorov-Smirnov test was used to evaluate the normality of variables distribution. According to the issue that meaningfulness test for the three of variables was

obtained ( $\alpha=0.05$ ) so this means that all the research's variables have normal distribution. As a result, Pearson's correlation test can be used to evaluate the relationship between variables.

**Table 2** Statistics of pearson correlation test for evaluation of relationship between spiritual well-being and sensation seeking with hemodialysis patients' death anxiety

| Variable             | Death anxiety           |                |     |       |                   |
|----------------------|-------------------------|----------------|-----|-------|-------------------|
|                      | Correlation coefficient | r <sup>2</sup> | N   | p     | Relationship type |
| Sensation seeking    | -0.174                  | 0.03           | 138 | 0.041 | Reverse           |
| Spiritual well-being | -0.326                  | 0.106          | 138 | 0.001 | Reverse           |

Table 2 shows that sensation seeking correlation coefficients and spiritual well-being with patients' death anxiety is equal to  $-0.174$  and  $-0.326$  and value of P (meaningfulness) is equals to  $-0.041$  and  $0.001$  which is smaller than meaningfulness level ( $\alpha=0.05$ ) so

assumption of lack of relationship was rejected and spiritual well-being and sensation seeking have significant relationship with dialysis patients' death anxiety. Negative correlation coefficient indicates an inverse relationship between these variables.

**Table 3.** Pearson's correlation test for evaluation of relationship between spiritual well-being, sensation seeking and their proportions with hemodialysis patients' death anxiety

| Variable Statistical indicators | R      | N   | p     | Relationship type reverse |
|---------------------------------|--------|-----|-------|---------------------------|
| Existence well-being            | -0.50  | 138 | 0.001 | Reverse                   |
| Religious well-being            | -0.303 | 138 | 0.001 | Reverse                   |
| Seeking experience              | -0.314 | 138 | 0.001 | Reverse                   |
| Adventure                       | -0.216 | 138 | 0.011 | Reverse                   |
| Boredom                         | -0.289 | 138 | 0.001 | Reverse                   |
| Inhibition                      | -0.282 | 138 | 0.001 | Reverse                   |

As Table 3, data analysis for spiritual well-being' sub-scales shows that coefficients of existential well-being correlation and religious with hemodialysis patients' death anxiety is equal to  $-0.50$  and  $-0.303$  and value of P (meaningfulness) is equal to  $0.001$  and  $0.001$  which is smaller than the significant level ( $\alpha=0.05$ ) so at this level the assumption of lack of relationship is rejected and consequently religious and existential well-being have significant relationship with death

anxiety in hemodialysis patients. Negative correlation coefficient indicates an inverse reverse relationship between these variables. Also, data analysis for sensation soakings' sub-scales shows that seeking experience correlation, adventure, boredom, and escape form inhibition with hemodialysis patents' death anxiety is equal to  $-0.314$ ,  $-0.216$ ,  $-0.289$  and  $-0.282$  and the P value (meaningfulness) is equal to  $0.001$ ,  $0.011$ ,  $0.001$ , and  $0.001$  which

is smaller than significant level ( $\alpha=0.05$ ), so at this level assumption of lack of relationship is rejected and consequently seeking experience, adventure, boredom, and escaping from

inhibition have significant relationship with patients' death anxiety. Negative correlation coefficient indicates reverse relationship between these variables.

**Table 4** Analysis of variance of hemodialysis patients' death anxiety prediction regression model through spiritual well-being and their sensation seeking

| Source of changes | Sum of Squares | Mean of Squares | DF  | R     | R <sup>2</sup> <sub>adj</sub> | F value | P     |
|-------------------|----------------|-----------------|-----|-------|-------------------------------|---------|-------|
| Regression        | 387.17         | 193.59          | 2   |       |                               |         |       |
| Remaining         | 1269.21        | 9.402           | 135 | 0.483 | 0.22                          | 20.59   | 0.001 |
| Sum               | 1656.38        |                 | 137 |       |                               |         |       |

As it can be seen in Table 4, according to calculated p-value (0.001) is smaller than significant level 0.05 so at this level, H0 is rejected and the linear regression model is significant which it means there is significant linear relationship between spiritual well-being and sensation seeking with hemodialysis patients' death anxiety. Multiple correlation coefficient

R=0.483 which represents the level of spiritual well-being simultaneous relationship and sensation seeking with hemodialysis patients' death according to significant level (0.001). Therefore, this relationship is significant since the R<sup>2</sup><sub>adj</sub> is equal to 0.22. So, the entered variables in this model 0.22 variance explain death anxiety in hemodialysis patients.

**Table 5** Coefficients of regression model to predict through their spiritual well-being and sensation seeking

| Variable             | Estimate B | Standard estimate $\beta$ | Scale Error | Value of t | p     |
|----------------------|------------|---------------------------|-------------|------------|-------|
| Stable               | 18.72      | -                         | 2.022       | 9.26       | 0.001 |
| Spiritual well-being | -0.124     | -0.453                    | 0.021       | -5.92      | 0.001 |
| Sensation seeking    | -0.072     | -0.108                    | 0.051       | -1.41      | 0.161 |

Also, according to the P value, calculated using regression model coefficients test H01, (spiritual well-being) at 0.05 level is rejected but H02, (sensation seeking) at the level of 0.05 is not rejected, because according to the value of t statistics that is equal to -5.92 for spiritual well-being with 0.001 significant level. Therefore, the anxiety of death in hemodialysis patients is different according to level of their spiritual well-being and due to the  $\beta$  amount for spiritual well-being which is equal to -0.453. Consequently, patient' spiritual well-being along with the excitement is able to predict their death anxiety in meaningful method, but excitement seeking cannot predict death anxiety in hemodialysis patients at the same time (Table 5).

### Discussion

The present research has been conducted to determine the relationship between spiritual wellbeing, sensation seeking and death anxiety among hemodialysis patients. The research findings showed that there is significant negative relationship between the spiritual wellbeing and death anxiety because those who enjoy spiritual wellbeing consider death as natural process of human life. For these individuals, death provides source of meaning. Thus conceived and death's consciousness of unavailability is existential crisis which informs necessity of finding source of meaning for individual as well as accepting the reality of death instead

of rejecting it. This finding is also endorsed by researches of Martinez [11], Motamedi [13], Jafari [10], Marashi [15], Mahdian and Ghaffari [28] and Muhammadzadeh and et al [29]. Then it can be stated that spirituality influences people's method of dealing with the difficulties and problems. By providing eternal sense of meaningfulness, it not only does make human nature purposive rather it brings about positive atmosphere of optimism that in turn is the source of happiness and hopefulness both of which decrease the patients' death anxiety.

On the other hand, the findings of the present research demonstrate significant relationship between sensation seeking and death anxiety among the hemodialysis patients. This finding is consistent with researches' findings of Vafaei and et al [30] and Franken [31]. To elaborate more on this finding, it can be referred to the findings of research that has been conducted by Zuckerman [20] about relationship between cortisol level and agitation according to which the hyper-sensation-seeking individuals are of lower level of cortisol and this makes them less vulnerable before anxiety. Their stimulation threshold is low and this in turn makes them fearless.

This research had some limitations. Since the research sample is limited to the cases studied in Kerman province in certain period of time so in generalizing of these findings should be more caution. Moreover, since this research has been conducted upon dialysis patients its findings cannot be generalized to other chronic patients too. Additionally, the use of certain medications has also had undeniable effects on the research results that have to be taken into earnest account. Furthermore, the number of measures' items and the method for collecting measures' based on mutual trust will show to be limitations for this research too.

### Conclusion

This study demonstrated that there is close relationship between spiritual wellbeing and sensation seeking of hemodialysis patients as well as their death anxiety. Although sensation seeking temporarily reduces the death anxiety in patients, cortisol changes due to sensation

seeking cause in turn some severe physiological problems in urinary tracks and other organs. Therefore, the patients are better to be given some necessary information regarding the relationship between their personal qualities and the possible dangers which threatening their health conditions. Then by reinforcement of spirituality and internalization of values in hemodialysis patients we can reduce their death anxiety. Moreover, the findings of this study will help the nurses and clinical professionals who are involved in the medication of these renal patients to understand the vital role and significance of purposefulness of life and the belief in God in reducing the psychological damages caused by the hemodialysis. Thus similar studies can be done regarding other chronic diseases like cancer and diabetes.

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### Contribution

Study design: GHA, MRB

Data collection and analysis: GHA, MRB, MK

Manuscript preparation: GHA, MK

### Conflict of Interest

"The authors declare that they have no competing interests."

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