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Managing Mental Health Problems and Quality of Life among Dialysis Patients through Stress Management Intervention

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Abstract

Background and Objective. Chronic diseases and psychological disorders have privileged co morbidity with each other; dialysis patients are also at high risk of internalizing problems. This study investigated the effectiveness of stress management techniques in controlling internalizing problems and kidney disease related quality of life of the dialysis patients.

Method. . This study was completed using repeated measure research design with 20 diagnosed kidney patients found high on mental health problems who were randomly selected from initially approached sample of 100 registered patients in Nishtar Hospital Multan. 20 participants were then randomly assigned to intervention and control group equally. Stress management techniques were administered to intervention group only. Pre and post data were obtained on Kidney Disease Related Quality of Life Scale (Hays et al., 1994) and Depression, Anxiety, Stress Scale (Lovibond & Lovibond, 1995). This study was conducted during 2016-2017.

Results. Significant differences were found in pre and post scores on kidney disease quality of life, depression, anxiety and stress for intervention group (t = 5.03, < .001 and t = 8.12, 1.42,3.02 at <0.01 respectively) while insignificant findings were found for control group. It implies that patients after receiving stress management intervention (Meichenbaum, 1993) reported an increase in quality of life and decrease in their symptoms of depression, anxiety, and stress.

Conclusion. Stress management techniques have been found effective in improving kidney related quality of life and lowering depression, anxiety, and stress of kidney patients.

Implications. The findings of present study are useful for the physicians and family members of kidney patients. Stress management techniques if are employed by kidney patients' professionals in particular and their family members in general can extend the quality of life and let down the depression, anxiety, and stress. Seminars and workshop should be conducted for the awareness of these internalizing problems and importance of stress management.

Keywords. *Dialysis patients, stress management module, kidney disease quality of life, depression, anxiety, stress.*

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Introduction

Individuals of chronic substantial ailment are similarly more in danger of mental misery than physically healthy people. Mental problem may reveal itself in a wide range of ways from making greater attempt to essential adjustments, through emotional effects, for example, distress or anxiety that normally go with mental turmoil. Most chronic illnesses don't establish accidently and are generally not relieved at long last. Dialysis is one of those diseases that are considered as a constant physical ailment that develops several mental and social issues (Verhaak et al., 2005). The present research is concentrating on the mental health problems of dialysis patients and also aimed to reduce these mental problems with stress management or inoculation training.

Dialysis is the medicinal term for expelling the squanders and extra liquid from one's blood that one's kidneys can never again evacuate themselves. Dialysis disposes of additional liquid and squanders through a semi porous membrane (Ahmad et al., 2008). Recently, much attention has been given on finding the effect of physical and psychological instability and illness on patients' satisfaction in general and quality of life in particular (Theofilou, 2013). The psychological uneasiness usually refers to as anxiety of patients on hemodialysis intervention most of the times resulted in psychological problems, for instance, depression, tension, burden, and anxiety. It can have unfavorable effect on the psychological wellness of the patients. Mental and emotional problems are exceedingly common and interwoven among dialysis patients. The most experienced mental health problems were depression, anxiety, burden, and stress that have been found most independent risks and threats for self-destruction of patients, and associated with a low personal satisfaction in patients with hemodialysis (Chen et al., 2010; Feroze et al., 2012; Wang & Chen, 2012). Problem of anxiety is generally linked with depressive symptoms as well (Lamers et al., 2011).

Numerous investigations demonstrated that patients encountering hemodialysis experience anxiety, and patients used several coping strategies to manage their strained conditions and anxiety (Logan et al., 2006; Mok & Tam, 2001; Welch & Austin, 2001). Their ways for coping with upsetting situations are engaged and they use adapting techniques.

Affective or emotional focused coping strategies incorporate dealing with the annoying emotions made by worrying conditions; while problem focused adjusting strategy incorporate resolution of offensive situation itself (Jalowiec et al., 1984). Among mental wellbeing problems, depression is the most common and well understood issue revealed for dialysis patients (Cohen & Germain, 2005). Moreover, depression appears to be associated with fundamental parts of the clinical course of dialysis, including death rate, repeat of hospitalization, poor treatment adherence, and decreased personal satisfaction. Specific components of disease that have been seen to be associated with anxiety and burden include the characteristics of dialysis received (Griva et al., 2010).

The treatment for psychological maladjustment should use pharmacological medication and furthermore non-pharmacological medications, for instance, social emotionally supportive network, psychological therapies and physical activity exercises (Wang & Chen, 2012). Stress management/inoculation training is the effective one among all other available and notable correlative treatments which is acknowledged to improve psychological and overall health and prosperity. The last two decades have been found engaged in conducting investigations into the regularity and correlates of depression among kidney patients on dialysis (Kimmel et al., 2007).

Stress management training is helpful for people to reduce and mange the burden and anxiety This therapy module is composed of four sessions with two hours dispersed for each session. In the first main session therapist introduces himself/herself. By then give understanding about the mental issues to the patients. Therapist administers the measures of anxiety or mental health problems to the clients to assess their degree of anxiety and mental health problems and then a short time later therapist gives them relaxing exercises along with homework assignments of relaxation training. In the second session therapist discusses the homework assignments given to patient at home and examine client's senseless feelings which create anxiety and stress for him/her. Focus is on the stressed events and signs are accumulated to recognize emotional feelings and negative self-talk. The point is to make the patient prepared to positive self-talk and gives him relaxation.

Chronic illness patients are exceedingly helpless against mental distress. At present medical professionals realize how to deal with the physiological states of chronic illness and also acknowledge the mental problems that lead them to greater seriousness. Existing together psychological and physical conditions reduce personal satisfaction and lead them to disease which lasts in a longer duration. It will definitely create more regrettable wellbeing results.

In recent years, kidney related diseases have been found more at risk than last. Kidney diseases are increased and becoming common. 36% of Pakistani individuals experience the ill effects of this infection that result in dialysis. Stress, anxiety, and depression are the primary mental health issues that are generally diagnosed in dialysis patients. These mental health problems usually are ignored and remained untreated by the medical professionals. Therefore the present study was planned to examine the mental health problems and quality of life of kidney patients. To manage the mental health problems and to improve the quality of life of kidney patients, the present study also planned to administer the stress inoculation training. By employing the experimental approach and repeated measures design, the study was completed with intervention and control group.

Method

Participants. A conveniently approached sample of 100 diagnosed kidney patients was contacted at Nishtar Hospital Multan. Of this sample 38 kidney patients were separately listed out on the basis of their high scores on depression, anxiety, and stress and low scores on quality of life. From this sample (n = 38 kidney patients), then a sample of 20 kidney patients aged 40-45 years was randomly selected. All the participants were more or less similar to age, education, and socioeconomic background.

Instruments. ***Depression Anxiety and Stress Scale (DASS)*** developed by Lovibond and Lovibond (1995) was used to assess the mental health problems of kidney patients. DASS has 42 items responding on 5-point Likert scale. It has three subscales measuring depression, anxiety, and stress with 14 items each. Higher score on each subscale shows greater the problem on that. The Urdu translated version (Zafar, & Khalily, 2014) was used in the present study. Both the original and translated versions indicate the reliability coeficients of .87 and ,82 respectively.

Kidney Disease Quality of Life (KQOL) developed by Hays, et al (1994) was used to measure the kidney related quality of life of kidney patients. KDQL has 24 items presenting different response options for each item. All items are categorized into two major subscales; kidney disease scales and general health scales. Kidney disease -specific part includes 11 subscales; symptoms/problems, effects of kidney disease on daily life, burden of kidney disease, cognitive function, work status, sexual function, and quality of social interaction, sleep, social support, dialysis staff encouragement, and patient satisfaction. General health scales include 8 subscales physical functioning, role physical, pain, general health, emotional wellbeing, role emotional, social functioning, and energy/ fatigue. These are multi-item scales and are considered as a complete measure for an individual health. Every statement is precoded numerically after that it is changed into a scale of 0 to 100. Some of the questions are scored with additional instructions and are recoded differently. Responses of item no 17 and 18 are multiplied by 10 to get these items on 0-100 range. The higher scores on the scale show high level of quality of life.

Procedure. A randomly selected sample of 20 kidney patients from a pool of 100 kidney patients who were initially approached at Nishtar Hospital Multan was equally categorized into two groups intervention (n=10) and control group (n=10) through random assignment. Before employing the stress management techniques, both groups were pretested on both measures (DASS and KQOL). Stress management techniques were administered to the patients of intervention group only and the patients of control group did not receive any treatment. However both the groups were remained on their pharmacological treatment as well. Stress management intervention was completed within four sessions conducted on each patient of intervention group individually. There were four sessions with the interval of one week and each session contained two hours. In first session, the patient' history of his disease was noted down in detail and simple muscle relaxation technique was employed.

In the second session, the patient's irrational beliefs were discussed and were disputed to the rational ones. In the third session, therapist talked about the significance of convictions and qualities in overseeing anxiety.

Focus was kept on demonstrating how self-talk, convictions, and qualities are connected in employing anxiety. In the fourth session, therapist enhanced the clients' personal satisfaction and developed activity arrangement structure for the client. Toward the end, therapist assessed the treatments adequacy. Patients were also given the activity schedule as homework and learnt techniques such as deep breathing, meditations that would be helpful in their daily life.

After successful completion of all sessions given to intervention group, both the groups were post-tested on both measures (DASS and KQOL). After 1 month the quality of life scale and depression, anxiety and stress scale was applied again to measure the effectiveness of the therapy as post testing. Inter and intra-group comparisons were performed to see between and within group differences. All the analyses were performed on SPSS-21.

Results

Patients of kidney disease have a lower level of quality of life and they have to face many internalizing psychological problems. Depression anxiety and stress is commonly found in the patients and is mostly remained untreated. Therapeutic application can have a greater impact on the patients mental health. The present study is also aimed to measure its effective through statistical analysis. The results will be gathered by following the given sketch:

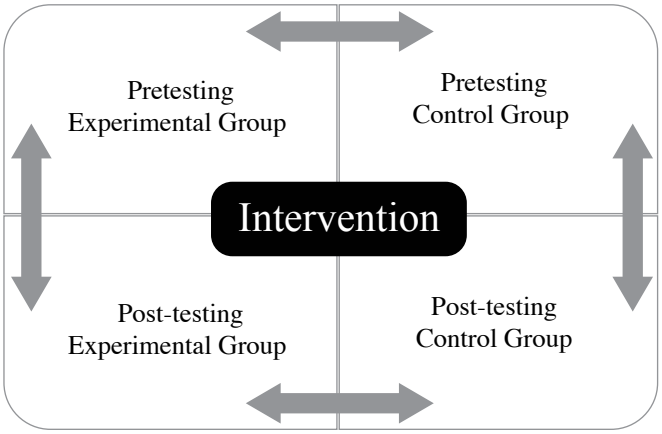

Table 1

Intra and Intergroup Comparisons of Experimental and Control Groups for their Scores on KQOL and Internalizing Problems

	Scale		Experimental Group (n=5)	Control Group (n=5)	Intergroup Comparison	
			M ± SD	M ± SD	T	P
Intra-group Comparison	KQOL	Pre	31.0 ± 5.43	26.80 ± 1.30	1.58	.189
		Post	62.80 ± 5.76	27.80 ± 4.97	10.70	.000***
		t	-11.74	-.439		
		p	.000**	.684		
	Depression	Pre	18.60 ± 10.24	15 ± 7.07	.772	.483
		Post	8.40 ± 4.04	24 ± 5.34	3.942	.017*
		t	3.302	-1.932		
		p	0.00**	.126		
	Anxiety	Pre	21.0 ± 10.56	19 ± 5.74	.363	.735
		Post	6.60 ± 3.51	23 ± 3.16	8.139	.001**
		t	3.316	-1.023		
		p	0.00**	.364		
	Stress	Pre	22.40 ± 7.16	24.20 ± 3.42	-.451	.675
		Post	11.00 ± 2.35	22.40 ± 4.62	-5.28	.006**
		t	2.94	.793		
		p	.042*	.472		

Note. *$p > 0.05$, **$p<0.001$

Table 1 presents the intergroup (between) and intra-group (within) comparisons of the intervention and control groups for their scores on kidney disease quality of life and internalizing problems; depression, anxiety, and stress. Results pertaining to the intergroup (between) comparisons report the findings of pre and post testing. Findings of pre-testing suggest the non-significant differences between experimental and control groups for their scores on KQOL and internalizing problems but the findings of post-testing are found significant between both groups on study measures.

Results pertaining to intra-group comparisons demonstrate the significant findings for experimental group on pre and post testing but insignificant differences are found for control group on pre and post testing. Findings imply that experimental group showed the improvement in quality of life and decrease in depression, anxiety and stress after intervention. But there is no significant difference in the pre testing and post testing of the control group.

Table 2

t-statistics for Intra and Intergroup Comparisons of Experimental and Control Groups for their Scores on Subscales of KQOL

	Intergroup Comparison		Intragroup Comparison	
Categories Subscales of KQOL	Pre-testing of Exp and Cont. Groups	Post-testing of Exp.and Cont. Groups	Pre and Post testing of Exp. Group	Pre and Post testing of Cont. Group
Kidney Symptoms of disease Kidney specific Disease	.801	7.59**	-4.57**	-.61
Effects of Kidney Disease	2.22**	3.05**	-4.22**	-.41
Burden of Kidney Disease	.525	2.92**	-2.99**	1.58
Work Status	--	1.00	-2.44**	-1.0
Cognitive Function	1.00	3.68**	-6.24**	-2.3*
Quality of social interaction	.884	4.87**	-7.45**	-1.5
Sexual function	.278	2.29**	-1.53	1.0
Sleep	-.15	8.12**	-13.4**	-1.8
Social Support	-1.00	3.49**	-5.73**	1.6
Dialysis staff encouragement	-.535	5.72**	-5.71**	.34
Patient Satisfaction	-1.49	13.8**	-8.55**	.42
Physical functioning	3.08**	7.48**	-4.00**	.34
General health Role physical scales	.000	4.00**	-2.05*	.59
Pain	.015	3.06**	-1.65	-1.3
General health	-.348	9.49**	-6.64**	1.3
Emotional wellbeing	2.41**	6.66**	-3.18**	-.75
Role emotional	1.49	3.16**	-3.48**	-1.6
Social function	1.55	4.42**	-3.53**	-1.5
Energy/fatigue	.725	3.14**	-3.30**	.53

Note. * $p > 0.05$, ** $p<0.001$

Table 2 shows the findings related to the subscales of quality of life. Results pertaining to the comparison on pretesting of both groups indicate non-significant differences while significant differences are found on post-testing of intervention and control group. Table also present the comparisons of pre and post testing for each group. Findings demonstrate the improvements on all subscales in post testing than pretesting of intervention group. However, pre and post comparisons of control group are insignificant.

Discussion

The individuals with kidney disease and on dialysis often experience greater loss of life satisfaction that in turn results in overall low quality of life due to many psychological disturbances. Patients with kidney disease generally and/or on dialysis particularly reported severalinternalizing problems such as depression and anxiety (Lopes et al., 2002). Therefore, the kidney patients need support and psychological help along with physical treatment to overcome these problems and to maintain their quality of life.

This study was designed to examine the mental health problems of kidney patients and also explored their kidney disease related quality of life. Reliability analyses of the measures showed the satisfactory internal consistency of kidney disease related quality of life scale and depression, anxiety and stress scale for the current data obtained. The analyses were performed for the entire sample data that was taken prior to the intervention. The results are consistent and are related to the results of a research of Lovibond and Lovibond (1995).

Table 1 indicated the findings regarding the comparisons of between and within the both groups; intervention and control that were formed through random assignments of participants to each group. Findings pertaining to the comparisons of intervention and control for their scores on pre and post testing on measures revealed that both the groups were found similar in pre testing and the results were insignificant for depression, anxiety, stress, and kidney related quality of life. It means the patients from both groups were more or less similar prior to the administration of psychological intervention. However, results pertaining to the comparisons of both groups for their scores on post testing showed the significant differences. Findings suggested that patients of intervention group after receiving the stress management training reported the low levels of depression, anxiety, stress, and kidney related quality of life as compared to the patients of control group who didn't receive any stress management technique to overcome their psychological issues.

These findings are in tune with the findings of several other researches wherein stress management therapy has been employed and has been found as one of the well-known correlative therapies which are accepted to enhance mental and general wellbeing (Kimmel et al., 2007). Studies confirmed that therapeutic intervention plays an important role in the treatment and wellbeing of individuals.

The present study also analyzed the differences on subscales of kidney related quality of life. Table 2 presented the t-values for each scale measuring kidney disease specific and general health issues. Findings showed in table 2 demonstrated that from the subscales of kidney disease specific, the effect and burden of kidney disease were decreased after stress management training among patients of intervention group. Further the patients' cognitive, sexual, and physical functioning, quality of social interaction and sleep were found improved after receiving the therapy. Stress management techniques employed to patients also improved the patients' satisfaction, social support and dialysis staff encouragement.

Analyses of general health scales in table 2, indicated the significant effects of stress management techniques on its subscales. Findings revealed that kidney patients of intervention group reported significant decreases in pain and fatigue as compared to that of control group. Results also provided that general health, emotional wellbeing, social functioning, and role emotions were found improved in kidney patients who received complete sessions of stress management training than those who did not receive in control group except physical treatment.

Conclusion

Low quality of life and internalizing problems are commonly found in the individuals with physical illness. These problems are tackled through many different ways by employing pharmacological and psychological treatments. This study was also conducted to assess the effectiveness of stress inoculation training for kidney patients.

The results of the study concluded that there was a significant effect of therapy on mental health problems such as depression, anxiety, and stress and clients showed positive changes in their quality of life. Post-testing confirmed the efficacy of stress management training because it significantly decreased the depression, anxiety, and stress and increased the kidney related quality of life of patients.

Limitations and Suggestions

Though the study has presented significant findings that can be utilized for the betterment of kidney patients quality of life by kidney professionals, several limitations have also been observed that should be acknowledged and addressed one by one. Firstly, the study was designed only on pre and post testing, and no follow-up testing was included to see the consistent effectiveness of stress inoculation training for kidney related quality of life and mental health problems. Therefore, it is recommended to add follow-up testing and comparisons in future research. Secondly, the effects of pharmacological treatment have not measured during the study that could confound the results of present study. Thus, a controlled study should be planned by controlling several other variables such as medicine effects, staff and family attitude. and hospital environment. Thirdly, many other variables' mediation and moderation should also be studied such as personality of patients, coping ways, autonomy support provided by doctors, and social support. Fourthly, a trained therapist should administer the therapy instead of researcher itself.

Declaration

Authors' Contribution. All authors contributed to the conceptualizations of the formulation of research design, literature review, scale translation, data collection and data analysis.

Conflict of Interest. Authors declare that they have no conflict of interest.

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Availability of the Data. Authors may provide data on request.

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