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Original Research Article

Depression and coping strategies among haemodialysis patients of Bagmati Province, Nepal

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ABSTRACT

Background: Haemodialysis is therapeutic procedure of purifying blood used for management of acute and chronic renal failure. Financial burden, dialysis and other treatment procedures also add as stressor among patients undergoing haemodialysis treatment. Depression is most frequent psychological problem reported by chronic kidney patients but is also underdiagnosed and underrated among them. The prevalence of depression is reported higher among chronic kidney patients undergoing dialysis treatment compared to general population with higher risk of deaths and hospitalization. This study aimed to assess the depression and coping strategies among haemodialysis patients of Bagmati Province.

Methods: Quantitative cross-sectional study design was used in this research to collect the data from 3 Haemodialysis Centre viz. Kathmandu, Chitwan and Manthali as it covered the haemodialysis patients from Bagmati province. 370 participants were selected from Bagmati province of Nepal via simple random sampling technique. Nepali language version of Hospital Anxiety and Depression Scale (HADS) and Brief COPE Inventory scale were used to measure the depression and coping mechanism among the respondents. The descriptive and inferential statistics was used for data analysis.

Results: Nearly two-fifths (38.6%) of the respondents showed the symptoms of depression followed by no depression (35.9%) and borderline depression (25.4%). There was significant association between level of depression and coping strategies.

Conclusions: The finding from the study highlight the high prevalence of depressive symptoms. There is significant association between level of depression and coping strategies indicating need for targeted mental health intervention including promotion of effective coping mechanism in the targeted population.

Keywords: Coping strategies, Depression, Haemodialysis, Patients

INTRODUCTION

Chronic kidney disease (CKD) is a global public health problem with rising incidence and prevalence rates of risk factor diseases as diabetes, high blood pressure and heart diseases. It has emerged as one of the leading causes of mortality and morbidity worldwide seeking global priority for its prevention and control.[1-3] The estimated prevalence of CKD is 13.4% globally. About 15% of US adults are estimated to have CKD. It is more common and prevalent among older populations, women, racial minorities and people suffering from diabetes and hypertension.[4] CKD represents the increased burden in low- and middle-income countries with expected larger burden in Asia with a population of around 60% of the global population.[5-7]

The nationwide population-based cross-sectional study in Nepal showed the overall prevalence of chronic kidney disease as 6.0%.[8,9] The prevalence of CKD was 10.6% as per another study from eastern Nepal.[10] CKD was the 10th leading cause of mortality in Nepal in 2019.[11] Dialysis and renal transplantation are the only options when chronic kidney disease is diagnosed in advance stage to prevent fatality improving the condition.[12] Haemodialysis is therapeutic procedure of purifying blood used for management of acute and chronic renal failure.[13,14] Financial burden, dialysis and other treatment procedures also add as stressor among patients undergoing Haemodialysis treatment.[15,16] Previous studies report that depression is common and highly prevalent among Haemodialysis patients with poor quality of life and poor mental health.[12,17-19]

Depression is the important complication among Haemodialysis patients with chronic kidney disease as it also diminishes quality of life.[12] Depression is most frequent psychological problem reported by chronic kidney patients but is also underdiagnosed and underrated among them.[2] The prevalence of depression is reported higher among chronic kidney patients undergoing dialysis treatment compared to general population with higher risk of deaths and hospitalization.[12] Spiritual health refers to sense of communication with others, an insight of the meaning and purpose of life and a connection to a higher power that helps people live better and have more effective interactions coping the things around.[20,21] Spiritual care and counselling are effective in reducing anxiety and depression of patients receiving Haemodialysis treatment.[22,23]

The prevalence of psychological symptoms in patients can be associated with many other serious complications which needs further studies. This study is aimed to assess the depression and spiritual well-being among Haemodialysis patients of Bagmati Province.

Rational of the study

The global burden of chronic kidney disease is rapidly increasing. It might affect number of individuals over time and increase mortality, which needs special concern and attention. The CKD patients undergoing Haemodialysis are prone to high stress and depressive symptoms. Spiritual health diminishes in stressful and anxious situations.[7,20]

Early diagnosis and treatment of depression and other risk factors among Haemodialysis patients can improve the quality of life and survival of patients. Similarly, there is more need of exploration of spiritual well-being and its association with depression, anxiety and stress among Haemodialysis patient in Nepal to support better interventions and improve quality of life.

Research objectives

General objectives

To assess the depression and coping mechanism among Haemodialysis patients of Bagmati Province

Specific objectives

To assess the level of depression among Haemodialysis patients. To assess the level of coping mechanism among Haemodialysis patients. To explore the association between level of depression and level of coping mechanism among Haemodialysis patient. To find out the association of level of depression with selected socio-demographic variables

Variables

Dependent variables

Depression and Coping mechanism.

Independent variables

Age, sex, religion, family income, educational level, type of family, duration of haemodialysis, occupation, history of chronic disease in family.

METHODS

Study type

This study investigated the socio-demographic characteristics data and explored the association between level of depression and coping strategies of Haemodialysis patients. Quantitative method was applied in this study. Quantitative cross-sectional study design was used in this research to assess the level of depression and coping strategies among Haemodialysis patients. This cross-sectional study design helped to identify whether Haemodialysis patients were depressed or not, if depressed to which level and how they are adjusting themselves with coping strategies so it helps for better understanding of meaning attached by people and its contribution to develop new theories.

Study site and period

Study area was Bagmati province. It is Nepal's most populous province and fifth largest province by area. With Hetauda as its provincial headquarter, the province is also the home to the country's capital Kathmandu, is most hilly and mountainous.

Being the most populous province of Nepal, it possesses rich cultural diversity with resident communities and castes including Newar, Tamanag, Madhesi, Sherpa, Tharu, Chepang, Jirel, Brahmin, Chetri and more. Three (3) Haemodialysis Centres viz. National Kidney Center,

Head Office, Vanasthali, Kathmandu, National Kidney Center, Chitwan Branch, Ratnanagar Tandi and National Kidney Center, Manthali Branch, Ramechhap) from Kathmandu Chitwan and Manthali respectively were chosen as it covered the Haemodialysis patients from Bagmati province. The study period was between February 2023 to January 2024.

Selection criteria

Patients with more than 1 year of Haemodialysis and willing to participate was included in this study.

Sample size

The sample size was calculated by using the Cochran's formula N0=z2pq/e2 with the desired precision of 5% i.e. the margin of error. (95% confident interval) n0 =sample size z =confident level (the standard deviation set for 95% CI)=1.96, Absolute allowable error e=0.05% P is the estimated proportion of the population which has the attribute in question, q is 1-p. The calculation of required sample size was, P=0.326 (2), hence q=1-p =1-0.363=0.674 e = 0.05, z=1.96 $n0=z^2pq/e^2=(1.96)^2(0.363)(0.674)/(0.05)^2$ = 336. Now, considering a 10% non-response rate, the sample size was 370.

Sampling technique

A total 370 participants (equal number of participants from 3 hospitals) were selected from Bagmati province of Nepal via simple random sampling technique.

Data collection tools and techniques

Nepali language version of Hospital Anxiety and Depression Scale (HADS) and Brief COPE Inventory was used to measure the depression and coping. 24,25 The questionnaire was organized into three sections: 1. Socio-demographic information, 2. Questionnaire to assess depression level, 3. Questionnaire to assess coping strategies. Scores on the HADS is the sum of the respective seven items (ranging from 0–21) and can be categorized to depression level: No depression (0-7), Borderline depression (8-10), Depression case less (≥11). Regarding Brief COPE, higher the scores indicate the greater use of each coping strategies. Three composite subscales measuring emotion-focused, problem focused and dysfunctional coping have proved useful in clinical research and have content validity.

Potential bias

Participant bias

Face to Face-to-face interview technique was used to collect the information by the researcher. Whenever there was doubt whether the questions were answered appropriately, the researcher rephrased the question and asked it again. Participants were informed that there would be no right or wrong answer and all the answers were according to their perspective. They were assured that their responses would not harm them in any way and would be encouraged to express their honest opinion, whether positive or negative.

Researcher bias

All the answers were recorded immediately, so there was no chance of any error. Also, coding was carried out by two independent reviewers.

Validity and reliability of the tools

The tool for the survey was in Nepali language version of HADS and the Brief COPE inventory.[24,25] The HADS and Brief COPE have been frequently used in research in Nepal and have good validity and test-retest reliability. Data was checked for errors and was omitted on the same day and the consistency of the data was maintained. The study used a structured questionnaire schedule for data collection method and the results from which were used to draw the conclusion. The findings of the other studies at national and international levels in this area were reviewed and a comparison was made before drawing conclusion.

Ethical approval

At first, approval from Nepal Health Research Council (NHRC) was obtained. Permission from 3 hospitals (1. National Kidney Center, Head Office, Vanasthali, Kathmandu 2. National Kidney Center, Chitwan Branch, Ratnanagar Tandi 3. National Kidney Center, Manthali Branch, Ramechhap) and consent from all the study participants was taken before the data collection proceeds. The purpose of the study was clearly explained to all the participants. Those who refused to provide consent were not influenced by any means to participate in the study. Confidentiality and anonymity were emphasized and maintained and data collected was used only for the research purpose without any modification.

Statistical analysis

Data was entered using the Epi data 3.02 version. The range and consistency checks were made to ensure accuracy and SPSS 23.0 version for statistical analysis. As per the need of the objectives, data was coded and classified, data analysis was done by studying and coding of the responses from the questionnaires. The descriptive and inferential statistics was used where p-value was considered significant if less than 0.05. Expected outcome of the research results: Psychological problem of Haemodialysis patients as well their coping strategies was identified so effective management strategies can be developed to solve those problems so the disease condition of the Haemodialysis patients will be improved.

Potential impact of the study

This research explained to which extent the Haemodialysis patients were depressed and what was their level of coping. Along with this, this study also showed the factors causing the depression among Haemodialysis patients. By identifying the level of depression and coping we can help Haemodialysis patients to get freedom from psychological problem as that play a major role in improving the disease condition. These results can also be used to help those suffered people to prevent from further deterioration of physical and mental health by any means. Government will focus on preventing such challenges beforehand in Haemodialysis patients. This study includes better understanding of meaning attached by people and its contribution to development of new theories.

Contribution of research findings in generating evidence for policy/treatment control protocols

This research elucidated the psychological problems faced by Haemodialysis patients along with their physical problem as psychology is one of the major factors for influencing physical problem. Despite of data regarding Haemodialysis patients are shown, very few researches have been conducted on depression and spiritual well-being of Haemodialysis patients of Bagmati province. Thus, researcher decided to conduct this survey on Haemodialysis patients. There are numbers of studies regarding Haemodialysis but topic related depression and coping faced by Haemodialysis patients remains neglected. If we can manage the psychological problem of Haemodialysis patient sooner than their disease condition will be improved sooner, also we can help them to minimize their residual effect and such types of problems can be minimized in any patients to promote the health of them.

RESULTS

The findings from the study showed that majority (74.6%) of the respondents were between the age group 30-60 years, more than half (65.1%) of the respondents were male and majority of the respondents education status was up to secondary level. Similarly, 84.3% of respondents were married and only 34.3% of the respondent's caste was Brahmin or Chhetri. Likewise, majority of respondents were followed Hindu religion and only minority of the respondents were currently drinking (0.8%) and smoking (1.9%). The findings is shown in table 1.

Table 2 showed that majority of the respondents (40.0%) had more than 2 children and only least of the respondents (0.3%) were drug abuser. Likewise, for more than half of the respondent (66.8%) duration of Haemodialysis was up to 5 years, 77 % of the respondents had comorbid disease and only 19.5% of the respondent's family had comorbid disease. Moreover, more than half (68.6%) of the respondent had undergone health insurance process.

Analysis of depression score

Table 3 showed that 38.6% of the respondent showed the symptoms of depression followed by no depression (35.9%) and borderline depression (25.4%).

Analysis of coping strategies

Table 4 showed that half of the respondent's coping strategies falls above mean and half below mean.

Analysis of association between level of depression and coping strategies

Table 5 showed that there was significant association between level of depression and coping strategies (p-value= 0.002).

Analysis of association between level of depression and socio-demographic variables

Table 6 showed that there was significant association of level of depression with age (p value =0.015), sex (0.003), number of children (0.001), duration of Haemodialysis (0.016), comorbidity status (0.001) and health insurance status (0.031).

Table 1: Socio-demographic characteristics of the respondents (n=370).

Variables	Frequency (N)	%
Age (in years)		
<30	45	12.2
30-60	276	74.6
>60	49	13.2
Sex		
Male	241	65.1
Female	129	34.9
Education		
No formal education	135	36.5
Upto secondary	212	57.3
Bachelor and above	23	6.2

Continued.

Variables	Frequency (N)	%
Marital status		
Widow/ Divorced	13	3.5
Married	312	84.3
Unmarried	45	12.2
Caste		
Brahmin or Chhetri	127	34.3
Others	243	65.7
Religion		
Hindu	256	69.2
Non-Hindu	114	30.8
Alcohol status		
Currently drinking	3	0.8
Currently not drinking	367	99.2
Smoking status		
Currently smoking	7	1.9
Currently not smoking	363	98.1

Table 2: Socio-demographic characteristics of respondents (n=370).

Variables	Frequency (N)	Percentage
Number of children		
1	54	14.6
2	109	29.5
More than 2	148	40
No any children	59	15.9
Drug abuse		
Yes	1	0.3
No	369	99.7
Duration of haemodialysis		
Up to 5 years	247	66.8
More than 5 years	123	33.2
Comorbidity status (disease)		
Yes	285	77
No	85	23
Comorbid disease on family member		
No	298	80.5
Yes	72	19.5
Health insurance		
Yes	254	68.6
No	116	31.4

Table 3: Level of depression (n=370).

Level	Frequency (N)	Percentage
No depression	133	35.9
Borderline depression	94	25.4
Depression case	143	38.6
Total	370	100

Table 4: Level of coping strategies (n=370).

Coping strategies	Frequency (N)	Percentage
Above mean	185	50
Below mean	185	50
Total	370	100

Table 5: Level of depression.

Depression level	Coping strategies			
	Below mean	Above mean	Total	P value
No depression	51 (13.8%)	82 (22.2%)	133 (35.9%)	0.002
Borderline depression	49 (13.2%)	45 (12.2%)	94 (25.4%)	
Depression case	85 (23.0%)	58 (15.7%)	143 (38.6%)	
Total	185 (50%)	185 (50%)	370 (100%)	

Table 6: Association between level of depression and socio-demographic variables (n=370).

Socio-demographic variables	Level of depression				
	No depression	Borderline depression	Depression case	Total	P value
Age (in years)					
<30	16 (4.3%)	16 (4.3%)	13 (3.5%)	370 (100%)	0.015
30-60	105 (28.4%)	70 (18.9%)	101 (27.3%)		
>60	12 (3.2%	8 (2.2%)	29 (7.8%)		
Sex					
Female	39 (10.5%)	25 (6.8%)	65 (17.6%)	370 (100%)	0.003
Male	94 (25.4%)	69 (18.6%)	78 (21.1%)		
Number of children					
1	27 (7.3%)	14 (3.8%)	13 (3.5%)	370 (100%)	0.001
2	37 (10.0%)	37 (10.0%)	35 (9.5%)		
More than 2	46 (12.4%)	26 (7.0%)	76 (20.5%)		
No any children	23 (6.2%)	17 (4.6%)	19 (5.1%)		
Duration of Haemodialysis					
Up to 5 years	98 (26.5%)	66 (17.8%)	83 (22.4%)	370 (100%)	0.016
More than 5 years	35 (9.5%)	28 (7.6%)	60 (16.2%)		
Comorbidity status					
No	42 (11.4%)	24 (6.5%)	19 (5.1%)	370 (100%)	0.001
Yes	91 (24.6%)	70 (18.9%)	124 (33.5%)		
Health Insurance					
No	51 (13.8%)	31 (8.4%)	34 (9.2%)	370 (100%)	0.031
Yes	82 (22.2%)	63 (17.0%)	109 (29.5%)		

DISCUSSION

Chronic kidney disease (CKD) is a significant worldwide public health issue, with increasing rates of incidence and prevalence for risk factor conditions such as diabetes, hypertension and cardiovascular diseases. Individuals with CKD who undergo Haemodialysis are susceptible to experiencing elevated levels of stress and symptoms of depression. Stressful and anxiety-inducing situations can have a negative impact on their spiritual well-being, leading to a decline in their overall spiritual health.

The cross-sectional study design was used to assess the levels of depression and coping mechanisms among Haemodialysis patients in Bagmati Province. The findings of the study indicate that less than half of the respondents (38.6%) showed symptoms of depression, while 35.9% exhibited no signs of depression and 25.4% fell into the category of borderline depression. These results suggest that a considerable portion of the respondents experienced some level of depression. The study included a majority (74.6%) of respondents who were in the age group of 30-60 years. More than half (65.1%) of the respondents were male and the majority had attained education up to the secondary level. Additionally, a large proportion (84.3%) of the respondents were married and only a minority (34.3%) identified their caste as Brahmin or Chhetri. The majority of respondents followed the Hindu religion, while only a small percentage reported currently drinking (0.8%) or smoking (1.9%).

A significant proportion of the respondents (40.0%) had more than two children, while only a very small percentage (0.3%) reported being drug abusers. Additionally, a majority of the respondents (66.8%) had undergone Haemodialysis for a duration of up to five years. It was found that 77% of the respondents had comorbid diseases, whereas only 19.5% of their family members had comorbid diseases. Moreover, a majority of the respondents (68.6%) had completed the health insurance process. The study

conducted in dialysis clinic of tertiary care hospital in northern part of Tamilnadu concluded that a significant proportion of the participants, specifically 41%, exhibited borderline clinical depression or higher based on the screening results. And around 20% to 90% of Haemodialysis patients experiences depression.26 Similarly, the prevalence aligns with the findings in this study, indicating that depression is a significant among Haemodialysis patients.

The cross-sectional study carried out in the Valencian Community (Spain) among CKD patients undergoing Haemodialysis identified that individuals who utilized emotion-focused coping strategies, such as denial or wishful thinking, had higher levels of depressive symptoms. Conversely, those who employed problem-focused coping strategies, such as seeking information or taking action, had lower levels of depression.[27] These findings align with the significant association observed in this study that is equal half of the mean, emphasizing the role of coping strategies in influencing depressive symptoms among Haemodialysis patients.

The significant association between age and depression among Haemodialysis patients aligns with a study by Alencer et al, (2018) found that older age was associated with a higher prevalence of depressive symptoms in Haemodialysis patients. The authors suggested that factors such as increased health complications, decreased social support and reduced functional capacity in older individuals may contribute to higher rates of depression.[28]

Research by Almeida et al, reported a higher prevalence of depression among female Haemodialysis patients compared to males. It also suggested that hormonal differences, psychosocial factors and differences in coping strategies may contribute to this disparity where as in this study there was high number of male Haemodialysis patients than female.

A study by Hedayati et al, found that longer Haemodialysis duration was associated with an increased risk of depressive symptoms in patients. They suggested that factors such as treatment burden, physical limitations and adaptation difficulties may contribute to the development of depression over time.[29] These findings support the significant association observed in this study.

There was an association between comorbidity status and depression among Haemodialysis patients which is consistent with a study by Santos et al that reported a higher prevalence of depression in Haemodialysis patients with comorbidities, such as diabetes and hypertension. It suggested that the burden of managing multiple health conditions, increased treatment complexity and poorer overall health status may contribute to the higher rates of depression in these patients.[30] Similarly, this study showed significant association with comorbidity.

Limited research specifically explores the association between health insurance status and depression among Haemodialysis patients. However, a study by Lee et al, in the general population of South Korea found that individuals without health insurance had higher rates of depressive symptoms compared to those with insurance coverage. The authors suggested that limited access to healthcare resources and financial stress may contribute to this association.[31] These findings resonate with the significant association observed in the current study.

This study covered only Bagmati province so could not be generalized to the whole dialysis patients. Also, only a cross-sectional design was adopted in this study, so many factors related to a longitudinal study may be missed.

CONCLUSION

The study concludes that depression is a significant issue among Haemodialysis patients, with a considerable proportion of individuals experiencing symptoms of depression or borderline depression. Factors such as age, gender, coping strategies, Haemodialysis duration, comorbidity status and health insurance coverage have been found to be associated with depression in this population. These findings highlight the importance of addressing the psychological well-being of Haemodialysis patients and implementing appropriate support and coping interventions to improve their mental health outcomes.

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REFERENCES

1. Kovesdy CP. Epidemiology of chronic kidney disease. Kidney Int Suppl. 2022;12(1):7–11.
2. Khadka S, Adhikari R, Paudel T. Depression among Chronic Kidney Diseases Patients Receiving Haemodialysis. J Karnali Academy of Health Sci. 2020;21;3(2):73–9.
3. National Institute of Diabetes and Digestive and Kidney Diseases. National Institutes of Health. 2022. Chronic Kidney Disease (CKD). NIDDK. Available at: https://www.niddk.nih.gov. Accessed on 21 November 2024.
4. Centers for Disease Control and Prevention. GA: US Department of Health and Human Services, Centers for Disease Control and Prevention. 2021. Chronic Kidney Disease in the United States, 2021. Available at: https://www.cdc.gov/kidneydisease. Accessed on 21 December 2024.
5. Liyanage T, Toyama T, Hockham C, Ninomiya T, Perkovic V, Woodward M, et al. Prevalence of chronic kidney disease in Asia: a systematic review and analysis. BMJ Glob Health. 2022;1;7(1):7525.

6. Lv JC, Zhang LX. Prevalence and Disease Burden of Chronic Kidney Disease. Adv Exp Med Biol. 2019;1165:3–15.
7. Kovesdy CP. Epidemiology of chronic kidney disease: an update. Kidney. 2022;1;12(1):7–11.
8. Ghimire M, Vaidya S, Upadhyay HP. Prevalence of Newly Diagnosed End-Stage Renal Disease Patients in a Tertiary Hospital of Central Nepal, Chitwan: A Descriptive Cross-sectional Study. J Nepal Medical Association. 2021;59(233):61–4.
9. Poudyal A, Karki KB, Shrestha N, Aryal KK, Mahato NK, Bista B, et al. Prevalence and risk factors associated with chronic kidney disease in Nepal: evidence from a nationally representative population-based cross-sectional study. BMJ Open. 2022;12(3):57509.
10. Sharma SK, Dhakal S, Thapa L, Ghimire A, Tamrakar R, Chaudhary S, et al. Community-Based Screening for Chronic Kidney Disease, Hypertension and Diabetes in Dharan. J Nepal Medical Association. 2013;;52(189):205–12.
11. Sharma I, Bhattarai M, Sigdel MR. Global Dialysis Perspective: Nepal. Kidney360. 2022;28;3(7):1269–74.
12. Teles F, de Azevedo VFD, de Miranda CT, de Melo Miranda MP, Teixeira MDC, Elias RM. Depression in Haemodialysis patients: the role of dialysis shift. Clinics. 2014;69(3):198–202.
13. Elliott DA. Haemodialysis. Clin Tech Small Anim Pract. 2000;15(3):136–48.
14. Rosenberg M. Overview of the management of chronic kidney disease in adults. Available at: https://www.uptodate.com/contents. Accessed on 21 January 2025.
15. Unsal Avdal E, Ayvaz İ, Özgursoy Uran BN, Yildirim JG, Sofulu F, Pamuk G. Opinions of Haemodialysis and peritoneum patients regarding depression and psychological problems which they experience: A qualitative study. J Infect Public Health. 2020;13(12):1988–92.
16. Cengić B, Resić H. Depression in Haemodialysis Patients. Bosn J Basic Med Sci. 2010;10(1):73-8.
17. Cengić B, Resić H. Depression in Haemodialysis Patients. Bosn J Basic Med Sci. 2010;10(1):1.
18. Ranabhat K, Khanal P, Mishra SR, Khanal A, Tripathi S, Sigdel MR. Health related quality of life among haemodialysis and kidney transplant recipients from Nepal: A cross sectional study using WHOQOL-BREF. BMC Nephrol. 2020;21(1):1–8.
19. Shrestha S, Ghotekar LR, Sharma SK, Shangwa PM, Karki P. Assessment of Quality of Life in Patients of End Stage Renal Disease on Different Modalities of Treatment. J Nepal Medical Asso. 2008;1;47(169):1–6.
20. Dehghan M, Namjoo Z, Mohammadi Akbarabadi F, Fooladi Z, Zakeri MA. The relationship between anxiety, stress, spiritual health and mindfulness among patients undergoing Haemodialysis: A survey during the COVID-19 outbreak in Southeast Iran. Health Sci Rep. 2021;4(4):461.
21. Sadat hoseini AS, Razaghi N, Khosro Panah AH, Dehghan Nayeri N. A Concept Analysis of Spiritual Health. J Rel Health. 2017;58(4):1025–46.
22. Aghajani M, Afaze MR, Morasai F. The Effect of Spirituality Counseling on Anxiety and Depression in Haemodialysis Patients. Evidence Based Care. 2014;1;3(4):19–28.
23. Durmuş M, Ekinci M. The Effect of Spiritual Care on Anxiety and Depression Level in Patients Receiving Haemodialysis Treatment: a Randomized Controlled Trial. J Religion Health. 2021;61(3):2041–55.
24. Risal A, Manandhar K, Linde M, Koju R, Steiner TJ, Holen A. Reliability and Validity of a Nepali-language Version of the Hospital Anxiety and Depression Scale (HADS). Kathmandu Univ Med. 2015;13(50):115–24.
25. Rana M, Prajapati R, Chaudhari J, Gautam B, Gurung B. Quality of life and coping in parents raising children with duchenne muscular dystrophy (DMD) In Nepal. J Psych Association of Nepal. 2020;9(2):30–41.
26. Shanmukham B, Varman M, Subbarayan S, Sakthivadivel V, Kaliappan A, Gaur A, et al. Depression in Patients on Haemodialysis: A Dilapidated Facet. Cureus. 2023;14(9):1237.
27. García-Martínez P, Ballester-Arnal R, Gandhi-Morar K, Castro-Calvo J, Gea-Caballero V, Juárez-Vela R, et al. Perceived Stress in Relation to Quality of Life and Resilience in Patients with Advanced Chronic Kidney Disease Undergoing Haemodialysis. International J Enviro Res Public Health. 2021;18(2):536.
28. Alencar SBV, de Lima FM, Dias LDA, Dias VDA, Lessa AC, Bezerra JM, et al. Depression and quality of life in older adults on Haemodialysis. Braz J Psychiatry. 2020;42(2):195–200.
29. Hedayati SS, Minhajuddin AT, Toto RD, Morris DW, Rush AJ. Validation of Depression Screening Scales in Patients With CKD. American J Kidney Dis. 2009;1;54(3):433–9.
30. Santos NC, Miravitlles M, Camelier AA, de Almeida VDC, Tosta Maciel RRB, Rosa CFW. Prevalence and Impact of Comorbidities in Individuals with Chronic Obstructive Pulmonary Disease: A Systematic Review. Tuberc Respir Dis (Seoul). 2022;85(3):205.
31. Lee SE, Han K, Kang YM, Kim SO, Cho YK, Ko KS, et al. Trends in the prevalence of metabolic syndrome and its components in South Korea: Findings from the Korean National Health Insurance Service Database (2009–2013). PLoS One. 2023;13(3):194490.

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