Volume 3, Issue 3, 2025

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

CORRELATION OF ANXIETY, AND DEPRESSION WITH SELF-CARE ABILITIES IN HEMODIALYSIS PATIENTS AT PUBLIC TERTIARY CARE HOSPITAL OF PESHAWAR KPK

Shakila Karim[*1], Dr. Sabahia Khanam[2], Zartasha[3], Zubaida Khatoon[4], Noor Ul Islam[5]

[*1]*Deputy Director (Nursing) DGHS KP Peshawar*
[2]*Assistant Professor Institute of Nursing Sciences Khyber Medical University Peshawar*
[3]*Principal Mirpur Institute of Medical Sciences Azad Jammu and Kashmir*
[4]*Assistant Professor State Nursing College Mirpur Azad Jammu and Kashmir*
[5]*Assistant Professor Pak International Nursing College PIMS Hospital Peshawar*

[*1]shakeela.lrh@gmail.com

DOI: https://doi.org/10.5281/zenodo.15354945

Keywords
Anxiety, Depression, Self-care abilities, Hemodialysis, Correlation

Article History
Received on 29 March 2025
Accepted on 29 April 2025
Published on 07 May 2025

Corresponding Author: *
Shakila Karim

Abstract

Introduction: *Chronic kidney failure is the major problem of concern. Hemodialysis is the most common treatment option for the patients with CKD. A variety of complications are associated with psychological disorders such as anxiety and depression. Self-care abilities are of the patients is very important to maintain their health.* ***Objectives:*** *to evaluate the anxiety, depression and self-care abilities among patients undergo hemodialysis and to evaluate the association of anxiety and depression with self-care abilities.* ***Methodology:*** *An analytical cross-sectional study was carried out institute of kidney diseases Peshawar. Overall, 278 participants were included in the study. The patients more than 18 years of age and visiting for the hemodialysis twice a week were included in the study. Data were collected using adopted questionnaires. The study was approved from ethical review board of Khyber Medical University Peshawar. Data was analyzed using SPSS version 24.* ***Results:*** *The mean age of the participants was 38.72 years. Most (38.1%) of the participants were from the age group of 25 to 35 years while 41% of the participants were educated to primary level. 72.2% of the participants were married, 79.5% of the participants was unemployed. 45% and 49% of the participants were reported moderate anxiety and depression. There was significant correlation among anxiety and depression with self-care abilities.* ***Conclusion:*** *It was concluded from the study that patients undergo hemodialysis experience anxiety and depression. Self-care abilities are correlated with psychological complications.*

INTRODUCTION

The chronic kidney disease, also known as CKD, is one of the most significant health concerns globally. Chronic kidney disease (CKD) is another name for chronic kidney failure. A condition known as chronic kidney disease (CKD) is one in which the kidneys are unable to remove waste items from the blood or excess fluid from the body (1,2). Currently, chronic kidney disease is ranked as the 12th biggest cause of death. Approximately 697.5 million instances of chronic kidney disease were recorded all over the world. The incidence of chronic kidney disease is 9.1 percent (3). Globally, CKD resulted in 1.2 million deaths and considered the 12

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

leading causes of death. Similarly, in attribution to the cardiovascular diseases, CKD contributed to the mortality rate of 1.4 million deaths worldwide (4).

Hemodialysis is the mode of treatment for chronic kidney disease that is most frequently used by patients. Hemodialysis is a complicated procedure that requires input from many different specialists. Hemodialysis is typically carried out twice each week, and a single session might last anywhere from four to five hours. The patient needs hemodialysis, as well as nutritional supplements and blood transfusions in addition to their treatment. Because of the arteriovenous fistula (AVF), the patient needs additional care both in the hospital and at home (5,6).

Both the disease and its treatment have the potential to cause a wide range of side effects and problems in young patients. The conditions of hyperkalemia, hypertension, anemia, proteinuria, acidosis, metabolic bone disorders, growth failure, cognitive impairment, infections, arteriovenous fistula malfunctions, and bleeding are among the most prevalent complications of chronic kidney disease (CKD) and hemodialysis (7–9).

The treatment that the patients receive will determine the severity of any problems, co-morbidities, and life expectancy issues that may arise. At addition to receiving care in hospitals and other medical facilities, patients diagnosed with CKD also receive the same level of consideration and support from their families. To ensure that patients receive appropriate and consistent care, the job of caregivers is of the utmost significance. Patients who have CKD can have their life expectancy increased if they are effectively managed. This not only reduces the clinical burden of the disease, but it also increases the likelihood that patients will live longer (10,11).

Patients who suffer from chronic renal disease are more likely to experience neuropsychiatric issues, such as clinical depression, anxiety disorders, and cognitive impairment. These illnesses frequently result in a decline in one's quality of life, as well as extended hospital stays and increased mortality rates (12). Depression and anxiety are the important psychological problems of end-stage renal diseases (ESRD). Maintenance hemodialysis (MHD) patients have a high level of anxiety and depression and reduced daily physical activity (DPA) and exercise capacity (13).

In addition, patients confront a number of obstacles when attempting to implement self-care techniques for the changes in lifestyle that are advised in conjunction with hemodialysis, such as modifications to their food and exercise routines (14). As a result of the challenges that patients confront while attempting to perform self-care at home, patient attitudes regarding their capacity to perform self-care play an important part in determining how they approach treatment regimens. Patients who have faith in their capacity to carry out self-care duties are more likely to really carry out those duties (15).

Patients with higher self-care abilities are more able to stick to prescribed medications or recommended diet and exercise plans provided by health professionals. This is because patients with higher self-care abilities are better able to care for themselves. This fundamental faith in one's own capabilities for self-care serves as the foundation for human drive, achievements in performance, and emotional well-being. Therefore, higher capacities for self-care are connected with increased treatment compliance; behaviors viewed as improving health, as well as increased levels of both physical and psychological well-being (16,17). The current study is there for designed to the level anxiety and depression with self-care abilities in hemodialysis patients and also explore the correlation of anxiety, and depression and self-care abilities among patients undergoing hemodialysis.

Methodology:

An analytical cross-sectional study was carried out in Peshawar Khyber Pakhtunkhwa. Participants were employed from Institute of Kidney Diseases Peshawar Khyber Pakhtunkhwa. The sample size for the study was calculated with 95% CI, 5% margin of error and 50% prevalence a proportionate the estimated sample size for the study was 278. All the participants with the age

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

18 years and above, attending the dialysis room twice a week for the last six months and who understand and speak Pashto or Urdu were included in the study.

Data was collected using two scales i.e. Hospital Anxiety and Depression Scale (HADS) and self-care abilities Scale. The data were collected after the approval from KMU AS&RB, ERB, and the concerned hospital head. Inform consents were taken from each of the participants before conducting the study. Data was analyzed using SPSS version 24.

Results:

The basic aim of the study was to evaluate the anxiety and depression among the patients undergoing hemodialysis and its impact in the self-care abilities. The mean age of the participants were 38.72 years with SD of 8.037. The majority (38.1%) of the participants were from the age group of 25 to 35 years while more than half (53.2%) of the participants were female. overall, 41% of the participants were educated to primary level. 72.2% of the participants were married, 20.5% were unmarried and 6.8% of the participants were divorced. The majority (79.5%) of the participants was unemployed and 7.6% of them were retired (Table 1).

Table 1: socio-demographic profile of the participants, n=278

	Frequency	Percent	Valid Percent	Cumulative Percent
Age of the Participants				
Less than 25 Years	38	13.7	13.7	13.7
25-35 Years	106	38.1	38.1	51.8
36-45 Years	62	22.3	22.3	74.1
More than 45 Years	72	25.9	25.9	100.0
Total	278	100.0	100.0	
Gender of the Participants				
Male	130	46.8	46.8	46.8
Female	148	53.2	53.2	100.0
Total	278	100.0	100.0	
Qualification of the Participants				
Illiterate	41	14.7	14.7	14.7
Primary	114	41.0	41.0	55.8
Diploma	88	31.7	31.7	87.4
Bachelor Degree	35	12.6	12.6	100.0
Total	278	100.0	100.0	
Marital status of the participants				
Married	202	72.7	72.7	72.7
Single	57	20.5	20.5	93.2
Divorced	19	6.8	6.8	100.0
Total	278	100.0	100.0	
Occupational Status of the patient				
Unemployed	221	79.5	79.5	79.5
Azaad worker	36	12.9	12.9	92.4
Retired	21	7.6	7.6	100.0
Total	278	100.0	100.0	

Volume 3, Issue 3, 2025

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Overall Anxiety:

Overall, anxiety was assessed among the participants. The majority (45%) of the participants were reported moderate anxiety followed by mild anxiety (30%) and severe anxiety (25%). Results are shown in Figure 1.

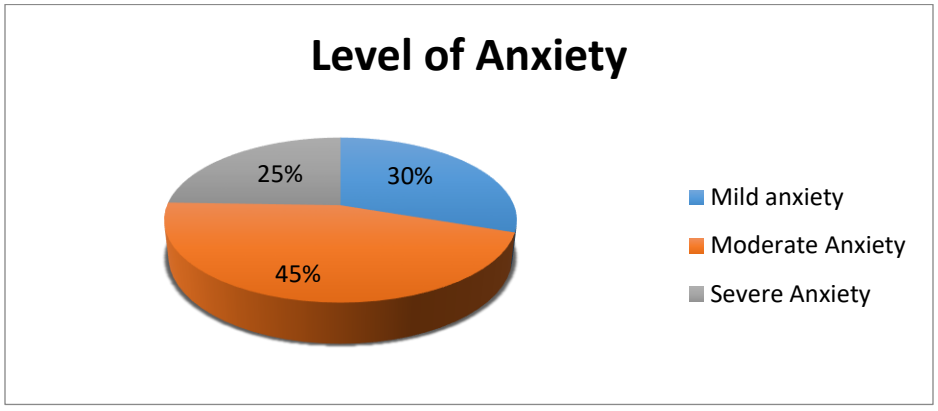

Figure 1: Level of anxiety among the participants

Overall depression:

Overall, Depression was assessed among the participants. The majority (49%) of the participants were reported moderate depression followed by mild depression (28%) and severe depression (23%). Results are shown in Figure 5.

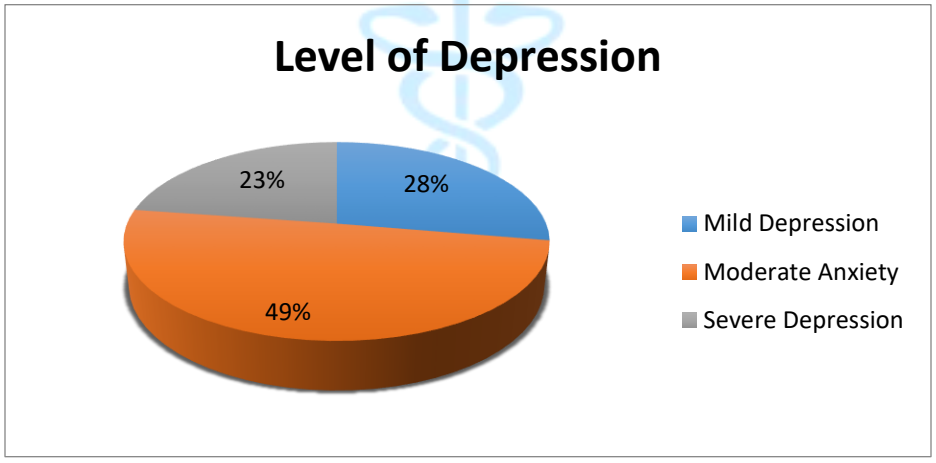

Figure 1: Level of depression among the participants

Correlation:

Pearson Correlation test was applied to evaluate the correlation among the anxiety, depression with self-care abilities. There was significant correlation (P=0.007) among anxiety and self-care abilities. Also, no correlation (P=0.01) was recorded among the level of depression and self-care abilities. In addition, significant association (P=0.000) among the anxiety and depression was evaluated (Table 2).

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Table 2: Correlation among anxiety, depression and self-care abilities, n=278

Correlations				
		Self-Care Abilities	Depression	Anxiety
Self-Care Abilities	Pearson Correlation	1	.022	-.034
	Sig. (2-tailed)		.01	.007
	N	278	278	278
Depression	Pearson Correlation	.022	1	.246**
	Sig. (2-tailed)	.01		.000
	N	278	278	278
Anxiety	Pearson Correlation	-.034	.246**	1
	Sig. (2-tailed)	.007	.000	
	N	278	278	278
**. Correlation is significant at the 0.01 level (2-tailed).				

Discussion:

The basic aim of the study was to evaluate the anxiety and depression among the patients undergoing hemodialysis and its correlation self-care abilities. In this study, moderate anxiety was reported among 45% of the patients on hemodialysis while 30% patients reported mild anxiety while severe anxiety was reported among 25% patients. These findings were reported by another similar study which reported anxiety among 52% hemodialysis patients (18). Another similar study also reported the similar findings and reported that 45.5% of the patients on hemodialysis patients experience mild to moderate anxiety (19).

Supporting the current study findings, a study reported that 26% of the patients undergo hemodialysis experience severe anxiety while 52% experiencing moderate anxiety (20). In contrast, another study reported that only 22% of the patients on hemodialysis reported mild anxiety (21). The anxiety among the patients undergoing hemodialysis may be due to the fix schedule of hemodialysis and severe complications associated with hemodialysis (22).

In this study, the majority (49%) of the participants were reported moderate depression followed by mild depression (28%) and severe depression (23%). Supporting the current findings, a similar study also reported that depression is major problem of concern. Depression was reported among 50.5% patients undergoing hemodialysis (23). Similarly, another study also provided in line findings and reported that 51% of the patients undergoing hemodialysis reported depression (24). Moreover, another study also supported the findings of the current study and reported that moderate level of depression was reported among 53% patients following hemodialysis treatment (25).

The lifelong dialysis therapy with at least three dialysis sessions per week, patients taking too much medication at once, the financial load on patients and their families, and the altered familial and social ties could all be contributing factors to this conclusion. Numerous studies with similar results found an increase in depression from baseline toward the conclusion of the trial period (26–28).

According to Keskin et al., depression increases the likelihood of suicide attempts and serves as a risk factor for suicidal ideation. As a result, HD patients need to undergo routine psychiatric evaluations, and all risk factors need to be thoroughly assessed (29). In a group of chronic HD patients, depression symptoms were linearly rising, and there was a strong correlation between depressive symptoms and poor sleep, unemployment, pruritus, hypo-albuminuria, and diabetes. Depression risk was higher for women (30).

In this study unsatisfactory self-care abilities were reported among the patients undergoing hemodialysis. Almost similar findings were reported by another study. For 78.3% of the patients, being able to care for one was desirable.

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Vascular access (73%) and following a diet (73%), respectively, were the two most desirable and unwanted self-care skills among survey participants (31).

In this study significant correlation was identify among the anxiety and depression with self-care abilities among patients undergo hemodialysis. Different findings were reported among another study. In 62.5% of patients, perceived anxiety and depression was low, whereas in 37.5 % of patients, it was high. While there was no link found between anxiety and self-care score (P=0.089, r=-0.193), there was a substantial negative correlation between the perceived stress score and the self-care score (P=0.001, r=-0.376) (32).

Similarly, another study also supported the findings of the current study and revealed a correlation among the self-care abilities among the hemodialysis patients and physiological consequences such as anxiety and depression (33). The ability to take care of oneself is linked to decreased negative psychological issues and more positive psychological transformations. Therefore, by developing programs to enhance patients' capacity for self-care, healthcare professionals can assist hemodialysis patients in improving their psychological states (34,35).

Conclusion:

Anxiety and depression among the patients undergo hemodialysis is a challenging issues because it is linked with the self-care abilities of the patients. It was concluded from the study that patients undergo hemodialysis experience anxiety and depression. Self-care abilities are correlated with psychological complications. Different strategies are needed to address the psychological consequences among the hemodialysis patients to enhance their self-care abilities and promote health.

REFERENCES:

1. Romagnani P, Remuzzi G, Glassock R, Levin A, Jager KJ, Tonelli M, et al. Chronic kidney disease. Nat Rev Dis Prim. 2017;3(November):45–53.
2. Perico N, Remuzzi G. Chronic kidney disease: A research and public health priority. Nephrol Dial Transplant. 2012;27(SUPPL. 3):19–26.
3. Lv J-C, Zhang L-X. Prevalence and Disease Burden of Chronic Kidney Disease. Adv Exp Med Biol. 2019;11:3–15.
4. Ellen F C. The impact of chronic kidney disease on global health. Nat Rev Nephrol. 2020;16(May):709–33.
5. Thorsteinsdottir B, Ramar P, Hickson LJ, Reinalda MS, Albright RC, Tilburt JC, et al. Care of the dialysis patient: Primary provider involvement and resource utilization patterns - a cohort study. BMC Nephrol [Internet]. 2017;18(1):322–30. Available from: https://doi.org/10.1186/s12882-017-0728-x
6. Rushing J. Caring for a patient's vascular access for hemodialysis. Nurs Manage. 2016;41(10):47–54.
7. Wong H, Mylrea K, Feber J, Drukker A, Filler G. Prevalence of complications in children with chronic kidney disease according to KDOQI. Kidney Int [Internet]. 2016;70(3):585–90. Available from: http://dx.doi.org/10.1038/sj.ki.5001608
8. Becherucci F, Roperto RM, Materassi M, Romagnani P. Chronic kidney disease in children. Clin Kidney J [Internet]. 2016/06/05. 2016 Aug;9(4):583–91. Available from: https://pubmed.ncbi.nlm.nih.gov/27478602
9. Kaspar CDW, Bholah R, Bunchman TE. A Review of Pediatric Chronic Kidney Disease. Blood Purif [Internet]. 2016;41(1–3):211–7. Available from: https://www.karger.com/DOI/10.1159/000441737

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

10. Levy Erez D, Krause I, Dagan A, Cleper R, Falush Y, Davidovits M. Impact of Pediatric Chronic Dialysis on Long-Term Patient Outcome: Single Center Study. Kershaw DB, editor. Int J Nephrol [Internet]. 2016;2016:2132387. Available from: https://doi.org/10.1155/2016/2132387
11. Caskey FJ, Morton RL. Optimising care for children with kidney disease. Lancet [Internet]. 2017;389(10084):2084–6. Available from: http://dx.doi.org/10.1016/S0140-6736(17)30267-2
12. Silva ACS, Miranda AS, Rocha NP, Teixeira AL. Neuropsychiatric disorders in chronic kidney disease. Front Pharmacol. 2019;10(JULY):1–11.
13. Mosleh H, Alenezi M, Al Johani S, Alsani A, Fairaq G, Bedaiwi R. Prevalence and Factors of Anxiety and Depression in Chronic Kidney Disease Patients Undergoing Hemodialysis: A Cross-sectional Single-Center Study in Saudi Arabia. Cureus [Internet]. 2020 Jan 15;12(1):e6668–e6668. Available from: https://pubmed.ncbi.nlm.nih.gov/31976185
14. Lopes AA, Lantz B, Morgenstern H, Wang M, Bieber BA, Gillespie BW, et al. Associations of self-reported physical activity types and levels with quality of life, depression symptoms, and mortality in hemodialysis patients: the DOPPS. Clin J Am Soc Nephrol. 2014;9(10):1702–12.
15. Lev EL, Owen S V. A prospective study of adjustment to hemodialysis. Nephrol Nurs J. 2019;25(5):495–502.
16. Rayyani M, Malekyan L, Forouzi MA, Haghdoost A, Razban F. Self-care self-efficacy and quality of life among patients receiving hemodialysis in South-East of Iran. Asian J Nurs Educ Res. 2018;4(2):165–71.
17. Martos-Méndez MJ. Self-efficacy and adherence to treatment: the mediating effects of social support. J Behav Heal Soc Issues. 2019;7(2):19–29.
18. Murtagh FEM, Addington-Hall J, Higginson IJ. The prevalence of symptoms in end-stage renal disease: a systematic review. Adv Chronic Kidney Dis. 2018;14(1):82–99.
19. Cukor D, Coplan J, Brown C, Friedman S, Newville H, Safier M, et al. Anxiety disorders in adults treated by hemodialysis: a single-center study. Am J kidney Dis. 2019;52(1):128–36.
20. Cohen SD, Cukor D, Kimmel PL. Anxiety in patients treated with hemodialysis. Clin J Am Soc Nephrol. 2016;11(12):2250–5.
21. Schouten RW, Haverkamp GL, Loosman WL, Chandie Shaw PK, van Ittersum FJ, Smets YFC, et al. Anxiety Symptoms, Mortality, and Hospitalization in Patients Receiving Maintenance Dialysis: A Cohort Study. Am J Kidney Dis [Internet]. 2019;74(2):158–66. Available from: https://doi.org/10.1053/j.ajkd.2019.02.017
22. Lucas MF, Teruel JL, Ruíz-Roso G, Díaz M, Raoch V, Caravaca F, et al. Incremental Hemodialysis Schedule in Patients with Higher Residual Renal Function at the Start of Dialysis. Malhotra D, editor. Adv Nephrol [Internet]. 2019;20:236245. Available from: https://doi.org/10.1155/2014/236245
23. Nelson V, Gopalakrishnan S, Simon S, Babu V, Vikraman V, Abraham S, et al. Depression Among Dialysis Patients. Natl Kidney Found J Nephrol Soc Work. 2016;40(2):34–7.
24. Cengić B, Resić H. Depression in hemodialysis patients. Bosn J basic Med Sci. 2019 Apr;10 Suppl 1(Suppl 1):S73-8.

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

25. Musa AS, Pevalin DJ, Al Khalaileh MAA. Spiritual Well-Being, Depression, and Stress Among Hemodialysis Patients in Jordan. J Holist Nurs [Internet]. 2017 Nov 1;36(4):354–65. Available from: https://doi.org/10.1177/0898010117736686
26. Drayer RA, Piraino B, Reynolds III CF, Houck PR, Mazumdar S, Bernardini J, et al. Characteristics of depression in hemodialysis patients: symptoms, quality of life and mortality risk. Gen Hosp Psychiatry. 2020;28(4):306–12.
27. Preljevic VT, Østhus TBH, Sandvik L, Opjordsmoen S, Nordhus IH, Os I, et al. Screening for anxiety and depression in dialysis patients: comparison of the Hospital Anxiety and Depression Scale and the Beck Depression Inventory. J Psychosom Res. 2022;73(2):139–44.
28. Tavallaii SA, Ebrahimnia M, Shamspour N, Assari S. Effect of depression on health care utilization in patients with end-stage renal disease treated with hemodialysis. Eur J Intern Med. 2019;20(4):411–4.
29. Araujo SMHA, de Bruin V, Daher E de F, Almeida GH, Medeiros CAM, de Bruin PFC. Risk factors for depressive symptoms in a large population on chronic hemodialysis. Int Urol Nephrol. 2019;44(4):1229–35.
30. Keskin G, Engin E. The evaluation of depression, suicidal ideation and coping strategies in haemodialysis patients with renal failure. J Clin Nurs. 2021;20(19-20):2721–32.
31. Atashpeikar S, Jalilazar T, Heidarzadeh M. Self-care ability in hemodialysis patients. J caring Sci. 2019 May;1(1):31–5.
32. Zibaei M, Nobahar M, Ghorbani R. Association of stress and anxiety with self-care in hemodialysis patients. J Ren Inj Prev [Internet]. 2020;9(2):e14–e14. Available from: https://doi.org/10.34172/jrip.2020.14
33. Sadeghpour F, Heidarzadeh M, Kohi F, Asadi R, Aghamohammadi-Kalkhoran M, Abbasi F. The Relationship between "Self-Care Ability" and Psychological Changes among Hemodialysis Patients. Indian J Palliat Care. 2020;26(3):276–80.
34. Cheng J, Yang D, Zuo Q, Peng W, Zhu L, Jiang X. Correlations between uncertainty in illness and anxiety, depression and quality of life in patients receiving maintenance haemodialysis: A cross-sectional study. Nurs open. 2022;9(2):1322–31.
35. Griva K, Lam KFY, Nandakumar M, Jo-an HN, McBain H, Newman SP. The effect of brief self-management intervention for hemodialysis patients (HED-SMART) on trajectories of depressive and anxious symptoms. J Psychosom Res. 2018;113:37–44.