Research letter

Psychology

The Albanian version of the Hospital Anxiety and Depression Scale in acute and chronic medical conditions: a scale adaptation study

Eralba Zenelaj[1], Jasemin Todri[2]*, Orges Lena[2]

[1]PhD Program in Health Science, UCAM Universidad Católica San Antonio de Murcia, Murcia, Spain
[2]ÍTEM – Innovation in Manual and Physical Therapies, Research Group, Physiotherapy Department, UCAM Universidad Católica San Antonio de Murcia, Murcia, Spain

Submitted: 28 June 2026; **Accepted:** 18 September 2026
Online publication: 21 October 2026

Arch Med Sci 2026; 22 (5): 3124–3130
DOI: https://doi.org/10.5114/aoms/237554
Copyright © 2026 Termedia & Banach

***Correspondence author:**
Jasemin Todri
ITEM-Innovation in Manual and Physical Therapies" Research Group
Physiotherapy Department
UCAM Universidad Católica San Antonio de Murcia
Campus de los Jerónimos Nº 135 Guadalupe 30107
Murcia, Spain
E-mail: jtodri@ucam.edu

Psychological distress is highly prevalent among individuals with medical illnesses and represents an important determinant of health outcomes, treatment adherence, quality of life, and healthcare utilization. Anxiety and depressive symptoms frequently coexist with both acute and chronic physical conditions, often contributing to increased symptom burden and poorer functional status. These psychological manifestations may remain underrecognized in clinical settings because somatic symptoms of medical illness can overlap with emotional symptoms, making accurate assessment particularly challenging. Therefore, the use of reliable and valid screening instruments is essential for the early identification of anxiety and depression in medical populations [1].

The Hospital Anxiety and Depression Scale (HADS) is one of the most widely used instruments for screening symptoms of anxiety and depression among patients with physical illnesses. Developed specifically for medical settings, HADS was designed to minimize the influence of somatic symptoms that could confound psychological assessment in medically ill individuals. The instrument consists of 14 items divided into two subscales assessing anxiety (HADS-A) and depression (HADS-D), allowing simultaneous evaluation of both constructs while reducing the impact of physical symptoms associated with disease [2]. Owing to its brevity and ease of administration, HADS has been implemented across a broad range of clinical populations and healthcare environments.

Extensive evidence supports the usefulness of HADS as a screening measure in diverse patient groups. Studies have demonstrated its applicability in surgical patients, dialysis populations, rheumatologic conditions, ophthalmologic settings, and community samples [3–7]. The depression subscale has also shown acceptable diagnostic performance for identifying major depressive symptoms across multiple populations [8]. In addition, HADS has been applied among older adults and general populations, where psychometric evaluations have supported its suitability for identifying emotional distress [1]. Nevertheless, the performance characteristics of screening instruments may vary according to clinical context, demographic characteristics, and underlying disease burden.

Although HADS has demonstrated favorable psychometric properties, questions regarding its dimensional structure remain an area of ongoing investigation. While the original conceptualization proposed two sepa-

Creative Commons licenses: This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY -NC -SA 4.0). License (http://creativecommons.org/licenses/by-nc-sa/4.0/).

rate dimensions representing anxiety and depression, subsequent studies have reported differing structural models, including one-factor, two-factor, three-factor, and bifactor solutions [9, 10].

Recent theoretical and methodological analyses have emphasized the importance of examining the underlying structure of HADS across specific clinical populations, as symptom patterns and psychological experiences may differ substantially according to disease characteristics [4]. Additionally, investigations of abbreviated versions and alternative structural models have suggested potential variations in scale performance across settings [11].

Individuals with long-standing illnesses often experience persistent symptoms, functional limitations, uncertainty regarding prognosis, and substantial psychosocial stressors that may increase vulnerability to anxiety and depression. Previous research has shown that chronic disease burden may influence responses to psychological screening measures and potentially affect their psychometric properties [6]. In contrast, psychological responses associated with acute illnesses may reflect temporary distress related to symptom onset or immediate treatment concerns. Understanding whether psychometric characteristics differ between acute and chronic medical populations may provide important information regarding the applicability and stability of screening instruments in these contexts.

Cross-cultural adaptation and validation of psychological assessment instruments are also essential to ensure conceptual equivalence and measurement accuracy across linguistic and cultural settings. Psychometric properties established in one population cannot automatically be generalized to another without empirical evaluation. Despite the widespread use of HADS internationally, evidence regarding the psychometric performance of the Albanian version remains limited, particularly among heterogeneous medical populations and across different disease conditions.

Therefore, the present study aimed to evaluate the psychometric properties of the Albanian version of the Hospital Anxiety and Depression Scale (Alb-HADS) among patients with acute and chronic medical conditions. Specifically, the study assessed internal consistency, construct validity, factor structure, and other reliability indicators while also comparing anxiety and depression symptom patterns between acute and chronic clinical populations.

Methods. ***Study design and participants.*** This cross-sectional psychometric study was conducted among Albanian-speaking adults receiving medical care in primary healthcare centers in Tirana, Albania. Participants were recruited consecutively during routine clinical visits. Eligibility was assessed by the attending healthcare professional, who confirmed the presence of a medical condition and classified the condition as acute or chronic according to the clinical diagnosis and disease history.

Participants were eligible if they were aged ≥ 18 years, were able to communicate and read in Albanian, were receiving care for an acute or chronic medical condition, and were able to provide written informed consent. Patients were excluded if they had severe cognitive impairment that could interfere with questionnaire completion, an acute psychiatric condition that prevented reliable completion of the questionnaire, or incomplete questionnaire data.

No additional psychiatric diagnosis was required for participation because the purpose of the study was to evaluate the performance of the Alb-HADS in patients receiving care for medical conditions rather than in a psychiatric population. Patients with anxiety or depressive symptoms were not excluded unless their psychiatric condition prevented reliable participation.

Sociodemographic information included age, sex, educational level, employment status, and disease phase. The acute group included patients with recently developed medical conditions, whereas the chronic group included patients with established conditions requiring ongoing or long-term medical management.

Instrument: Hospital Anxiety and Depression Scale (HADS). Psychological distress was assessed using the HADS, a self-administered instrument consisting of 14 items divided into two subscales: anxiety (HADS-A; seven items) and depression (HADS-D; seven items). Each item is scored on a four-point Likert scale (0–3), yielding subscale scores ranging from 0 to 21 and a total HADS score ranging from 0 to 42. Higher scores indicate greater symptom severity [2, 12].

The HADS was originally developed for detecting anxiety and depressive symptoms in medical populations and has been widely validated across hospital, community, and primary-care settings [12].

Translation and cultural adaptation. The Albanian version of the HADS was developed using a structured cross-cultural adaptation process. The original instrument was independently translated forward into Albanian, followed by back-translation into English. The translated and back-translated versions were reviewed by the research team to assess semantic, conceptual, and cultural equivalence with the original instrument. Particular attention was given to items that could have different meanings or levels of comprehensibility in the Albanian clinical context.

Before the main validation study, the translated questionnaire was pilot tested among Albanian-speaking patients to assess clarity, comprehensibility, wording, and cultural appropriateness. Participants were invited to identify items that were difficult to understand or potentially ambiguous, and the research team reviewed their feedback before finalizing the version used in the present study.

Formal cognitive debriefing interviews were not conducted. Pilot testing was used to assess the clarity and comprehensibility of the translated items before the main study.

The Albanian HADS translation and validation results have not been previously published. The present manuscript reports the psychometric evaluation of the Albanian version in patients with acute and chronic medical conditions.

Psychometric evaluation. The psychometric properties of the Albanian HADS were assessed separately for acute and chronic clinical groups.

Reliability analysis. Internal consistency was evaluated using Cronbach's α coefficients for HADS-A, HADS-D, and total HADS scores. McDonald's omega coefficients were additionally calculated to assess scale reliability. Corrected item-total correlations and average inter-item correlations were examined to determine item homogeneity. Test–retest reliability was assessed in a subgroup of participants who were considered clinically stable between assessments. Participants completed the Alb-HADS at baseline and again after 7 days under similar administration conditions. The second assessment was performed without any modification to the questionnaire. The interval was selected to minimize the possibility of meaningful clinical change while reducing the likelihood of participants recalling their previous responses.

Test–retest reliability was evaluated using the intraclass correlation coefficient (ICC), with the ICC specified as ICC(2,1) and 95% confidence intervals. ICC values were interpreted according to established reliability criteria.

Construct validity. A separate external measure of anxiety or depression was not administered in the present study; therefore, formal convergent validity could not be assessed. Construct validity was instead examined through exploratory factor analysis, item–total correlations, and inter-item correlations.

Construct validity was examined using exploratory factor analysis (EFA). Sampling adequacy was assessed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity. Factor extraction was based on eigenvalues > 1 and examination of the theoretical two-factor structure representing anxiety and depression domains.

Floor and ceiling effects were also evaluated, with effects considered significant if more than 15% of participants achieved the lowest or highest possible scores.

Statistical analysis. Statistical analyses were performed using IBM SPSS Statistics version 25 (IBM Corp., Armonk, NY, USA).

Continuous variables were summarized using means and standard deviations (SD), while categorical variables were presented as frequencies and percentages. Comparisons between acute and chronic disease groups were performed using independent-samples *t*-tests for continuous variables (age and HADS scores) and χ^2 tests for categorical variables (sex, educational level, employment status). Statistical significance was set at $p < 0.05$.

Psychometric analyses included Cronbach's α, McDonald's omega, corrected item–total correlations, intraclass correlation coefficients, and exploratory factor analysis.

To examine whether differences in psychological symptom scores between acute and chronic medical conditions remained after accounting for demographic differences, multiple linear regression analyses were performed. HADS-A, HADS-D, and total HADS scores were entered separately as dependent variables. Disease condition (acute vs. chronic), age, and employment status were included as independent variables. Where appropriate, categorical variables were dummy coded. Regression coefficients (β), 95% confidence intervals, *p*-values, and model R^2 were reported. Multicollinearity and model assumptions were assessed before interpretation. A two-sided *p*-value < 0.05 was considered statistically significant.

Results. Participants with chronic medical conditions were significantly older than those with acute conditions ($p = 0.012$). Chronic-condition participants also demonstrated significantly higher anxiety, depression, and total HADS scores, suggesting greater symptom burden in this subgroup. Employment status differed significantly between groups, with retirement being more frequent among participants with chronic illness (Table I A).

Internal consistency remained strong across both clinical groups, with slightly higher Cronbach's α coefficients observed among participants with chronic conditions. Participants with chronic diseases more frequently endorsed higher symptom severity scores (scores 2–3) across both anxiety and depression items. Particularly notable differences were observed in worrying thoughts, panic symptoms, psychomotor slowing, and reduced enjoyment of activities, suggesting differences in the reported psychological symptoms between chronic- and acute-condition participants (Table I B).

EFA suggested the expected two-factor structure of the Albanian HADS in both acute and chronic clinical groups. Sampling adequacy was high in both subgroups, and Bartlett's test supported factorability of the correlation matrices. Factor loadings were numerically higher among participants with chronic conditions, although this does not establish a more stable latent structure in that group. The percentage of explained variance was also slightly higher in the chronic group, but these findings should be interpreted cautiously given the small subgroup sizes (Table I C).

The Albanian HADS demonstrated preliminary evidence of acceptable psychometric properties

Table I. A – Sociodemographic characteristics and HADS scores of the study participants (N = 100). **B** – Item and score statistics according to condition type. **C** – Exploratory factor analysis of the Albanian HADS according to condition type. **D** – Validity and reliability indicators according to condition type

A

Variable	Acute condition (n = 61)	Chronic condition (n = 39)	P-value
Age [years] mean ± SD	45.8 ±15.1	54.6 ±17.8	0.012
Sex, n (%)			0.214
Male	38 (62.3)	20 (51.3)	
Female	23 (37.7)	19 (48.7)	
Educational level, n (%)			0.327
Primary education	8 (13.1)	10 (25.6)	
Secondary education	30 (49.2)	16 (41.0)	
University education	23 (37.7)	13 (33.3)	
Employment status, n (%)			0.041
Employed	44 (72.1)	19 (48.7)	
Retired	6 (9.8)	11 (28.2)	
Unemployed	11 (18.1)	9 (23.1)	
Mean HADS-A score	7.9 ±4.1	10.1 ±4.8	0.018
Mean HADS-D score	6.3 ±3.5	8.4 ±4.2	0.009
Total HADS score	14.2 ±6.5	18.5 ±7.8	0.006

B

HADS Subscale	Acute condition α	Chronic condition α
HADS-A Total	0.87	0.91
HADS-D Total	0.79	0.85
Total HADS	0.85	0.89
Item	Acute (%)	Chronic (%)
HADS-A1 – Tense or "wound up"	48.0	69.2
HADS-A5 – Worrying thoughts	44.3	71.8
HADS-A13 – Sudden panic feelings	26.2	51.3
HADS-D2 – Reduced enjoyment	19.7	41.0
HADS-D8 – Feeling slowed down	39.3	66.7
HADS-D10 – Less enjoyment in future activities	22.9	48.7

C

Item	Acute factor loading	Chronic factor loading
Anxiety items	0.67–0.82	0.71–0.86
Depression items	0.61–0.77	0.66–0.81
Factor analysis indicators	Acute condition	Chronic condition
KMO measure	0.84	0.88
Bartlett's test	$p < 0.001$	$p < 0.001$
Variance explained	55.2%	61.4%
Number of factors extracted	2	2

Table I. Cont.

D

Psychometric indicator	Acute condition	Chronic condition
Cronbach's α – HADS-A	0.87	0.91
Cronbach's α – HADS-D	0.79	0.85
McDonald's omega	0.86	0.90
Corrected item–total correlation	0.50–0.76	0.58–0.82
Average inter-item correlation	0.39	0.47
Test-retest reliability (ICC)	0.83	0.89
Floor effects	Minimal	Minimal
Ceiling effects	None	None
Construct validity	Good	Excellent

HADS-A – Hospital Anxiety and Depression Scale–Anxiety subscale, HADS-D – Hospital Anxiety and Depression Scale–Depression subscale, HADS – Hospital Anxiety and Depression Scale, SD – standard deviation, n – number of participants, % – percentage.

in both acute and chronic medical populations. Reliability coefficients were consistently higher among participants with chronic conditions, indicating greater internal consistency and scale homogeneity in this subgroup. Corrected item-total correlations and inter-item correlations remained within recommended psychometric ranges for both groups. Test–retest reliability was good in both clinical groups, with ICC values of 0.83 for the acute-condition group and 0.89 for the chronic-condition group. The absence of significant floor or ceiling effects suggests that extreme scores were uncommon (Table I D).

Multiple linear regression analyses were conducted to determine whether the observed differences in HADS scores between acute and chronic conditions remained after adjustment for age and retirement status (Table II). Chronic disease status was not independently associated with HADS-A (B = –0.87, $p = 0.262$), HADS-D (B = –0.03, $p = 0.973$), or total HADS scores (B = –0.89, $p = 0.568$). In contrast, older age was independently associated with higher HADS-A (B = 0.07, $p = 0.034$), HADS-D (B = 0.11, $p = 0.002$), and total HADS scores (B = 0.18, $p = 0.007$). Retirement status was not independently associated with HADS scores.

Discussion. The present study evaluated the psychometric properties of the Alb-HADS among individuals with acute and chronic medical conditions and examined differences in psychological symptom burden across these clinical groups. The findings demonstrated satisfactory reliability and construct validity of the instrument in both populations, while also identifying clinically meaningful differences in anxiety and depression profiles according to disease condition.

Although participants with chronic conditions had higher anxiety, depression, and total HADS scores in the unadjusted comparisons, these differences were not independently associated with disease condition after adjustment for age and retirement status. Older age, rather than chronic disease status itself, was independently associated with higher depression and total HADS scores.

Table II. Multiple linear regression models examining factors associated with HADS scores

Predictor	HADS-A B (SE)	95% CI	*P*-value	HADS-D B (SE)	95% CI	*P*-value	Total HADS B (SE)	95% CI	*P*-value
Chronic condition vs. acute	–0.87 (0.77)	–2.39 to 0.66	0.262	–0.03 (0.85)	–1.72 to 1.66	0.973	–0.89 (1.56)	–4.01 to 2.22	0.568
Age [years]	0.07 (0.03)	0.01 to 0.13	0.034	0.11 (0.04)	0.04 to 0.18	0.002	0.18 (0.06)	0.05 to 0.30	0.007
Retired vs. not retired	–1.51 (1.27)	–4.04 to 1.03	0.240	–2.61 (1.40)	–5.41 to 0.18	0.067	–4.12 (2.59)	–9.29 to 1.05	0.116
R^2	0.065			0.138			0.101		
Adjusted R^2	0.025			0.101			0.062		
Model F (*p*-value)	1.62 (0.193)			3.73 (0.015)			2.61 (0.058)		

B – unstandardized regression coefficient, CI – confidence interval, HADS-A – Hospital Anxiety and Depression Scale–Anxiety, HADS-D – Hospital Anxiety and Depression Scale–Depression, SE – standard error.

This finding suggests that the higher psychological symptom burden observed among participants with chronic conditions may partly reflect differences in demographic characteristics between the groups, particularly age. Therefore, the observed unadjusted differences should not be interpreted as evidence that chronic illness itself is responsible for higher anxiety or depression scores.

The observed differences in psychological symptom severity between acute and chronic disease populations are consistent with previous evidence indicating that long-term medical conditions are frequently accompanied by persistent emotional distress. Chronic illnesses often involve prolonged treatment courses, ongoing physical limitations, uncertainty regarding prognosis, and repeated healthcare interactions, all of which may contribute to increased vulnerability to anxiety and depressive symptoms. Previous studies in populations with metabolic disorders, rheumatologic diseases, chronic respiratory illnesses, and systemic inflammatory conditions have similarly demonstrated elevated levels of psychological distress and greater symptom burden among individuals living with chronic disease [13, 14]. The significantly higher HADS scores identified in the present study support the importance of routine psychological assessment within chronic disease management.

An important finding of this study was the significant age difference between groups, with participants with chronic conditions being older than those with acute conditions. Retirement status was also more common among participants with chronic illness. These findings are clinically plausible because chronic diseases generally become more prevalent with increasing age and may contribute to functional limitations affecting occupational participation. Age-related factors may additionally influence psychological symptom reporting and emotional adaptation to illness. Previous studies evaluating HADS among older populations have suggested that psychological symptoms may manifest differently across age groups and that screening instruments should be interpreted within the clinical context of aging and disease burden [15–17]. Therefore, demographic differences observed between groups may partly contribute to variations in psychological outcomes.

The reliability analyses demonstrated strong internal consistency for both HADS subscales and total scores, with Cronbach's α values ranging from 0.79 to 0.91. Reliability coefficients were consistently higher in participants with chronic diseases. These findings are comparable with psychometric evaluations conducted in various international populations. Studies involving Danish cardiac patients, Chinese general hospital populations, Taiwanese patients, Nepali populations, and Indonesian adaptation studies have similarly reported Cronbach's α values within acceptable to excellent ranges [13, 18–21]. The slightly stronger reliability observed among chronic-condition participants in the present study may reflect more stable emotional symptom patterns among individuals experiencing prolonged illness trajectories. However, the present study does not establish that chronic illness produces more homogeneous symptom patterns.

The item-level analysis further supports this interpretation. Participants with chronic conditions more frequently endorsed higher symptom severity scores across several anxiety and depression items, particularly worrying thoughts, sudden panic symptoms, psychomotor slowing, and reduced enjoyment of activities. These symptoms may represent important emotional consequences of long-term disease management and functional impairment. Previous investigations have demonstrated that specific HADS items may exhibit stronger relationships with clinically significant anxiety or depressive disorders depending on the patient population [22]. Similarly, symptom-specific analyses among patients with traumatic brain injury and chronic diseases have identified worrying thoughts and reduced enjoyment as clinically relevant indicators of emotional distress [23]. The current findings suggest that these symptom domains may be particularly important among individuals with chronic medical conditions.

Exploratory factor analysis suggested the expected two-factor structure of HADS in both acute and chronic disease groups, with anxiety and depression items clustering according to the original conceptual framework. Factor loadings were somewhat stronger among participants with chronic conditions, accompanied by slightly higher explained variance and improved sampling adequacy indices. These findings provide preliminary evidence regarding the factor structure of the Albanian HADS and are consistent with numerous validation studies supporting a two-factor structure across different populations [18–21]. However, previous literature regarding HADS factor structure remains heterogeneous.

In conclusion, the Alb-HADS demonstrated satisfactory reliability and preliminary evidence supporting its expected two-factor structure among adults receiving medical care for acute and chronic conditions. The instrument showed acceptable internal consistency, temporal stability, item homogeneity, and support for the expected two-factor structure of anxiety and depression in both clinical groups.

Although participants with chronic medical conditions showed higher psychological symptom scores in the unadjusted group comparisons, dis-

ease condition was not independently associated with HADS-A, HADS-D, or total HADS scores after adjustment for age and retirement status. Older age was independently associated with higher HADS-D and total HADS scores.

Overall, these findings provide preliminary support for using the Alb-HADS to screen for anxiety and depressive symptoms among Albanian-speaking adults receiving medical care. Further studies with larger samples, broader diagnostic representation, external comparator measures, and criterion-based psychiatric assessments are warranted to strengthen the evidence for its use across Albanian healthcare settings.

Funding

No external funding.

Ethical approval

Approval number: 208/9.

Conflict of interest

The authors declare no conflict of interest.

References

1. Djukanovic I, Carlsson J, Årestedt K. Is the Hospital Anxiety and Depression Scale a valid measure in a general population aged 65-80 years? A psychometric evaluation study. Health Qual Life Outcomes 2017; 15: 193.
2. Brennan C, Worrall-Davies A, McMillan D, Gilbody S, House A. The Hospital Anxiety and Depression Scale: a diagnostic meta-analysis of case-finding ability. J Psychosom Res 2010; 69: 371-8.
3. Falavigna A, Righesso O, Teles AR, et al. Depression subscale of the Hospital Anxiety and Depression Scale applied preoperatively in spinal surgery. Arq Neuropsiquiatr 2012; 70: 352-56.
4. Preljevic VT, Østhus TB, Sandvik L, 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 2012; 73: 139-44.
5. Hitchon CA, Zhang L, Peschken CA, et al. Validity and reliability of screening measures for depression and anxiety disorders in rheumatoid arthritis. Arthritis Care Res 2020; 72: 1130-9.
6. Butnoriene J, Steibliene V, Saudargiene A, Bunevicius A. Does presence of metabolic syndrome impact anxiety and depressive disorder screening results in middle-aged and elderly individuals? A population-based study. BMC Psychiatry 2018; 18: 5.
7. Rishi P, Rishi E, Maitray A, Agarwal A, Nair S, Gopalakrishnan S. Hospital Anxiety and Depression Scale assessment of 100 patients before and after using low vision care: a prospective study in a tertiary eye-care setting. Indian J Ophthalmol 2017; 65: 1203-8.
8. Wu Y, Levis B, Sun Y, et al. Accuracy of the Hospital Anxiety and Depression Scale Depression subscale to screen for major depression: systematic review and individual participant data meta-analysis. BMJ 2021; 373: n972.
9. Lloyd M, Sugden N, Thomas M, McGrath A, Skilbeck C. The structure of the Hospital Anxiety and Depression Scale: theoretical and methodological considerations. Br J Psychol 2023; 114: 457-75.
10. Luciano JV, Barrada JR, Aguado J, Osma J, García-Campayo J. Bifactor analysis and construct validity of the HADS: a cross-sectional and longitudinal study in fibromyalgia patients. Psychol Assess 2014; 26: 395-406.
11. Maatoug R, Gorwood P. The psychometrics of the Hospital Anxiety and Depression Scale supports a shorter 12-item version. Psychiatry Res 2019; 274: 372-6.
12. Zigmond AS, Snaith RP. The Hospital Anxiety and Depression Scale. Acta Psychiatr Scand 1983; 67: 361-70.
13. Christensen AV, Dixon JK, Juel K, et al. Psychometric properties of the Danish Hospital Anxiety and Depression Scale in patients with cardiac disease. Health Qual Life Outcomes 2020; 18: 9.
14. 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. Kathmandu Univ Med J 2015; 13: 115-24.
15. Tiksnadi BB, Triani N, Fihaya FY, et al. Validation of Hospital Anxiety and Depression Scale in an Indonesian population: a scale adaptation study. Fam Med Community Health 2023; 11: e001775.
16. Yang Y, Ding R, Hu D, Zhang F, Sheng L. Reliability and validity of a Chinese version of the HADS for screening depression and anxiety in psycho-cardiological outpatients. Compr Psychiatry 2014; 55: 215-20.
17. Lee Y, Wu YS, Chien CY, Fang FM, Hung CF. Use of the Hospital Anxiety and Depression Scale and the Taiwanese Depression Questionnaire for screening depression in head and neck cancer patients in Taiwan. Neuropsychiatr Dis Treat 2016; 12: 2649-57.
18. Iani L, Lauriola M, Costantini M. A confirmatory bifactor analysis of the Hospital Anxiety and Depression Scale in an Italian community sample. Health Qual Life Outcomes 2014; 12: 84.
19. Cassiani-Miranda CA, Scoppetta O, Cabanzo-Arenas DF. Validity of the Hospital Anxiety and Depression Scale (HADS) in primary care patients in Colombia. Gen Hosp Psychiatry 2022; 74: 102-9.
20. Chan CY, Tsang HL, Lau CS, Chung HY. Prevalence of depressive and anxiety disorders and validation of the Hospital Anxiety and Depression Scale as a screening tool in axial spondyloarthritis patients. Int J Rheum Dis 2017; 20: 317-25.
21. Kwan A, Marzouk S, Ghanean H, et al. Assessment of the psychometric properties of patient-reported outcomes of depression and anxiety in systemic lupus erythematosus. Semin Arthritis Rheum 2019; 49: 260-6.
22. Phan T, Carter O, Adams C, et al. Discriminant validity of the Hospital Anxiety and Depression Scale, Beck Depression Inventory-II and Beck Anxiety Inventory to confirmed clinical diagnosis of depression and anxiety in patients with chronic obstructive pulmonary disease. Chronic Respir Dis 2016; 13: 220-8.
23. Stafford L, Judd F, Gibson P, Komiti A, Quinn M, Mann GB. Comparison of the Hospital Anxiety and Depression Scale and the Center for Epidemiological Studies Depression Scale for detecting depression in women with breast or gynecologic cancer. Gen Hosp Psychiatry 2014; 36: 74-80.