Original Article

Development and validation of Arabic version of the Hospital Anxiety and Depression Scale

ABSTRACT

Introduction: The Hospital Anxiety and Depression Scale (HADS) is widely used to predict and diagnose hospital anxiety and depression. It has been translated and validated in many languages, but the existing Arabic version was not validated in hospitalized patients. The aim was to translate, culturally adapt, and validate the HADS Questionnaire into Arabic language for in-patient use, especially for surgical wards.

Methods: A systematic translation process was used to translate the original English HADS into Arabic. After the pilot study, we validated our version in surgical patients at two tertiary care centers. We tested the reliability of our version using internal consistency. We examined the validity by assessing construct validity, concurrent validity (by testing the associations between HADS, Generalized Anxiety Disorder 7-item scale [GAD-7], and Major Depression Inventory [MDI]), and face validity. The questionnaire was administered before and after surgery to examine responsiveness.

Results: A total of 110 patients (22 men, 88 women) were included in the study. Cronbach's αs for the HADS anxiety subscale were 0.83 (95% confidence interval: 0.79– 0.88) and for the HADS depression subscale were 0.77 (0.7–0.83). Nearly 36% of the patients reported symptoms indicative of borderline or case anxiety before surgery, which decreased to 25% 1 week after surgery. HADS anxiety score was strongly correlated with GAD-7, and HADS depression score was strongly associated with MDI. Patients with higher American Society of Anesthesiologists Physical Status and those who remained hospitalized for more than 5 days were more likely to report depression symptoms. Most patients found the HADS questions to be clear and easy to understand, and thought the questionnaire items covered all their problem areas regarding their hospital anxiety and depression.

Conclusions: Our Arabic version of HADS is a reliable and valid tool to assess the mood states in hospitalized patients.

Key words: Anxiety; Arabic; depression; hospital; questionnaire

Introduction

The emotional aspects of patients' illnesses are sometimes overlooked in daily medical practice. Although most physicians are aware of this reality, they usually have little time to effectively assess and address patients' emotional

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states. A reliable and brief mood assessment tool would help physicians evaluate and address the emotional aspect of their patients. Multiple screening tools were developed to assess anxiety (e.g., Generalized Anxiety Disorder 7-item scale [GAD-7])[1] and depression (e.g., Major Depression Inventory [MDI]).[2] However, they were not primarily designed for use among hospitalized patients.

Zigmond and Snaith[3] introduced the Hospital Anxiety and Depression Scale (HADS) in 1983 to assess the levels of anxiety and depression among patients in nonpsychiatric hospital clinics. The HADS was designed to measure anxiety and depression with two separate subscales. Items describing somatic symptoms of depression (e.g., dizziness and headaches) were eliminated from the scale to reduce the effect of physical illness on the depression scores. The remaining items of the depression subscale were largely based on anhedonic state and chosen carefully to reflect the cognitive and emotional aspects of anxiety. Subsequent systematic review of published HADS studies concluded that the questionnaire is a clinically meaningful psychological screening tool, which is sensitive to changes during the course of diseases, and in response to psychotherapeutic and psychopharmacological intervention. The HADS scores can also predict psychosocial and possibly physical outcome.[4]

An Arabic version of the HADS has been in use since 1987, and has been validated in Saudi Arabia,[5,6] Kuwait,[7] and the United Arab Emirates[8] in primary-care settings. The instrument has also been validated for use in emergency care settings.[9] However, it remains unknown if the existing Arabic version of the HADS works well for hospitalized patients, especially among patients having surgery.

The goal was to translate, culturally adapt, and validate the HADS Questionnaire into Arabic language for in-patient use, especially for surgical wards.

Methods

A repeated measures study was conducted between April 2015 and December 2016 in two tertiary hospitals in Riyadh – Saudi Arabia: King Faisal Specialized Hospital (KFSH) (Institutional Review Board [IRB] approval No. 2141 101) and King Fahad Medical City (KFMC) (IRB approval No. 14-107). Data were captured electronically to standardize the collection process and maintain quality.

Translation and cultural adaptation

Initial translation (forward translation)

Five bilingual translators, from five Arabic countries (Syria, Saudi Arabia, Yemen, Sudan, and Egypt) with different dialects, were assigned. All translators spoke Arabic as their mother language. Two of them were naive translators with no prior knowledge of the concepts being quantified, and they were not from the medical field. Each translator produced a written report of the translation that they completed, after which all the translators met to discuss the translation and came to a consensus of the translated version of the instrument.

Backward translation

Two translators who were totally blind to the original (English) questionnaires were assigned to translate the final Arabic version back into the English language. This is a process of validity check to make sure that the translated version reflects the same item content as the original version. English (the source language) was the mother tongue for these two translators, and they were not aware of the concepts being explored.

An expert committee

It was composed of a methodologist, health professionals, and language professionals. The expert committee's role was to consolidate all the versions of the questionnaire and develop the prefinal version of the questionnaire for field-testing. The committee eventually reviewed all the translations and reached consensus on any discrepancy.

Measures

Hospital Anxiety and Depression Scale

The HADS includes 14 items assessing anxiety (7-item) and depression (7-item), which are rated on a 4-point Likert-type (from 0 to 3). The scores in each subscale are computed by summing the corresponding items, with maximum scores of 21 for each subscale. A score of 0–7 is considered as normal, 8–10 as a borderline case, and 11–21 as a case (anxiety or depression).[3]

Generalized Anxiety Disorder 7-Item Scale

The GAD-7 consists of 7-item assessing GAD. Patients report how often they have been bothered by seven problems over the past 2 weeks (0 = not at all, 1 = several days, 2 = more than half the days, 3 = nearly every day). The total GAD-7 score is computed by summing the responses across the seven items.[1] We used an Arabic translated and validated version by Pfizer Inc.[10] Cronbach's α was 0.91 in the current study.

Major Depression Inventory

The MDI consists of 10-item assessing symptoms associated with major depression. Patients were asked how they have been feeling over the past 2 weeks (0 = at no time, 1 = some of the time, 2 = slightly less than half the time,

3 = slightly more than half the time, 4 = most of the time, 5 = all the time). The total MDI score ranges from 0 to 50, with higher scores reflecting more severe depression.[2] A total score of 20–24 is considered as mild depression, 25–29 as moderate depression, and 30 or more as severe depression. We used an Arabic translated and validated version by Fawzi *et al*.[11] Cronbach's α was 0.88 in the current study.

Study protocol

An Arabic version of the HADS Questionnaire was administered twice among patients admitted for surgical procedures. This questionnaire was the part of a package that contained other questionnaires (GAD-7 and MDI) as validating questionnaires (all in Arabic). Eligible patients were between 17 and 80-year-old who are admitted for surgical procedure (whether day-care surgery or inpatient admission). Exclusion criteria included psychosis, significant visual impairment, physical disability, or patient's refusal to participate in the study. The patients completed the questionnaire for the first time (Time 1) in the hospital, after the researcher explained the purpose of the study, obtained a verbal consent, and answered all queries. The questionnaire was completed the second time (Time 2) by telephone interview after an average of 7 days if the patient was released, or by face-to-face interview if the patient remained hospitalized.

Pilot study

The prefinal version was pilot tested on a group of 35 patients (8 males, 27 females, data not shown). Both interviews (Time 1 and Time 2) were completed in person, after which the participants were asked about their experience and thoughts about the current version. No specific constructive feedback was received. The committee met at this point and approved the prefinal version as final [the final Arabic version is presented in the Appendix 1]. A scaling mistake was discovered on the fifth question of the anxiety subscale and was fixed at this point.

Assessing face validity

After completing the HADS at Time 1, patients responded to five statements regarding the HADS items on a 5-point Likert type scale: 1 = totally disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree. The five statements were: (1) questions were clear and easy; (2) questions covered all your problem areas with your hospital anxiety and depression; (3) you would like the use of this questionnaire for future assessments; (4) the questionnaire lacks important questions regarding your hospital anxiety and depression; (5) some of the questions violate your privacy.

Statistical analysis

All data analyses were performed in R version 3.3.2 (2016-10-31). Descriptive statistics (mean, standard deviation [SD], range) for the HADS anxiety and depression scores, as well as the GAD-7 and MDI total scores were presented.

Reliability

The internal consistency of the HADS was examined using Cronbach's α. Cronbach's α ranges from 0 (no internal consistency; none of the items are correlated with each other) to 1 (perfect internal consistency; all of the items are perfectly correlated with each other). αs were computed separately for the anxiety and depression subscales. An instrument with $\alpha \geq 70$ is generally considered to have adequate internal consistency.[12]

Validity

Construct validity of the HADS was examined by investigating the associations between the HADS anxiety and depression subscales with other validated measures of anxiety (GAD-7) and depression (MDI). Pearson's correlation coefficient (r) was used to evaluate the strength of the associations; $r < 0.3$ was considered to be weak, moderate if $0.3 \leq r < 0.5$, and strong if $r \geq 0.5$.

Responsiveness

Responsiveness was assessed by a second administration (Time 2) of the HADS, after at least 48 h of the first administration (Time 1). Considering the repeated nature of the multiple assessments, linear mixed effects models (LMMs) were used to take into account the correlated observations within patients. The changes of the individuals' responses were estimated using LMMs, with time of administration (Time 1/Time 2) as fixed effects and patients as the random effect. The estimated fixed effects of time of administration provide information about whether the average HADS anxiety and depression scores increased (positive) or decreased (negative), after controlling for the within-patient correlations.

To further examine the extent to which patients' characteristics (e.g., sex, age, American Society of Anesthesiologists [ASA] Physical Status score) and surgical information (e.g., type of surgery, and length of hospital stay) were associated with HADS scores, these variables were included as fixed effects in the subsequent LMMs as well. Results from these LMMs provide information with respect to whether patients' overall HADS anxiety and depression scores (averaged across time) were associated with patients' characteristics and surgical information, after controlling for the within-patient correlations.

Results

A total of 110 patients (22 men, 88 women) participated in the validation study of the HADS Questionnaire. The average age was 48 years (SD = 14), with average body mass index of 31 kg/m^2 (SD = 10). Most patients had university-level education (47%), with fewer proportions having received some high school (23%), less than high school (10%), or no education (20%). The majority of these patients were married (72%), whereas 18% were single, 5% were divorced, and 5% were widowed. 30% were rated as ASA Physical Status 1, 45% scored 2, 19% scored 3, and <1% were rated 4. Twenty (18%) patients were from KFSH, and 90 (82%) from KFMC.

Eighty-eight (80%) patients had major surgery, and 22 (20%) had minor surgery [Table 1]. The average surgical time was 171 min (SD = 84, range = 37–600). Five (5%) of the patients were transferred to Intensive Care Unit. For the remaining 103 (95%) patients, the average postanesthesia care unit stay was 18.5 min (SD = 9.6, range = 1–34). The average duration of hospital stay was 167.4 h (SD = 221, range = 27–1978). Fifty-five (50%) patients were hospitalized for at least 5 days. On average, the patients were contacted for the second interview 7 days after their initial participation. The majority of the patients (96%) completed the second interview within 10 days after the initial interview. Table 2 summarizes the incidences of anxiety and depression assessed with the HADS, as well as the scores in HADS, GAD-7, and MDI.

Table 1: Frequencies of surgery types among patients in the current study

Surgery type	*n* (%)
Major breast surgery	33 (30)
Major gynecological laparotomy (e.g., total hysterectomy)	25 (23)
Major laparotomy	17 (15)
Complex spine surgery	11 (10)
Total knee replacement	9 (8)
Herniotomy	6 (5)
Laparoscopic cholecystectomy	6 (5)
Knee arthroscopy	2 (2)
Micro-discectomy	1 (0.9)

Table 2: Descriptive statistics of patients' Hospital Anxiety and Depression Scale, Generalized Anxiety Disorder 7-Item, and Major Depression Inventory scores at time 1 and time 2

	Time 1, *n* (%)	Time 2, *n* (%)
Anxiety subscale		
Case (scored between 11 and 21)	19 (17)	14 (13)
Borderline (scored between 8 and 10)	20 (18)	14 (13)
Normal (scored between 0 and 7)	71 (65)	82 (75)
Mean (SD)	6.8 (4.8)	5.0 (5.0)
Range	0-21	0-21
Depression subscale		
Case (scored between 11 and 21)	16 (14.6)	16 (14.6)
Borderline (scored between 8 and 10)	13 (11.8)	19 (17.3)
Normal (scored between 0 and 7)	81 (73.6)	75 (68.2)
Mean (SD)	5.6 (4.2)	5.7 (4.5)
Range	0-18	0-19
GAD-7 scale		
Mean (SD)	4.9 (5.1)	4.6 (4.9)
Range	0-21	0-21
MDI		
Mean (SD)	11.9 (9.9)	12.2 (11.3)
Range	0-50	0-46

MDI: Major Depression Inventory; SD: Standard deviation; GAD-7: Generalized Anxiety Disorder 7-Item Scale

Reliability

Cronbach's αs for the HADS anxiety subscale were 0.83 (95% confidence interval [CI]: 0.79–0.88) and 0.87 (95% CI: 0.83–0.91) for Time 1 and Time 2, respectively. Cronbach's αs for the HADS depression subscale were 0.77 (95% CI: 0.7–0.83) and 0.8 (95% CI: 0.75–0.86) among patients for Time 1 and Time 2, respectively. Results showed adequate internal consistency for both HADS subscales for both time points among patients.

Validity

Construct validity

The construct validity of the HADS was assessed by examining the correlations between patients' anxiety and depression scores on the GAD-7 and MDI, respectively, at each assessment. In Table 3, results for Time 1 are presented in the lower diagonal, and results for Time 2 are presented in the upper diagonal. Consistent with expectations, HADS anxiety scores were strongly correlated with GAD-7, and HADS depression scores were strongly associated with MDI.

Face validity

Patients' responses to the five questions assessing the face validity of the HADS are presented in Table 4. The majority of the patients endorsed agree or strongly agree to the first three questions assessing face validity. Results showed that most patients found the HADS questions to be clear and easy to understand, the questionnaire items covered all their problem areas regarding their hospital anxiety and depression, and that most would like to use the HADS for their long-term follow-up assessment. Most patients disagreed that the HADS lacks important questions regarding their hospital anxiety and depression, suggesting that the HADS addressed most, if not all, of the important issues associated with their pain. Finally, most patients felt that the HADS questions did not violate their privacy.

Responsiveness

The extent to which the HADS anxiety and depression subscales are responsive to change across time was examined using LMMs. Time of assessment (Time 1/Time 2) was modeled as the fixed effect, with patients modeled as the random effect. Results are presented in Models 1 of Table 5. The HADS anxiety scores showed a statistically significant decrease from the first to the second assessment. There was no statistically significant difference in HADS depression scores between Time 1 and Time 2.

In Models 2, patients' gender and age were included into the LMMs to investigate the extent to which the average HADS anxiety and depression subscales vary between different groups of patients. As shown in Models 2 of Table 5. Patients' gender and age had no statistically significant effect on patients' overall HADS anxiety and depression scores.

Models 3 further included patients' ASA Physical Status, surgery type (major vs. minor), and whether they were hospitalized for more than 5 days. Results showed that patients' ASA Physical Status, surgery type, and length of hospitalization did not have statistically significant effect on patients' overall HADS anxiety scores [Models 3 in Table 5]. Patients' ASA Physical Status was positively associated with patients' overall HADS depression scores, suggesting that patients who had higher ASA Physical Status were more likely to report more depression symptoms. Patients who were hospitalized for more than 5 days were statistically more likely to have higher overall HADS depression than those who were hospitalized for 5 days or less, indicating that patients with more depressive symptoms were more likely to have longer stays in the hospital.

Table 3: Pearson correlation coefficients between the Hospital Anxiety and Depression Scale subscales, Generalized Anxiety Disorder 7-Item and Major Depression Inventory among patients

	HADS anxiety	HADS depression	GAD-7	MDI
HADS anxiety	-	0.71***	0.66***	0.62***
HADS depression	0.67***	-	0.52***	0.64***
GAD-7	0.67***	0.52***	-	0.65***
MDI	0.71***	0.66***	0.66***	-

***$P<0.001$. T1 results are presented in the lower diagonal, and T2 results are presented in the upper diagonal. HADS: Hospital Anxiety and Depression Scale; MDI: Major Depression Inventory; GAD-7: Generalized Anxiety Disorder 7-Item Scale

Discussion

Our results showed adequate internal consistency for both HADS subscales for both time points among patients. The subscales of HADS performed well in both interviews and were strongly correlated with the external validation questionnaires (i.e., GAD-7 and MDI). Our translated version of HADS proved to be valid and reliable for use in hospitalized patients, thereby extending its application to a previously under-investigated area.

The original research that validated the HADS was conducted in general medical outpatient clinics on 100 adults of both sexes who suffered from a wide variety of illnesses. Later studies that investigated the use of HADS to gauge the psychological state of cancer patients[13] found the measure to be of vital importance in psycho-oncology. An Iranian version of the scale has been validated for such use,[14] and an Ethiopian version was found to be useful in assessing psychological distress among HIV infected patients.[15] A systematic review by Bjelland *et al*.[16] revealed that HADS performed well in assessing anxiety disorder and depression in somatic, psychiatric and primary care patients, as well as in the general population.

The reliability of the current Arabic HADS version is comparable to other existing Arabic HADS versions. For instance, our Cronbach's α for the HADS anxiety subscale was 0.83 and for the HADS depression subscale was 0.77. In comparison to Al Aseri *et al*.[9] version, who reported Cronbach's α of 0.73 for anxiety subscale and 0.77 for depression subscale, on patients who were admitted to emergency department for variable reasons.

Three important findings in the responsiveness analyses are worth mentioning. First, about one in five patients reported symptoms indicative of borderline anxiety, and a similar

Table 4: Descriptive statistics for face validity

	Mean	SD	Totally disagree (%)	Disagree (%)	Undecided (%)	Agree (%)	Strongly agree (%)
Questions were clear and easy	4.5	0.60	0.00	0.91	2.7	38.2	58.2
Questions covered all my problem areas with hospital anxiety and depression	4.3	0.78	0.00	1.82	13.6	34.5	50.0
I would like the use of this questionnaire for future assessments	4.3	0.83	0.91	0.91	15.4	31.8	50.9
The questionnaire lacks important questions regarding my anxiety and depression	2.4	1.10	29.09	17.27	43.6	5.5	4.5
Some of the questions violate my privacy	1.7	0.96	54.55	32.73	7.3	1.8	3.6

SD: Standard deviation

Table 5: Fixed effects from linear mixed effects models estimating the change in Hospital Anxiety and Depression Scale anxiety and depression

	Estimate	SE	*t*	*P*
Models 1				
Anxiety				
Intercept	8.54	0.78	10.90	<0.001
Time	−1.75	0.44	−3.95	<0.001
Depression				
Intercept	5.51	0.71	7.71	<0.001
Time	0.10	0.41	0.24	0.809
Models 2				
Anxiety				
Intercept	10.05	1.58	6.37	<0.001
Time	−1.75	0.44	−3.95	<0.001
Gender (male)	−1.22	1.03	−1.19	0.238
Age	−0.03	0.03	−0.94	0.352
Depression				
Intercept	5.19	1.40	3.70	<0.001
Time	0.10	0.41	0.24	0.809
Gender (male)	−0.01	0.91	−0.01	0.995
Age	0.01	0.02	0.27	0.789
Models 3				
Anxiety				
Intercept	7.20	1.81	3.99	<0.001
Time	−1.85	0.46	−3.99	<0.001
Gender (male)	−1.85	1.06	−1.75	0.084
Age	−0.02	0.03	−0.79	0.433
ASA Physical Status	0.90	0.57	1.57	0.12
Surgery (minor)	0.77	1.02	0.75	0.454
Hospitalized >5 days	1.52	0.83	1.84	0.069
Depression				
Intercept	0.88	1.53	0.57	0.566
Time	0.11	0.43	0.25	0.802
Gender (male)	−0.61	0.88	−0.69	0.492
Age	0.01	0.02	0.31	0.759
ASA Physical Status	1.32	0.48	2.78	0.007
Surgery (minor)	0.99	0.85	1.16	0.247
Hospitalized >5 days	2.88	0.69	4.18	<0.001

SE: Standard error; ASA: American Society of Anesthesiologists score

proportion showed more definitive anxiety symptoms. Patients' HADS anxiety scores decreased from the first to the second assessment, indicating that patients reported overall less anxiety the second time than the first time. It is possible that anxiety scores decreased presumably, anxiety decreased because most patients were discharged before the second assessment. Second, patients' HADS depression scores were found to be positively correlated with ASA Physical Status; patients with higher depression scores were also rated higher on the ASA. As higher ratings on the ASA indicate worse physical health, this finding suggests that patients' physical health is correlated with mental health. Compared to healthier patients, those who were less healthy were more likely report more depression symptoms. Third, HADS depression scores were positively associated with prolonged hospitalization. Compared to patients who were discharged within 5 days, patients hospitalized for more than 5 days reported higher HADS depression scores for both time points. In contrast, and surprisingly, surgical severity was not associated with anxiety or depression.

Our patients were mostly female (80%), married (71.8%), and half were university educated. Results may differ in populations with other demographic characteristics. Future studies should examine whether the current Arabic HADS version achieve similar psychometric properties in other patients. The majority of patients found the HADS to impose no threats to their privacy, but a small proportion of the respondents felt otherwise. It is possible that some patients were uncomfortable with the HADS questions that asked about specific symptoms associated with anxiety and depression. Such findings highlight the need for clinicians and researchers to be more cognizant about patients' feelings when administering questionnaires that may include sensitive questions, such as the ones in the HADS. We thus recommend that clinicians and researchers be vigilant about ensuring patients' privacy when inquiring about symptoms that may make patient uncomfortable.

Conclusions

We developed a valid and reliable version of HADS in Arabic that can be used to assess mood states in hospitalized patients.

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Conflicts of interest

There are no conflicts of interest.

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Appendix

هذا الاستبيان يساعد الطبيب لمعرفة مشاعرك وقراءة أحاسيسك ، لذا يرجى إحاطة الرقم الموازي لأفضل اختيار يصف حالتك خلال الأسبوع الماضي. ليس من المطلوب الاستغراق في التفكير لإختيار الإجابة، وإنما تفضل الإجابات العفوية التلقائية.

من فضلك، قم بإختيار الإجابة المناسبة بوضع دائرة عليها:			Hospital Anxiety Depression Scale (HADS):		
	أحس بأنني هامد (فاقد للطاقة) :	D		أشعر بالتوتر الشديد:	A
3	• تقريباً في كل وقت		3	• أكثر الوقت	
2	• في كثير من الأحيان		2	• عدة مرات	
1	• في بعض الأوقات		1	• أحياناً	
0	• لا أشعر بذلك مطلقاً		0	• لا أشعر بذلك مطلقاً	
	ينتابني شعور بالخوف:	A		أنا لازلت أتمتع بالأشياء التي اعتدت أن أستمتع بها:	D
0	• لا، على الإطلاق		0	• بالتأكيد، كما كنت	
1	• أحياناً		1	• ليس تماماً	
2	• كثيراً		2	• قليلاً	
3	• في أغلب الأوقات		3	• بالكاد، على الإطلاق	
	لقد فقدت الإهتمام بمظهري:	D		أشعر بنوع من الخوف, وكأن شيئا مروعا على وشك الحدوث:	A
3	• بالتأكيد فقدت كل الاهتمام		3	• بالتأكيد، وبشكل مزعج	
2	• أنا لا أهتم بمظهري كما يجب أن أهتم		2	• نعم، ولكن أقل سوءاً	
1	• قد لا أعتني بمظهري كما يجب		1	• قليلاً، لكنه لا يقلقني	
0	• أعتني بمظهري بشكل جيد كما كنت سابقا		0	• لا أشعر بذلك على الاطلاق	
	الإحساس بضيقة الصدر دون مجهود جسدي:	A		أستطيع الضحك و رؤية الجوانب الممتعة في الاشياء:	D
3	• في الواقع، كثيراً جداً		0	• كما كنت سابقا	
2	• كثيراً، لابأس به		1	• اقل مما كنت سابقا	
1	• أشعر بذلك قليلاً		2	• بالتأكيد، ليس كثيراً الآن	
0	• لا أشعر بذلك على الإطلاق		3	• لا أشعر بذلك على الإطلاق	
	أنا أتطلع للأشياء من حولي باستمتاع:	D		تأتيني دائما افكار مقلقة:	A
0	• بقدر ما يمكنني فعله		3	• أغلب الأوقات	
1	• نوعا ما أقل مما اعتدت على فعله		2	• معظم الأوقات	
2	• بالتأكيد أقل مما اعتدت على فعلة		1	• من وقت لآخر، ولكن ليس كثيراً	
3	• لا، على الإطلاق		0	• أحيانا	
	ينتابني إحساس مفاجئ بالهلع:	A		أشعر بالبهجة:	D
3	• في الواقع، في كثير من الأحيان		3	• لا، على الإطلاق	
2	• غالباً		2	• ليس كثيراً	
1	• ليس كثيراً		1	• في بعض الأحيان	
0	• لا أشعر بذلك على الإطلاق		0	• في أغلب الأوقات	
	يمكنني الإستمتاع بقراءة كتاب جيد أو مشاهدة البرامج التلفزيونية أو الإستماع إلى الإذاعة:	D		يمكنني الجلوس براحة و الشعور بالاسترخاء:	A
0	• غالباً		0	• بكل التأكيد	
1	• في بعض الأحيان		1	• عادة ما	
2	• ليس كثيراً		2	• ليس كثيراً	
3	• نادراً جداً		3	• لا يمكنني ذلك على الإطلاق	

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Appendix 1: Arabic version of the Hospital Anxiety and Depression Scale. A: Anxiety question, and D: Depression question