

An Abridged Psychological Self-rating Questionnaire for screening of patients with temporomandibular disorders

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أجريت هذه الدراسة لقياس مصداقية استبيان نفسي ذاتي مختصر لاستقصاء العلل النفسية بين مرضى اضطرابات المفصل الفكي الصدغي بمنطقة الأحساء بالمملكة العربية السعودية. الاستبيان الذاتي تم اختصاره من الاختبار النفسي المعروف بمقياس مستشفى ميدل سكس النفسي وتم تعديله من اللهجة العربية المصرية إلى اللهجة العربية المستعملة بمنطقة الأحساء.

من المعروف أن هناك نسبة مقدرة من مرضى اضطرابات المفصل الفكي الصدغي يعانون من اضطرابات نفسية وأكثر أنواع الاضطرابات النفسية هي القلق النفسي والاكئاب كما يتميز هؤلاء المرضى بكثرة التردد علي عيادات الأطباء المختلفة.

هذه الدراسة تمت على عينة عشوائية نظامية مكونة من ٧٢ مريضاً من الذين يعانون من اضطرابات المفصل الفكي الصدغي.

تم تعبئة الاستبيان المختصر لكل مريض أثناء فحصه بعيادة الأسنان وتم إجراء الفحص النفسي السريري المكون من التاريخ المرضي وفحص الحالة العقلية بواسطة اختصاصي الطب النفسي استناداً إلى تصنيف منظمة الصحة العالمية للاضطرابات السلوكية والعقلية المراجعة العاشرة في تشخيص الاضطرابات النفسية. بعد ذلك تم تقسيمهم إلى مجموعتين الأولى مجموعة مرضى (٢٨) والثانية مجموعة ضابطة (٤٤) وذلك استناداً إلى التشخيص النفسي السريري.

١٥٪ من كل الحالات تم تحديدهم كحالات نفسية بواسطة الاستبيان النفسي الذاتي المختصر مقارنة ب ٣٨,٩٪ تم تحديدهم عن طريق الفحص النفسي السريري.

باعتتماد الحد الفاصل للحالات المرضية بين ١١ و ١٣ درجة للاستبيان النفسي الذاتي المختصر كان الاختبار ذو قدرة جيدة في التعرف على الحالات الإيجابية والسلبية و درجة الحساسية ٧٢,٧ و ٤٨,٠ و ٩٠,٤٪ والنوعية بين ٨٣,٨٧ و ٨٩,٧٪.

أظهرت الدراسة أن أكثر الاضطرابات النفسية بين مرضى اضطرابات المفصل الفكي الصدغي كان سببه القلق الإكتائي المحتلط وأفضل حد فاصل للحالات المرضية في الاستبيان النفسي الذاتي المختصر وجدناه يساوي ١٢ درجة . وقد وجد أن ١٥,٣٪ من المرضى تم اكتشافهم عن طريق الاستبيان في حين ٣٨,٩٪ من المرضى تم اكتشافهم عن طريق الفحص النفسي السريري .

في هذه الدراسة تم إثبات أن الاستبيان النفسي الذاتي المختصر ذو مصداقية جيدة في التعرف على المرضى والأصحاء مما يدعم الاستفادة منه في استقصاء العلل النفسية بين مرضى اضطرابات المفصل الفكي الصدغي للناطقين باللهجة العربية المستعملة في المملكة العربية السعودية ودول مجلس التعاون الخليجي.

An Abridged Psychological Self-rating Questionnaire (APSQ) was taken from the Middlesex Hospital Scale and adapted to the Al-Ahsa colloquial Arabic language. The aim was to develop a simple yet valid screening tool for early detection of temporomandibular disorder (TMD) patients with psychological problems. It is well known that a considerable number of TMD patients are psychologically dysfunctional and have higher rates of anxiety, depression, and health care utilization. This case-control study was done on a systemic random sample of 72 TMD Saudi patients. All subjects were blindly rated on the APSQ during dental assessment, and each followed by a clinical psychiatric assessment consisting of a history and a systemic mental state examination. A cut-off point ranging from 11 to 13 was found acceptable in identifying positive subjects. The best cut-off point was found to be at 12. When using the recommended cut-off point, approximately 15.3% of the subjects were identified by the APSQ form as psychiatric patients as compared to 38.9% being identified by the clinical psychiatric assessment. The sensitivity ranged from 72.7 to 90.48 % and specificity ranged from 83.87 to 89.7 %. The commonest psychiatric disorder among the subjects was a mixed anxiety-depression disorder. The APSQ was found to be of good validity, thus supporting its usefulness as a screening tool for detecting psychiatric morbidity among TMD patients in the Al-Ahsa area.

Introduction

Many investigators believe that psychological factors play a significant role in the etiology or persistence of temporomandibular disorders (TMD). Depression and anxiety have been considered the primary focus of attention among many psychological factors contributing to TMD.¹⁻⁵ About 20-30 % of TMD subjects are psychosocially dysfunctional and have higher rates of depression,

somatization and health care utilization.⁶ Early identification and treatment of psychological problems in persons with TMD can diminish the use and cost of medical services in prepaid medical plans. However, those patients are not likely to respond to conventional dental care^{7,8} and may seek relief through litigation.⁹

Screening procedures based on the dentist's global impression does not adequately identify psychological problems in the TMD population.¹⁰

In addition, psychological problems may not be obvious or reliably detected by impressions from an initial examination, therefore, many psychological problems will go undetected.

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Name:		Age:	File Number:	Study Serial Number:
No.	Question	Answer		
1	Do you feel so worried without reason ?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
2	Do you find it difficult to think and solve problems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
3	Do you feel as if you're going to your consciousness?	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Never
4	Do you feel tiresome?	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Never
5	Do you feel you are not at ease?	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Never
6	Do you blame yourself about past experiences?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
7	Do you feel that your are so frightened?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
8	Do you always wake up early?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
9	Do you feel you are generally anxious?	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Never
10	Do you find yourself preoccupied for long periods?	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Never
11	Do you feel you are always tense?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
12	Do you find yourself in need of much effort to solve your own problems?	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Never
13	Have you ever felt you are about to die?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
14	Do you feel a desire to cry?	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Never
15	Do you have bad dreams?	<input type="checkbox"/> Always	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Never
16	Do you feel people around you are different?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Fig. 2. The Abridged Psychological Self-rating Questionnaire.

Table 1. An Abridged Psychological Self-rating Questionnaire tested at different cut-off points when the scores of anxiety and depression were considered separately.*

ASQ	Sensi- tivity	Speci- ficity	Pred +ve	Pred -ve	LR +ve	Clinical Decision	LR -ve	Clinical Decision
Cut-off	%	%	%	%	%		%	
13	72.7	89.7	72.7	89.7	7.1	Good	0.31	Good
12	82.35	89.65	82.35	89.66	7.96	Good	0.20	Good
11	90.48	83.87	79.17	92.86	5.61	Good	0.11	Good
10	91.84	77.27	86.75	87.18	3.6	Fair	0.23	Fair

*Doubtful cases were excluded.

rated all TMD subjects on the completed APSQ forms.

Clinical psychiatric assessment (CPA), consisting of a history and standard mental state examination, was conducted on all TMD subjects by psychiatrists. The psychiatric diagnosis was based on the criteria of the International Classification of Diseases of the World Health Organization 10th revision (ICD-10).¹⁴ Data was statistically analyzed using an Epi-6-Info cartilage.¹⁵

Results

The mean age of the 28 TMD subjects with

Table 2. An Abridged Psychological Self-rating Questionnaire tested at different cut-off points used after combining the scores of anxiety and depression together.

ASQ	Sensi- tivity	Speci- ficity	Pred +ve	Pred -ve	LR +ve	Clinical Decision	LR -ve	Clinical Decision
Cut-off	%	%	%	%	%		%	
10	96.55	41.86	52.83	94.74	1.93	Poor	0.08	Excellent
11	96.55	48.83	56.0	95.45	1.89	Poor	0	Excellent
12	89.66	55.81	57.78	88.89	2.03	Fair	0.19	Good
13	89.66	62.79	61.90	96.00	3.30	Fair	0.16	Good
14	86.21	69.76	89.29	88.24	2.85	Fair	0.20	Good
15	82.76	76.74	70.59	86.84	3.56	Fair	0.22	Fair
16	82.76	81.40	75.00	87.50	4.45	Fair	0.21	Fair
17	72.41	83.72	75.00	81.82	4.45	Fair	0.33	Fair
18	62.07	86.05	75.00	77.08	4.45	Fair	0.44	Fair

psychiatric disorders according to the Clinical Psychiatric Assessment (CPA) was 27.8 ± 7.3 years while that for the 44 psychiatrically free subjects was 26.4 ± 7.8, with no significant difference (t test = 0.715 and P > 0.05). Using the recommended cut off point of the APSQ (positive 13 and more), 11 subjects (15.3%) were identified as positive

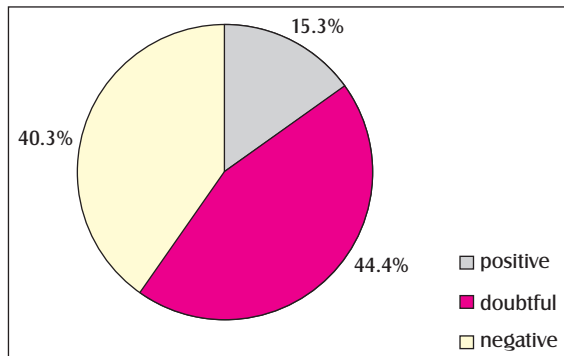


Fig. 3 Distribution of TMD study group subjects following screening by Abridged Psychological Self-rating Questionnaire (APSQ).

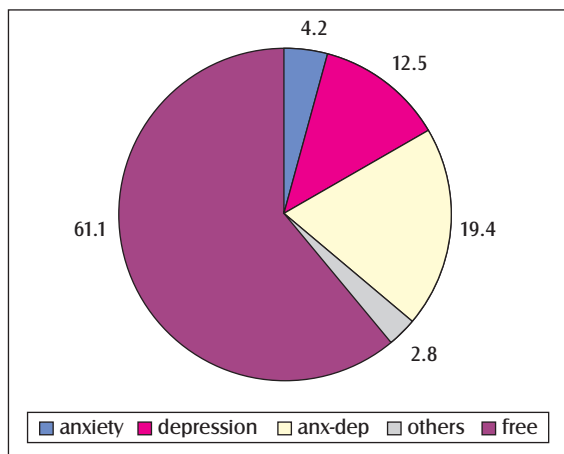


Fig. 4. Percentage distribution of all TMD subjects according to the Clinical Psychiatric Assessment (CPA).

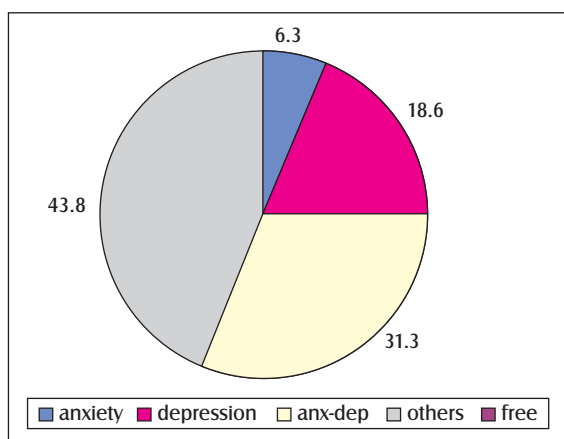


Fig. 5. Percentage distribution of APSQ doubtful cases according to the CPA.

psychiatric morbidity (3 anxiety and 8 depression) as shown in Fig. 3. The doubtful subjects whose scores ranged from 8 to 12 were 32 (44.4%), while the negative subjects were found to be 29 (40.3%) as shown in Fig. 3.

CPA (Fig. 4) revealed higher figures as 28 TMD subjects (38.9%) were positive. Out of this number 14 (19.4%) were suffering from anxiety-depression disorder, 9 (12.5%) from depression, 3 (4.2%) from anxiety and 2 (2.8%) from other psychiatric disorders. On the other hand, 44 cases (61.1%) were found free of psychiatric disorders. Among the 32 doubtful cases indicated by the APSQ, the CPA showed anxiety in two (6.3%), depression in 6 (18.6%) and anxiety-depression in 10 (31.3%) as shown in Fig. 5.

The validity of the APSQ test was found clinically good in identifying both negative and positive cases with cut-off points 13, 12 and 11 respectively for either anxiety or depression as shown in Table 1 (APSQ doubtful cases were not included). However, cut-off point of 12 had the highest likelihood of a positive ratio (LR+ve = 7.96) and the likelihood of a negative ratio was clinically good (LR-ve = 0.2). The validity of the APSQ tested by combined scores of anxiety and depression was shown in Table 2. A clear inverse relationship between sensitivity and specificity was noticed and decreased with increased cut-off points. The clinical decision of the diseased at cut-off points 10 & 11 was poor while it was fair at 12 and more (Table 2).

Discussion

In this study, females predominated over males in a ratio of 1.8:1. This difference was expected because anxiety, depression and TMD are more common in females than in males.¹⁶⁻¹⁸ Clinical psychiatric assessment (Fig. 4) identified 38.9% to have a psychiatric disorders and this figure lies in the range of previous reports.^{19,20} Half of them had mixed anxiety-depression disorder. Such disorder was found to be more common than anxiety or depression alone in primary care settings and moreover, two thirds of depressed patients have prominent anxiety symptoms.²¹ Among the TMD subjects diagnosed as mixed anxiety-depression disorder, four were identified to have experienced definite stressful life events. However, a mixed anxiety-depression disorder could be a presentation of an adjustment disorder.¹⁴

The APSQ was found valid with a recommended cut-off point of 13, but more valid

with a cut-off point of 12 for either anxiety or depression separately (Table 1). The cut-off point 12 was considered to be valid in making a clinical decision for detection of psychiatric patients (LR +ve 7.96) and psychiatrically free subjects (LR-ve 0.20). When both anxiety and depression scores were added together (Table 2), the validity of the APSQ was found to be excellent in detection of the psychiatrically free subjects but poor in detection of the psychiatric subjects. However, the later approach of combining both anxiety and depression APSQ scores was found to be of no value, since detection of TMD patients with the psychiatric disorder was the prime aim of the questionnaire.

It is well known that psychological tests have limitations, since the patient may respond falsely or haphazardly to the questionnaire and therefore, the results should be interpreted with caution. In addition, TMD patients are not a homogeneous group; they differ in coping strategies, disease conviction and demonstration of genuine psychiatric disorders. On a psychosocial basis, Suvinen *et al.*¹² identified three subgroups of patients with TMD. These subgroups were termed maladaptive, adaptive and uncomplicated. It has been reported that TMD cases with psychiatric disorders respond poorly to physical treatment alone.^{22,23} Therefore, the immediate referral of positive cases by a general dental practitioner to the liaison psychiatrist is justified for further re-evaluation and management. It was found that 56.3% of the doubtful cases (Fig. 5) had psychiatric disorders and this group may be similar clinically to the adaptive group, which was defined by Suvinen¹² as moderately distressed and behaviorally functional. Since TMD subjects with psychiatric disorders respond poorly to physical treatment alone,^{22,23} we suggest that the doubtful cases on APQS should be referred to a liaison psychiatrist if their initial response to physical treatment was found poor.

Conclusions

1. The Abridged Psychological Self-rating questionnaire (APSQ) had good validity and reliability, was simple to use and not time consuming. This supports its usefulness as a screening tool for psychiatric morbidity among TMD patients.
2. The APSQ describes psychological symptoms in the same terms used by the Al-Ahsa population where illiteracy was not found to be a barrier for its use.
3. An APSQ cut-off point of 12 for either anxiety or

depression is recommended.

4. Mixed anxiety-depression disorder is more common among TMD cases than either anxiety or depression alone.
5. Doubtful cases detected by the APSQ but not responding to physical treatment should be referred to a liaison psychiatrist.

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