شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

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HANAA ALY

Validation of Arabic version of 4-DSQ for screening of Depression, Anxiety, Somatization and Distress in a sample of Primary Health Care attendees in Egypt

Thesis

Submitted for Partial Fulfillment of Master's Degree in Family Medicine

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List of Abbreviations

Abb.	Full term
4-DSQ	*4 dimensional symptom questionnaire*
AGHQ	*Arabic general health questionnaire*
AUC	*Area under the curve*
CMD	*Common mental disorders*
DALYs	*Disability adjusted life years*
EMR	*Eastern Mediterranean region*
GBD	*Global burden of disease*
GHQ	*General health questionnaire*
GPs	*General practitioners*
HADS	*Hospital anxiety and depression scale*
ICD-10	*International Classification of Diseases 10th Revision*
ICD-11	*International Classification of Diseases 11th Revision*
LMIC	*Low and Middle-income countries*
MDD	*Major depressive disorder*
MDP	*Manic Depressive psychosis*
PHC	*Primary healthcare*
PHQ	*Patient health questionnaire*
SMIs	*Severe mental illness*
SPSS	*Statistical package for social sciences*
SRQ	*Self-reporting questionnaire*
WHO	*World Health Organization*
WONCA	*World organization of family doctors*
YLDs	*Years lived with disability*
YLL	*Years of life lost*

Abstract

Background: The four-dimensional symptom questionnaire (4DSQ) is a Dutch self-administered screening tool that has been developed in primary care to differentiate non pathologic general distress from depression, anxiety and somatization. It has been validated in the English language as well as other languages yet it has not been validated in Arabic. For the sake of developing the appropriate Arabic version, linguistic validation has been sought with the guidance of cross-cultural adaptation guidelines.

Objective: 1. To produce a cross-culturally adapted Arabic version of the 4DSQ that screens for depression, anxiety, somatization and distress in a sample of Egyptian primary health care attendees. 2. To estimate the frequency of depression, anxiety, somatization and distress in a sample of Egyptian primary care attendees using the developed questionnaire.

Methods: The validated English version of the 4DSQ was translated by 5 translators (including specialist psychiatrist, internists and English language specialist) into Arabic (Egyptian spoken dialect) without mutual consultation. An expert committee that consisted of 2 professors of public health and family medicine and an associate professor of neuropsychiatry was formed. The consensus version was created after expert committee modification and approval of each questionnaire item using DELPHI method. After that the back translation to English was carried out by two independent bilingual physicians whose English is their mother tongue. A pilot study was carried out on 17 bilingual participants after answering the questionnaire in both languages to test its equivalence. The consensus Arabic version was updated based on the pilot study and the final version was developed. The final version was then tested on 278 Egyptian primary care attendees.

Results: After the course of forward and back translation, expert committee's review and developer's comments, the final version of Arabic 4DSQ was developed for assessment of distress, depression, anxiety and somatization. There was no significant difference between results of Arabic and English questionnaire using paired T test. Final testing showed very good internal consistency of each of the 4 scales of the questionnaire.

Conclusion: The Arabic 4DSQ linguistically and conceptually corresponds to the validated English 4DSQ. It has good internal validity and thus could be used in primary care after further psychometric validation. High scores were associated with female gender, younger age, unemployment and low religiosity and spirituality.

Keywords: 4DSQ, linguistic validation, mental disorders, Arabic

PROTOCOL OF A THESIS FOR PARTIAL FULFILMENT OF
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What is already known on this subject? AND
What does this study add? (Maximum 6 lines) *"References are not needed"*

Common mental disorders (CMD) are 'a group of distress states manifesting with anxiety, depressive or unexplained somatic symptoms typically encountered in community and primary care settings'. They are prevalent globally and are becoming a major cause of disability particularly in low and middle-income countries where primary care settings are not well-prepared for screening or managing of these disorders. The 4-Dimensional Symptom Questionnaire (4DSQ) is a mental health screening tool developed in Dutch primary care to screen for depression, anxiety, somatization and distress. It was translated and adapted for use in different cultures, yet not in Egyptian primary care. This study aims to produce a cross-culturally adapted Arabic version of the 4DSQ for use in Egyptian primary care settings.

1. INTRODUCTION/ REVIEW (Maximum 1000 words) *"References are needed"*

Health has long been recognized as comprising both a physical and a mental dimension. Since 1948, health has been defined by the WHO as 'a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity' (1)

The same understanding of health was behind the development of primary health care systems which were founded on a biopsychosocial model promoting holistic and comprehensive care to everyone. Despite this, many primary healthcare systems around the world have continued to care for physical health problems failing to provide their communities with similar mental health services (2). In 2008, the WHO offered recommendations for integrating specialized health services like mental services into the primary care setting . (WHO and Wonca Working Party on Mental Health.," 2008)

Worldwide, 17.6% of the population were found to have a common mental health disorder within a 12-month period while around one in three people (29.2%) were shown to have a common mental disorder at least once in their life-time (4). The proportion of the global population with depression in 2015 was estimated to be 4.4% that with anxiety disorders was estimated to be 3.6% with variation along different areas (5)
Besides their prevalence, mental health disorders are a major cause of disability and economic burden. Major depressive disorder is currently the second leading cause of YLDs (years lived with disability) globally and in 2030, it is predicted that it would be the leading cause of YLDs. (6) (4) Depressive disorders led to a global total of over 50 million Years Lived with Disability (YLD) in 2015. More than 80% of this non-fatal disease burden occurred in low- and middle-income countries (5)

In Egypt, a national survey has estimated mental health disorders to have a prevalence of 16.93%,

including 6.43% mood disorders and 4.75% anxiety disorders (7) Primary healthcare offers an advantage in management of these disorders for many reasons. First, it has the ability to provide an early access to the community which increases the chance of early detection of cases through screening. The second reason is that primary care can improve social integration of patients particularly those suffering a more stigmatizing illness like mental disorders. Thirdly, it offers less costly services for patients than services associated with more distant tertiary care centres (mental health institutions).
Proper screening and early detection of health disorders is considered one of the essential elements of primary healthcare services. Designing screening tools for common mental health disorders for the use in the primary care is thus an essential part of planning and integrating mental health care into primary centres. (2)

A broad range of screening instruments that detect common mental disorders (CMD) already exists, but few have been specifically designed for populations of LMIC (low and middle-income countries) (8). Screening tools commonly used for screening of CMD in LMIC include GHQ-12, PHQ-9, HADS-A, HADS-D and SRQ-20, however from the depression screening tools, PHQ-9 did not perform well in low-literacy populations, HADS-D and GHQ-9 were shown to be appropriate for particular use in physically ill patients as they lack questions on somatic symptoms.

In Arabic-speaking countries, commonly used tools in PHC are SRQ-20, AGHQ (Arabic version of GHQ-30) and GHQ-12. SRQ-20 was recommended by WHO to screen for CMD in LMIC as it assesses somatization in addition to anxiety and depression and does not rely on a mental health specialist (8). It showed better results than Arabic GHQ-12 in a Saudi study where its sensitivity was 0.93, specificity was 0.7 (9) however, AGHQ was superior to it in a UAE study where sensitivity of AGHQ was 0.86, specificity 85%, AUC 93% in comparison to sensitivity of SRQ-20 which was 0.83, specificity 0.83 and AUC 90% (10). An Egyptian study also showed AGHQ to have a sensitivity 0.77 and a specificity 0.78 which was not high but was similarly reported in many other studies. (11)

Another tool that does not rely on mental health experts and is recommended for PHC use is the 4-dimensional symptom questionnaire (4-DSQ). Its English version has good Cronbach's alpha for its scales that ranged from 0.82 to 0.92 (12). It's depression scale has a sensitivity of 0.72, specificity 0.8 and AUC 83% while its distress scale had a sensitivity of 0.71, specificity 0.72 and AUC 79%. (13)

Another study carried out in the UK by Geraghty,A and collaborators elaborated the superiority of the 4DSQ tool to using different one-dimensional tools (PHQ-9, GHQ-12, HADS) in screening for depression. The study showed that around half of patients who screened positive for depression using different one-dimensional tools turned out to have a negative screening result for depression using the 4DSQ. The same study showed that most of these patients also screened positive for emotional distress. This further confirmed the fact that emotional distress and common mental disorders like anxiety and depression may have overlapping symptoms that could be translated as 'caseness' (mental disorder) by some questionnaires if they are only directed to detection of a single disorder leading to unfavorable outcomes. (14)

An additional feature of the 4-DSQ lies in its conceptualization that the distinction between distress - which is viewed as part of 'the direct manifestation of the effort people must exert to maintain their psychosocial homeostasis and social functioning when confronted with taxing life stress' - on

the one hand, and depression, anxiety and somatization on the other hand, implies a distinction between "normal" reactions to stress and "abnormal" – psychiatric – disorders. Emotional distress is therefore not necessarily associated with or attributed to any of the common mental disorders (13).
It is to be noted that 4-DSQ has been designed and validated in generally high and upper-middle income countries but there is concern that utilizing tools designed for high-income country populations may fail to detect cases in LMIC (8) Thus, adapting tools while being conscious of local cultural and linguistic differences is of utmost importance. (15). This study therefore aims to provide a cross- cultural validation of the Arabic 4-DSQ.

Research Question:
Is the Arabic version of 4DSQ a valid tool for screening depression, anxiety, somatization and distress in Egyptian PHC attendees?

Hypothesis:
The Arabic version of 4DSQ is a valid tool for screening depression, anxiety, somatization and distress in Egyptian primary health care settings.

2. AIM/ OBJECTIVES (Maximum 300 words)

Aim:
To improve screening of common mental health disorders in Egyptian PHC.

Objective:
1. To produce a cross-culturally adapted Arabic version of the 4-Dimensional Symptom Questionnaire(4-DSQ) that screens for depression, anxiety, somatization and distress in a sample of Egyptian PHC attendees.
2. To estimate the frequency of depression, anxiety, somatization and distress in a sample of Egyptian PHC attendees using the developed Arabic version of 4-DSQ.

3. METHODOLOGY:
Patients and Methods/ Subjects and Methods/ Material and Methods (Maximum 1000 words) *"References may be needed"*

- **Type of Study:** A cross-sectional study
- **Study Setting:** Primary care centers in Cairo, Egypt.
- **Study Population**
- *Inclusion Criteria:* Patients 18 years of age or older attending a primary care center in Cairo
- *Exclusion Criteria:*
    1. Patients with cognitive disability preventing them from answering the questionnaire.

2. Patients with a psychiatric diagnosis of mood, anxiety disorders or psychosis.
3. 3. Patients receiving a medical treatment which could alter the mood or produce anxiety disorders or psychosis.

- **Sampling Method** Convenience sample will be used for the data collection.

- **Sample Size**

  There are no established rules for the sample size requirements for the cross-cultural validation of questionnaires, but there are some recommendations;

  Gorsuch recommended five subjects per item, with a minimum of 100 subjects, regardless of the number of items (17). Guilford argued that number of subjects should be at least 200 (18), while Cattell recommended three to six subjects per item, with a minimum of 250 (19).

  As a result, our study will aim at a sample size of 250.

- **Ethical Considerations**

  1. Ethical approval will be obtained from Ain Shams Medical School Research Ethical Committee.
  2. Administrative approval of the primary care centres of the Ministry of Health and Population, where data collection will take place will be obtained.
  3. Informed consent from study participants will be obtained before answering the questionnaire.

- **Study Tools**

Both a questionnaire aiming at collecting sociodemographic data of participants and the final Arabic version of the 4DSQ.

The 4DSQ is a 50-item self-report questionnaire. However, due to the high rate of illiteracy among patients attending Egyptian PHC, an interview questionnaire will be carried out. The 50 items examine 4 scales: depression (6 items), anxiety (12 items), somatization (16 items) and distress (16 items). Respondents choose from a Likert scale where 0 represents the score for 'no', 1 for 'sometimes' and 2 for 'regularly', 'often', 'very often or constantly'. The item scores are summed within each scale. The 4DSQ is freely available for non-commercial use at: www. emgo.nl/researchtools/4dsq.asp. (13)

- **Study Procedures**

  TRANSLATION STEPS

  1. Forward translation:

  Since English version of the questionnaire has been validated with very similar internal consistency, it will be used for the translation.