

Validity and Reliability of an Arabic Version of the Migraine Screen Questionnaire (MS-Q) in the Primary Care Setting for Identifying Hidden Migraine.

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Background

Migraine is a frequent, chronic, and disabling condition diagnosed late in most patients. Absences of early diagnostic criteria by the primary health care providers contributed significantly to the late identification of Migraine. Therefore, there is a need for a simple and reliable diagnostic tool to screen patients for Migraine.

Objectives

evaluate the validity and reliability of an Arabic version of the Migraine Screen Questionnaire (MS-Q) as a screening tool for Migraine in primary care setting

Methods

- **Step 1:**
The MS-Q was translated from English to Arabic (examining both forward and backward translations);
- **Step 2:**
The test-retest reliability of the questionnaire was investigated
- **Step 3:**
The questionnaire was validated against expert physicians Migraine diagnosis based on the International Headache Society (IHS) criteria on 308 subjects attending the Central Second Health Cluster including Family medicine and Employee health clinics at King Fahad Medical City, Saudi Arabia and other affiliated primary health care centers.

Discussion

In this study we produced a conceptually equivalent Arabic version of the MS-Q. In addition to evaluate the validity and reliability of an Arabic version of the MS-Q by applying it among adult groups from both genders in the Central Second Health Cluster including Family medicine and Employee health clinics at King Fahad Medical City, and other affiliated primary health care centers in Riyadh, Saudi Arabia from February 2019 to February 2020.

Internal consistency of MS-Q in this study was excellent 0.77 to 0.82 (95% CI: 0.77-0.82); which represent a high correlation between each item in MS-Q and the disease. Cronbach's κ coefficient ranged from 0.81 to 0.83 (95% CI) which considered also an excellent reliability of MS-Q. Our results are with agreement a headache questionnaire established in Egypt [16] for Arabic-speaking headache patients to be used as an epidemiological survey instrument. The intraclass correlation coefficient was 0.903 (95% confidence interval: 0.875–0.925), the Cronbach κ coefficient was 0.775 (95% confidence interval: 0.682–0.837).

ROC curve was constructed to evaluate sensitivity-specificity characteristics of MS-Q; excellent AUC 0.97 CI 95% (0.94-0.99) with a sensitivity (0.95) and (0.99) specificity. Our sensitivity results are comparable to a study that presented a Spanish cross-sectional, multicenter study that included 9,670 patients to validate MS-Q, the achieved sensitivity was (0.82) and the specificity was (0.97) [19].

Results

➤ Study Population:

176 participants (57.1%) were female with a mean age 29.9 ± 8.9 years. One hundred sixty-three participants (52.9%) were single and 145 participants (47.1%) were married.

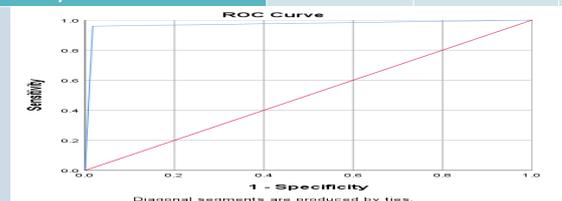
➤ Reliability:

The study demonstrated a high degree of reliability and internal consistency of the Arabic version of the MS-Q for each question through Cronbach's alpha coefficient. Cronbach's κ coefficient ranged from 0.81 to 0.83 (95% CI) which considered accepted. Pearson's correlation coefficient (internal consistency) showed a high intraclass correlation, value ranged from 0.77 to 0.82 (95% CI).

➤ Validation against ICDH-3 criteria:

Sensitivity: 95% specificity:99%
PPV:95.9%, NPV:98.2%

Question	Cronbach's κ	Pearson's Correlation	P value
1- Do you suffer from severe or frequent headache?	0.81	0.82	<0.0001
2- Do you suffer from a headache that lasts more than 4 hours?	0.83	0.77	<0.0001
3- Do you feel nausea accompanied with headache?	0.82	0.79	<0.0001
4- Feeling disturbed by light or noise when you experience a headache?	0.82	0.79	<0.0001
5- Do headaches reduce your practical or intellectual activity?	0.82	0.79	<0.0001



How to improve

Although our questionnaire achieved high sensitivity and internal consistency between questions, we recommend more population based studies with larger sample size .

Conclusions

The Arabic version of the MS-Q is an easy, straightforward, valid and reliable tool for the identification of Migraine in Primary care settings.

References

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