

Misdiagnosing Muslims: The hidden risk of using the CAGE questionnaire in some Islamic contexts

Anas Ibn Auf¹ and Sayed Halaly²

Author Affiliation:

1. Department of Psychiatry, Eastern Sudan University for Medical Sciences and Technology, Sudan; Erada and Mental Health Complex, Taif, Saudi Arabia
2. Unit of Psychiatry, School of Medicine, Ahfad University for Women, Sudan; Taha Baasher Psychiatry Teaching Hospital, Sudan

Correspondence:

Anas Ibn Auf
anasibnauf@hotmail.com

Submitted: April 2025

Accepted: August 2025

Published: November 2025

Citation: Auf and Halaly. Misdiagnosing Muslims: The hidden risk of using the CAGE questionnaire in some Islamic contexts. South Sudan Medical Journal, 2025;18(4):214-217 © 2025 The Author(s) **License:** This is an open access article under [CC BY-NC](#) DOI: <https://dx.doi.org/10.4314/ssmj.v18i4.11>

ABSTRACT

The CAGE questionnaire is widely used for screening alcohol use disorders but may yield misleading results in practicing Muslim communities, where alcohol is religiously prohibited and culturally stigmatized. The four questions focus on **C**utting down, **A**nnoyance by criticism, **G**uilty feeling, and **E**ye-openers, giving the acronym “CAGE”. Feelings of guilt or the desire to abstain may reflect religious conviction rather than pathological use, risking false-positive diagnoses. This paper explores the cultural limitations of the CAGE among practicing Muslims and highlights the ethical and clinical consequences of its uncritical application. It calls for greater cultural sensitivity in alcohol screening and recommends the use of alternative tools or locally validated instruments in Muslim-majority settings.

Keywords: alcohol screening, transcultural psychiatry, Islamic culture, CAGE questionnaire, substance use disorders.

Introduction

The CAGE questionnaire is a widely used screening tool for identifying individuals with potential alcohol problems. It consists of four yes/no questions that assess an individual's experience with alcohol: feeling the need to **C**ut down, being **A**nnoyed by criticism, feeling **G**uilty, and requiring a morning drink to steady nerves, “**E**ye-opener”, giving the acronym “CAGE”.^[1] Its brevity and ease of administration have led to its widespread use in both clinical and primary care settings, particularly in Western contexts where moderate drinking is culturally accepted.^[2]

However, the universal application of the CAGE, especially in Islamic cultural contexts, raises serious concerns. In Muslim-majority societies where alcohol consumption is strictly prohibited and socially stigmatized, the assumptions embedded in the CAGE become problematic. Applying this tool without cultural adaptation risks misclassification and ethical missteps.

Religious guilt vs. clinical impairment

The CAGE questionnaire relies heavily on subjective emotional responses, guilt, social criticism, and desire to change behaviour, which may not accurately reflect alcohol dependence in Islamic contexts. For instance, a devout Muslim who consumes alcohol once may answer “yes” to three of the four CAGE questions, not due to dependence, but due to guilt and social disapproval rooted in religious values.^[3,4] The cultural and religious condemnation of alcohol in Islam is well-established, with explicit prohibitions in the Qur’an and Hadith.^[5,6] This creates a high likelihood of false positives. Some studies among the Muslim population showed that religious beliefs significantly influenced their self-reports of guilt and regret related to alcohol use, even in the absence of problematic drinking patterns.^[3,4,7] The result is a distorted clinical picture, where moral or spiritual distress is mistaken for addiction.

Why this matters now

In a Malaysian study, Muslim participants scored highest on the CAGE item assessing guilt after drinking, despite reporting the lowest alcohol consumption among all groups.^[4] Moreover, the authors have encountered, in their clinical practice, numerous cases of Muslim men who, during a stressful period, consumed alcohol on a single or very few occasions and subsequently experienced deep regret. When screened using the CAGE, he answered “yes” to feeling guilty, being criticized, and wanting to stop. Despite no evidence of continued or compulsive use, the CAGE score would suggest a high risk of alcohol dependence. This can lead to inappropriate labeling or unnecessary intervention.

The second item, being annoyed by criticism, also becomes culturally biased. In conservative Islamic societies, even rare drinking behaviour can draw harsh social criticism, leading respondents to endorse this item despite having no internal struggle with alcohol.^[3,4,7] Similarly, the desire to “cut down” might simply reflect an individual’s wish to remain religiously compliant, rather than an indication of impaired control.^[4]

Only the fourth question, needing an “eye-opener”, relies more on physiological dependence. This item may be less vulnerable to cultural context, though research indicates that it is often infrequently endorsed and, on its own, lacks sufficient sensitivity to reliably identify alcohol use disorder.^[8]

Tool design and cross-cultural validity

The original development of the CAGE did not consider the values and norms of Muslim-majority populations. Like many psychiatric screening instruments, it was normed on Western populations where moderate alcohol use is often seen as socially acceptable.^[9,10] In contrast, in conservative Islamic cultures, the threshold for guilt or criticism is much lower, making emotional responses unreliable indicators of substance use disorders.^[4]

Moreover, the broader issue lies in the uncritical export of Western-developed tools into non-Western settings. This raises questions about the cultural validity of the instrument. Without adaptation or proper validation, the CAGE risks undermining the diagnostic process and damaging trust in mental health services.^[9,10]

Clinical and ethical ramifications

The misapplication of culturally insensitive screening tools like the CAGE questionnaire carries not only diagnostic risks but also significant ethical concerns. In mental health settings where trust and rapport are critical, a false positive result due to culturally driven guilt can erode the therapeutic alliance. Patients who are wrongly labeled with alcohol use disorders may face social stigma, legal consequences, or loss of employment opportunities, particularly in Muslim-majority societies where alcohol use may be criminalized or morally condemned. This risk is compounded in community mental health programs and primary care systems where mental health professionals may rely heavily on screening tools without the time or training to interpret results in light of cultural nuance.

From an ethical perspective, the principle of non-maleficence is compromised when clinicians apply tools that carry a high potential for harm through misclassification, such as causing unwarranted stigma, damaging the patient’s reputation, straining family or community relationships, or prompting unnecessary interventions and referrals. Similarly, the principle of respect for persons is undermined if patients are not assessed in ways that honour their cultural and religious contexts. The lack of adaptation or disclaimers surrounding the use of CAGE in these settings reflects a broader issue in psychiatric practice, the assumption that tools developed in Western, secular contexts are universally valid. Rectifying this requires greater awareness, culturally sensitive training, and systematic evaluation of existing tools across diverse populations.

Better alternatives exist

In light of these limitations, clinicians working in Muslim contexts should be cautious when using the CAGE. In any cultural context, they should avoid labelling an individual with an alcohol use disorder based solely on a positive CAGE score. One useful alternative is the Alcohol Use Disorders Identification Test (AUDIT), which emphasizes behavioural patterns such as frequency and quantity of consumption rather than emotional responses.^[11] The AUDIT has demonstrated better cross-cultural reliability and is less likely to produce false positives due to guilt alone.^[12,13] Several studies reinforce the validity and reliability of the AUDIT across different cultural and linguistic contexts, and among diverse populations in various countries.^[3,13,14] A longer-term solution would involve developing culturally sensitive screening tools tailored to Islamic societies. These tools could incorporate distinctions between religious guilt and psychological distress, focusing more on observable behaviour than on feelings shaped by moral doctrine.^[11] Including items that explore the source of guilt (religious versus behavioural) could substantially improve specificity.

A call to action

The CAGE questionnaire, while used widely in Western contexts, has inherent limitations that make it an insufficient stand-alone screening tool even in the populations it was designed for,^[15] and it poses an even greater risk of misdiagnosis when applied in practicing Muslim communities. Its reliance on feelings of guilt, social criticism, and the desire to cut down aligns poorly with the realities of alcohol use in societies where drinking is both religiously forbidden and socially condemned. This mismatch can lead to false positives, inappropriate interventions, and a loss of trust in psychiatric care.

We call for a reassessment of culturally inappropriate screening practices and urge the development of tools that respect the values and lived experiences of a significant portion of practicing Muslims. Until such tools are developed, clinicians and other healthcare staff should receive appropriate training to interpret CAGE results with extreme caution or consider avoiding its use altogether in these settings.

Author Contributions

Both authors meet the ICMJE criteria for authorship. AIA conceived the initial idea for the commentary. Both AIA and SH contributed to the development of the concept,

drafting, and critical revision of the manuscript. They both approved the final version and agreed to be accountable for all aspects of the work.

Conflict of interest: None.

References

1. Ewing JA. Detecting alcoholism: The CAGE questionnaire. *JAMA*. 1984;252(14):1905-7.
2. Bisschop JM, de Jonge HJM, Brunsveld-Reinders AH, van de Mheen DH, Mathijssen JJP, Rozema AD. Screening instruments to detect problematic alcohol use among adults in hospitals and their diagnostic test accuracy: A systematic review. *Drug Alcohol Rev*. 2025 Feb;44(2):505-531.
3. Al Mousawi A. Alcohol use disorder identification test use in Muslim countries. *Int J Prev Treat Subst Use Disord*. 2015;1(3-4):18-37.
4. Indran SK. Usefulness of the "CAGE" in Malaysia. *Singapore Med J*. 1995 Apr;36(2):194-6. PMID: 7676267.
5. Tamimi Arab P. Can Muslims drink? Rumi vodka, Persianate ideals, and the anthropology of Islam. *Comp Stud Soc Hist*. 2022;64(2):263-299. doi:10.1017/S001041752200007X.
6. Tarighat-Esfanjani A, Namazi N. Erratum to: nutritional concepts and frequency of foodstuffs mentioned in the Holy Quran. *J Relig Health*. 2016;55(3):820. doi: 10.1007/s10943-014-9990-4.
7. Lankarani KB, Afshari R. Alcohol consumption in Iran. *Lancet*. 2014;384(9958):1927-1928. doi: 10.1016/S0140-6736(14)62279-0.
8. Volk RJ et al. Item bias in the CAGE screening test for alcohol use disorders. *J Gen Intern Med*. 1997;12(12):763-9.
9. CAGE questionnaire allows doctors to avoid focusing on specifics of drinking. *BMJ*. 1998 Jun 13;316(7147):1827. doi:10.1136/bmj.316.7147.1827.
10. Alageel S, Alomair N. Muslims perceptions of safe alcohol use: a qualitative study in the Gulf Council Cooperation countries. *Harm Reduct J*. 2024 Sep 10;21(1):167. doi: 10.1186/s12954-024-01087-7.
11. Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use

- Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*. 1993;88(6):791-804.
12. Babor TF, Higgins-Biddle JC, Saunders JB, Monteiro MG. AUDIT: The Alcohol Use Disorders Identification Test: Guidelines for use in primary care. Geneva: World Health Organization; 2001.
13. Almarri TSK, Oei TPS, Amir T. Validation of the Alcohol Use Identification Test in a prison sample living in the Arabian Gulf region. *Subst Use Misuse*. 2009;44(14):2001-13. doi:10.3109/10826080902848533.
14. Hallit J, Salameh P, Haddad C, Sacre H, Soufia M, Akel M, Obeid S, Hallit R, Hallit S. Validation of the AUDIT scale and factors associated with alcohol use disorder in adolescents: results of a National Lebanese Study. *BMC Pediatr*. 2020 May 11;20(1):205.
15. National Institute on Alcohol Abuse and Alcoholism. Screen and assess: use quick, effective methods [Internet]. Bethesda (MD): National Institute on Alcohol Abuse and Alcoholism; [cited 2025 Aug 11]. Available from: <https://www.niaaa.nih.gov/health-professionals-communities/core-resource-on-alcohol/screen-and-assess-use-quick-effective-methods>