Journal Of Psychology and Social Sciences
Vol. 4 No. 2 2026, 245-249
Publisher: CV. Doki Course and Training
E-ISSN: 2987-2545 | P-ISSN: 2987-8551

Development and Validation of the Health Anxiety Inventory (HAI)

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ARTICLE INFO

Article History
Received : 2026-05-13
Revised : 2026-06-11
Accepted : 2026-07-04

Keywords
Health Anxiety
Health Beliefs
Illness Anxiety
Psychometric Validation
Psychological Assessment
Scale Development

ABSTRACT

Health anxiety has emerged as a major psychological concern in contemporary society due to increased exposure to online medical information, heightened awareness of diseases, and rapid dissemination of health-related content through digital media. Existing measures assessing health anxiety are predominantly developed within Western cultural contexts and may inadequately capture culturally specific illness beliefs and health-related behaviors observed among Indian adults. The present study aimed to develop and validate the Health Anxiety Inventory (HAI), a culturally grounded multidimensional instrument designed to assess health anxiety among adults. The scale was developed based on cognitive-behavioral and socio-cultural theoretical frameworks. An initial pool of 30 items across six dimensions was generated through literature review, expert consultation, and analysis of socio-cultural health beliefs. The dimensions included Anticipatory Health Worry, Bodily Sensation Monitoring, Catastrophic Interpretation, Reassurance Seeking and Healthcare Utilisation, Functional Impairment and Avoidance, and Socio-Cultural Health Beliefs. The inventory was administered to 183 college students selected through convenience sampling. Reliability analysis revealed excellent internal consistency (Cronbach's α = .912). Item-total correlations ranged from .32 to .68, indicating satisfactory construct representation. Expert evaluations supported content validity, while theoretical coherence and statistical findings supported construct validity. The findings suggest that the HAI is a reliable and culturally relevant instrument suitable for assessing health anxiety among adults. The inventory may be useful in psychological assessment, counseling interventions, public mental health screening, and behavioral medicine research.

Introduction

Health anxiety refers to excessive concern, persistent worry, and preoccupation regarding one's physical health and the possibility of developing serious illness (Salkovskis et al., 2002). Individuals with elevated health anxiety frequently misinterpret ordinary bodily sensations as indicators of severe disease, resulting in heightened emotional

distress, reassurance-seeking behaviors, repeated medical consultations, compulsive symptom checking, and functional impairment (Abramowitz & Braddock, 2011). Although moderate health concern may be adaptive and promote preventive healthcare behavior, excessive health anxiety can interfere significantly with social, occupational, academic, and psychological functioning.

The growing availability of internet-based medical information and social media exposure has considerably amplified health-related fears and self-diagnosis behaviors in recent years (Baumgartner & Hartmann, 2011). Continuous access to online symptom-related information may intensify catastrophic thinking and reinforce maladaptive illness beliefs, leading to cyberchondria and persistent health-related anxiety (Ferguson, 2009). Public health crises such as the COVID-19 pandemic further intensified illness-related fears, hypervigilance toward bodily sensations, and uncertainty regarding physical health across populations worldwide.

Within the Indian socio-cultural context, health anxiety is influenced by multiple psychological, economic, cultural, and spiritual factors. Illness interpretations are frequently shaped by family systems, healthcare affordability concerns, religious and spiritual beliefs, traditional healing practices, and culturally rooted explanations regarding disease causation (Chakraborty & Chatterjee, 2018). Individuals often combine biomedical understanding with indigenous systems such as Ayurveda, Siddha, home remedies, astrology, and ritualistic healing while managing health concerns. Consequently, health anxiety may manifest differently from Western conceptualizations.

Several internationally recognized instruments have been developed to assess illness anxiety and health-related fears, including the Health Anxiety Inventory (HAI), Short Health Anxiety Inventory (SHAI), and Illness Attitude Scales (IAS) (Salkovskis et al., 2002; Warwick & Salkovskis, 1990). However, these instruments may inadequately capture culturally specific reassurance-seeking patterns, socio-spiritual beliefs, healthcare utilization behaviors, and traditional explanatory models commonly observed among adults within diverse cultural settings.

The absence of culturally grounded psychological measures represents a significant limitation in health anxiety research. Therefore, the present study aimed to develop and validate the Health Anxiety Inventory (HAI), a multidimensional assessment instrument designed to capture culturally relevant manifestations of health anxiety.

Theoretical Framework

The HAI was grounded primarily in cognitive-behavioral and socio-cultural theoretical perspectives of illness anxiety.

Cognitive-behavioral theories propose that health anxiety develops when individuals selectively attend to bodily sensations and catastrophically misinterpret them as signs of severe illness (Salkovskis et al., 2002). Ordinary bodily experiences such as headaches, fatigue, palpitations, or minor pain become perceived as indicators of serious disease. These interpretations increase fear, bodily vigilance, reassurance seeking, and healthcare utilization. According to cognitive-behavioral formulations, reassurance-seeking behaviors

temporarily reduce anxiety but ultimately reinforce maladaptive illness beliefs over time (Warwick & Salkovskis, 1990).

Socio-cultural perspectives emphasize that illness beliefs and health behaviors are strongly influenced by culture, religion, media exposure, social learning, family systems, and traditional healing practices (Chakraborty & Chatterjee, 2018). Individuals frequently interpret illness through spiritual and cultural frameworks involving fate, evil eye beliefs, astrology, karma, rituals, and indigenous medical systems. Therefore, socio-cultural factors play a crucial role in shaping illness perceptions and health-related behaviors.

The HAI integrated these theoretical perspectives to produce a culturally comprehensive multidimensional assessment tool.

Method

Research Design

The study employed a descriptive survey design for the development and psychometric validation of the Health Anxiety Inventory (HAI).

Participants

The sample consisted of 183 college students selected through convenience sampling from undergraduate and postgraduate institutions in Karnataka, India. Participants belonged to diverse academic disciplines including arts, science, commerce, and professional courses. The age range of participants was between 18 and 25 years.

The sample included both male and female students from urban and semi-urban backgrounds. According to psychometric and scale development guidelines, a sample size ranging between 150 and 300 participants is considered adequate for preliminary validation studies involving item analysis and reliability estimation (DeVellis & Thorpe, 2021; Worthington & Whittaker, 2006). Therefore, the sample size of 183 participants was considered sufficient for initial psychometric evaluation of the HAI.

Inclusion Criteria: (1) Participants aged between 18 and 25 years, (2) Currently enrolled college or university students, (3) Ability to read and understand English, (4) Willingness to provide informed consent.

Exclusion Criteria; (1) Individuals with severe cognitive or neurological impairment, (2) Participants submitting incomplete responses, (3) Individuals unwilling to participate voluntarily.

Instrument Development

Phase 1: Item Generation, the initial item pool was developed through extensive literature review of health anxiety, illness anxiety disorder, cyberchondria, cognitive-behavioral theory, and socio-cultural illness beliefs. Existing instruments such as the Health Anxiety Inventory (HAI), Illness Attitude Scales (IAS), and related theoretical literature were reviewed. Thirty items were generated across six dimensions: (1) Anticipatory Health Worry, (2) Bodily Sensation Monitoring, (3) Catastrophic

Interpretation, (4) Reassurance Seeking and Healthcare Utilisation, (5) Functional Impairment and Avoidance, (6) Socio-Cultural Health Beliefs.

The items reflected culturally relevant concerns such as healthcare affordability, traditional healing practices, excessive online symptom searching, spiritual explanations of illness, and reassurance-seeking behavior.

Results and Discussion

Reliability Analysis Results

Internal consistency reliability was assessed using Cronbach's alpha coefficient. The obtained alpha coefficient indicated excellent internal consistency reliability according to established psychometric standards (George & Mallery, 2024) (see tabel 1).

Tabel 1. Internal consistency reliability

Measure	Value
Number of Items	30
Cronbach's Alpha	.912

Item Analysis

Item-total correlations ranged from .32 to .68, indicating satisfactory item discrimination and contribution to the construct of health anxiety.

Table 2. Item-total correlations

Statistic	Range
Item-total correlations	0.32 – 0.68

All items exceeded the minimum acceptable criterion of .30 recommended for psychological scale development (Field, 2024).

Discussion

The present study aimed to develop and validate the Health Anxiety Inventory (HAI), a culturally grounded multidimensional measure of health anxiety. The findings indicate that the inventory possesses strong preliminary psychometric properties and demonstrates excellent internal consistency reliability.

One of the major contributions of the HAI lies in its socio-cultural orientation. Existing Western-developed instruments primarily emphasize cognitive and behavioral dimensions of illness anxiety while providing limited attention to culturally rooted health beliefs. The HAI incorporates dimensions related to healthcare affordability concerns, traditional healing practices, spiritual explanations, reassurance-seeking behaviors, and culturally mediated illness interpretations.

The findings support the utility of the HAI in psychological counseling, behavioral medicine, mental health screening, and academic investigations involving illness anxiety and cyberchondria.

Conclusion

The Health Anxiety Inventory (HAI) is a reliable and culturally relevant multidimensional instrument designed to assess health anxiety. The scale demonstrated excellent internal consistency reliability and satisfactory preliminary validity evidence. The incorporation of socio-cultural dimensions represents an important advancement in culturally sensitive psychological assessment.

The HAI may serve as a valuable tool for clinical screening, counseling interventions, behavioral medicine research, and public mental health investigations. Future research should focus on large-scale standardization, factorial validation, regional language adaptation, and clinical validation across diverse populations.

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