

Research Progress on Mental Health Literacy among Nurses

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Abstract: Nurses' mental health literacy is the core ability of nurses to identify, manage and promote mental health. As the core force of the medical team, nurses have been in high-intensity and high-stress working environments for a long time. Their mental health literacy level is directly related to their professional burnout, nursing quality and patient safety, and has become a key factor affecting the quality of medical services and industry stability. At present, relevant researches still lack the integration of theory and practice. This article systematically reviews the research progress of nurses' mental health literacy from five aspects: conceptual connotation, assessment tools, influencing factors, current characteristics and intervention strategies. It aims to provide scientific basis and strategic guidance for nursing management and education practice, thereby promoting the improvement and development of nurses' mental health support system, and optimizing nursing quality and patient prognosis.

Keywords: nurse; mental health literacy; nursing care; review

1. Introduction

With the increasing demand for healthcare services and the growing complexity of clinical environments, occupational pressure in nursing has intensified continuously. Nurses are frequently exposed to heavy workloads, irregular working schedules, and frequent communication with patients and their families, which collectively impose substantial psychological burdens^[1]. Psychological problems among nurses, including anxiety, depression, and occupational burnout, have become increasingly prominent. Evidence indicates that 49.6% of nurses experience perceived stress in the workplace, and approximately 60% report significant levels of occupational stress^[2]. Nurses' mental health directly affects work efficiency and the quality of nursing care and may pose potential risks to patient safety. As a result, it has become a major focus in the fields of nursing management and occupational health^[3]. Mental health literacy (MHL), defined as an individual's comprehensive ability to recognize mental health problems, respond appropriately, and maintain psychological well-being, has attracted increasing attention in recent years. Among nurses, higher levels of MHL may enhance psychological resilience and empathy, thereby playing an important role in improving occupational mental health outcomes^[4-5]. Although studies on MHL have been conducted in certain occupational populations, systematic investigations focusing specifically on nurses remain limited. Existing research has primarily focused on the current status and influencing factors of MHL, often emphasizing individual dimensions or isolated determinants, with limited efforts toward comprehensive integration^[6-7]. Furthermore, the unique characteristics of the nursing work environment and the professional demands for accurate identification and effective management of psychological problems highlight the distinct theoretical and practical value of studying MHL in this population. Therefore, this review systematically summarizes the current research progress on nurses' mental health literacy, aiming to provide evidence to support theoretical framework development, assessment tool construction, and clinical intervention design for promoting nurses' mental health, and to facilitate the scientific advancement of nursing workforce management and occupational health support systems.

2. Evolution of the Concept of Mental Health Literacy

Mental health literacy (MHL) was first introduced by Jorm et al. in 1997^[8]. The initial definition primarily focused on the recognition, management, and prevention of mental disorders, emphasizing

the role of mental health related knowledge and beliefs in maintaining individual psychological well-being. With the continuous development of mental health promotion concepts, Jorm further expanded this framework in 2012 and systematically categorized MHL into five dimensions: understanding the prevention of mental disorders, recognizing the occurrence and progression of mental illness, knowing how to access help and treatment, applying self-help strategies, and possessing the ability to provide support to others experiencing mental health problems^[9]. This expansion marked the transition of MHL from a knowledge-based construct to a multidimensional competency framework. In recent years, research has gradually moved beyond a disease-centered perspective toward a broader health promotion oriented approach. Fusar-Poli et al.^[10] suggested that MHL not only involves understanding mental disorders and their treatment but also encompasses the ability to maintain positive mental well-being, reduce stigma, and improve help-seeking effectiveness. Carvalho et al.^[11] further emphasized that MHL should include the capacity to translate knowledge into practice, such as understanding personal health rights, advocating for mental health resources, recognizing early psychological warning signs, and effectively seeking support within mental health service systems.

Based on the above theoretical developments, nurses' mental health literacy can be defined as a comprehensive capability to recognize, understand, and manage both their own and others' psychological states and mental health problems within clinical and professional contexts. This construct not only includes knowledge of common mental disorders, their identification, and coping strategies, but also emphasizes maintaining positive psychological functioning in high-pressure and complex care environments, actively seeking help when needed, effectively applying psychological adjustment strategies, and translating knowledge into behaviors that promote mental health for both themselves and others.

3. Assessment Tools for Mental Health Literacy

Currently, the assessment of mental health literacy primarily relies on standardized scale-based instruments, including general assessment tools designed for the general population and specialized instruments developed for specific subgroups.

3.1. Mental Health Literacy Scales

The Mental Health Literacy Scale (MHLS), developed by O'Connor et al. in 2015^[12], is one of the most widely used multidimensional instruments for the comprehensive assessment of mental health literacy. It has been applied across diverse populations, including individuals with mental disorders, nurses, and university students^[13-15], and has been translated into multiple languages^[16-18], demonstrating good cross-cultural applicability. The Chinese version of the Mental Health Literacy Scale (MHLS-C) was culturally adapted by Ma Xiaoxin in 2019^[18]. The scale comprises 35 items across six dimensions: recognition of common mental disorders; attitudes toward improving cognitive understanding and self-help behaviors; knowledge of self-treatment for mental disorders; knowledge of risk factors and access to professional treatment; knowledge of how to obtain mental health information; and knowledge of common treatment approaches. The scale uses a five-point Likert scoring system, with total scores ranging from 35 to 160; higher scores indicate higher levels of mental health literacy. Zhang Peipei et al.^[19] validated the MHLS-C among 4,026 nurses and reported that the internal consistency was only acceptable, with Cronbach's α coefficient below 0.80. In 2022, Wang et al.^[20] retranslated and culturally adapted the scale using data from 872 clinical nurses. After removing several items, a revised 29-item MHLS-C was developed, consisting of four dimensions: knowledge of mental disorders; ability to seek information and help; cognition of mental disorders; and acceptance of individuals with mental illness. The revised version also uses a five-point Likert scoring system, with total scores ranging from 29 to 132, where higher scores indicate higher levels of nurses' mental health literacy. The scale demonstrated good reliability and stability, with a Cronbach's α of 0.85 and an intraclass correlation coefficient (ICC) of 0.80, indicating good test-retest reliability. The revised scale is considered suitable for use among nurses in China.

Although the MHLS is a universal assessment tool, certain items may be interpreted differently by specific populations such as nurses. In addition, variations exist in item interpretation and modification during the cultural adaptation process among different researchers. Differences in sample selection and testing environments may also influence the reliability and validity of the scale. Therefore, further optimization of the applicability of the MHLS-C is still needed.

3.2. *Mental Health Literacy Scale for Healthcare Students*

Chao et al.^[21] from Chinese Taiwan developed the Medical Students' Mental Health Literacy Scale (MHLS-HS) in 2020, representing the first mental health literacy assessment instrument specifically designed for medical students. The scale comprehensively covers domains related to both mental health promotion and mental disorders. It consists of 26 items across five dimensions: maintenance and promotion of mental health, recognition and understanding of mental disorders, stigma attitudes toward mental illness, help-seeking efficacy, and help-seeking attitudes. The instrument uses a 5-point Likert scoring method, with total scores ranging from 26 to 130; higher scores indicate higher levels of mental health literacy. The scale demonstrated good internal consistency, with a Cronbach's α coefficient of 0.81, and has been widely applied in Chinese Taiwan, showing satisfactory content validity, internal consistency, and structural validity. In 2022, Xing Liyuan et al.^[15] introduced this scale to Chinese mainland. After validation and revision in a sample of nursing interns, a simplified Chinese version of the MHLS-HS was developed, consisting of 24 items. The revised version demonstrated strong reliability, with a retest Cronbach's α coefficient of 0.90, indicating good reliability and validity.

Overall, the MHLS-HS is suitable for assessing mental health literacy among medical students and other healthcare-related majors. Although it has been validated among nursing interns, further studies are still required to confirm its applicability among clinical nurses.

3.3. *Universal Mental Health Literacy Scale for Adolescents (UMHL-A)*

Kågström et al.^[22] developed the Universal Mental Health Literacy Scale for Adolescents (UMHL-A) in 2023, which is primarily used to assess mental health literacy among adolescents aged 10–14 years. The scale consists of 17 items across four dimensions. The stigma (ST) and help-seeking (HS) dimensions are assessed using a 5-point Likert scale, while knowledge of mental health (KMH) and knowledge of mental illness (KMI) are measured using dichotomous true/false items. Higher scores indicate stronger willingness to seek help, lower levels of stigma, and better knowledge of mental health-related information. Exploratory factor analysis (EFA) demonstrated item loadings greater than 0.38, while confirmatory factor analysis (CFA) showed good model fit indices (CFI > 0.94, RMSEA < 0.07). Significant convergent validity was observed with established scales such as the GHSQ and MHLq ($r = 0.06\text{--}0.64$), meeting psychometric standards. Cross-cultural studies among adolescents in countries including Turkey, Australia, and China have shown that the scale has good internal consistency and test-retest reliability.

In summary, existing mental health literacy assessment tools are not specifically designed for nurses. The unique characteristics of different professional groups may not be fully reflected, resulting in measurement variability. Future research could build upon universal scales while incorporating the specific characteristics of nursing personnel to develop more targeted assessment tools and strengthen empirical validation.

4. Factors Influencing Mental Health Literacy Among Nurses

4.1. *Sociodemographic Factors*

Mental health literacy among nurses is influenced by multiple factors, including age, gender, marital status, educational level, and training experience^[16,23,24]. Regarding age, some studies suggest that younger nurses tend to have higher levels of mental health literacy, potentially due to experiencing lower levels of psychological burden^[16]. However, other studies indicate that younger nurses may lack sufficient clinical experience and maturity in emotional regulation and recovery. When confronted with high-intensity nursing workloads and complex interpersonal relationships, they may be more vulnerable to maladaptation, which may in turn be associated with lower levels of mental health literacy^[23]. Gender differences have also been observed in nurses' mental health literacy. Female nurses generally demonstrate higher mental health literacy than male nurses, possibly because they place greater emphasis on emotional expression and are more likely to actively recognize psychological problems and seek help^[23,24]. With respect to marital status, married nurses typically receive greater support from family, economic, and social systems than unmarried nurses. This support may enhance psychological resilience when facing stress or adverse events, enabling better understanding and management of mental health problems^[23].

In addition, educational background and training experience are important determinants of nurses'

mental health literacy. Nurses with higher educational attainment usually receive more systematic education, possess greater mental health knowledge reserves, and are better able to recognize and manage psychological problems^[24-25]. Meanwhile, targeted mental health education and training programs also contribute to improvements in nurses' mental health literacy^[25]. Overall, demographic characteristics play a foundational role in shaping differences in mental health literacy among nurses.

4.2. Individual-Level Factors

Nurses' psychological resources and coping strategies are core factors regulating mental health literacy and jointly influence their professional performance. Psychological resources refer to the positive psychological beliefs and capacities that nurses can mobilize when facing stress and challenges, including psychological resilience, self-efficacy, self-compassion, and optimism^[26]. Studies have shown that mental health literacy is significantly positively correlated with psychological resilience and negatively correlated with maladaptive coping strategies^[26]. Psychological resources enable nurses to recover quickly and adapt when encountering setbacks and difficulties, reducing the likelihood of persistent low mood or depression, thereby helping maintain stable psychological functioning and higher levels of mental health literacy. Nurses with higher self-efficacy demonstrate stronger confidence in managing psychological problems and acquiring relevant knowledge, thereby enhancing their mental health literacy^[27]. Self-compassion, as an important component of mindful self-care, has been shown to reduce self-blame and negative self-evaluation while maintaining psychological stability, thus contributing to improvements in nurses' mental health literacy^[28]. In addition, positive coping strategies, such as seeking family and social support, cognitive reframing, and meditation can help nurses better manage negative emotional challenges and alleviate stress, further promoting the development of mental health literacy^[27]. Therefore, nurses' psychological status represents a critical component in the regulation and enhancement of mental health literacy.

4.3. Organizational-Level Factors

Work environment, workload, occupational stress, organizational and social support, career development opportunities, and leadership style also exert significant influences on mental health literacy. Organizational resources and supportive measures can buffer nurses against adverse psychological outcomes. Nurses working in comfortable and safe environments are less exposed to emotional burdens and self-blame arising from complex interpersonal relationships, experience relatively lower occupational stress, and demonstrate significantly higher overall and core levels of mental health literacy compared with other nurses^[24]. Conversely, when nurses are exposed to prolonged high workloads, continuously increasing stress may lead to physical and emotional exhaustion. Role overload can weaken nurses' ability to acquire, understand, and apply mental health-related knowledge and skills, thereby exerting substantial negative effects on mental health literacy^[24]. Support from organizations, colleagues, friends, and family functions as a protective network, not only helping nurses resolve practical problems but also providing emotional support, ultimately contributing to improvements in mental health literacy^[28]. In addition, several well-established leadership styles, such as authentic leadership, transformational leadership, and empowering leadership have been shown to enhance nurses' confidence and work engagement, provide critical informational and emotional resources, and support effective career planning and self-development, thereby promoting the development of mental health literacy^[24,29]. Therefore, organizational-level factors warrant close attention from nursing managers and healthcare administrators.

5. Current Status of Mental Health Literacy among Nurses

In recent years, mental health literacy, as an important indicator for evaluating individuals' knowledge of mental health, help-seeking skills, and cognitive understanding of psychological and psychiatric problems, has gradually become a research focus in the nursing field^[30]. Although research on nurses' mental health literacy began earlier in some countries, psychological problems remain prevalent among nurses. Compared with other healthcare professionals, nurses generally demonstrate lower levels of mental health literacy. More than 50% of nurses are unable to correctly identify common mental disorders, possess limited knowledge reserves, frequently misinterpret depression as 'stress' or 'life problems' and may hold negative attitudes toward mental illness^[31,32]. Overall, the level of mental health literacy among nurses in other countries is generally moderate, with only a small

proportion reaching a moderately high level, and most have not achieved an optimal standard^[32,33]. Nurses with family members or close friends who have experienced mental illness tend to have higher mental health literacy scores, whereas those with a personal history of mental illness often score lower due to stigma and self-stigmatization. Nurses who are frequently exposed to patients in severe psychological distress also tend to have lower scores. In addition, nurses commonly demonstrate substantial knowledge gaps regarding mental disorders and psychological first-aid strategies^[32,33]. Oztas and Aydoğan^[34] found that nurses who had received training related to mental disorders, possessed basic knowledge about mental illness, and were willing to participate in related training exhibited higher levels of mental health literacy. Scholars have suggested that mental health literacy among nurses can be enhanced through approaches such as promoting health-enhancing behaviors, strengthening collaboration in health services, improving empathy-based learning, and reducing negative biases toward mental illness.

At present, research on nurses' mental health literacy in China remains relatively limited. A large-scale study involving Chinese nurses^[24] found that the overall level of mental health literacy among nurses was moderate, while scores in the dimension of social acceptance were relatively low, indicating deficiencies in attitudes toward mental illness and stigma reduction. Across different nursing specialties, psychiatric nurses generally demonstrate higher levels of mental health literacy. A study by Xia et al.^[29] showed that psychiatric nurses scored higher in domains such as recognition of mental disorders, knowledge of risk factors and etiology, awareness of professional help pathways, and access to mental health information. However, deficiencies were still evident in knowledge of self-help treatments and attitudes toward promoting recognition and appropriate help-seeking. Hao et al.^[35] reported that non-psychiatric nurses generally exhibited insufficient mental health literacy, with more pronounced problems compared with psychiatric nurses. Their correct recognition rates for common disorders including schizophrenia, depression, and generalized anxiety disorder were only 38.9%, 56.2%, and 17.5%, respectively. From the perspective of clinical departments, nurses working in intensive care units (ICUs), emergency departments, and pediatrics face greater occupational stress and psychological burden. Consequently, their mental health status is generally poorer than that of nurses in general wards, and psychological problems are more prominent^[23,28,31]. Latent profile analysis further suggests the presence of three subgroups within the nursing population: 'low knowledge-low literacy' (38.6%), 'moderate literacy' (53.3%), and 'high attitude-high literacy' (8.0%), indicating that intervention strategies should be tailored to specific subgroups^[23]. Overall, most domestic studies have focused on describing current status or conducting correlational analyses, with relatively few systematic intervention studies available.

6. Intervention Strategies to Improve Mental Health Literacy Among Nurses

Mental health literacy is highly modifiable, and targeted interventions can produce positive effects on nurses' knowledge, attitudes, and behaviors.

6.1. Education- and Training-Based Strategies to Improve Mental Health Literacy

Systematic mental health education courses and training programs can be implemented to provide nurses with knowledge related to mental health and mental disorders, correct misconceptions, and thereby promote understanding, recognition, and help-seeking behaviors regarding psychological problems^[36,37]. These courses and training programs may cover topics such as recognition of common mental disorders, coping strategies, and psychological adjustment skills. In addition, interactive and flexible teaching approaches including case-based learning, situational experiential teaching, drama education, role-playing, and virtual simulation technologies can be incorporated to enhance nurses' learning interest and engagement, thereby facilitating the application of knowledge through immersive practice^[38,39]. Mental Health First Aid (MHFA), as a practical form of mental health education, has been demonstrated to significantly improve nurses' ability to recognize mental health problems and strengthen their capacity to respond to acute psychological crises. The intervention effects have been shown to be sustained at 6-month and 12-month follow-ups^[38]. Furthermore, regularly organizing lectures and training sessions on evidence-based mental health knowledge and communication support strategies delivered by professional psychologists or scholars and conducted either face-to-face or through digital platforms can significantly enhance nurses' confidence in identifying psychological problems and promote the provision of practical assistance behaviors^[40].

6.2. Strategies to Enhance Mental Health Literacy Based on Psychological Resources and Support System Development

First, institutions can establish dedicated psychological counseling teams to conduct regular mental health assessments for nurses, identify those with potential psychological distress, and provide timely, effective, and individualized psychological counseling and intervention services to help them cope with work- and life-related psychological difficulties^[38]. In addition, psychological support hotlines can be established to provide 24 hour mental health assistance, ensuring that nurses can obtain timely support when experiencing psychological problems^[38]. Second, nurse scheduling can be scientifically and flexibly adjusted to prevent excessive fatigue. This can be complemented by stress management workshops conducted in environments designed to promote relaxation, such as spaces with calming aesthetics and appropriate aromatherapy. Under the guidance of trained professionals, nurses can learn stress-reduction techniques, including mental disengagement, deep breathing, self-suggestion, mindfulness practice, and progressive muscle relaxation, to alleviate work-related stress^[38]. Third, peer support among nurses can be strengthened by organizing mutual support groups, experience-sharing sessions, and problem-solving discussions, enabling nurses to communicate openly, provide mutual encouragement, and jointly cope with work and life pressures and challenges^[38,41,42]. Such initiatives not only help reduce psychological stress but also enhance nurses' sense of belonging and team cohesion. Furthermore, organizing visits to mental health institutions and facilitating direct interaction between nurses and mental health service users or individuals in recovery can serve as contact-based interventions. These approaches have been shown to effectively reduce stigma and misconceptions about mental health problems among nurses^[38,42].

6.3. Strategies to Improve Mental Health Literacy Based on Digital and Internet-Based Approaches

With the rapid development of digital health technologies, digital tools including mobile health applications, social media platforms, and virtual reality are increasingly being applied in mental health promotion. Nurses' levels of eHealth literacy directly influence the effectiveness of using digital resources for psychological self-management^[43]. Digital platforms can be utilized to establish online resources related to mental health literacy and regularly disseminate them to nurses. These resources may include mental health information, e-books, educational videos, popular science animations, high-quality case analyses, interactive assessments, and training programs, enabling nurses to access learning materials anytime and anywhere and acquire practical emotion regulation skills^[44]. Meanwhile, digital health competency training can be provided to help nurses effectively use digital resources. Online social media platforms such as WeChat, TikTok, and Xiaohongshu can also be used to establish peer communication groups for nurses, providing spaces for online psychological support and professional exchange.^[45] In addition, smart wearable devices can be introduced and mental health literacy related applications can be developed to support monitoring, assessment, follow-up, and management of psychological status and emotional changes. These tools can also collect data on stress, heart rate, mood, and sleep, enabling data-driven analysis to identify potential risks early, develop targeted intervention strategies, and optimize organizational climate and management approaches for nurses^[46].

7. Summary and Future Perspectives

Overall, existing evidence indicates that there remains considerable room for improvement in nurses' mental health literacy. Although current intervention strategies can enhance mental health literacy to some extent, most studies are primarily based on cross-sectional surveys, and existing assessment tools lack specificity. In addition, systematic and longitudinal interventional studies are limited.

In the future, more culturally appropriate and context-specific assessment instruments should be developed based on domestic cultural backgrounds and the characteristics of nurses' mental health literacy. Large-sample, multicenter, and longitudinal studies should be conducted to further explore digitalized, scientific, and systematic intervention strategies, thereby providing more personalized, precise, dynamic, and sustainable support and services for improving nurses' mental health literacy. Furthermore, multidisciplinary collaboration across psychology, clinical medicine, nursing, rehabilitation, and information technology should be strengthened to promote innovation and development in nurses' mental health literacy, ultimately safeguarding nurses' health and improving the quality and efficiency of nursing care.

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