Research Progress on Career Development of Nursing Staff

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Abstract: There are few studies on career development as an exclusive concept in the field of nursing in China. Currently, research related to the career development of nursing staff primarily relies on inductive evaluation tools, and there is less systematic summarization of this research. This paper reviews the concept, evaluation tools, and influencing factors of nursing career development, aiming to provide a reference for future research in this area.

Keywords: Career development; Nursing staff; Summary

1. Introduction

The "National Nursing Career Development Plan (2021–2025)" highlights that during the "14th Five-Year Plan" period, enhancing the quality and level of nursing services has been designated as a core task [1]. In furtherance of promoting high-quality healthcare development and implementing the "Healthy China" strategy, the General Secretary of China emphasized the imperative of bolstering the nursing workforce as fundamental to the healthcare industry's advancement [2]. Consequently, hospital management naturally prioritizes enhancing the quality of nursing human resources. However, the scarcity of nursing personnel is a global challenge [3]. As of the end of 2021, China's total number of registered nurses reached 5,018,000 (3.56 registered nurses per 1,000 population), significantly lower than the World Health Organization's recommended ratio of 4.45 registered nurses per 1,000 population [4].

Studies indicate that the lack of career development opportunities or limited career advancement prospects for nurses are primary reasons for nursing staff turnover and the shortage of nursing personnel [5]. Therefore, fostering career development for nurses and other healthcare professionals is paramount. However, research exclusively focused on career development in the nursing field in China is limited. Current studies concerning nursing career development primarily rely on generalized assessment tools or factors influencing career development, lacking systematic summarization of research findings. Thus, this paper aims to review the concept of career development, assessment tools, and influencing factors, providing a valuable reference for

future research in nursing career development.

2. Concepts related to career development

2.1. Origin and development

Saltz, in the "Encyclopedia of the Social Sciences," defined "occupation" as individuals engaged in continuous labor to earn a fixed income [6]. In the academic realm, there isn't a precise definition of "career development." However, it generally refers to the process through which an individual gradually achieves career goals, continuously sets new objectives, and ultimately realizes them. This developmental journey encompasses not only pre-career exploration but also goal formation, advancement, and adaptation within the workplace [7]. Therefore, career development is understood as an ongoing process wherein individuals acquire knowledge, skills, and attitudes to prepare for and manage their careers effectively [8].

Barton and others [9] defined career development as a series of processes involving events such as information provision, counseling, learning, and planned interventions like vocational education and structured experiences (e.g., internships), along with navigating the job market. Ning and colleagues [10] described career development as the process by which individuals enhance their social capital through diverse professional behaviors across various fields, thus gaining access to more social resources. Bickel [11] simplified career development as a journey wherein professionals encounter challenges but have the opportunity to explore multiple career paths and take a long-term perspective on their professional growth.

2.2. Conceptualization of career development in nursing

The concept of career development in nursing lacks a unified definition among academics. Li and other scholars [12] suggested that nursing career development involves the continuous enhancement and refinement of nurses' professionalism through formal or informal training processes. Wang and colleagues [13] defined nurse career development as the ongoing process wherein nurses continually enhance their professionalism through practice, adapt to their professional roles, improve their competence, and achieve success in various aspects of their profession. Pang and others [14] described nurses' career development as a process of continuously adjusting career goals, gradually adapting to professional roles, enhancing professional competence, and realizing professional aspirations to meet the healthcare needs of patients and the professional advancement of nursing while simultaneously developing individual competence and contributing to organizational growth. Scholar Ni [15] proposed a nursing career development framework based on nurses' perspectives, suggesting that nursing career development is a multidimensional concept. She identified five key components of the nursing career development system: career advancement, progress towards career goals, enhancement of professional competence and qualities, development of professional identity, and augmentation of personal prestige.

3. Domestic and foreign nursing staff career development assessment tools

3.1. Nursing Career Development Inventory (NCDI)

In 1984, Savikos developed a precise scale for nursing career development by modifying certain statement expressions from the medical student's career development scale. The revised Nurses' Career Development Inventory (NCDI) [16] retained the same number of entries as the original scale, totaling 35 entries and divided into 7 dimensions. Hay and colleagues [17] confirmed the scale's reliability and validity by assessing the career development level of community nursing students, demonstrating its strong reliability and generalizability to the population.

In China, Xu and other scholars [18] built upon Sapa's career development theory to create a nursing career assessment scale comprising 40 entries across three dimensions. The scale utilizes a Likert 4-level scoring method, with 1 point indicating "irrelevant" and 4 points indicating "very relevant." The total scale demonstrates a high level of internal consistency with a Cronbach's α coefficient of 0.908. In recent years, this scale has been widely adopted in nursing career development research.

3.2. Career Maturity Scale

In 1976, Clements introduced the multidimensional and multilevel concept of "career maturity" and formulated the Career Maturity Scale [19]. Building upon this theory, scholars such as Zhang [20] adapted the scale specifically for college students. This revised version comprises 34 entries across six measurement dimensions: "career self-confidence," "career value," "career autonomy," "dependence on family and friends," "career goals," and "career reference." Each item is rated on a 5-point Likert scale, ranging from 1 ("very incompatible") to 5 ("very compatible"). The total scale demonstrates strong internal consistency, with a Cronbach's α coefficient of 0.869, and exhibits good test-retest reliability. Numerous studies have affirmed the widespread use of this scale among nursing students at various stages of their academic and professional journey in China [21-23], attesting to its reliability and validity.

3.3. Career Success Scale

Sifton and Langdon define career success as the positive psychological or work-related achievements individuals accumulate in their daily professional endeavors [24]. The Career Success Scale, initially developed by Ibby and scholars in 2003, encompasses three dimensions: internal competitiveness of healthcare organizations, external competitiveness of healthcare organizations, and nurses' career satisfaction, comprising a total of 11 items. The scale demonstrates strong internal consistency, with a Cronbach's α coefficient of 0.74 [25]. Later, Yan [26], a scholar from China, translated the scale based on Ibby's work, maintaining the original entries and dimensions. The scale's Cronbach's α coefficient ranged from 0.74 to 0.85, demonstrating good reliability and validity. Yan applied the scale to assess the career success of employees across five different job types, further affirming its utility. Li and other scholars [27,28] utilized the scale to evaluate the career development status of medical and nursing staff in tertiary hospitals. Similarly, Cai *et al*. [29] validated the scale among a group of nurses, finding a Cronbach's α coefficient of 0.91 among nursing staff. Consequently, the scale has been widely adopted in the nursing field.

3.4. Career Anchor Scale

Shain proposed that career anchors are integral to an individual's perception of their career, encompassing their needs, values, and self-competence [30]. Career anchors are defined as an individual's ability, motivation, and values to fulfill a specific job within an organization throughout their working life. When faced with career decisions, individuals are unlikely to abandon their career anchors [31]. In 1975, Schein introduced and developed the Career Anchor Scale, which was later localized and refined to create a Chinese version. This scale comprises eight types of career anchors, each with five items, totaling 40 entries. The total scale demonstrates strong internal consistency, with a Cronbach's α coefficient of 0.930 [32], indicating its reliability and validity.

3.5. Nurses' Professional Growth Scale

Scholar Ni [33] constructed this scale in 2023 to assess nurses' perceptions of the career development process. The scale consists of 17 entries across three dimensions: career goal progress, enhancement of professional

competence and attributes, and career advancement. Utilizing a 5-point Likert scale, with a score of 1 indicating "Strongly Disagree" and a score of 5 indicating "Strongly Agree," the scholar collected data from 429 nurses across six general hospitals to assess the scale's psychometric properties. The resulting Cronbach's α coefficient of 0.96 suggests that the scale exhibits excellent reliability and validity.

In summary, foreign research on nursing career development began earlier, resulting in a variety of career development-related scales. In China, most researchers adopt Chinese versions or adaptations of foreign career development scales, with only a few scholars constructing nursing career development scales tailored to the context. In the future, various scales can be utilized to compare the career development of nursing staff in China and select the most suitable scale for their needs.

4. Influencing factors of nursing career development

4.1. Personal factors

4.1.1. Socio-demographic factors

Studies have indicated that several factors influence the career development of nurses, including gender, age, geographic location, years of experience, education, title, and the level of the hospital where they work [34]. Shou and colleagues [35] discovered a positive correlation between the career development of junior nurses and their literacy level. This may stem from the fact that junior nurses, lacking awareness of their professional competence, exhibit less interest in departmental training and learning activities.

Findings by Han and other researchers [36] revealed that nurses in higher-level hospitals tend to have better career development statuses. This might be attributed to the fact that lower-level hospitals expose nurses to fewer complex cases, leading to limited learning opportunities and resources, whereas higher-level hospitals offer a broader range of cases and learning prospects conducive to professional growth. Similar conclusions were drawn in the research by Wu and colleagues, where regression analysis highlighted the impact of factors such as age, educational background, monthly family salary, hospital level, and years of working experience on nursing career development levels [37].

These findings emphasize the importance for nursing managers to consider various demographic characteristics when planning the career development of nursing staff. Tailoring career development plans to accommodate individual circumstances can facilitate nurses in achieving higher levels of career advancement.

4.1.2. Psychological factors

Research indicates that psychological toughness significantly influences nurses' career development. Psychological toughness refers to an individual's ability to maintain psychological resilience in the face of adversity, stress, or trauma. Nurses' psychological resilience encompasses the protective resources they develop to maintain psychological balance amidst the demands of daily nursing work, involving cognitive, emotional, and behavioral processes [38].

Studies have shown that psychological toughness serves as a safeguard for nurses' psychological well-being, enabling them to effectively navigate workplace pressures and confront adversity with resilience. Nurses with high psychological resilience demonstrate greater self-regulation and adaptability, actively seeking solutions to challenges and alleviating personal pressures [39]. Han and other scholars [36] found a significant positive correlation between mental toughness and nurses' career development; stronger mental toughness is associated with better career outcomes for nurses. Regression analysis conducted by scholars such as Wu [37] identified psychological toughness as a key factor influencing nurses' career development, highlighting the importance of enhancing nurses' psychological resilience to foster career advancement.

This relationship may be attributed to the occupational challenges faced by nurses, such as high risks and heavy workloads, which can lead to burnout and diminish psychological toughness. Consequently, nurses may be less inclined to confront difficulties or may consider leaving their jobs, thereby hindering their career development. To address this, nursing managers should provide emotional support to nurses, communicate effectively, assist in problem-solving, and make appropriate adjustments to work schedules. In summary, nursing managers should prioritize the development of nurses' psychological resilience, rationalize work arrangements, alleviate work pressures, and promote nurses' career advancement.

4.2. Organizational factors

4.2.1. Family factors

Work-family conflict significantly influences nurses' career development. This concept encompasses both work role-family role conflict (work-family conflict – WFC) and family role-work role conflict (family-work conflict – FWC) [40]. Work-family conflict arises when an individual's engagement in multiple roles requires allocating resources away from one role, potentially compromising effectiveness in both roles [41]. Thus, maintaining a balance between work and family roles becomes challenging, leading to inevitable conflict.

The nursing profession, characterized by high work intensity, long hours, and frequent night shifts, poses considerable challenges in balancing work and family responsibilities. Consequently, nurses experience higher levels of work-family conflict compared to other populations [42,43]. Research by scholars such as Wu [37] suggested that nurses with higher work-family conflict scores tend to have less favorable career development outcomes. This may be attributed to nurses' limited time for family roles due to long night shifts and high workloads, leading to increased stress and negative emotions spilling over into family life, exacerbating work-family conflict.

Frequent conflicts can result in emotional exhaustion and burnout among nurses, further impeding their career development. Work-family conflict among nurses may stem from inadequate job support or dissatisfaction with vacation time or compensation [44]. Therefore, nurse managers and colleagues should provide organizational support to enhance job satisfaction and reduce work-family conflict among nurses.

4.2.2. Hospital factors

Research indicates that nurses' career development planning, which includes nurse training, assistance in establishing career goals and strategies, and self-presentation, can all have varying degrees of influence on nurses' career advancement [45]. Nurses with different educational backgrounds and qualifications often seek opportunities for expatriate or advanced training from hospitals, or they desire clear career advancement pathways within the organization to enhance their skills and accelerate their career development [43]. Therefore, nursing managers should strive to retain nursing talent by providing enhanced training and equal learning opportunities. Additionally, nurses can actively shape their career development by setting clear career goals and effectively presenting themselves.

5. Summary and prospect

In recent years, research on the development and planning of nursing careers in China has been relatively limited, starting late and yielding few results. With the introduction of the "14th Five-Year Plan," there has been a heightened focus among nursing managers on improving the quality of nursing talent. Nursing has now been included in state-controlled majors, signaling a shift in focus from quantitative to qualitative changes in nursing talent cultivation.

Firstly, given the complexity of the concept of career development, there has been an emergence of various scales for assessing nursing personnel's career development. These scales can serve as valuable tools for future comparisons among nursing personnel. Secondly, the influencing factors of nursing personnel's career development are primarily affected by individual, organizational, and psychological factors. Current analyses of these influencing factors are predominantly based on cross-sectional investigations. In the future, it is crucial to conduct qualitative interviews with nursing personnel to delve deeper into potential obstacles and facilitating factors and to further interpret, verify, and supplement the results of quantitative research. This will aid in the subsequent development of career development pathways for nursing personnel in China.

Lastly, future research should not only explore the influencing factors of organizational support, demographics, and career planning on nursing staff's career development in depth but also investigate the correlations among these influencing factors. Ultimately, this will enable the proposal of a model or pathway for nursing career development that is tailored to the needs of the nation.

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