Cultivation of Core Competence of Oncology Nurse Specialist in China: A SWOT Analysis

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Abstract: This paper analyzes the current situation of the core competence cultivation of Oncology Nurse Specialist (ONS) in China, and puts forward targeted development strategies. On the basis of the literature review, according to the relevant theories of SWOT analysis, analyze the advantages and disadvantages, opportunities and threats of ONS development, and make targeted policy suggestions according to different combinations of elements. Strength: Social needs for the development of oncology nursing, the level of oncology specialized nursing service has been improved; Weakness: the training standards and certification standards are not yet unified; Opportunity: Strong support from national policies, expand the professional role and functions of nurses; Threats: The overall professional quality of nurses needs to be strengthened, management has the phenomenon of "emphasizing cultivation and neglecting use". By further guaranteeing the development of ONS, strengthen ONS specialized job management, improving ONS training and certification standards, and emphasizing the improvement of ONS core capabilities, constantly promoting the development of oncology nursing in China.

Keywords: ONS; Core Competence; SWOT Analysis; Strategy

Introduction

In recent years, malignant tumors have gradually become an important killer that threatens human health. According to the 2020 global cancer statistics released by the International Agency for Research on Cancer (IARC) of the World Health Organization, there were 19.29 million new cancer cases worldwide, among which about 4.56 million new cancer cases were reported in China, accounting for 23.7% of the world, and 9.96 million cancer deaths worldwide, including 3 million in China, accounting for 30% of the total cancer deaths, the number of new cancer cases and deaths in China ranks first in the world [1]. With the continuous updating of tumor diagnosis and treatment technology and the increasing demand for professional nursing services from patients, ONS, as a provider of high-quality oncology nursing services, is receiving increasing attention. Cultivating and enhancing the core capabilities of ONS is an important part of the specialized construction of oncology nursing. The term Clinical Nurse Specialist (CNS) originated in the United States, the American Nurse Association (ANA) defines the CNS as a registered nurse who achieves graduate level (master's or doctoral) through learning and practice in a specific field of nursing, and possesses a high level of specialized nursing knowledge and skills, as well as rich clinical practice experience [2]. Based on the national conditions, the Chinese nursing community defines CNS as clinical nursing personnel who have work experience in a certain specialized field, have undergone systematic theoretical and practical vocational training, obtained corresponding qualifications, and are proficient in using specialized nursing knowledge and technology to provide professional services to their service object [3]. With the continuous application of new technologies and drugs such as chemotherapy, radiation therapy, and surgery, ONS is gradually playing an irreplaceable role in the field of oncology nursing. ONS is one of the specialized practical fields of CNS, and there is currently no unified definition in China, due to the late start of the Chinese clinic number specialty, the development of ONS is still in the exploratory stage [4]. This study is based on SWOT analysis of the current situation of cultivating core competencies in ONS in China, in order to provide relevant references for the development of the ONS team.

Literature Review

By comparing the current status of cultivating ONS core competencies at home and abroad, there are still differences in ONS core competency framework, cultivation, and certification. The specific summary is as follows.

1. ONS Core Competency Framework
In 1990, Professor Prahalad and Hamel from the School of Business at the University of Michigan in the United States first proposed the theory of core competencies, the International Council of Nurses (ICN) released the requirements for a framework of core competencies for general nurses in 2003[5]. Different countries and regions have segmented the core competency framework of nurses based on actual situations, the Australian Nursing Association issued a competency framework for nurses at different levels [6]. In 2008, the American Cancer Nursing Association proposed that ONS core competencies encompass three influencing areas: Patient/Client, Nurse and Nurse Practice, and Organization/Systems [7]. In 2019, the American Cancer Care Association updated the core competencies of Oncology Nurse Practitioner, including 121 competency indicators in 12 fields such as Assessment, diagnosis, and intervention, Health promotion and education, Ethics and culturally sustainable care and so on [8]. Franciane Schneider et al. [9] proposed that the core competencies of Oncology Advanced Practice Nurse include 6 domains and 125 abilities.

China introduced the concept of core competencies in the 21st century and applied it to research in the nursing field, the Chinese Ministry of Education and the Ministry of Health jointly released and proposed the content of core competencies for Chinese nurses in 2003[10]. In 2005, the Hong Kong Hospital Authority released 11 core competency frameworks for registered nurses and senior practice nurses[11]. Based on the "Nurse Competence Framework" published by ICN in 2003, Liu Ming et al. [12] from the Macau Institute of Technology proposed the constituent elements of the core competencies of Chinese registered nurses and developed the Competency Inventory for Registered Nurses (CIRN), which includes 7 dimensions and 58 evaluation items, and has been widely used in nurse assessment at all levels in China. Liu Ruilin et al. [13] constructed an ONS core competency evaluation index system, consisting of 75 indicators from 5 dimensions. Chen Yanru et al. [14] used the indicator system constructed by Liu Ruilin as a theoretical framework to develop the ONS core competency scale, and through empirical research, it was found that the ONS core competency is positively correlated with professional identity. Ma Chifeng et al. [15] developed a self-evaluation scale for core competencies in oncology nursing with 55 items, which has good reliability and validity. Guo Nafei et al. [16] preliminarily constructed ONS core competencies that are in line with China's characteristics, elaborated from 6 dimensions, including 36 items of content.

2. Cultivation of ONS core competencies

In developed countries such as the United States, the United Kingdom, Japan, and Australia, CNS started early, and the core competence of ONS is mainly cultivated in colleges and universities, forming a relatively complete system. Different countries have divided the cultivation of ONS into more detailed specialties, including chemotherapy, radiation therapy, pain, hospice care, breast tumors, hematological tumors, and other directions [15]. The scope of training knowledge for ONS in the United States is developed by the American Association of Oncology Nurses, and its training is integrated with master's training. The training content includes: principles of tumor chemotherapy and biological therapy; Nursing care for chemotherapy and radiation therapy; Reasonable use and disposal of personal protective equipment, management of side effects and related symptoms of chemotherapy and biological therapy, and health education for patients and their families, Evidence-based practice ability, scientific research methods, etc. The cultivation of CNS in China started relatively late, and the cultivation of CNS core competencies is not yet mature. Unified training standards and content have not been established yet. Due to the limitations of nurses' educational levels, CNS cultivation is mainly focused on continuing education [13]. In recent years, institutions at all levels across the country have carried out ONS training of different scales, continuously exploring the core competency cultivation mode and management standards of ONS. The training content mainly includes two parts: oncology specialized theory and clinical practice, and the number of ONS is constantly increasing.

3. Certification of ONS

CNS certification first began in the United States. In 1984, the United States established the CNS Certification Center, which is affiliated with the American Society of Nurses, it now has a relatively complete ONS qualification certification and re-certification system, and ONS qualification re-certification is required every 5 years [19]. CNS training in Japan began in 1993, and certification began in 1996, The ONS passes the Japan Nursing Association training certification examination to obtain the ONS certificate. At present, China's certification system for ONS is not yet complete, and there is no unified certification body or standard.

Method:

Literature Research Method: Retrieve databases such as PubMed, Web of Science, and CNKI, CQVIP, and Wanfang Data, and search for literature related to ONS cultivation both domestically and internationally, such as "Clinical Nurse Specialist", "Oncology Nurse Specialist", "Core Competencies of Clinical Nurse Specialist", "Training of Clinical Nurse Specialist", and "SWOT Analysis Method", to understand the current development status. This provides a reference basis for research on SWOT analysis and strategy proposal.

SWOT Analysis Method: also known as situational analysis method, is a systematic thinking analysis method. It is often used for strategic analysis of enterprise and institutional development, that is, to systematically evaluate the internal strengths (S) and weaknesses (W), external opportunities (O), and threats (T) of the research object, and propose development strategies [20]. In recent years, scholars have introduced it into the field of hospital health management to enhance the service level and competitiveness of hospitals [21, 22]. This article uses the SWOT analysis
method to analyze the advantages and disadvantages, opportunities and threats of cultivating core competencies in oncology specialties. Based on this, the development strategies of ONS are proposed.

**Results:**

**SWOT analysis of ONS core competencies**

1. **Strength**
   - ONS is a guarantee for providing high-quality oncology nursing services, and its ability value is mainly reflected in its core competencies, cultivating and enhancing ONS’ core competencies is an important part of the specialized construction of oncology nursing, which meets the needs of social development[14].
   - **Social needs for the development of oncology nursing.** With the aging of the population, bad living habits and environmental pollution, the incidence rate and mortality of malignant tumors in China are increasing year by year. With the continuous progress of medical level and the increasing demand for medical services, the core competencies of oncology nursing and nurses are facing significant challenges. With the continuous update of new diagnosis and treatment technologies and new drugs in the field of cancer medicine, and the continuous improvement of cancer treatment and nursing care level, the role of ONS in cancer pain, palliative care, radiotherapy emergency, chemotherapy extravasation and other nursing care cannot be ignored[21]. The improvement of ONS core capabilities not only adapts to the development of China's national conditions, conforms to the contemporary medical development model, but also meets social needs, improves the quality of life and survival time of cancer patients, effectively improves the quality of specialized nursing, and enhances the level of nursing research, clinical teaching, administrative management, and nursing specialization.

   **The level of oncology specialized nursing service has been improved.** Nursing services are not just about the care of diseases, the concept of contemporary nursing has shifted to a patient-centered holistic nursing model, providing patients with comprehensive nursing services and support in physiological, psychological, social, and cultural aspects. CNS's high core competencies play an important role in personal development and nursing professional development[22]. Practice has proven that CNS's work ability has been recognized by managers, colleagues, and patients, enhancing the hospital's influence and social benefits[23]. The core competencies of CNS are crucial for determining educational goals, ensuring the quality of training, workforce planning, and human resource management. Emphasizing and developing the core competencies of ONS, optimizing the competency structure of oncology nurses, expanding their work roles, enabling nurses to continuously update their oncology nursing concepts, enhance their professional literacy, and carry out difficult case consultations based on clinical needs, reducing the occurrence of nursing adverse events, reducing the incidence of nursing complaints and disputes, improving patient satisfaction, and ensuring the quality of specialized nursing. Further improved the quality management system for oncology nursing.

2. **Weakness**
   - The training of ONS in mainland China is still in the exploratory stage, and there is no unified training and certification standard, which hinders the faster development of ONS to some extent.
   - **Training standards are not yet unified.** Although the country has issued a training outline, there is no clear regulatory department, and there are still many doubts about the connotation, role positioning, and clinical role of ONS. The admission standards, training content, curriculum system, training bases, teacher allocation, evaluation standards, and other aspects of ONS training are not unified in different regions. There is a lack of a unified model for cultivating core competencies, making it difficult to ensure the quality of training. ONS training institutions mainly include the Chinese Nursing Association, provincial (municipal) nursing associations, local administrative health management institutions and hospital at all levels etc. [24]. At present, most ONS in China are recruited and trained by provincial units [26]. The cultivation of ONS practical ability is gradually receiving attention, but there is no clear plan or requirement for practical models and methods.
   - **Certification standards are not yet unified.** The certification of ONS is still in the stage of discussion in China. Since the ONS training standards and training levels of various training institutions are different, and there is no unified management organization responsible for qualification certification, the Chinese Nursing Society, provincial and municipal nursing societies and hospitals at all levels have issued different training qualification certificates through training, there is no formal qualification certification from an authoritative administrative department yet, and no relevant system has been established for continuing certification and qualification review[4]. At present, certification standards are usually independently formulated by provincial institutions, and qualification certificates can be obtained through training and assessment. Therefore, the effectiveness and quality of training are difficult to guarantee, and the authority of certification is also questioned, the professional value of ONS is difficult to reflect. Although the number of ONS has increased to some extent, it still cannot meet the growing demand for oncology nursing. Therefore, it is urgent to explore a development and certification path for ONS with Chinese characteristics.

3. **Opportunity**
   - Contemporary people's demand for health care is increasing. With the introduction of national health and nursing policies, the whole process of nursing quality management is more refined. With the specialized development of oncology nursing, ONS has a more rich career connotation, and the career development path of nurses is broader.
Strong support from national policies. Nursing is an important part of health care. The State has issued the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of Vision Goals for 2035, and the Outline of the "Healthy China 2030" Plan, which put forward the people's growing new health needs and the new requirements of economic and social development to the development of nursing cause. The scientific construction and development of ONS positions require support from policy leadership in healthcare, institutional innovation in management, and structural reform in execution. With the issuance of multiple guiding documents such as the Outline of the Development Plan for China's Nursing Industry (2005-2010), the Medium and Long Term Talent Development Plan for Medical and Health (2011-2020), and the Training Outline for Nurses in the Specialized Nursing Field, a development platform and guarantee have been provided for the specialized development of oncology nursing. The National Nursing Development Plan Outline (2016-2020) issued by the National Health Commission points out that developing the CNS team, increasing CNS training efforts, and continuously improving the level of specialized nursing. In 2021, the General Office of the State Council issued the "Opinions on Promoting the High Quality Development of Public Hospitals", which pointed out the focus on developing clinical specialties such as critical care, oncology, infection, pediatrics, and anesthesia. According to the National Nursing Development Plan (2021-2025), the training of nurses should be strengthened, and a nurse training system oriented by post demand and post competency as the core should be established. The launch of a series of favorable policies has provided strong support and guarantee for the development of ONS.

Expand the professional role and functions of nurses. With the gradual refinement of tumor sub specialties such as oncology, oncology surgery, radiation oncology, and oncography, specialization of oncology nursing work has become an inevitable trend. Shang Liyan et al. pointed out that the role and job responsibilities of ONS mainly include six aspects: clinical practitioners, educators, consultants, system supporters, professional leaders, and researchers. ONS is able to combine high-quality care with specialized care, and has the right to provide nursing prescriptions. It participates in the consultation work of difficult cases, and also operates oncology nursing specialized clinics and internet nursing clinics, providing services such as tumor disease health consultation, home care, medication, dressing change, radiation and chemotherapy care, fully realizing the professional value of ONS. In addition, with the arrival of the Big data information age, nursing informatization has developed rapidly, through the construction of the "Internet+" oncology nursing service system, the service process has been optimized to provide timely and effective health consultation and continuous health management for patients, and gradually enhance the influence of oncology nursing specialty.

4. Threats
Due to the overall educational level of nurses in China is relatively weak, the core competence of nurses needs to be further improved. In addition, the ONS management mode of most hospitals is relatively imperfect, and no full-time positions are set up, which brings a certain threat to the development of ONS team.

The overall professional quality of nurses needs to be strengthened. The CNS training in developed countries such as the United States and Japan mainly focuses on graduate degree education, while higher nursing education in China started relatively late. As of the end of 2020, the total number of registered nurses in China was over 4.7 million, with over 70% of nurses holding a college degree or above, the overall level of basic educational background is relatively low. Oncology nursing is a highly specialized and dynamic discipline that requires ONS to master the latest nursing technologies and possess high scientific research thinking and abilities. Due to the low initial education background of ONS, weak overall scientific research knowledge, lack of evidence-based nursing awareness, limited ability of training bases in some regions, and unreasonable training mode and scheme, the core competence level of ONS does not meet the requirements, and ONS needs to strengthen its scientific research ability, management ability and judgment thinking ability. Zhang Meiyang et al. pointed out in their research that ONS' scientific research ability and ethical decision-making ability need to be further improved, and the specialized platform and team work mode are conducive to the improvement of core competencies.

management has the phenomenon of "emphasizing cultivation and neglecting use". Hospital managers have unclear definitions of its concepts, unclear job responsibilities and core competency requirements. After training and certification, many ONS still return to their original positions to engage in the original routine work. Like ordinary nurses, they fail to reflect the ability and value of ONS. The study found that there were differences in the use of CNS in different directions in hospitals, and the proportion of specialized nursing consultation in ONS was relatively low, and the most frequent ones were PICC and acute and critical care specialties. In addition, there is insufficient policy or economic support in terms of salary performance, welfare benefits, and promotion procedures, ONS lack a sense of professional achievement and belonging, coupled with the complexity of oncology nursing service recipients and work environment, which further affects ONS' work enthusiasm and engagement, leading to talent loss, waste of talent resources, and restricting the growth of ONS team and the development of specialized nursing in China.

Conclusion:
ONS Core Competence Development Strategy
1. SO strategy analysis—Further guarantee the development of ONS. The national health administrative department further grasps the development direction of the medical environment, improves the development strategy of ONS,
standardizes the training and management system of ONS, formulates unified standards, and clarifies the job responsibilities and role definition of ONS. In the new situation of "Internet+Nursing Services", medical institution managers fully utilize the advantages of national policies, actively conduct research, and effectively play the role of ONS in the new medical model, reflecting the flexibility of nursing services. Establish dedicated positions for ONS to build a platform for the development of its core competencies and personal growth, and improve the quality of ONS. Guided and incentivized by favorable policies, we will further integrate various medical and nursing resources, strengthen international cooperation, and lay a solid support and guarantee for the sustainable development of oncology specialty nursing.

2. ST strategy analysis—Strengthen ONS specialized job management. According to the needs of medical and nursing services, establish a scientific and standardized system for the use and management of ONS, purposefully and systematically establish oncology specialized nursing positions, allocate nursing human resources reasonably, increase corresponding job settings, standardize the role and positioning of ONS, clarify job division, handle the working relationship between ONS, managers, and general nurses, and promote the standardization, standardization, and institutionalization of ONS work through improving the management system. Research has shown that the establishment of nursing clinics is an effective way to cultivate and use CNS and promote the development of nursing specialization[36]. In addition, based on actual situations, a scientific system for professional title appointment, salary and benefits, and career promotion should be established, emphasizing the role granting of ONS, creating a good working atmosphere, establishing incentive mechanisms, fully mobilizing work enthusiasm, and maximizing the professional advantages and value of ONS, in order to provide the best health services for cancer patients.

3. WO strategy analysis—Improving ONS training and certification standards. Guided by the needs of oncology nursing, develop a scientific and unified ONS core competency training system, including training standards, training models, evaluation standards, etc. Strengthen the cooperative training between hospitals and universities, and form a systematic ONS training course on the basis of the existing continuing nursing education and university oncology Nursing courses, so as to effectively connect the cultivation of nursing master with the cultivation of ONS. Fully draw on the training methods of ONS in developed countries, develop a training path for ONS that is in line with China's actual situation, reasonably integrate favorable resources, strengthen international exchange and cooperation, carry out pilot "joint training", improve the level of ONS technology, and promote the integration of domestic ONS with international standards. Determine ONS certification standards and institutions, establish re-certification and qualification review mechanisms, ensure the core competence level of ONS, enhance the authority of certification, and reflect the value of ONS certification.

4. WT strategy analysis—Emphasizing the improvement of ONS core capabilities. The scope of responsibility for modern oncology nursing has expanded from traditional basic care to a comprehensive nursing service that integrates tumor screening, radiation and chemotherapy care, psychological care, pain care, nutritional care, and hospice care, reflecting the comprehensive ability needs of ONS. On the basis of existing research, further construct scientific evaluation indicators for ONS core competencies, pay attention to the cultivation of scientific research ability, specialized skills, critical thinking and other abilities, establish a high-level nursing research team, cooperate with experienced medical, medical technology, pharmacy and other teams, develop ONS training courses with Chinese characteristics, and publish standardized textbooks. Encourage clinical nursing staff to continue their education, develop towards advanced practice nurses, and continuously improve the comprehensive literacy of the ONS team. China is in the primary stage of specialized nursing development, and the cultivation of ONS core competencies needs to further establish a scientific and standardized system. It is necessary to combine national development needs and reality to form a high-level ONS team and promote the vigorous development of the national oncology nursing industry.

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