

Perception and Participation of Senior Nurse Managers in Continuing Nursing Education Activities

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ABSTRACT

Background: Continuing Nursing Education (CNE) is essential for maintaining professional competence, enhancing clinical knowledge, and improving patient outcomes. Senior Nurse Managers (SNMs) play a crucial role in fostering professional development and strengthening educational initiatives within healthcare institutions. The present study aims to assess the perception and participation of Senior Nurse Managers regarding Continuing Nursing Education activities and to identify factors that promote or hinder their participation.

Methods: A quantitative, non-experimental descriptive survey design was employed. The study was conducted among 55 Senior Nurse Managers using total enumeration sampling. Data were collected using a structured self-administered questionnaire comprising sections on demographic characteristics, perception and participation in Continuing Nursing Education (CNE) activities, and practices related to CNE programs. Data were analyzed using descriptive statistics (frequency and percentage) and inferential statistics using the Chi-square test to determine associations between selected variables.

Results: Most participants were aged 56–60 years (41.81%), and the majority held a General Nursing and Midwifery qualification (92.72%). Nearly all respondents expressed interest in Continuing Nursing Education (94.54%), and 92.73% had participated in at least one CNE activity. Workshops were the most commonly attended programs (85.45%). Key motivating factors included updating advanced knowledge (81.81%), employer financial support (80%), and personal interest (78.18%). Major barriers to participation were work schedule constraints (56.36%), family responsibilities (41.81%), and staff shortages (32.72%). Also, demonstrated a significant association between age and participation as well as designation and participation while educational qualification showed no significant association.

Conclusion: Senior Nurse Managers demonstrate positive perceptions toward continuing nursing education and recognize its importance in professional growth and quality patient care. However, participation is influenced by both organizational and personal barriers.

Keywords: Continuing Nursing Education, Nurse Managers, Professional Development, Nursing

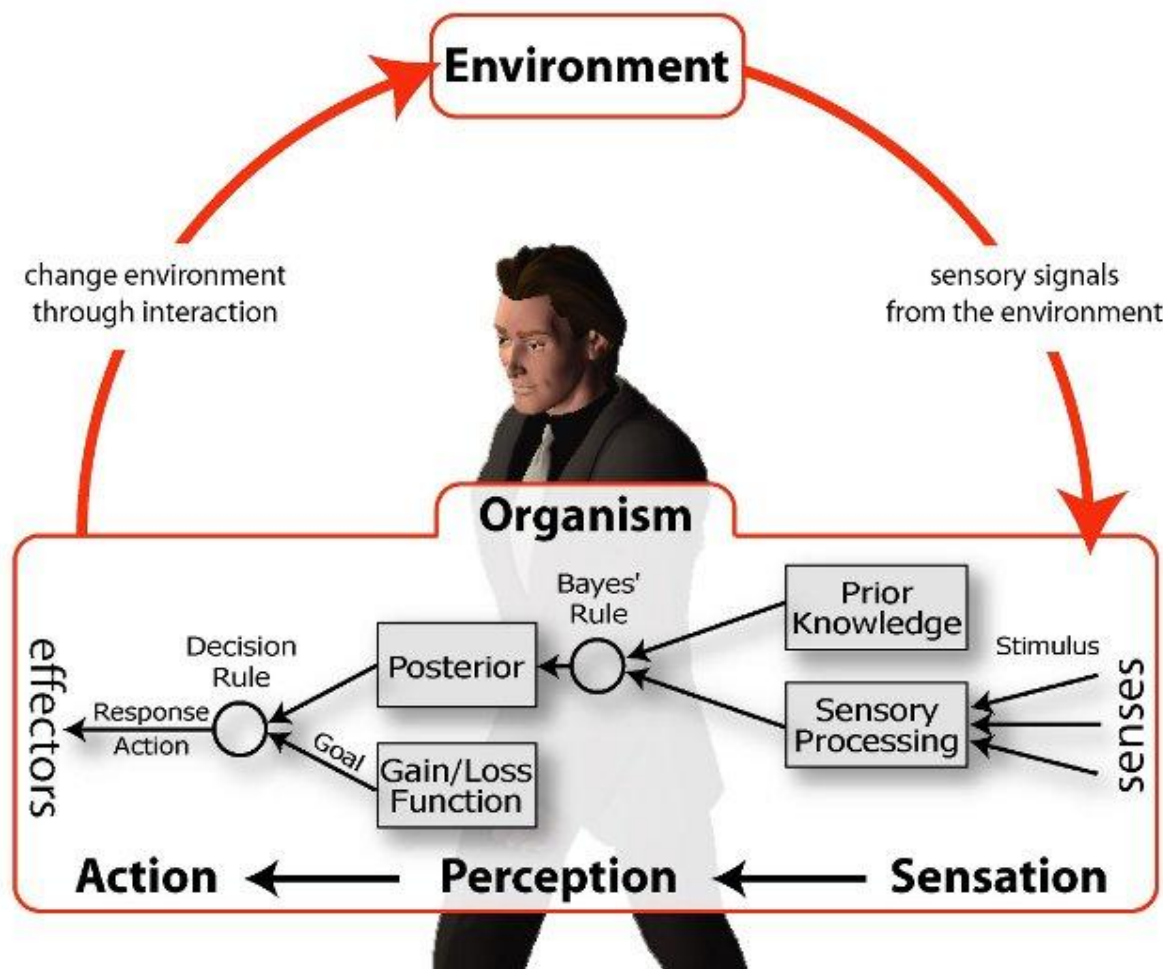
INTRODUCTION

Healthcare systems worldwide are undergoing rapid transformation due to rapid technological advancements, changing disease patterns, and increasing patient expectations. In this dynamic healthcare environment, healthcare professionals must continuously update their knowledge and competencies to deliver safe, evidence-based, and high-quality patient care. Nurses constitute the largest segment of the global healthcare workforce and play a central role in patient care delivery; therefore, maintaining professional competence through continuous learning is essential for ensuring quality healthcare outcomes (1). Continuing Nursing Education (CNE) is widely recognized as a key strategy for promoting lifelong learning among nurses. CNE refers to structured educational activities designed to enhance nurses' professional knowledge, clinical competence, and professional growth throughout their careers. These activities may include workshops, seminars, conferences, skill training programs, and academic courses that enable nurses to remain updated with current clinical practices, emerging healthcare technologies, and evolving healthcare standards (2). Participation in continuing education programs has been shown to improve clinical decision-making, professional confidence, and patient care outcomes (3). International professional organizations strongly advocate lifelong learning in nursing practice. The International Council of Nurses emphasizes that nurses have a professional responsibility to maintain competence through ongoing professional development and continuing education (4). In many countries, continuing education credits are required for renewal of professional licensure, highlighting the growing recognition of continuing professional development as an essential component of nursing practice. Within healthcare institutions, Senior Nurse Managers (SNMs) play a critical leadership role in promoting professional development among nursing staff. They are responsible for supervising nursing services, coordinating patient care activities, implementing quality improvement initiatives, and ensuring adherence to professional standards. Their involvement in continuing education activities not only enhances their own professional competence but also contributes to the development of a learning culture within healthcare organizations (5). Several studies have highlighted the positive impact of continuing education programs on nursing practice. McCaffery et al. reported that participation in continuing education programs significantly improves nurses' clinical competence, communication skills, and interdisciplinary collaboration (6). Similarly, Hockenberry and colleagues emphasized that continuing professional education enables nurses to remain updated with advancements in healthcare knowledge and technology, thereby improving the quality of patient care (7). Research by Bell, Pestka, and Forsyth also demonstrated that participation in continuing education programs contributes to greater professional satisfaction and career advancement among nurses (8). Despite the recognized benefits of continuing nursing education, several factors may influence participation among nursing professionals. Previous studies have identified workload, lack of time, family responsibilities, and financial constraints as common barriers to participation in continuing education programs (9). Organizational factors such as limited institutional support, inadequate staffing, and lack of flexible scheduling may further restrict opportunities for professional development (10). Conversely, institutional support, financial incentives, and access to relevant educational programs have been identified as important facilitators of participation in continuing professional development (11). Although a considerable body of literature exists regarding continuing education among nursing staff, limited research has focused specifically on the perception and participation of Senior Nurse Managers. Since nurse managers play a crucial role in promoting professional development and implementing educational initiatives within healthcare institutions, understanding their perspectives is essential for strengthening continuing nursing education programs. Therefore, the present study was conducted to assess the perception and participation of Senior Nurse Managers regarding continuing nursing education activities in a tertiary care hospital in India and to identify factors influencing their engagement in such programs.

Description of Conceptual Framework: The conceptual framework for the present study explains the relationship between factors influencing the perception and participation of Senior Nurse Managers in Continuing Nursing Education (CNE) activities. In this framework, Senior Nurse Managers are considered the central participants whose engagement in CNE is influenced by various personal and organizational factors. Personal factors include age, educational qualification, professional experience, and personal motivation, while

organizational factors include institutional support, workload, staffing levels, financial assistance, and availability of educational programs. These factors influence the perception of Senior Nurse Managers toward CNE, which in turn affects their level of participation in continuing education activities. Positive perception and supportive institutional conditions may enhance participation, whereas barriers such as workload and time constraints may limit involvement. Participation in CNE ultimately contributes to improved professional competence, managerial skills, and quality of patient care. This framework guided the development of the study objectives, data collection tools, and interpretation of findings.

Multisensory Perception and Action



We use all our senses to construct a reliable and robust percept representing the world with which we interact. The view we take in our group is that in many aspects of behaviour, motor actions and multisensory processing are inseparably linked and therefore they have to be studied in a closed action/perception loop. We believe that human perception and action is tailored to the statistics of the natural environment and when the environment changes our perceptions will follow these changes through the process of adaptation minimizing potential costs during interaction. In the neural processing such statistics will represent itself in probability distributions. We follow Hermann von Helmholtz in our belief that human perception is a problem of inference, for which the sensory data are often not sufficient to uniquely determine the percept. Thus, prior knowledge has to be used to constrain the process of inference from ambiguous sensory signals. A principled way to describe the combination of prior knowledge with sensory data in a probabilistic way is the Bayesian Framework. Therefore, we regularly use this Bayesian Framework to construct "ideal observer" models-models that use the available information in the most optimal way, provided some task and cost function. These models can then be used as a benchmark against which human performance can be tested. To do so in our group we use quantitative psychophysical and neuropsychological methods together with Virtual Reality techniques. Quantitative psychophysical methods are important to best determine the relevant perceptual parameters minimizing uncertainty and unknowns. Virtual Reality is important because it provides us with a tool to precisely control the perceptual situation that are investigated, while at the same time it allows for a degree of

interaction, which is necessary for studying the action/perception loop. Often, however, today's Virtual Reality techniques and Human-Computer Interaction devices are not sufficiently developed to be readily used in the study of human perception and action. Therefore, some of our work concentrates on the development of human-machine interfaces. This is mostly done in the framework of European projects. For example, the European Projects Touch-Hapsys and ImmerSence focused on the development of haptic interaction devices whereas the European project CyberWalk had the goal to develop an omni-directional treadmill for enabling near-natural locomotion in Virtual Reality.

Materials and Methods: A quantitative research approach with a non-experimental descriptive survey design was adopted to assess the perception and participation of Senior Nurse Managers in Continuing Nursing Education (CNE) activities at a tertiary care government hospital. The study population consisted of Senior Nurse Managers working in the hospital, specifically Assistant Nursing Superintendents (ANS) and Deputy Nursing Superintendents (DNS), who are responsible for supervising nursing services, coordinating patient care activities, and managing nursing staff across various hospital departments. A total of 55 Senior Nurse Managers working at tertiary care hospital, New Delhi, were included in the study using a total enumeration sampling technique, ensuring inclusion of all eligible participants in the accessible population. This approach enhanced the representativeness of the study sample. To minimize bias, a structured and validated self-administered questionnaire was used for uniform data collection. A pilot study was conducted to ensure clarity and feasibility of the tool. Participants were assured of confidentiality and voluntary participation, and clear instructions were provided to reduce response bias and improve the reliability of the data collected. Data were collected using a structured self-administered questionnaire that included items on demographic characteristics, perception and participation in CNE activities, and practices related to CNE programs. The questionnaire was developed based on relevant literature and expert consultation to ensure clarity and content validity. A pilot study was conducted among 6 Senior Nurse Managers at the OPD block over period of one week to assess the feasibility and clarity of the research tool; these participants were excluded from the final analysis. Data collection for the main study was carried out over a six-week period, during which questionnaires were distributed to eligible participants and collected after completion. Administrative permission was obtained from the concerned authorities prior to data collection, and confidentiality and voluntary participation were ensured.

Description of Tool: Data were collected using a structured self-administered questionnaire developed by the researchers based on an extensive review of relevant literature and expert guidance. The questionnaire was designed to assess the perception, participation, and practices related to Continuing Nursing Education (CNE) among Senior Nurse Managers. The tool consisted of 21 items and was organized into three sections. **Section I** included questions related to demographic characteristics of the participants, such as age, educational qualification, designation, and professional experience. **Section II** assessed the perception and participation of Senior Nurse Managers in CNE activities, including their interest in continuing education programs, participation in various educational activities, preferred locations for CNE programs, and factors promoting or hindering their participation. This section also explored participants' preferences regarding topics for future CNE programs. **Section III** focused on practices related to CNE within the hospital setting, including the organization of CNE activities in departments, maintenance of records related to continuing education programs, and the methods used by participants to utilize and disseminate the knowledge gained through such programs. For scoring purposes, responses were recorded as categorical variables and analyzed using frequency and percentage distribution. Participation in CNE activities was measured based on the number of educational programs attended by the participants during their professional service. Factors promoting or hindering participation were analysed by calculating the frequency of responses for each factor. Practices related to CNE were assessed based on the presence or absence of departmental activities, record maintenance, and knowledge utilization practices. The collected responses were coded and entered into the statistical software for analysis using descriptive and inferential statistical methods. The collected data were analysed using descriptive and inferential statistical methods to summarize the findings and examine associations between selected variables.

Data Collection Procedure: Data collection commenced after obtaining administrative and ethical approvals from the concerned authorities. Eligible participants were identified and screened based on the predefined inclusion and exclusion criteria. After explaining the purpose of the study, written informed consent was

obtained from all participants. A pilot study was conducted to evaluate the feasibility of the research process, and the questionnaire was finalized accordingly. The finalized questionnaire was then distributed to the participants, and the completed responses were collected. The data were checked for completeness, coded, entered into statistical software, and analyzed using appropriate statistical methods to answer the research objectives.

Data Analysis and Results

The demographic characteristics of the participants as shown in Fig. 1 indicated that the majority of Senior Nurse Managers were in the older age group, reflecting substantial professional experience in nursing administration. Among the 55 participants included in the study, the largest proportion (41.81%) belonged to the age group of 56–60 years, followed by 30.90% who were aged between 51–55 years. This suggests that most of the participants had extensive clinical and managerial experience. Regarding educational qualifications, the majority of respondents (92.72%) had completed General Nursing and Midwifery (GNM), while a smaller proportion (7.27%) held a Post Basic BSc Nursing degree. In terms of designation, most participants (89.09%) were working as Assistant Nursing Superintendents, whereas 10.9% were Deputy Nursing Superintendents. These findings indicate that the study population consisted primarily of experienced nursing professionals occupying key administrative positions within the hospital.

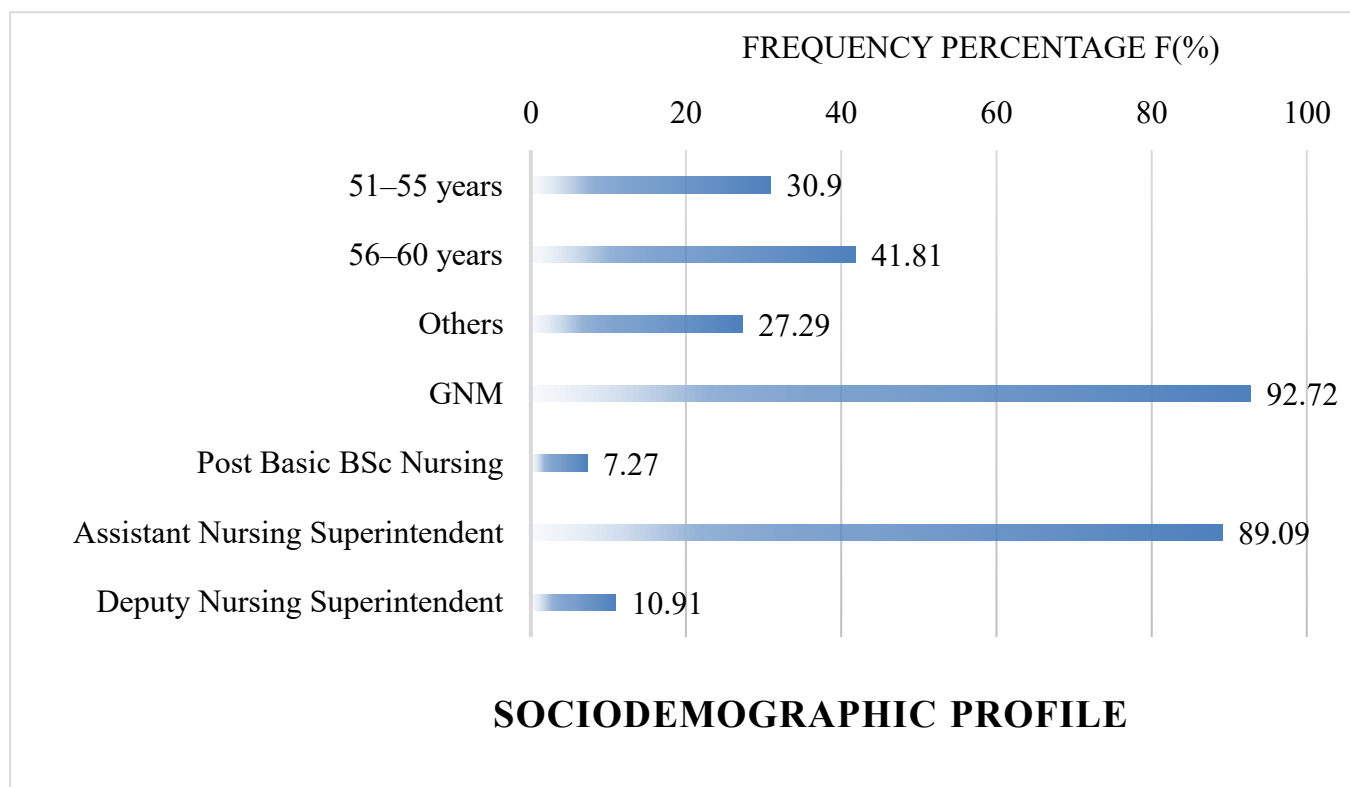


Figure 1. Age distribution of participants.

This figure illustrates the age distribution of the Senior Nurse Managers included in the study. The majority of participants were aged 56–60 years, followed by those aged 51–55 years, indicating that most respondents had extensive professional experience in nursing administration.

In Addition, Fig. 2 depicts the participation in Continuing Nursing Education (CNE) activities, a high level of interest was observed among the respondents. Nearly all participants (94.54%) reported that they were interested in continuing nursing education programs, indicating a positive attitude toward professional development. Similarly, the majority of respondents (92.73%) reported that they had participated in at least one CNE activity during their professional service. When examining the number of programs attended during the previous year, approximately 65.45% of participants had attended between one and four CNE activities, while 29.09% reported participating in more than five programs. However, a small proportion of respondents

(7.27%) reported that they had not attended any CNE activities during the same period. The types of continuing education activities attended by the participants varied, with workshops being the most commonly reported format. Approximately 85.45% of respondents reported attending workshops, making them the most preferred mode of continuing education. Seminars were attended by 25.45% of participants, while 9.09% reported participation in skill training programs and 7.27% attended conferences. Notably, none of the participants reported attending journal club activities. The preference for workshops may be attributed to their interactive nature and practical focus, which allows participants to enhance their clinical and managerial competencies effectively, also illustrated in fig. 3.

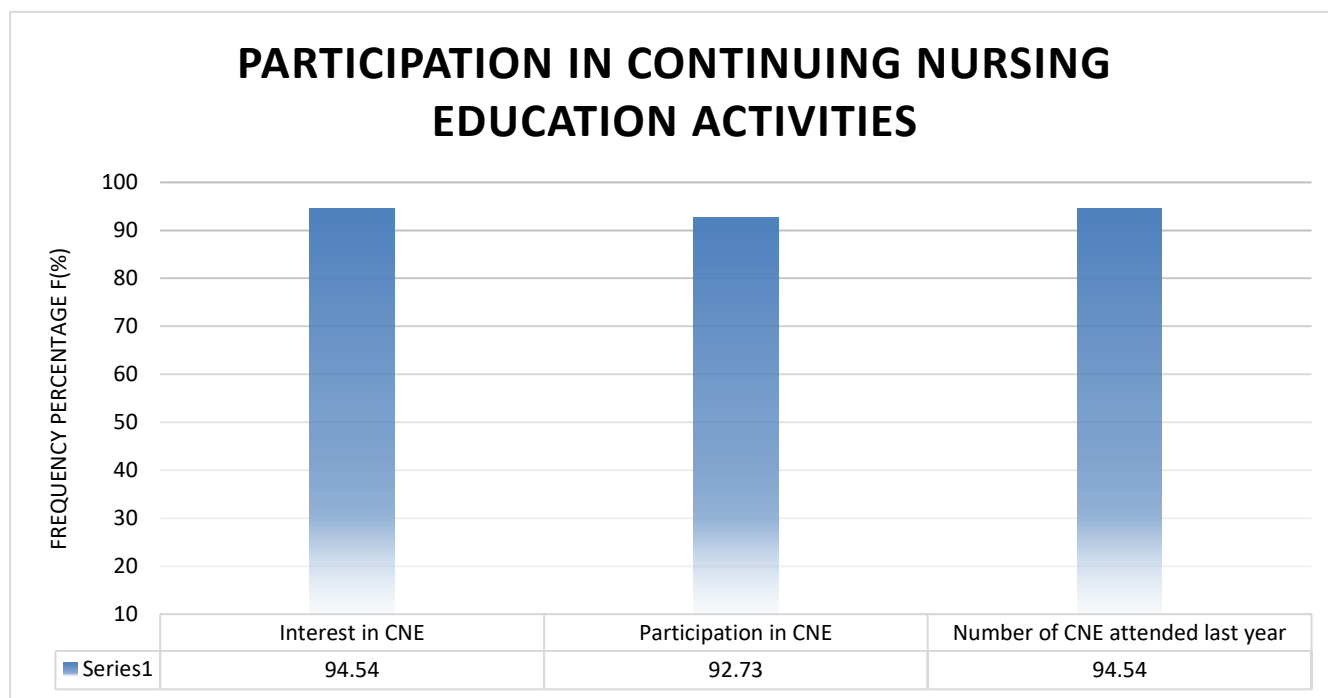


Figure 2. Interest and participation in Continuing Nursing Education (CNE) activities.

This figure presents the level of interest and participation of Senior Nurse Managers in continuing nursing education programs. Most participants expressed interest in CNE activities and reported attending at least one educational program during their professional service.

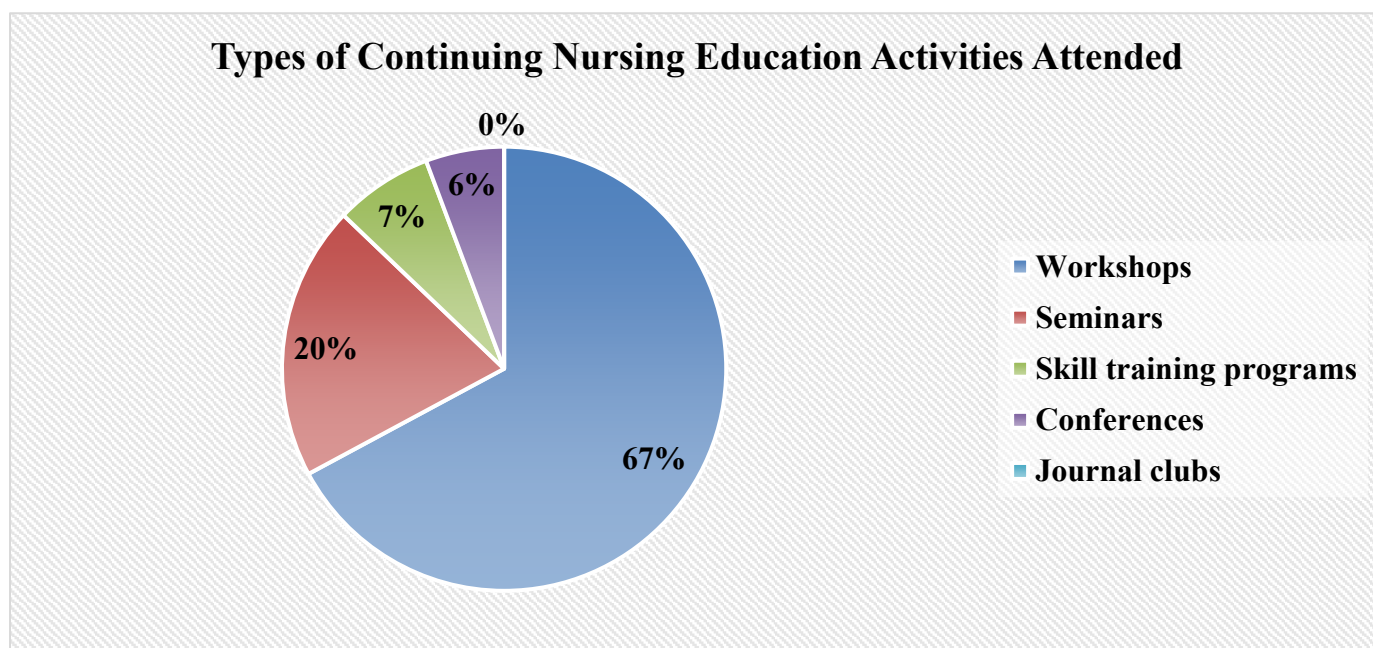


Figure 3. Types of continuing nursing education activities attended.

This figure shows the different types of educational activities attended by the participants. Workshops were the most commonly attended programs, followed by seminars, skill training programs, and conferences.

The study also explored the factors that promoted participation in continuing nursing education activities as illustrated by Fig. 4. Several motivating factors were identified by the participants. The most commonly reported factor was the desire to remain updated with advanced knowledge and current practices in healthcare, which was reported by 81.81% of respondents. Financial support from employers was identified as another important motivating factor by 80% of participants. Personal interest in professional development was reported by 78.18% of respondents, while the availability of CNE programs within the hospital setting was reported by 69.09% of participants. These findings suggest that both intrinsic motivation and institutional support play an important role in encouraging participation in continuing education activities.

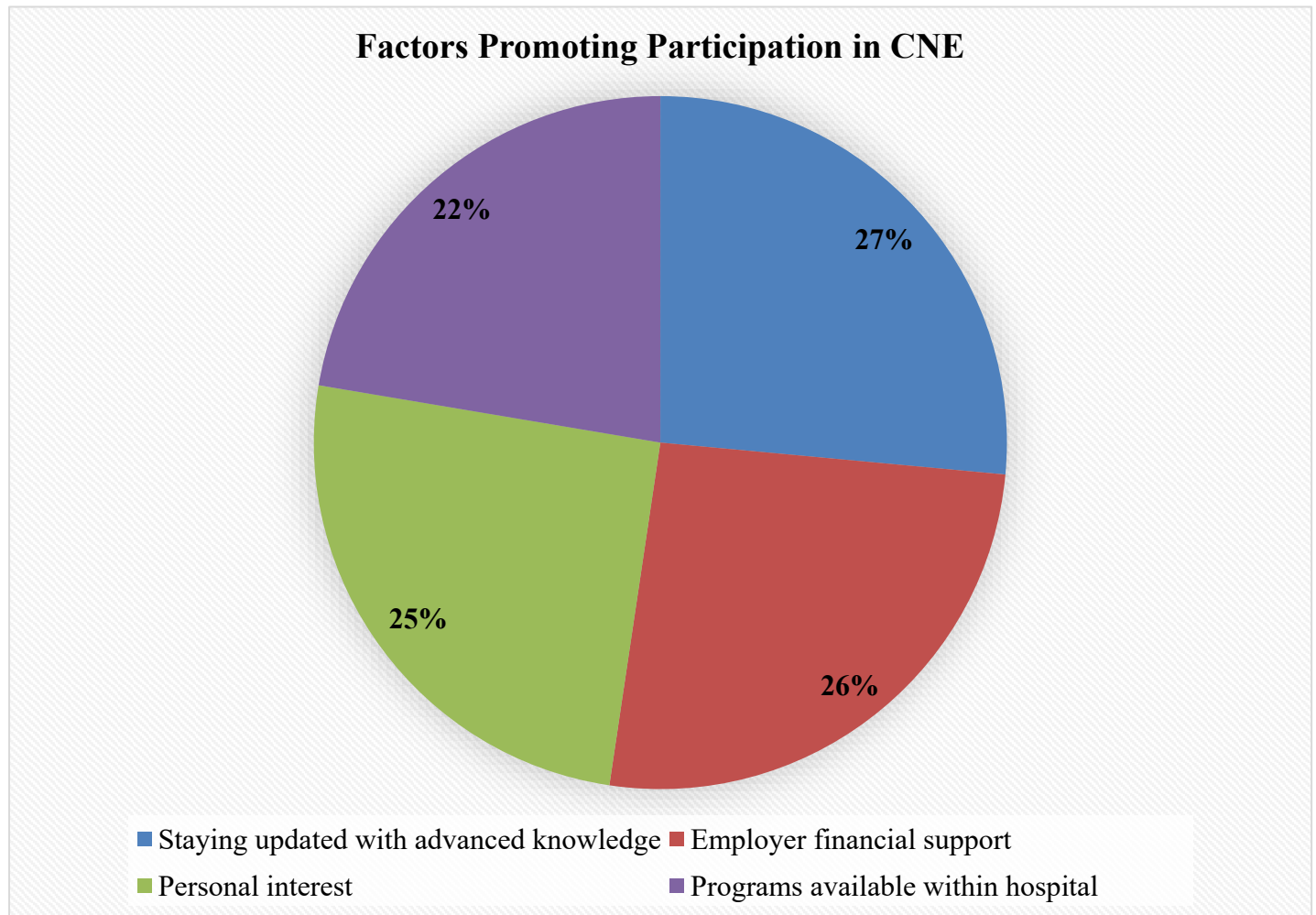


Figure 4. Factors promoting participation in CNE activities.

This figure illustrates the key factors that encouraged participation in continuing nursing education activities. The most frequently reported motivating factors were staying updated with advanced knowledge, employer financial support, and personal interest.

Despite the positive perception toward continuing nursing education, several barriers to participation were identified (Fig. 5). Work schedule constraints emerged as the most significant barrier, reported by 56.36% of participants. Family responsibilities were identified as a barrier by 41.81% of respondents, while shortage of staff was reported by 32.72% of participants. Time constraints were reported by 29.09% of respondents as another factor limiting their ability to participate in CNE activities. Other barriers included lack of relevance of certain educational programs and delayed communication regarding upcoming training sessions. These findings highlight the influence of both organizational and personal factors on participation in continuing education programs.

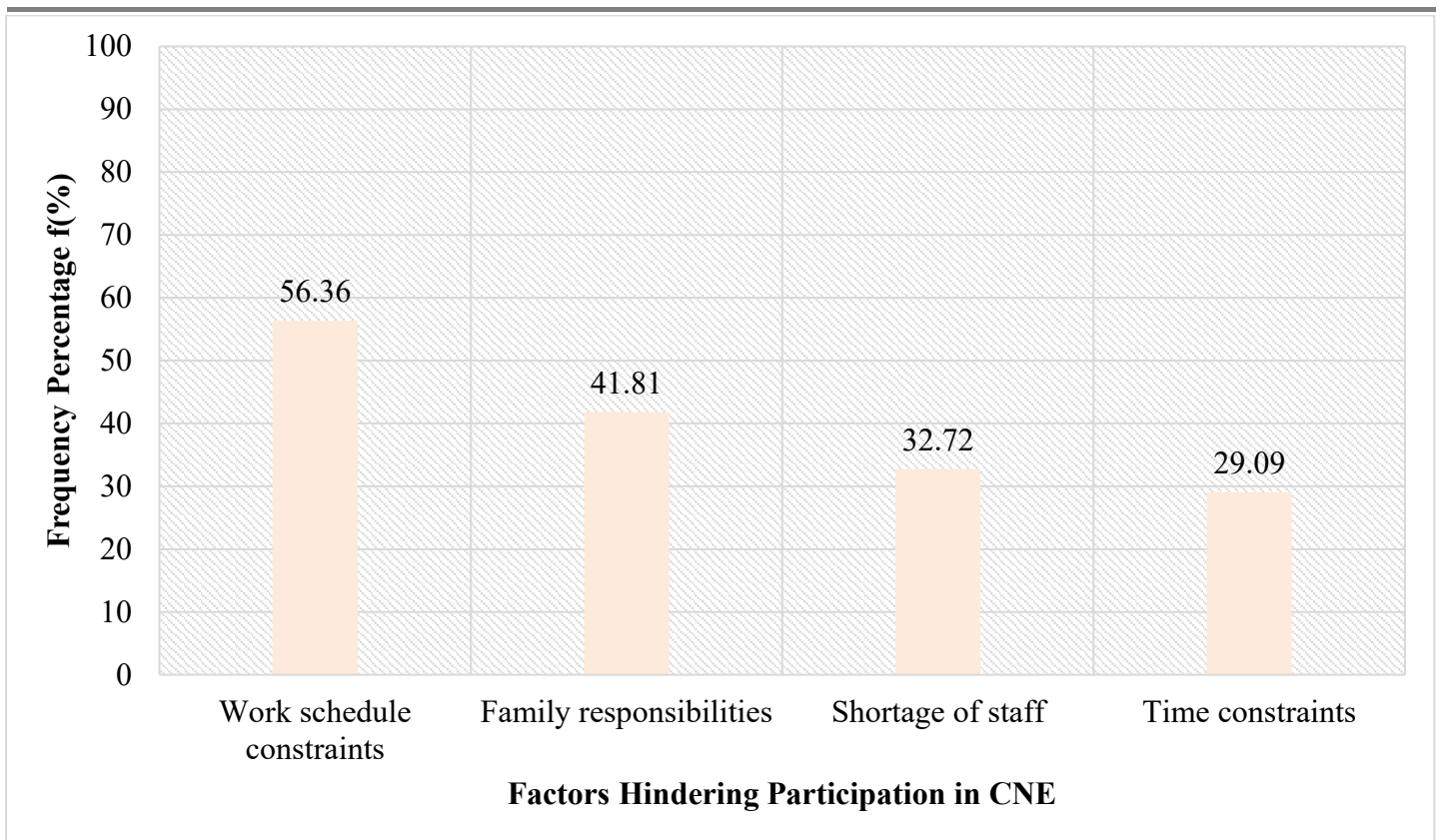


Figure 5. Factors hindering participation in CNE activities.

This figure presents the major barriers affecting participation in continuing nursing education programs. Work schedule constraints were identified as the most common barrier, followed by family responsibilities and shortage of staff.

“Work schedule constraints (56.36%) were identified as the major barrier to participation, followed by family responsibilities (41.81%) and shortage of staff (32.72%).” Participants also expressed preferences regarding topics for future continuing nursing education programs. The most frequently preferred topic was disaster management, which was selected by 65.45% of respondents. Stress management was another highly preferred topic, reported by 54.54% of participants. Patient care management was preferred by 32.72% of respondents, while topics such as infection control and human relations were each selected by 23.63% of participants. These findings indicate that Senior Nurse Managers are interested in educational programs that address both clinical competencies and leadership-related skills. In addition to participation and perceptions, the study also assessed practices related to continuing nursing education within hospital departments. Approximately 45.45% of participants reported that continuing education activities were organized within their respective departments. The majority of respondents (72.72%) indicated that records of continuing nursing education activities were maintained within their departments. Regarding the utilization of knowledge gained through continuing education programs, the most common method reported was discussion sessions with colleagues, which was mentioned by 85.45% of participants. These findings suggest that continuing education activities not only contribute to individual professional development but also facilitate knowledge sharing and collaborative learning within the nursing workforce.

Inferential analysis using the Chi-square test as shown in **Table 1** indicates a significant association between age and participation in CNE activities ($\chi^2 = 6.21$, $p < 0.05$) and between designation and participation in CNE ($\chi^2 = 5.87$, $p < 0.05$). However, educational qualification was not significantly associated with participation ($\chi^2 = 1.83$, $p > 0.05$). Overall, participation in CNE was influenced mainly by professional experience and administrative role rather than educational qualification. **Table 1** Shows that The Chi-square test showed a significant association between age and designation with participation in Continuing Nursing Education activities ($p < 0.05$). However, educational qualification was not significantly associated with participation in CNE ($p > 0.05$).

Table 1. Association Between Selected Variables and Participation in Continuing Nursing Education (CNE) Activities

Variable	Chi-square (χ^2) Value	p-value	Significance
Age vs Participation in CNE	6.21	<0.05	Significant
Designation vs Participation in CNE	5.87	<0.05	Significant
Educational Qualification vs Participation in CNE	1.83	>0.05	Not Significant

The findings of the present study indicate that Senior Nurse Managers demonstrate high levels of interest and participation in continuing nursing education activities. Workshops emerged as the most preferred educational format due to their interactive and practical approach. The results also highlight the importance of organizational support and personal motivation in promoting participation in professional development programs.

However, several barriers were identified, including work schedule constraints, family responsibilities, and staff shortages, which limit opportunities for continuing education. These findings emphasize the need for healthcare institutions to implement flexible educational programs and supportive policies that facilitate participation among nursing administrators.

Furthermore, the preferred topics identified in this study suggest that continuing education programs should address both clinical competencies and managerial skills, particularly in areas such as disaster management, stress management, and patient care management.

DISCUSSION

The present study aimed to assess the perception and participation of Senior Nurse Managers in Continuing Nursing Education (CNE) activities and to identify factors influencing their engagement in professional development programs. The findings revealed that the majority of participants demonstrated a positive perception toward continuing nursing education and actively participated in educational programs. The demographic findings indicated that most participants were aged between 56 and 60 years, suggesting that the study population consisted of experienced nursing administrators. Similar findings have been reported in international studies examining continuing professional development among nurse managers. Research conducted in European healthcare systems has shown that nurse managers with greater professional experience are more likely to engage in continuing education programs due to increased leadership responsibilities and greater awareness of professional development needs.

The present study found that 94.54% of participants expressed interest in continuing nursing education activities, and 92.73% reported participation in CNE programs. These findings are consistent with previous studies conducted in various healthcare settings worldwide. For example, a study by Mlambo et al. reported that nurses recognize continuing professional development as an essential component of professional competence and clinical excellence. Similarly, research conducted by Wehabe et al. found that nurses who participate in continuing education programs demonstrate improved professional confidence and enhanced clinical decision-making abilities. Workshops were identified as the most frequently attended educational activity among participants in this study. This finding aligns with previous research indicating that workshops are widely preferred due to their interactive format and practical focus. Studies conducted in North America and Europe have reported that nurses prefer short-term, skill-oriented educational programs that provide opportunities for hands-on learning and immediate application in clinical practice.

The present study also identified several factors that promote participation in continuing nursing education programs. The most important motivating factor was the desire to remain updated with advanced knowledge and current healthcare practices. This finding is consistent with previous research indicating that nurses are intrinsically motivated to participate in professional development activities to maintain competence and

improve patient care outcomes. Financial support from employers was another important factor influencing participation. Similar findings have been reported in international studies, which highlight the importance of institutional support in promoting continuing education. Organizations that provide financial assistance, study leave, and professional incentives tend to have higher participation rates in continuing education programs.

Despite the positive perception toward continuing education, the study also identified several barriers to participation. Work schedule constraints emerged as the most significant barrier, followed by family responsibilities and staff shortages. These findings are consistent with studies conducted in both developed and developing countries. Research published in *BMC Nursing* reported that heavy workload and staffing shortages are among the most common barriers limiting participation in continuing professional development programs. The preferred topics identified by participants in this study included disaster management, stress management, and patient care management. These findings reflect the evolving roles of nurse managers in modern healthcare systems. With increasing healthcare complexities, nurse managers are expected to develop competencies not only in clinical care but also in leadership, crisis management, and staff wellbeing. The inferential analysis further demonstrated that age and designation were significantly associated with participation in continuing nursing education programs. This suggests that senior-level professionals with greater administrative responsibilities may be more likely to engage in professional development activities. Similar findings have been reported in international research examining factors influencing continuing professional development among healthcare professionals.

Overall, the findings of this study highlight the importance of developing structured continuing education programs tailored to the needs of nursing administrators. Institutional support, flexible scheduling, and accessible educational opportunities are essential to overcome barriers and promote lifelong learning among nursing professionals.

IMPLICATIONS FOR NURSING PRACTICE

The findings of this study have important implications for nursing administration and education. Healthcare institutions should develop structured continuing education programs tailored to the needs of nursing professionals. Flexible scheduling, online learning opportunities, and institutional support can help overcome barriers related to workload and time constraints. Nursing administrators should also encourage participation in continuing education programs by providing financial support, recognition, and professional incentives. Educational programs should focus on practical topics that strengthen both clinical competence and leadership skills.

LIMITATIONS

This study had several limitations. The research was conducted in a single hospital, which may limit the generalizability of the findings. The relatively small sample size and use of descriptive statistics limited the ability to explore relationships among variables. Future studies should include larger samples across multiple healthcare institutions and apply advanced statistical analysis to examine associations between variables.

CONCLUSION

Continuing Nursing Education is a critical component of professional development for nursing professionals. The findings of this study indicate that Senior Nurse Managers possess positive perceptions toward continuing education and actively participate in educational activities.

However, participation is influenced by organizational and personal barriers such as workload constraints and staff shortages. Addressing these barriers through institutional support and flexible educational strategies can enhance participation in continuing education programs. Strengthening continuing nursing education initiatives will ultimately contribute to improved professional competence among nurses and better patient care outcomes.

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