# Evaluating a Competency-Based Training Program for Pediatric Nurse Managers in Vietnam: A Feasibility Study

*Thuy Thi Bui, Hanh Thi Hong Tran,*Anh Thi Lan Mai, Huong Thi Nguyen, Anh Tuan Truong, Dien Minh Tran*

**Abstract:** The importance of management competencies among pediatric nurse managers cannot be overstated. In Vietnam, there is a significant lack of structured training programs tailored to the specific management competencies required by nurse managers. Furthermore, existing programs lack a comprehensive evaluation of their effectiveness. This study aimed to assess the feasibility of a competency-based training program developed to improve the management capabilities of pediatric nurse managers in Vietnam. A one-group pretest-posttest intervention program was conducted with eligible nurse managers from two pediatric and obstetrics-pediatrics hospitals, selected through purposive sampling. The intervention included interactive workshops, group discussions, and case studies over six weeks, followed by ongoing support. Participants completed the instrument three times: before, immediately after, and during the follow-up period.

Twelve nurse managers participated in this feasibility study, and all reported high satisfaction with the program. The findings demonstrated the program's potential effectiveness in supporting nurse managers through flexible online platforms and targeted competency enhancement. Results highlighted the value of structured, tailored training in meeting the unique needs of nurse managers and emphasized the critical role of ongoing professional education in strengthening management competencies. Further research involving a larger sample of nurse managers is recommended to provide more robust evidence, supporting broader implementation and effective integration of the program into practice.

**Keywords:** Management competency, Nurse managers, Pediatric, Training program, Vietnam

Received 20 September 2024; Revised 18 December 2024; Accepted 19 December 2024

***Thuy Thi Bui***, *PhD Candidate, Nam Dinh University of Nursing, Nam Dinh 420000, Vietnam, and Nursing Office, Vietnam National Children's Hospital, Hanoi 10000, Vietnam. E-mail: thuybui@nch.gov.vn*
***Correspondence to: Hanh Thi Hong Tran***,* *PhD, RN, Nam Dinh University of Nursing, Nam Dinh 420000, Vietnam. E-mail: tranhonghanh@ndun.edu.vn*
***Anh Thi Lan Mai***, *PhD, RN, Nam Dinh University of Nursing, Nam Dinh 420000, Vietnam. E-mail: lananh@ndun.edu.vn*
***Huong Thi Nguyen***, *Msc, Nursing Office, Vietnam National Children's Hospital, Hanoi 10000, Vietnam. E-mail: huongnt86@nch.gov.vn*
***Anh Tuan Truong***, *PhD, Rector, Nam Dinh University of Nursing, Nam Dinh 420000, Vietnam. E-mail: anhtt@ndun.edu.vn*
***Dien Minh Tran***, *MD, Associate Professor, Director, Vietnam National Children's Hospital, Hanoi 10000, Vietnam. E-mail: dientm@nch.gov.vn*

**Author contributions:**

TTB: Conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, software, validation, visualization, writing – original draft, review, & editing

HTHT: Conceptualization, data curation, investigation, methodology, validation, writing – original draft, review, & editing

ATLM: Conceptualization, data curation, investigation, methodology, validation, writing – original draft, review, & editing

HTN: Conceptualization, data curation, investigation, methodology, validation, writing – original draft, review, & editing

ATT: Conceptualization, formal analysis, funding acquisition, investigation, methodology, project administration, resources, supervision, validation, writing – original draft, review, & editing

DMT: Conceptualization, formal analysis, funding acquisition, investigation, methodology, resources, supervision, validation, writing – original draft, review, & editing


https://doi.org/10.60099/prijnr.2025.271188

## Introduction

Nurse managers play a critical role in the healthcare system, particularly in shaping the quality of patient care and the operational efficiency of nursing units. Unlike nurse executives, who often focus on broader organizational strategies, nurse managers directly manage nursing staff and patient care processes. Their responsibilities include overseeing nursing care, fostering teamwork, managing personnel, and implementing evidence-based practices that align with organizational goals.[1,2] The effectiveness of nurse managers is closely linked to their leadership styles, which can significantly impact staff retention and job satisfaction, ultimately influencing patient outcomes.[3,4]

The importance of management competencies among nurse managers cannot be overstated. Effective nurse managers are associated with enhanced patient satisfaction, reduced medication errors, and improved healthcare delivery.[5,6] Their ability to lead teams, communicate effectively, and resolve conflicts is essential for creating a supportive work environment that encourages professional development and ensures high-quality patient care.[7] Research indicates that nurse managers who adopt a coaching leadership style appreciate their staff's professional skills and encourage continuous education, positively influencing nurse retention and performance.[8]

In Vietnam, although nurses must complete a management competency training course before being appointed as nurse managers, the actual competencies of nurse managers across various hospitals remain relatively low.[9-11] This discrepancy highlights significant gaps in the training programs, which often focus on theoretical knowledge rather than practical application in real-world settings. A study conducted by Bui et al. in pediatric and maternity hospitals in Northern Vietnam utilized a competency assessment tool and revealed these competency gaps among nurse managers.[12] In response to these findings, the researchers developed a training program titled "Enhancing Leadership and Management Competencies for Pediatric Nurse Managers." This program employs an improved teaching methodology that emphasizes problem-based learning derived from the daily work experiences of nurse managers, as opposed to the traditional lecture-based approach used in previous training programs.

In pediatric healthcare settings, the role of nurse managers becomes even more pronounced. They are responsible for meeting care standards, which is crucial for the safety and satisfaction of young patients and their families. By coordinating patient care activities and managing resources effectively, pediatric nurse managers contribute to optimizing health outcomes for children. Furthermore, their leadership fosters a culture of continuous improvement, which is vital in addressing the evolving healthcare needs of pediatric populations. Thus, the nurse manager's role is integral to the operational success of healthcare units and the delivery of high-quality patient care. Therefore, the general aim of this study was to evaluate the feasibility of a competency-based training program designed to enhance the management skills of pediatric nurse managers in Vietnam, thereby enhancing the quality of care provided to pediatric patients. As the healthcare landscape continues to evolve, the significance of skilled nurse managers will only increase, necessitating ongoing professional development and support for those in these pivotal roles.

## Conceptual Framework and Review of Literature

The competency gap among nurse managers presents significant challenges to healthcare management, particularly in resource-constrained settings. Nurse managers often lack essential strategic leadership, financial management, and human resource management

skills, limiting their ability to address complex healthcare demands effectively.[13] Research highlights deficiencies in problem-solving, communication, and team management competencies, which are critical for ensuring quality care and operational efficiency.[14] This gap is further pronounced in primary healthcare settings, where nurse managers often face inadequate training and support while managing diverse responsibilities.[15] These shortcomings underscore the need for targeted interventions, such as leadership training and ongoing professional development, to bridge the skills gap and improve healthcare outcomes.[13,14,16]

Globally, various countries have recognized the importance of enhancing nurse manager competencies through structured training programs. For instance, studies have shown that targeted leadership training can significantly improve nurse managers' effectiveness and patient care outcomes.[17,18] These programs often focus on developing transformational leadership skills linked to improved staff retention and enhanced quality of care.[19] In Vietnam, a study has shown that pediatric nurse managers need to improve competencies related to communication, relationship management, and professional business skills.[12] Another study indicated that most nurse managers in local hospitals did not meet expected task completion levels, with most of their daily schedules focused on managerial duties.[16] Nurse managers in Vietnam must complete a 7-day training program to enhance their management skills, as stipulated by Document No. 6520/BYT-K2ĐT issued on September 27, 2012, by the Ministry of Health. This comprehensive program includes 20 topics related to general management principles and specific hospital management practices for nurse managers in clinical departments.[20] However, there is a notable lack of studies evaluating the effectiveness of this training program after completion. The current program primarily focuses on foundational knowledge, while nurse managers require advanced skills such as patient care management, risk identification, root cause analysis, and human resource management.[12]

Therefore, in this study, we utilized the Nurse Manager Competency Questionnaire developed by Linda Chase,[21] which was first published in 1994 and later enhanced in 2010. Her model encompasses five evaluating dimensions for educational interventions aimed at enhancing management competency among nurse managers: Technical (analytical ability in the specialty of knowledge of the healthcare environment), Human (ability to work with others through communication and relationship management), Conceptual (ability to recognize different functions of the organization professionally), Leadership (ability to encourage others to accomplish tasks), and Financial Management (ability to understand business skills and principles and manage financial resources). This model aligns well with the main themes of the AONE leadership framework[22], underscoring its relevance and applicability in nursing management education and development initiatives. Katz's model of managerial skills, which emphasizes technical, human, and conceptual skills, was operationalized to guide the intervention program. The training program specifically targets these competencies to address the identified needs of pediatric nurse managers in Vietnam. By enhancing technical skills related to healthcare environments, improving human skills through effective communication and relationship management, and developing conceptual skills to understand organizational dynamics, the program aims to create well-rounded nurse managers capable of navigating the complexities of pediatric healthcare.

## Study Aim

The study aimed to evaluate the feasibility of a competency-based training program designed to enhance the management skills of pediatric nurse managers in Vietnam. Specifically, it focuses on

the intervention's practical implementation, incorporating participant feedback on satisfaction and identifying areas for refinement while providing preliminary evidence of the program's effectiveness in improving management competencies.

## Methods

**Design:** This study utilized a one-group pretest-posttest design as part of a dissertation titled "Evaluation of the effectiveness of an intervention program to enhance management capacities for nurse managers in the Northern children's hospital system in Vietnam." The design was chosen to assess the initial effectiveness of the intervention while also allowing for participant feedback on the implementation process. This approach aligns with the need to evaluate practical aspects of interventions in nursing management, as highlighted in previous studies.[23]

The study was reported following the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) checklist and the TIDieR (Template for Intervention Description and Replication) checklist. These frameworks ensure comprehensive and transparent reporting by covering key observational study components and providing a detailed intervention description. Adherence to both checklists was double-checked to ensure that all relevant elements were thoroughly addressed in this report, enhancing the rigor and reproducibility of the study.

**Sample and Setting:** Eligible participants included nurse managers from pediatric and obstetric-pediatric hospitals in Vietnam who were currently on duty and had been in their positions for at least six months. Purposive sampling was used to select participants from two representative hospitals reflecting different regional healthcare capacities in Northern Vietnam. This selection was crucial to ensure a diverse representation of management practices across different hospital tiers, enhancing the findings' generalizability. Ultimately, the study included 12 nurse managers. The sample size was determined based on the specific objectives of feasibility research, including assessing recruitment feasibility, intervention acceptability, and preliminary outcomes in this specialized context. While formal power analysis was not conducted, this sample size was sufficient to gather practical data to inform the design of a larger-scale study, including logistical parameters and effect size estimates. Furthermore, selecting participants from two representative hospitals enhanced the generalizability of findings within similar settings, ensuring the study's relevance for subsequent research planning.

**Instruments:** The research team developed a general information questionnaire that collected data on participants' demographics, including sex, age, current position, management experience, years of service, linguistic and technological competencies, participation in management training programs, and overall job satisfaction.

The Chase Nurse Manager Competencies Instrument (CNMCI), originally developed by Chase[24] was used to assess the management competencies (MC) of pediatric nurse managers. The instrument comprises 53 items across five dimensions: Knowledge of Healthcare Environment (11 items), Communication and Relationship Management (13 items), Professional (8 items), Leadership (14 items), and Business Skills and Principles (7 items). Participants evaluated their knowledge and ability to perform tasks related to each item. To align with the research objective of assessing knowledge and performance, the 4-point Likert scale was adapted with the following meanings: 4 (Essential for nurse manager competencies), 3 (Contributes significantly to nurse manager competencies), 2 (Contributes moderately to nurse manager competencies), 1 (Contributes minimally to nurse manager competencies). Higher scores indicated greater perceived proficiency in the respective competencies.

The reliability of the CNMCI was well-established in Chase's original study, with Cronbach's alpha exceeding 0.70 across all domains. Permission was obtained for the instrument's use, and reliability was further confirmed in this study, with Cronbach's alpha values of at least 0.80 for all subscales, demonstrating consistent internal reliability. The instrument's content validity was evaluated by a panel of five experts, two hospital managers, two pediatric nurse hospital managers, and a pediatric doctor manager. These experts assessed and affirmed the instrument's relevance and appropriateness for measuring nurse management competencies.

Test-retest reliability results showed high consistency for the Knowledge component (ICC = 0.88, 95% CI: 0.41-1.00) and the self-reported Practice component (ICC = 0.96, 95% CI: 0.80-1.00). These findings confirm the CNMCI as a valid and reliable tool for evaluating both knowledge and practice, effectively supporting the study's aim of assessing and enhancing nurse manager competencies.

**Development of the Intervention Program**

The Competency-Based Training Program was developed through a rigorous process combining a comprehensive literature review and a survey identifying management competency gaps among 227 nurse managers from 17 pediatric and obstetric-pediatric hospitals in Northern Vietnam.[12] The conceptual framework was grounded in the management competency model that Chase[24] described, ensuring that the program topics were closely aligned with its key domains. The design, content, and educational materials were reviewed and approved by the Appraisal Council of the National Children's Hospital, including a pediatric doctor hospital manager, a pediatric nurse hospital manager, and a pediatric nursing instructor (Decision No. 5098/QD-BVNTW dated October 30, 2023).

The program consisted of six online sessions conducted via the Zoom platform, each lasting 120 minutes and scheduled weekly. To enhance participants' preparation and engagement, the research team distributed a tutorial video prepared by the primary investigator (PI) before each session. The structure of each session was as follows:

**Feedback and opening presentation**: The PI led a 50-minute feedback session on the action plan and provided an overview of the specific management competency being addressed, as conceptualized by Chase.[24]

**Interactive discussions**: Facilitated discussions and participant-led presentations focusing on real-world scenarios, challenges, and the application of the competency domain.

**Action planning**: Development of personalized action plans at the end of each session to help participants apply the knowledge and skills in their professional practice.

The program incorporated mechanisms to evaluate perceived importance and self-reported proficiency in management competencies. Baseline and post-intervention assessments were conducted using validated tools to measure the following:

- **Perceived importance**: Understanding the relevance of specific management competencies.
- **Proficiency and performance**: Self-reported levels of skill and ability in each competency area.

Where gaps in competency measurement were identified, the program incorporated scenario-based evaluations and action plan reviews to provide qualitative and quantitative insights into participant progress.

**Appendix 1** outlines further details about the session content, competency domains, and validation processes. This comprehensive approach ensures that the intervention program is conceptually grounded in Chase's model and capable of measuring its effectiveness in enhancing nurse managers' competencies.

**Ethical Considerations**: This study received approval from the Ethics Council of Vietnam National Children's Hospital (Legislation No. 1284/BVNTW-HDDD dated June 29, 2022).

Participants were fully informed about the study's objectives, intervention procedures, potential benefits, and regulations before enrollment. To ensure confidentiality, participants were anonymized, and data were coded to protect their identities. They were also given the option to decline participation in questionnaires or withdraw from the intervention program at any time without any repercussions. The study did not involve any physical health interventions, and informed consent was obtained from all participants before data collection commenced.

**Data Collection:** Data collection occurred between April and July 2024. A trained research assistant collected data while the PI implemented the intervention program. Participants completed a questionnaire three times: before the intervention (Week 0, T1), immediately after the intervention (Week 6, T2), and during a follow-up period (Week 10, T3). The data collection utilized an online tool via KoboToolbox, ensuring efficient and secure data management. An online satisfaction survey also conducted through KoboToolbox, was distributed after each intervention session to assess participants' satisfaction with the program's effectiveness and the online learning experience. Participants were reminded via phone if no feedback was received within one day.

**Data Analysis:** This was performed using SPSS 23.0 software. A paired-sample t-test was used to compare the mean pediatric nurse manager competency scores across three stages: before the intervention (T1), immediately after the intervention (T2), and after the follow-up period (T3). To control for the risk of Type 1 errors due to multiple comparisons, the significance level ($\alpha$) was adjusted using the Bonferroni correction. With three comparisons between T1 and T2, T1 and T3, and T2 and T3, the adjusted significance level was set at $\alpha = 0.05/3 = 0.0167$. Pairs of data with p-values less than 0.0167 were considered statistically significant.

## Results

**Table 1** summarizes the demographic and professional characteristics of the 12 participants. The average age of pediatric nurse managers was 41, with an average of 16.67 years of experience in the nursing profession. All participants were female. Half of the nurse managers had management experience ranging from six months to five years, while the remaining had more extended management experience. Additionally, 41.7% held a college degree, another 41.7% had a bachelor's degree, and 16.6% had postgraduate qualifications.

**Table 1.** Characteristics of participants

| Characteristics | n | % |
|---|---|---|
| Gender | | |
| Female | 12 | 100 |
| Male | 0 | 0 |
| Education level | | |
| Intermediate | 0 | 0 |
| College | 5 | 41.7 |
| Bachelor | 5 | 41.7 |
| Postgraduate | 2 | 16.6 |
| Years of nursing management experience | | |
| 6 months-5 years | 6 | 50.0 |
| 6-10 years | 3 | 25.0 |
| 11-15 years | 2 | 16.7 |
| >15 years | 1 | 8.3 |
| Age (Mean ± SD, Min-Max): 41.00 ± 6.37 (34-52) | | |
| Years of nursing experience (Mean ± SD, Min-Max): 17.67 ± 6.91 (9-30) | | |

**Table 2** displays the participants' evaluations of the program. All respondents agreed or strongly agreed that the program content was useful, the teaching methods were effective, the duration was appropriate, and the lessons were well-understood. Satisfaction with the lecture sessions was also high, with 58.3% of participants expressing strong agreement and 41.7% agreeing. No neutral, disagree, or strongly disagree responses were reported, indicating unanimous positive feedback from participants.

Before conducting the paired t-test, the normality assumption was evaluated using the Shapiro-Wilk test and Q-Q plot observations, both of which indicated that the data followed a normal distribution. Therefore, the paired t-test results are considered reliable and appropriate for analyzing the mean differences in this study.

**Table 2.** Evaluation of the program

| Item | n (%) | | | | |
|---|---|---|---|---|---|
| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
| Program content is useful | 7 (58.3%) | 5 (41.7%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Teaching method is effective | 7 (58.3%) | 5 (41.7%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Teaching duration is appropriate | 6 (50.0%) | 6 (50.0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| I understood the lesson well | 6 (50.0%) | 6 (50.0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| I satisfied with the lecture session | 7 (58.3%) | 5 (41.7%) | 0 (0%) | 0 (0%) | 0 (0%) |

**Figure 1** illustrates the mean scores of nurse manager competencies at three time points. Before the intervention (T1), the total competency score was 2.91, with performance and knowledge scoring 2.80 and 3.01, respectively. Immediately after the intervention (T2), all scores improved, with total competency at 3.27, performance at 3.14, and knowledge at 3.42. After the follow-up period (T3), total competency was at 3.21, performance at 3.08, and knowledge at 3.34.

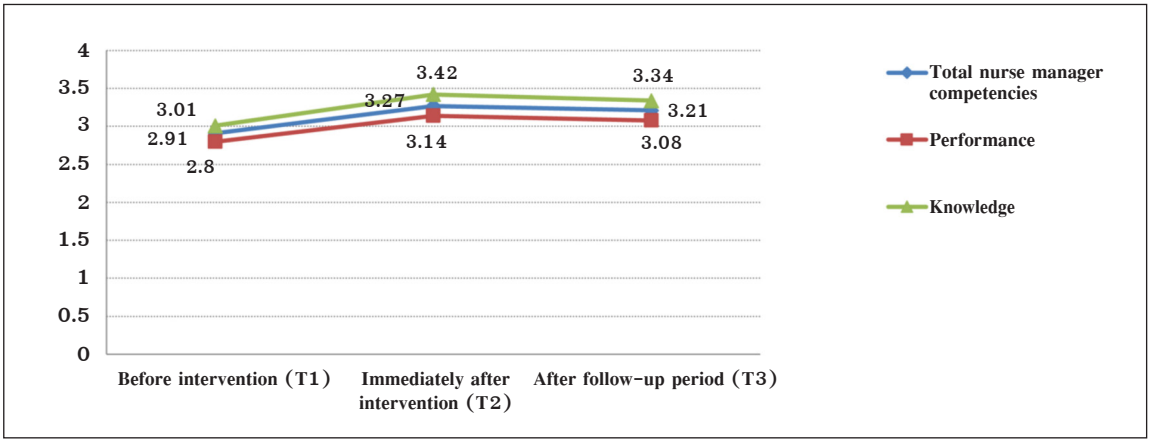


**Figure 1.** Mean score of management competency at three time points

**Table 3** presents the paired t-test results comparing nurse manager competencies across three stages: before the intervention (T1), immediately after the intervention (T2), and after the follow-up period (T3). Using a Bonferroni-adjusted significance level of $p < 0.0167$, significant improvements were observed in Knowledge of Healthcare Environment, with both knowledge (T1 vs. T2: $p = 0.007$) and

performance (T1 vs. T2: p = 0.01) showing marked progress. Similarly, Communication and Relationship Management demonstrated significant performance improvements (T1 vs. T2: p = 0.009; T1 vs. T3: p = 0.01). However, no significant changes were detected in the Professional dimension (p > 0.0167). In contrast, the Leadership dimension showed significant Performance improvements (T1 vs. T2: p = 0.01; T1 vs. T3: p = 0.004). Additionally, Business skills and principles significantly improved knowledge (T1 vs. T2: p = 0.01). These findings highlight notable advancements in key competencies following the intervention, particularly in knowledge and/or performance across all dimensions except the Professional dimension.

**Table 3.** Comparing nurse manager competency across three stages

| Dimensions | T1 Mean (± SD) | | T2 Mean (± SD) | | T3 Mean (± SD) | | t (Knowledge) | t (Performance) | p (Knowledge) | p (Performance) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Knowledge | Performance | Knowledge | Performance | Knowledge | Performance | | | | |
| Knowledge of healthcare environment | 3.08 ± .4 | 2.88 ± .3 | 3.46 ± .5 | 3.19 ± .5 | 3.37 ± .5 | 3.12 ± .4 | $T_1$-$T_2$: -3.31 | $T_1$-$T_2$: -2.97 | $T_1$-$T_2$: 0.007* | $T_1$-$T_2$: 0.01* |
| | | | | | | | $T_1$-$T_3$: -2.71 | $T_1$-$T_3$: -2.68 | $T_1$-$T_3$: 0.02 | $T_1$-$T_3$: 0.02 |
| | | | | | | | $T_2$-$T_3$: 1.86 | $T_2$-$T_3$: 1.83 | $T_2$-$T_3$: 0.09 | $T_2$-$T_3$: 0.10 |
| Communications and relationship management | 2.99 ± .4 | 2.78 ± .3 | 3.37 ± .5 | 3.13 ± .5 | 3.28 ± .4 | 3.04 ± .4 | $T_1$-$T_2$: -2.45 | $T_1$-$T_2$: -3.18 | $T_1$-$T_2$: 0.03 | $T_1$-$T_2$: 0.009* |
| | | | | | | | $T_1$-$T_3$: -2.31 | $T_1$-$T_3$: -3.11 | $T_1$-$T_3$: 0.04 | $T_1$-$T_3$: 0.01* |
| | | | | | | | $T_2$-$T_3$: 1.77 | $T_2$-$T_3$: 1.79 | $T_2$-$T_3$: 0.11 | $T_2$-$T_3$: 0.10 |
| Professional | 3.04 ± .4 | 2.84 ± .3 | 3.33 ± .5 | 3.10 ± .5 | 3.31 ± .4 | 3.12 ± .3 | $T_1$-$T_2$: -2.33 | $T_1$-$T_2$: -2.48 | $T_1$-$T_2$: 0.04 | $T_1$-$T_2$: 0.03 |
| | | | | | | | $T_1$-$T_3$: -2.26 | $T_1$-$T_3$: -2.25 | $T_1$-$T_3$: 0.04 | $T_1$-$T_3$: 0.04 |
| | | | | | | | $T_2$-$T_3$: 0.26 | $T_2$-$T_3$: -0.19 | $T_2$-$T_3$: 0.79 | $T_2$-$T_3$: 0.85 |
| Leadership | 2.97 ± .4 | 2.77 ± .4 | 3.38 ± .6 | 3.13 ± .6 | 3.33 ± .5 | 3.09 ± .5 | $T_1$-$T_2$: -2.58 | $T_1$-$T_2$: -3.08 | $T_1$-$T_2$: 0.03 | $T_1$-$T_2$: 0.01* |
| | | | | | | | $T_1$-$T_3$: -2.54 | $T_1$-$T_3$: -3.78 | $T_1$-$T_3$: 0.03 | $T_1$-$T_3$: 0.004* |
| | | | | | | | $T_2$-$T_3$: 1.02 | $T_2$-$T_3$: 0.67 | $T_2$-$T_3$: 0.33 | $T_2$-$T_3$: 0.52 |
| Business skills and principles | 2.99 ± .4 | 2.76 ± .4 | 3.59 ± .6 | 3.13 ± .6 | 3.46 ± .5 | 3.02 ± .5 | $T_1$-$T_2$: -3.00 | $T_1$-$T_2$: -2.84 | $T_1$-$T_2$: 0.01* | $T_1$-$T_2$: 0.02 |
| | | | | | | | $T_1$-$T_3$: -2.60 | $T_1$-$T_3$: -2.52 | $T_1$-$T_3$: 0.03 | $T_1$-$T_3$: 0.03 |
| | | | | | | | $T_2$-$T_3$: 2.11 | $T_2$-$T_3$: 2.01 | $T_2$-$T_3$: 0.06 | $T_2$-$T_3$: 0.07 |

Note. Paired t-test: * The significance level (α) at $p < 0.0167$ was adjusted using the Bonferroni correction.

## Discussion

This study involved 12 female pediatric nurse managers with an average age of 41 years and an average of 16.67 years of experience in the nursing profession. This demographic profile is consistent with the global trend in the nursing profession, where women represent a significant majority. The high level of satisfaction reported by participants regarding the training program is noteworthy. All respondents indicated that the program content was useful, the teaching methods were effective, and the duration was appropriate, with most expressing satisfaction with the program. This unanimous positive feedback suggests that the intervention was well-received and highlights the importance of tailoring educational content to meet the specific needs of nurse managers. The positive evaluations reflect the effectiveness of the training program in enhancing participants' engagement and learning outcomes. Using platforms such as Zoom and mobile applications for delivering materials ensured that the training was accessible and flexible, catering to the busy schedules of nurse managers.[25] This adaptability is particularly relevant in the current healthcare landscape, where time constraints often limit opportunities for professional development.

Moreover, the study demonstrated the practical feasibility of implementing such an intervention within a healthcare setting. Interactive learning methods, such as case-based group discussions and real-time

problem-solving exercises, likely contributed to the positive outcomes by effectively engaging participants. The provision of resources like online learning platforms and professional networks further supported the practical implementation of the program.[26]

The results of this study demonstrated notable improvements in nurse manager competencies following the educational intervention. Total competency score significantly increased from baseline (T1) to immediately after the intervention (T2), with marked gains in both performance and knowledge. Specifically, significant advancements were observed in Knowledge of Healthcare Environment, improving both knowledge and performance. Similarly, the Communication and Relationship Management dimension exhibited significant performance enhancements, highlighting the program's effectiveness in strengthening nurse managers' understanding of the healthcare landscape and their ability to communicate and manage relationships effectively. In contrast, the Professional dimension did not demonstrate significant changes, indicating that this area may require further refinement in future program iterations. Conversely, the Leadership dimension showed significant performance improvements, underscoring the program's success in fostering essential leadership capabilities among nurse managers. Additionally, the Business Skills and Principles dimension demonstrated significant gains in knowledge, emphasizing the value of financial management training, which was previously identified as a gap in participants' professional development.

Several similarities emerged when comparing these results with previous studies on educational interventions for nurse managers. Similar studies often emphasized the importance of competency-based training frameworks akin to the Technical-People-Concept Competency Model used in this research. Chase[21] highlighted the relevance of leadership and financial management competencies for nursing administrators, which resonates with the multifaceted approach observed in this study. The emphasis on economic management, in particular, was well-received by participants, as their training was previously lacking in this. This finding aligns with existing literature that underscores the necessity of equipping nurse managers with comprehensive financial skills to enhance their effectiveness in managing healthcare resources.[24,27-29]

In addition, the results align with other studies aimed at future educational interventions targeting nurse managers. First, it may be beneficial to further analyze the content and delivery of Session 1 to identify the reasons behind the lack of significant improvement observed. Adjusting the content to align with participants' baseline competencies and needs could enhance its effectiveness. Second, continuous evaluation and adaptation of training modules based on participant feedback and evolving industry standards are essential to maintain relevance and maximize learning outcomes. Lastly, expanding the scope of assessment beyond immediate post-test scores to include longer-term outcomes such as job satisfaction, staff retention rates, and departmental performance metrics could provide a more comprehensive understanding of the training program's impact on organizational outcomes. Future studies can further refine and optimize educational interventions to develop competent and effective nurse leaders in healthcare settings by addressing these considerations.[30,31]

## Recommendations

Future studies should focus on refining educational interventions to develop competent nurse leaders in healthcare settings by addressing several key factors. First, initial training sessions

should be adjusted to align with participants' baseline competencies, enhancing engagement and effectiveness from the outset. Second, implementing ongoing assessment and feedback mechanisms will allow for continuous adaptation of training content, ensuring its relevance. Third, expanding the assessment scope to include long-term outcomes, such as job satisfaction, staff retention, and departmental performance metrics, will provide a comprehensive understanding of the program's impact.[32] Additionally, establishing a structured follow-up process with regular refresher courses and advanced training modules will help sustain improvements over time.[33]

Lastly, fostering a culture of continuous learning through peer mentoring, collaborative workshops, and participation in leadership forums will equip nurse managers to meet the evolving challenges of the healthcare environment.[17,34-36]

## Limitations

While the intervention showed significant positive results, several limitations should be acknowledged to guide future research efforts. First, the small sample size of 12 participants limits the generalizability of the findings and may lead to false negative findings, the likelihood of incorrectly identifying the true effect. Larger, multi-center studies with longer follow-up periods would yield more comprehensive data and enhance the applicability of the results across diverse healthcare settings. Moreover, the study depended on self-reported data, potentially leading to bias. A key limitation of this study is the absence of a control group, making it difficult to attribute improvements solely to the intervention. Without a control group, it is challenging to rule out the influence of other factors, such as organizational changes or concurrent training programs, on the outcomes.

## Conclusions and Implications for Nursing Practice

In conclusion, this study demonstrated a competency-based training program's feasibility and potential effectiveness for pediatric nurse managers in Vietnam. By addressing the specific needs of participants and utilizing interactive teaching methods, the program significantly enhanced nurse management competencies. These improvements ultimately contributed to better patient care outcomes, aligning with the study's overarching goal of enhancing the effectiveness of nurse managers.

The findings highlight the critical role of structured and targeted training programs in nursing practice and emphasize the need for ongoing professional education. It is recommended that nursing leaders in Vietnam prioritize continuous competency development for nurse managers, ensuring they are prepared to handle the complexities of modern healthcare environments. Incorporating innovative educational approaches, such as e-learning platforms, virtual simulations, and blended learning models, can further improve the program's accessibility and efficacy, catering to diverse learning preferences and fostering deeper engagement.

Future research should explore the long-term impacts of such educational interventions on nurse managers and the healthcare systems they serve. Addressing these areas will contribute to refining and optimizing training programs, ultimately advancing the development of highly competent and effective nurse managers in healthcare settings.

## Acknowledgments

The authors sincerely thank the nurse managers of pediatrics and obstetrics-pediatrics hospitals in Northern Vietnam who agreed to and

enthusiastically participated in this intervention program. They also appreciate the support of the Boards of Directors of these hospitals for allowing us to conduct this research.

**Funding sources**

This research was conducted without external funding sources.

**Conflict of interest**

There are no potential conflicts of interest to declare.

## References

1. Vesterinen S, Suhonen M, Isola A, Paasivaara L. Nurse managers' leadership styles in Finland. Nurs Res Pract. 2012;2012:605379. doi: 10.1155/2012/605379.
2. Melnyk BM, Zellefrow C, Tan A, Hsieh AP. Differences Between magnet and non-magnet-designated hospitals in nurses' evidence-based practice knowledge, competencies, mentoring, and culture. Worldviews Evid Based Nurs. 2020;17(5):337-47. doi: 10.1111/wvn.12467.
3. Nurmeksela A, Mikkonen S, Kinnunen J, Kvist T. Relationships between nurse managers' work activities, nurses' job satisfaction, patient satisfaction, and medication errors at the unit level: a correlational study. BMC Health Serv Res. 2021;21(1):296. doi: 10.1186/s12913-021-06288-5.
4. Gallagher-Ford L, Koshy Thomas B, Connor L, Sinnott LT, Melnyk BM. The effects of an intensive evidence-based practice educational and skills building program on ebp competency and attributes. Worldviews Evid Based Nurs. 2020;17(1): 71-81. doi: 10.1111/wvn.12397.
5. Labrague LJ. Use of simulation in teaching nursing leadership and management course: an integrative review. Sultan Qaboos Univ Med J. 2021;21(3):344-53. doi: 10.18295/squmj. 4.2021.007.
6. Cowden T, Cummings G, Profetto-McGrath J. Leadership practices and staff nurses' intent to stay: a systematic review. J Nurs Manag. 2011;19(4):461-77. doi: 10.1111/ j.1365-2834.2011.01209.x.
7. Labrague LJ, Al-Hamdan Z, McEnroe-Petitte DM. An integrative review on conflict management styles among nursing professionals: implications for nursing management. J Nurs Manag. 2018;26(8):902-17. doi: 10.1111/ jonm.12626.
8. Casida J, Parker J. Staff nurse perceptions of nurse manager leadership styles and outcomes. J Nurs Manag. 2011;19(4): 478-86. doi: 10.1111/j.1365-2834.2011.01252.x.
9. Soltani Goki F, Farahmandnia H, Sabzi A, Taskiran Eskici G, Farokhzadian J. Iranian nurses' perceptions of core competencies required for disaster risk management. BMC Emerg Med. 2023;23(1):84. doi: 10.1186/s12873-023-00853-3.
10. Nguyen TLX, Nguyen TMC, Hoang TH. The management competency among head nurses at Hoan My Vinh International Hospital in 2022. J Nurs Sci. 2022;5(4):134-45. doi: 10.54436/jns.2022.04.530.
11. Pham TTH, Vu VD, Mai LQ, Tran TH, Nguyen TN. Core competency status of head nurses at hospitals in Thai Binh province in 2021. J Nurs Sci. 2022;5(4):23-33. doi: 10.54436/jns.2022.04.510.
12. Bui TT, Nguyen ATB, Nhung TTN, Cao TV, Truong AT, Tran DM, et al. Leadership and management competencies of nurse managers: a cross-sectional study in Northern and Central Vietnam. South East Eur J Public Health. 2024;35-44. doi: 10.70135/seejph.vi.1218.
13. Pillay R. The skills gap in nursing management in the South African public health sector. Public Health Nurs. 2011; 28(2):176-85. doi: 10.1111/j.1525-1446.2010. 00910.x.
14. González-García A, Pinto-Carral A, Pérez-González S, Marqués-Sánchez P. Nurse managers' competencies: a scoping review. J Nurs Manag. 2021;29(6):1410-9. doi: 10.1111/ jonm.13380.
15. Munyewende PO, Levin J, Rispel LC. An evaluation of the competencies of primary health care clinic nursing managers in two South African provinces. Glob Health Action. 2016;9: 32486. doi: 10.3402/gha.v9.32486.
16. Tran KT, Nguyen PV, Dang TTU, Ton TNB. The impacts of the high-quality workplace relationships on job performance: a perspective on staff nurses in Vietnam. Behav Sci (Basel). 2018;8(12):109. doi: 10.3390/bs8120109.
17. Kim S, Lim JY. Development and evaluation of the "High-Up" Program for enhancing the nursing-management competency of mid-career hospital nurses: a quasi-experimental study. Int J Environ Res Public Health. 2022;19(7):4392. doi: 10.3390/ijerph19074392.

18. Al-Nasri AYH. The development and effectiveness of leadership and management program for enhancing the nursing managers competency: a quasi-experimental pre-posttest study. Br J Nurs Stud. 2024;4(2):10-9. doi: 10.32996/bjns.2024.4.2.2.
19. Wang L, Tao H, Bowers BJ, Brown R, Zhang Y. When nurse emotional intelligence matters: how transformational leadership influences intent to stay. J Nurs Manag. 2018; 26(4):358-65. doi: 10.1111/jonm.12509.
20. Department of Medical Service Administration - Ministry of Health, Viet Nam. Document 6520/BYT-K2ĐT Training materials: enhancing nursing competency (dated 2012 Sep 27) [Internet]. 2015 June 25 [cited 2024 Dec 17]. Available from: https://kcb.vn/thu-vien-tai-lieu/tai-lieu-dao-tao-quan-ly-dieu-duong.html (in Vietnamese).
21. Chase L. Nurse manager competencies. J Nurs Adm. 1994;24(4 Suppl):56-62. PMID: 8151436.
22. American American Organization of Nurse Executives. AONE nurse manager competencies. Chicago (IL): The Author; 2015. Available from: http://www.aone.org/resources/nurse-leader-competencies.shtml
23. Paarima Y, Kwashie AA, Asamani JA, Ofei AMA. Leadership competencies of first-line nurse managers: a quantitative study. Leadersh Health Serv (Bradf Engl). 2022;35(3): 338-54. doi: 10.1108/LHS-05-2021-0047.
24. Chase LK. Nurse manager competencies [dissertation]. [Iowa]: University of Iowa; 2010. doi: 10.17077/etd.03y9rc4t.
25. Loureiro F, Sousa L, Antunes V. Use of digital educational technologies among nursing students and teachers: an exploratory study. J Pers Med. 2021;11(10):1010. doi: 10.3390/jpm11101010.
26. Abdulrahaman MD, Faruk N, Oloyede AA, Surajudeen-Bakinde NT, Olawoyin LA, Mejabi OV, et al. Multimedia tools in the teaching and learning processes: a systematic review. Heliyon. 2020;6(11):e05312. doi: 10.1016/j.heliyon.2020.e05312.
27. Anderson RO. Assessing nurse manager competencies in a military hospital [dissertation]. [Minneapolis]: Walden University; 2016. Available from: https://scholarworks.waldenu.edu/dissertations/2393
28. Nkurunziza A, Katende G, Uwimana P, Moreland PJ, Rosa WE, Umwangange ML, et al. Enhancing the education of paediatric nurses: a positive step towards achieving sustainable development goals. Nurs Open. 2023;10(8):5017-23. doi: 10.1002/nop2.1816.
29. Specchia ML, Cozzolino MR, Carini E, Di Pilla A, Galletti C, Ricciardi W, et al. Leadership styles and nurses' job satisfaction. results of a systematic review. Int J Environ Res Public Health. 2021;18(4):1552. doi: 10.3390/ijerph18041552.
30. Gunawan J, Aungsuroch Y, Fisher ML, McDaniel AM, Marzilli C. Managerial competence of first-line nurse managers in public hospitals in Indonesia. J Multidiscip Healthc. 2020;13:1017-25. doi: 10.2147/JMDH.S269150.
31. Jun M, Noh W. Training priority for managerial competence of nurse managers in small and medium-sized hospitals: focusing on the management level. SAGE Open Nurs. 2023;9:23779608231195660. doi: 10.1177/23779608231195660.
32. Melnyk BM, Fineout-Overholt E. Evidence-based practice in nursing & healthcare: a guide to best practice. 4th edition. Lippincott Williams & Wilkins; 2022.
33. Kovner CT, Djukic M, Fatehi FK, Fletcher J, Jun J, Brewer C, et al. Estimating and preventing hospital internal turnover of newly licensed nurses: a panel survey. Int J Nurs Stud. 2016;60:251-62. doi: 10.1016/j.ijnurstu.2016.05.003. Erratum in: Int J Nurs Stud. 2016;63:226. doi: 10.1016/j.ijnurstu.2016.08.003.
34. Phillips JJ, Phillips PP. Handbook of training evaluation and measurement methods. 4th edition. Routledge; 2016.
35. Mrayyan MT, Abunab HY Abu Khait A, Rababa MJ, Al-Rawashdeh S, Algunmeeyn A, et al. Competency in nursing practice: a concept analysis. BMJ Open. 2023;13(6): e067352. doi: 10.1136/bmjopen-2022-067352.
36. Mota L, Príncipe F, Cruz A, Melo M. Leadership roles of nurse managers from the Portuguese nurse's viewpoint. Nurs Pract Today. 2021;8(1):51-9. doi: 10.18502/npt.v8i1.4491.

# Appendix 1: Competency-Based Training Program for Pediatric Nurse Managers in Vietnam

**Program Overview and Objectives**

This Competency-Based Training Program is tailored to improve the management competencies of pediatric nurse managers in Vietnam. By focusing on essential skills and competencies, the program aims to strengthen nurse managers' competencies and effectiveness within pediatric healthcare settings.

**Training Methodology**

The Competency-Based Training Program ensures engaging and practical learning experience, incorporating:

- Interactive workshops: Focused on case-based learning to address real-world challenges
- Group discussions: Facilitating collaborative problem-solving and exchange of best practices
- Tutorial videos: Pre-session materials highlighting key concepts to support in-depth discussions
- Action plans: Personalized goals to enable participants to apply learning in their professional settings

**Implementation Timeline**

The program spans six weeks, with weekly 120-minute sessions conducted online. Each session is structured as follows:

- 20 minutes: Feedback on assignments from the previous session, addressing challenges and reviewing key takeaways
- 30 minutes: Delivery of core theoretical content, emphasizing critical concepts from pre-distributed tutorial materials
- 30 minutes: Group discussions, each group analyzing a specific case study, identifying issues, proposing solutions, and applying theoretical knowledge
- 30 minutes: Group presentations (10 minutes per group), including peer feedback and instructor-led critique to enhance learning outcomes
- 10 minutes: Summary and synthesis of session content, with assignments for the next session

**Assessment Criteria**

Participants are evaluated through

(1) Pre- and post-intervention surveys: Utilizing the Chase Nurse Manager Competencies Instrument to measure improvements in:
   - Knowledge of Healthcare Environment
   - Communication and Relationship Management
   - Professionalism
   - Leadership
   - Business Skills and Principles

Real-world application: Evaluation of action plans and their practical implementation in the workplace

(2) Participant feedback: Satisfaction surveys to assess teaching methods, content relevance, and the overall learning experience

**Coordinator Responsibilities**

To ensure the smooth operation of the program, coordinators are required to:

- Communicate the schedule and session details promptly to participants
- Distribute session materials and monitor participants' engagement with pre-session content
- Collect and organize participant assignments for instructor review
- Set up and test the Zoom Meeting platform 30 minutes before each session to ensure technical reliability
- Manage participants and instructors during sessions, including group discussion assignments and timekeeping
- Provide technical and procedural support to both instructors and participants throughout the program

**Details of the intervention program:**

| Themes | Topic | Contents |
|---|---|---|
| Overview | Nurse Manager's Competencies | 1. Roles and responsibilities of nurse managers<br>2. Key competencies for effective role fulfillment<br>3. Legislation and policies in nursing practice |
| Knowledge of the Healthcare Environment | Management of Patient Care | 1. Models of patient care<br>2. Infection control practices<br>3. Development of evidence-based regulations for professionalism |
| Communications and Relationship Management | Effective Human Resource Management | 1. Assigning human resources based on workload and roles<br>2. Evaluating work performance and adherence to protocols<br>3. Strategies to motivate employees: recognition, feedback, and morale building<br>4. Employee training initiatives |
| Professionalism | Administrative Management Theories | 1. Administrative management theories<br>2. Application of management theory in risk planning, organization, operation coordination, supervision |
| Leadership | Problem-solving and Decision Making Skills | 1. Identifying and analyzing problems<br>2. Implementing problem-solving steps<br>3. Decision-making methods and avoiding common errors |
| Business Skills and Principles | Economic Management in Healthcare | 1. Nurse manager's role in healthcare economic management<br>2. Health insurance laws<br>3. Managing drug use and medical supplies |

# การประเมินโปรแกรมการฝึกอบรมอิงสมรรถนะสำหรับผู้จัดการพยาบาลเด็กในเวียดนาม : การศึกษาความเป็นไปได้

*Thuy Thi Bui, Hanh Thi Hong Tran,* Anh Thi Lan Mai, Huong Thi Nguyen, Anh Tuan Truong, Dien Minh Tran*

**บทคัดย่อ:** ความสำคัญของสมรรถนะการจัดการในผู้จัดการพยาบาลเด็กนั้นเป็นประเด็นที่ได้รับการยอมรับสำหรับในประเทศเวียดนาม พบว่าโปรแกรมการฝึกอบรมแบบมีโครงสร้างที่ปรับให้เหมาะกับสมรรถนะการจัดการเฉพาะ ที่ผู้จัดการพยาบาลต้องการยังขาดแคลนเป็นอย่างมาก นอกจากนี้ โปรแกรมที่มีอยู่ยังขาดการประเมินประสิทธิผลอย่างครอบคลุม การศึกษาครั้งนี้มีวัตุประสงค์เพื่อประเมินความเป็นไปได้ของโปรแกรมการฝึกอบรมอิงสมรรถนะที่พัฒนาขึ้นเพื่อเพิ่มพูนความสามารถในการจัดการของผู้จัดการพยาบาลเด็กในเวียดนาม การออกแบบการศึกษาเป็นแบบก่อนและหลังการทดลองในกลุ่มเดียวที่ได้ดำเนินการในกลุ่มผู้จัดการพยาบาลจากโรงพยาบาลเด็ก และสูติศาสตร์-กุมารเวชศาสตร์ 2 แห่ง โดยผ่านการคัดเลือกกลุ่มตัวอย่างแบบเฉพาะเจาะจง โปรแกรมการฝึกอบรมประกอบด้วยการประชุมเชิงปฏิบัติการแบบมีปฏิสัมพันธ์ การอภิปรายกลุ่ม และกรณีศึกษาเป็นเวลา 6 สัปดาห์ ตามด้วยการช่วยเหลือสนับสนุนอย่างต่อเนื่อง ผู้เข้าร่วมงานวิจัยตอบแบบทดสอบจำนวน 3 ครั้ง ได้แก่ ก่อน หลัง และระหว่างช่วงติดตามผล

กลุ่มตัวอย่าง คือ ผู้จัดการพยาบาล 12 คนที่เข้าร่วมการศึกษาความเป็นไปได้ครั้งนี้ และทุกคนรายงานว่ามีความพึงพอใจมากกับโปรแกรมนี้ ผลการศึกษาแสดงให้เห็นถึงประสิทธิผลที่เป็นไปได้ของโปรแกรมการฝึกอบรมในการสนับสนุนผู้จัดการพยาบาลโดยผ่านแพลตฟอร์มออนไลน์ที่ยืดหยุ่นและการเพิ่มขีดความสามารถที่ตรงเป้าหมาย ผลการศึกษานี้เน้นถึงคุณค่าของการฝึกอบรมที่มีโครงสร้างและปรับได้ตามความต้องการเฉพาะของผู้จัดการพยาบาล และเน้นถึงบทบาทสำคัญของการศึกษาต่อเนื่องในระดับมืออาชีพในการเสริมสร้างขีดความสามารถในการจัดการ การวิจัยเพิ่มเติมในอนาคตควรศึกษาในกลุ่มตัวอย่างผู้จัดการพยาบาลที่มีจำนวนมากขึ้นเพื่อให้ได้หลักฐานที่น่าเชื่อถือยิ่งขึ้น และสนับสนุนการนำไปใช้ในวงกว้างและการบูรณาการโปรแกรมเข้ากับการปฏิบัติอย่างมีประสิทธิผล

***Pacific Rim Int J Nurs Res 2025; 29(2) 276-290***

**คำสำคัญ:** ความสามารถในการจัดการ ผู้จัดการพยาบาล กุมารเวชศาสตร์ โปรแกรมการฝึกอบรม เวียดนาม

***Thuy Thi Bui**, PhD Candidate, Nam Dinh University of Nursing, Nam Dinh 420000, Vietnam, and Nursing Office, Vietnam National Children's Hospital, Hanoi 10000, Vietnam. E-mail: thuybui@nch.gov.vn*
***Correspondence to: Hanh Thi Hong Tran**,* PhD, RN, Nam Dinh University of Nursing, Nam Dinh 420000, Vietnam. E-mail: tranhonghanh@ndun.edu.vn*
***Anh Thi Lan Mai**, PhD, RN, Nam Dinh University of Nursing, Nam Dinh 420000, Vietnam. E-mail: lananh@ndun.edu.vn*
***Huong Thi Nguyen**, Msc, Nursing Office, Vietnam National Children's Hospital, Hanoi 10000, Vietnam. E-mail: huongnt86@nch.gov.vn*
***Anh Tuan Truong**, PhD, Rector, Nam Dinh University of Nursing, Nam Dinh 420000, Vietnam. E-mail: anhtt@ndun.edu.vn*
***Dien Minh Tran**, MD, Associate Professor, Director, Vietnam National Children's Hospital, Hanoi 10000, Vietnam. E-mail: dientm@nch.gov.vn*