

Investigation of Nursing Postgraduate Theses with Randomised Controlled Experimental Design in the Field of Pediatric Intensive Care: A Retrospective Study

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Abstract

The study was conducted between 1-31 July 2024 using descriptive survey and document analysis methods. Using the search option in the database of the National Thesis Centre of the Presidency of the Council of Higher Education, 'children intensive care' and Theses with the keyword 'paediatric intensive care' were searched. As a result of the screening, a total of 57 postgraduate theses were reached, and 53 theses were included in the examination, as 4 postgraduate theses were found to be common in the examination. A total of 8 master's theses that met the inclusion criteria were examined. The theses examined in the study were analysed in terms of variables such as measurement tools, field of care, title of thesis advisor and distribution of theses according to years. The analysis of the data was done with numbers and percentages using SPSS (Statistical Package for the Social Sciences) 25 package programme and Microsoft Office 2016 programme. As a result of the examination, it was determined that hygiene 37.5% (n=3), respiration 50% (n=4), nutrition 12.5% (n=1) according to the care areas of the theses. It was observed that the postgraduate nursing theses in the field of paediatric intensive care in Turkey were mostly effective in achieving their aims and their findings were compatible with the international literature. It is thought that the number of postgraduate nursing theses on the subject is not sufficient, and increasing the number of theses will shed light on other studies and researchers.

Keywords: Children, nursing, paediatric intensive care

1. Introduction

According to the 1983 Pediatric Intensive Care Guideline, the Pediatric Intensive Care Unit is defined as a hospital unit where various life-threatening, unstable diseases requiring specialised medical or surgical procedures are treated. Paediatric Intensive Care Units are specialised units in which vital signs of children and adolescents are monitored uninterruptedly and supported when necessary, multidisciplinary diagnostic and therapeutic approaches are generally applied, and which require more equipped personnel and technology compared to other departments (Karaböcüoğlu, 2008). The polio epidemic in the 1950s led to the emergence and development of intensive care. The world's first paediatric intensive care unit was established in 1955 at the Gothenburg Children's Hospital in Sweden, and then Paediatric Intensive Care Units were established in central hospitals first in Europe and Australia and then in North America in the 1960s (Ibsen, 1954; Andersen and Ibsen, 1954).

After the first Pediatric Intensive Care Unit in the modern sense was opened in Istanbul Medical Faculty in 1994 by specialist physicians interested in this subject in our country (Köroğlu et al., 2006). Pediatric Intensive Care Units have continued to be established in many centres since the beginning of the 2000s (Biket and Tönük, 2012).

Paediatric Intensive Care Units generally provide services in two different units, namely Neonatal Intensive Care Units (NICU) and Paediatric Intensive Care Units (PICU). Babies born on time are followed up in the NICU after the 28th postnatal day and premature babies are followed up in the PICU after the 44th week of postmenstrual age. Nevertheless, since the number of paediatric intensive care beds is less than the number of neonatal beds and the unit provides service until the age of 18, term babies past postnatal day 28 and premature babies past 44 weeks of postmenstrual age can be followed up in NICUs. On the other

hand, readmission of discharged premature babies is usually to the PICU (Borenstein-Levin et al., 2022).

Pediatric Intensive Care Unit is designed and equipped by taking into account the differences of children from adults. Like all employees of these units, nurses should be aware of the differences of their patients being children and should have the skills to manage these situations. A holistic approach should be exhibited while planning the nursing process and applying nursing care for the child hospitalised in intensive care (Ganz and Sapir, 2019; Seval and Kurt, 2020). It is impossible to consider children separately from their parents in intensive care units as in all health services (Macdonald et al., 2012). A family-centred approach is generally adopted in PICUs serving the pediatric age group with modern technological structures (Meert et al., 2013). Dependence on an adult in meeting self-care needs in children hospitalised in the PICU may increase the stress of children by limiting their sense of independence. In addition, by meeting the self-care needs of children, their sense of confidence increases, they feel more comfortable and their life functions improve (Büyükgönenç and Törüner, 2018; Uludağ, 2021).

When the literature was examined, no research examining nursing postgraduate theses conducted in randomised controlled experimental design in the field of paediatric intensive care was found. Therefore, the aim of this retrospective descriptive literature review was to examine the nursing theses related to the field of paediatric intensive care in Turkey, to analyse the results, and to provide data to researchers, nurses and other health professionals who provide health services to children.

2. Materials and Methods

2.1. Aim of the study

The aim of this study was to examine the postgraduate theses conducted with randomised controlled experimental design in the field of paediatric intensive care in

Türkiye in terms of some parameters. In the study, postgraduate theses in the field of nursing were examined retrospectively.

2.2. Type of study

The research is descriptive and retrospective survey model.

2.3. Inclusion criteria

- Access to the full text of the thesis
- Conducting the thesis in Türkiye
- To be written in Turkish or English
- Covering childhood age groups (0-18 years)
- To have been made between January 2014 and July 2024
- It must be made by nursing and/or nursing departments

2.4. Data collection

In this study, master's and doctoral (postgraduate) theses and dissertations conducted in Türkiye between January 2014 and 31 July 2024 were examined by scanning the National Thesis Centre database through the advanced scanning option. Theses with the keywords “pediatric intensive care” and “children intensive care” in their abstracts were searched using the search option in the National Thesis Centre database of the Presidency of the Council of Higher Education. As a result of the screening, a total of 57 postgraduate theses were reached, and 53 theses were included in the examination, as 4

postgraduate theses were found to be common in the examination. A total of 8 postgraduate theses that met the inclusion criteria were examined.

2.5. Data evaluation

The theses examined in the study were analysed in terms of variables such as field of care, title of thesis advisor and distribution of theses according to years. The data were analysed with numbers and percentages using SPSS (Statistical Package for the Social Sciences) 25 package programme and Microsoft Office 2016 programme.

3. Results

In the examination, 8 postgraduate theses that met the inclusion criteria were included in the study. All of the postgraduate theses are at master's level. According to the year of publication of the theses, there were 2 (25%) master's theses in 2019, 1 (12.5%) in 2021, 2 (25%) in 2022 and 3 (37.5%) in 2023. When the supervisor titles of the theses examined were examined, it was seen that Prof. Dr. 25% (n=2), Assoc. Prof. Dr. 50% (n=4) and Assist. Prof. Dr. 25% (n=2). As a result of the examination, it was seen that hygiene 37.5% (n=3), respiration 50% (n=4), nutrition 12.5% (n=1) according to the care areas of the theses (Table 1).

Table 1. Characteristics of nursing postgraduate theses with randomised controlled experimental design in pediatric intensive care (n:8)

Characteristics	Number	Percentage %
Care Area		
Hygiene	3	37.5
Respiration	4	50.0
Nutrition	1	12.5
Thesis Advisor Title		
Prof. Dr.	2	25.0
Assoc. Prof. Dr	4	50.0
Assist. Prof. Dr.	2	25.0
Distribution According to Years		
2019	2	25.0
2021	1	12.5
2022	2	25.0
2023	3	37.5

The postgraduate theses were summarised under the titles of author/year,

title of thesis advisor, type of thesis, thesis title and result (Table 2).

Table 2. Profiles of nursing postgraduate theses with experimental design in the field of paediatric intensive care in Türkiye (n:8)

Author-Year Thesis Supervisor Title	Thesis Type	Thesis Title	Result
SÜMEYYE CİHAN (2023) Prof. Dr.	Master Thesis	The effect of abdominal massage on gastric problems in enterally fed patients in pediatric intensive care unit: A randomized controlled study	It was determined that abdominal massage in paediatric intensive care unit can be used as a safe and effective method to prevent gastric problems related to enteral nutrition in mechanically ventilated children by increasing the frequency of bowel sounds and defecation and decreasing the amount of gastric residual volume.
ŞEVVAL ÜNAL (2023) Assoc. Prof. Dr	Master Thesis	Comparison of the efficiency of chest physiotherapy applied in a different order in pediatric intensive care patients	PaCO ₂ values of the intervention group were found to be lower than those of the control group.
ZİŞAN ÖZAKMAN (2023) Assist. Prof. Dr	Master Thesis	The effect of jet and mesh nebulizers on physical parameters and anxiety levels used in children with broncopneumonia in 3-6 age group	It was concluded that the mesh nebuliser caused less anxiety in children than the jet nebuliser and positively affected their physical parameters.
BERNA TURAN (2022) Assoc. Prof. Dr	Master Thesis	Comparison of the permanent skin flora of children who had bathing with two different products: A randomized controlled study	As a result of the study, it was found that 2% chlorhexidine gluconate wiping bath significantly reduced the persistent skin flora in the armpits and groin in children.
ZÜHAL ÇAVUŞOĞLU (2022) Assoc. Prof. Dr	Master Thesis	The effect of abdominal massage on gastric problems in enterally fed patients in pediatric intensive care unit: A randomized controlled study	It was determined that the use of 2% Chlorhexidine in the bath applications of children treated in the paediatric intensive care unit decreased the rate of nosocomial infections, did not cause deterioration in skin integrity, but decreased skin moisture levels.
HAVVA HUYELMAS (2021) Prof. Dr.	Master Thesis	Identification of risks and examination of patient safety according to endotracheal tube fixation materials in pediatric intensive care	In this study conducted according to endotracheal tube fixation materials, a statistically significant difference was found between tube holders and other fixation materials in ensuring patient safety.
KÜBRA DEMİR (2019) Assist. Prof. Dr	Master Thesis	The effect of auditory stimuli on pain and physiological parameters during aspiration in children with mechanical ventilators	It was observed that parental voice and music sound application decreased the pain caused by aspiration procedure and positively affected the vital signs.
ÖZGÜL ÖZ (2019) Assoc. Prof. Dr	Master Thesis	The effect of two different bathing methods on physiological parameters in pediatric intensive care unit	It was determined that bed bath and wiping bath applied in the pediatric intensive care unit positively affected physiological parameters.

4. Discussion

According to the care areas of randomised controlled trials conducted in paediatric intensive care units where critical paediatric patients were followed up,

hygiene was 37.5% (n=3), respiration 50% (n=4), nutrition 12.5% (n=1).

Diseases that are the reason for hospitalisation in the pediatric intensive care unit may vary according to the patient

group served. In studies examining the hospitalisation diagnoses of patients hospitalised in paediatric intensive care units, it was observed that the most common indications for hospitalisation were respiratory system diseases, neurological diseases and intoxications, respectively (Söğütlü, 2023).

When the literature was examined, 454 paediatric patients were included in the study by Kılıç et al. (2016). It was observed that the most common reason for hospitalisation in paediatric intensive care unit (110 patients, 24.2%) was respiratory system diseases (Kılıç ve ark., 2016). In Söğütlü (2023) study, 840 paediatric patients were included. When the indications for

intensive care hospitalisation were examined, it was observed that the patients were hospitalised in intensive care with respiratory system (37.14%) based diagnoses in the first place (Söğütlü, 2023). The fact that 50% (n = 4) of the nursing theses examined in our study were related to the respiratory system as the field of care was in parallel with the intensive care indications of children (Demir, 2019; Huyuelmas, 2021; Özakman, 2023; Ünal, 2023).

Hospitalised children may need a caregiver for their self-care needs. The nurse is the healthcare personnel who will support the sick child and his/her family in this regard (Ünsal, 2013; Cimete et al., 2018). Bathing is among the most frequently applied nursing care to meet hygiene needs and is regularly applied by intensive care nurses (Cover et al., 2011; Çaka and Gözen, 2018; Veje et al., 2019). Bathing is also emphasised in terms of protecting skin integrity, keeping the ventilation-perfusion relationship in balance, increasing oxygenation, providing a feeling of vitality and freshness and providing stability in vital signs (Veje et al., 2019). Daily chlorhexidine baths reduce the development of healthcare-associated infections in individuals receiving treatment

in intensive care units (Alserehi et al., 2018).

In the literature, Topal et al. (2021) investigated the effect of 2% Chlorhexidine gluconate bath on carbapenem-resistant enterobacteriaceae (CRE) and vancomycin-resistant enterococcus (VRE) colonisation in the pediatric intensive care unit and found that skin bathing with 2% Chlorhexidine gluconate every other day significantly reduced VRE colonisation but did not reduce the risk of CRE colonisation. As a result of the study, it was suggested that skin bathing with 2% Chlorhexidine gluconate every other day in the NICU can be used as one of the methods of resistant microorganism colonisation and infection prevention (Topal et al., 2021). In the bed bath study conducted by Kızıl (2018) on intubated children, it was reported that the heart rate, systolic and diastolic blood pressure values of the children increased after the bed bath and were at the lowest values 30 minutes after the bed bath. In the same study, it was reported that oxygen saturation reached the highest value 30 minutes after the bath application (Kızıl and Şendir, 2018).

When the nursing theses examined within the scope of our research were examined, it was observed that the bed bath and wiping bath applied in the study of Öz (2019) positively affected the physiological parameters, the use of 2% Chlorhexidine in the study of Çavuşoğlu (2022) reduced the nosocomial infection rates, and the use of 2% Chlorhexidine in the study of Turan (2022) positively affected the groin and armpit flora.

According to the Intensive Care Nutrition Guidelines of the European Society for Clinical Nutrition and Metabolism (ESPEN) and the American Society for Enteral and Parenteral Nutrition (ASPEN), it is recommended to start enteral nutrition in the first 24-48 hours in critically ill patients on mechanical ventilation (Singer et al., 2019). In a study conducted on the subject, it was observed that only 66.6% of mechanically ventilated children

reached their daily enteral nutrition targets on the 7th day of hospitalisation in intensive care (Martinez et al., 2014).

Abdominal massage stimulates intestinal peristalsis, increases intestinal motility, accelerates food passage, helps enzyme secretion by increasing the circulation of the region, has a positive effect on digestion-related discomfort and pain, and is therefore thought to be effective in shortening hospitalisation periods (Ahmed Mohamed et al., 2021; Wang et al., 2022).

In the literature, it was observed that studies on abdominal massage application were generally performed in preterm neonates. However, no relevant study was found in paediatric intensive care unit. Moghadam et al. (2021) examined the effects of massage applied to preterm neonates and found a significant difference between the groups in gastric residue and defecation frequency (Moghadam et al., 2022). Abouheiba et al. (2022) found a highly statistically significant difference between the control and massage groups in all nutritional intolerance measurements and daily weight gain in a study conducted with 40 preterm neonates.

When the nursing theses examined within the scope of our research were examined, Cihan (2023) found that the frequency of bowel sounds and defecation increased and the amount of gastric residual volume decreased with abdominal massage applied twice a day for 15 minutes for 3 days to early enteral fed children aged 2-22 months on mechanical ventilator support.

5. Conclusions

It was observed that the nursing postgraduate theses in the field of paediatric intensive care in Turkey were mostly effective in achieving their aims and their findings were compatible with the international literature.

It was stated that the developments related to the paediatric intensive care unit in the world were in the 1950s, and the developments in our country were in the 2000s. The fact that the studies examined

were conducted in the last 5 years showed that more randomised controlled studies were needed. It is thought that the number of postgraduate nursing theses on the subject is not sufficient, and increasing the number of theses will shed light on other studies and researchers.

Declaration of Author Contributions

The authors declare that they have contributed equally to the article. All authors declare that they have seen/read and approved the final version of the article ready for publication.

Declaration of Conflicts of Interest

All authors declare that there is no conflict of interest related to this article.

Ethical Committee Approval

Ethical Aspects of the Study: Since the study was conducted in a retrospective review model, ethics committee approval was not obtained.

References

- Abouheiba, M.G., Moawad, G., Eldemery, N.I., 2022. Effect of successive abdominal massage on feeding intolerance and daily weight gain among preterm neonates: a randomized controlled trial. *Tanta Scientific Nursing Journal*, 27(4): 134-148.
- Ahmed Mohamed, H., Hussein Bakr, Z., Mohamed Naguib, A., 2021. Effect of abdominal massage on gastrointestinal function among enterally fed critically ill patients. *Egyptian Journal of Health Care*, 12(1): 801-813.
- Alserehi, H., Filippell, M., Emerick, M., Cabunoc, M.K., Preas, M.A., Sparkes, C., CDC Prevention Epicenter Program., 2018. Chlorhexidine gluconate bathing practices and skin concentrations in intensive care unit patients. *American Journal of Infection Control*, 46(2): 226-228.
- Andersen, E.W., Ibsen, B., 1954. The anaesthetic management of patients with poliomyelitis and respiratory paralysis. *British Medical Journal*, 1(4865): 786.

- Biket, A.P., Tönük, S., 2012. Çocuk yoğun bakım ünitelerinin tarihçesi ve günümüzde Türkiye'deki durumunun örneklerle incelenmesi. *Sigma*, 4: 64-76.
- Borenstein-Levin, L., Hochwald, O., Ben-Ari, J., Dinur, G., Littner, Y., Eytan, D., Halberthal, M., 2022. Same baby, different care: variations in practice between neonatologists and pediatric intensivists. *European Journal of Pediatrics*, 181(4): 1669-1677.
- Büyükgönenç, L., Törüner, E.K., 2018. Çocukluk Yaşlarında Ağrı ve Hemşirelik Yönetimi. (Ed: Z. Conk, Z. Başbakkal, H.B. Yılmaz, B. Bolışık). *Pediatric Hemşireliği*, Akademisyen Kitabevi, Ankara, s. 469-523.
- Cihan, S., 2023. The effect of abdominal massage on gastric problems in enterally fed patients in pediatric intensive care unit: A randomized controlled study. Ms Thesis, İstanbul Üniversitesi-Cerrahpaşa Graduate School of Education, İstanbul.
- Cimete, G., Kuşuoğlu, S., Dede Çınar, N., 2018. Çocuk, Hastalık ve Hastane Ortamı. (Ed: Z. Conk, Z. Başbakkal, H. Bal Yılmaz, B. Bolışık). *Pediatric Hemşireliği*, 2. Baskı, Ankara: Akademisyen Kitabevi.
- Committee on Hospital Care and Pediatric Section of the Society of Critical Care Medicine, 1983. Guidelines for pediatric intensive care units. *Pediatrics*, 72(3): 364-372.
- Coyer, F.M., O'Sullivan, J., Cadman, N., 2011. The provision of patient personal hygiene in the intensive care unit: a descriptive exploratory study of bed-bathing practice. *Australian Critical Care*, 24(3): 198-209.
- Çaka, S.Y., Gözen, D., 2018. Effects of swaddled and traditional tub bathing methods on crying and physiological responses of newborns. *Journal for Specialists in Pediatric Nursing*, 23(1): e12202.
- Çavuşoğlu, Z., 2022. The effect of bath with chlorhexidine applied in the child intensive care unit on protecting skin integrity and preventing nosocomial infection. Ms Thesis, Marmara University Institute of Health Sciences, İstanbul.
- Demir, K., 2019. The effect of auditory stimuli on pain and physiological parameters during aspiration in children with mechanical ventilators. Ms Thesis, Düzce University Institute of Health Sciences, Düzce.
- Ganz, F.D., Sapir, B., 2019. Nurses' perceptions of intensive care unit palliative care at end of life. *Nursing in Critical Care*, 24(3): 141-148.
- Huyuelmas, H., 2021. Identification of risks and examination of patient safety according to endotracheal tube fixation materials in pediatric intensive care. Ms Thesis, Ege University Institute of Health Sciences, İzmir.
- Ibsen, B., 1954. The anaesthetist's viewpoint on the treatment of respiratory complications in poliomyelitis during the epidemic in Copenhagen.
- Karaböcüoğlu, M., 2008. Çocuk Yoğun Bakım Esaslar ve Uygulamalar. İstanbul: İstanbul Tıp Yayınevi.
- Kılıç, F.Z., Çoban, Y., Davutoğlu, M., Dalkıran, T., 2016. Çocuk yoğun bakım ünitesinde izlenen hastaların geriye dönük analizi ve mortaliteyi etkileyen faktörlerin incelenmesi. *Çocuk Acil ve Yoğun Bakım Dergisi*, 3(3): 140-145.
- Kızıl, H., Şendir, M., 2018. The effects of bed bathing on vital signs and oxygen saturation in children who are connected to mechanical ventilation. *Dimensions of Critical Care Nursing*, 37(5): 272-278.
- Köroğlu, T.F., Bayrakçı, B., Dursun, O., Kendirli, T., Yıldızdaş, D., Karaböcüoğlu, M., 2006. Çocuk yoğun bakım birimleri için kılavuz: çocuk acil tıp ve yoğun bakım derneği önerileri Derleme. *Türk Pediatri Arşivi*, 41(3): 139-145.
- Macdonald, M.E., Liben, S., Carnevale, F.A., Cohen, S.R., 2012. An office or a bedroom? Challenges for family-centered care in the pediatric intensive care unit. *Journal of Child Health Care*, 16(3): 237-249.

- Martinez, E.E., Bechard, L.J., Mehta, N.M., 2014. Nutrition algorithms and bedside nutrient delivery practices in pediatric intensive care units: an international multicenter cohort study. *Nutrition in Clinical Practice*, 29(3): 360-367.
- Meert, K.L., Clark, J., Eggly, S., 2013. Family-centered care in the pediatric intensive care unit. *Pediatric Clinics*, 60(3): 761-772.
- Moghadam, A., Nematollahi, M., OstadEbrahimi, H., Mehdipour-Rabori, R., 2022. The effect of abdominal massage (I Love You method) on the gastric function of preterm infants hospitalized in the neonatal intensive care units: a randomized clinical trial. *Journal of Complementary and Integrative Medicine*, 19(1): 139-143.
- Öz, Ö., 2019. The effect of two different bathing methods on physiological parameters in pediatric intensive care unit. Ms Thesis, Istanbul Okan University Institute of Health Sciences, İstanbul.
- Özakman, Z., 2023. The effect of jet and mesh nebulizers on physical parameters and anxiety levels used in children with broncopneumonia in 3-6 age group. Ms Thesis, Düzce University Institute of Health Sciences, Düzce.
- Seval, M., Kurt, A., 2020. The empowerment of child and family in pediatric intensive care unit. *Jaren*, 6(2): 388-394.
- Singer, P., Blaser, A.R., Berger, M.M., Alhazzani, W., Calder, P.C., Casaer, M.P., Bischoff, S.C., 2019. ESPEN guideline on clinical nutrition in the intensive care unit. *Clinical Nutrition*, 38(1): 48-79.
- Söğütlü, Y., 2023. Çocuk acil servisten çocuk yoğun bakım ünitesine yatırılan veya dış merkeze sevk edilen kritik hastaların incelenmesi: 5 yıllık tek merkez deneyimi. *Pediatric Practice and Research*, 11(3): 220-223.
- Topal, S., Atakul, G., Çolak, M., Soydan, E., Sandal, Ö., Ceylan, G., Hasan, A., 2021. Does Skin Bathing With Chlorhexidine Gluconate (2%) Affect the Carbapenem-resistant Enterobacteriaceae and Vancomycin-resistant Enterococcus Colonization in Pediatric Intensive Care?. *Flora*, 26(1): 189-195.
- Turan, B., 2022. Comparison of the permanent skin flora of children who had bathing with two different products: A randomized controlled study. Ms Thesis, Istanbul Okan University Institute of Health Sciences, İstanbul.
- Uludağ, E., 2021. Hijyen Uygulamaları. (Ed: M.K. Kaşıkçı, E. Akın), Temel Hemşirelik Esaslar, Kavramlar, İlkeler, Uygulamalar. İstanbul Tıp Kitabevleri, İstanbul.
- Ünal, Ş., 2023. Comparison of the efficiency of chest physiotherapy applied in a different order in pediatric intensive care patients. Biruni University/Graduate School of Education, İstanbul.
- Ünsal, A., 2013. Hijyen Uygulamaları. Atabek Aştı T, Karadağ A. Hemşirelik Esasları Hemşirelik Bilimi ve Sanatı. İstanbul: Akademi Basım ve Yayıncılık.
- Veje, P.L., Chen, M., Jensen, C.S., Sørensen, J., Primdahl, J., 2019. Bed bath with soap and water or disposable wet wipes: Patients' experiences and preferences. *Journal of Clinical Nursing*, 28(11-12): 2235-2244.
- Wang, X., Sun, J., Li, Z., Luo, H., Zhao, M., Li, Z., Li, Q., 2022. Impact of abdominal massage on enteral nutrition complications in adult critically ill patients: a systematic review and meta-analysis. *Complementary Therapies in Medicine*, 64: 102796.

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