

Paediatric intensive care nursing in Turkey



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INTRODUCTION

Neonatal and paediatric intensive care units are units that care for infants and children requiring specialist expertise. To care for critically ill children, nurses must be highly skilled and knowledgeable. Although there are neonatal intensive care units (NICUs) in many developing countries, the provision of PICUs is poor. Children are often looked after in intensive care units (ICUs) designed for adults (Kenner *et al.*, 1998; Ugur, 1996). The purpose of this review is to provide an overview of the current situation in Turkey regarding paediatric intensive care nursing.

BACKGROUND

Turkey is a country with a large land mass. It is densely populated in the major cities. Its population of over 60 million inhabitants is served by 1009 inpatient institutions (State Institute of Statistics, 1997; University of Hacettepe Institution of Population Research and Macro International, 1999). Approximately one-third of Turkey's population is under the age of 15 (Table 1) and the mortality rate of young children is relatively high (Table 2), with nearly half of all infant deaths occurring during the neonatal period (Erginel, 1990). A significant number of infant deaths may be attributed to serious shortcomings in PICU provision, such as an insufficient number of units, inadequate conditions, and insufficiently skilled teams (Ugur, 1996; Tuncer, 2000).

Table 1. Population statistics by age group

Age	Population (millions)	Population (%)
0–14 years	21.2	34.4
15–64 years	37.6	61.1
≥65 years	2.8	4.5

Table 2. Birth and death rates between 1993 and 1998*

	Percentage (%)
Overall birth rate	28.0
Infant death rate	42.7
Death rate ≤ 5 years	52.1

* Adapted from University of Hacettepe Institute of Population Research and Macro International (1999).

Currently, throughout the Western World, neonatal and paediatric intensive care medicine has become a professionally rewarding and well-organised specialty, which has gained in popularity as it has developed. In many publications, it is stated that centralised (tertiary) PICU is superior, as outcome is better than in ICUs where children and predominantly adults are cared for together. Additionally, the literature does not support small one- or two-bed PICUs, as research indicates that it is not possible to maintain the high levels of expertise required to care for critically ill children.

In Pearson *et al.*'s (1997) study of a small ICU with several beds in Trent, England, where children and adults were cared for together and there were no specially trained staff, the average length of stay was 3.93 days. This compares to an average stay of 2.14 days in children cared for in a large tertiary PICU in Victoria, Australia. Furthermore, the mortality rate of children in Trent was significantly more than that of Victoria (Gemke, 1997; Pearson *et al.*, 1997).

In Turkey, NICU has been more effectively developed than PICU. The role of the NICU nurse has expanded and become more advanced, making it a specialty that nurses are keenly interested in. It attracts dynamic and energetic nurses and has good leadership. There are financial resources available to support the developing role (Kenner *et al.*, 1998).

Considerable progress has been made in NICU and there is now one in almost every hospital, regardless of whether or not it is a university hospital. In contrast, paediatric intensive care has not yet achieved this status, and children are commonly cared for within adult intensive care units (AICUs).

DEVELOPMENT OF PICU

Intensive care units were first established in Turkey, around the same period as that in European countries. The first ICU was in Haydarpaşa Numune Hospital, Istanbul, in 1959, and was followed by many others in the next 40 years. Recently, there has been significant improvement and reorganisation of ICU facilities (Akpir, 1992). However, a Turkish study, undertaken in 1994 in 57 hospitals found that the nurse-to-patient ratio in ICU was 1:1–2 in 44% of units, 1:3–4 in 28% of units, and 1:5–10 in 28% of units. Furthermore, only 43% of the hospitals had established orientation programmes, 48% held in-service education programmes, and only 30% had an education department.

Only 28% of the hospitals had nursing job descriptions (Yazıcı *et al.*, 1994). The same study also identified a number of other shortcomings (Table 3).

Care of children in adult ICUs

Paediatric intensive care has not been well organised in Turkey. The situation has partly arisen from disagreement between anaesthetists and paediatric intensivists. Most children who should receive care in dedicated PICUs are treated in AICUs, where they are cared for by physicians and nurses trained in the management of adult patients. Many critically ill children undergo intubation in paediatric emergency units with the help of an anaesthetist before being transported, with some difficulty, to AICUs with appropriate bed capacity and respiratory equipment. However, the allocation of resources and the capacity to provide intervention for children in these settings are limited. For example, there are few ventilators available for small children. Physicians and nurses working in these units have limited or no experience in paediatrics (Ugur, 1996). However, the situation is better in paediatric surgical ICUs, where paediatric surgeons and nurses provide the care.

Setting up of independent PICUs

In recent years, in some big cities, attempts have been made to establish independent PICU rooms, with several beds within paediatric departments. This includes a unit that has been fully established and equipped within the department of paediatric health and diseases, Istanbul Medicine Faculty, Istanbul University. It was established in 1994 by Professor Nedret Uzel, and has four beds with intensive care equipment.

In this setting, both neonates and children can receive mechanical ventilation, and when necessary, adequate support from the department of anaesthetics and other paediatric divisions. Five physicians, trained in paediatrics, provide appropriate treatment and care. Together with the nursing staff, they manage infants and children with a range of life-threatening conditions, such as coma, septicaemia and acute respiratory failure. The unit will shortly undergo a reconstruction project to develop it into a six-bed PICU with a 12–24-bed emergency and intermediate care unit.

In addition, another referring university hospital, Cerrahpasa Medicine Faculty, has one ventilator within the paediatric emergency department, serving children requiring intensive care.

DEVELOPMENT OF NICUS

The present situation in Turkey is far better for NICUs than PICUs. Like AICUs, they are found in almost every hospital. Management of the NICU is by paediatricians only (neonatal specialists), with consultation from other disciplines as required.

Neonatology in Turkey, in the modern sense, was instituted by Professor Müyesser Tuncer in 1968, in the Paediatric De-

partment of Hacettepe Medicine University in Ankara. In 1975, the first ventilators were installed. This was followed by the establishment of other NICUs in paediatric and maternity clinics in the Istanbul Faculty of Medicine in 1990, at Zekai Tahir Burak hospital in Ankara in 1992, in Cerrahpasa Medicine Faculty of Istanbul University in 1993, and in Zeynep Kamil Hospital in 1994. Today, almost all university hospitals are well-equipped for NICU and have qualified staff (Topkara, 1996; private interview with Prof. M. Tuncer; Yildiz, 1998).

With the introduction of NICUs in Turkey, neonatal and perinatal mortality rates have declined (Table 4).

NURSING EDUCATION

Nursing education in Turkey was established in 1920, at diploma level. Since 1955, it has been available at three levels: diploma, a generic baccalaureate level and bachelor's degree. Postgraduate education began in 1968. From the beginning of 1998, nursing education has only been offered by universities, within a total of 35 nursing colleges (Sevinç, 1998; Oktay, 2000). There are nine educational pathways (branches), but further specialist education is not available. Nurses studying intensive care are mainly students of master's and doctoral programmes.

In the degree programmes (master and doctoral) offered by paediatric departments of postgraduate nursing colleges, there are optional and compulsory courses that students must take. However, the content of these courses differs from school to school. For example, in Istanbul University, Florence Nightingale Nursing College's postgraduate master's programme, the Emergency and Intensive Care Nursing course is compulsory and is taught for two hours per week over one semester (Uysal, 1998). Similarly, in the Ege University postgraduate college's nursing doctoral programme, the Infant and Paediatric Emergency and Intensive Care Nursing course is compulsory. Although it is also taught for two hours per week, it runs for two semesters. In the Marmara University, postgraduate nursing college's doctoral programme, the High Risk Child, Parent, Family Nursing Care course is compulsory and contains two hours of theory and two hours of practical in one week.

When a student completes a master's or doctoral programme in paediatric nursing, a general qualification is gained, which does not qualify her to practise in a specialty, such as neonatal or paediatric intensive care. However, if a student wishes, she can choose to do her thesis in a subject related to intensive care nursing.

For these reasons, nurses can only be given education and training concerning intensive care through various intensive care courses organised after graduation. However, so far, no certificate courses addressing paediatric intensive care nursing have been developed.

Certificate courses for neonatal intensive care nursing were established in 1997, by Semahat Arsel Nursing Education and Research Center (SANERC), Istanbul, in collaboration with Texas Children's Hospital in Houston, USA. In addition, every

Table 3. Shortcomings in PICUs in Turkey*

Shortcomings	Percentages
Inadequate supply of materials and equipment	62.5%
Insufficient number of nurses	57.8%
Inadequate physical conditions on the ICU	56.7%
Poorly determined duties, responsibilities and accountability	52.2%
Lack of information	50.0%
Lack of standardisation of care	48.9%
Poor relationships between staff	38.9%
Inadequate number of personnel in support services	3.3%

* Adapted from Yazıcı *et al.* (1994).

Table 4. Neonatal mortality (Topkara, 1996; Erginel, 1990)

	Early neonatal mortality	Perinatal mortality
Zeynep Kamil Hospital	0.20% (1987) 0.16% (1994)	0.41% (1987) 0.32% (1994)
Neonatology Unit, Cerrahpasa Faculty of Medicine	NA	0.34% (1990) 0.22% (1993)
NA = not available		

year, SANERC organises paediatric and adult cardiopulmonary resuscitation and electrocardiography (ECG) courses. However, few nurses are taking these courses (Sevinç, 1998).

Development of neonatal and paediatric intensive care nursing

Currently, intensive care nurse training is only implemented through in-service programmes. Sometimes these activities are supported by paediatric academics from nursing colleges. Additionally, the Critical Care Nurses Society of Turkey, through its Education Commission, organises training activities and conferences.

According to the recently proposed legislation on the nursing and integrity of Turkish nurses, nurses who have attained the necessary knowledge and skills, and who are registered for a specialty, are given authority to practise in that specialty. The Turkish Nurses Association has taken the initiative with specialty registration programmes which co-ordinate, confirm and certify specialist practitioners (Turkish Nurses Association, 1996).

When the legislation comes into force, all NICU and PICU nurses will be required to undertake appropriate education and training to become accredited for registration. Those who do not possess the registration certificate will not be able to work in these specialty areas.

CONCLUSION

The purpose of this review was to provide an overview of the current situation and developments in paediatric intensive care nursing in Turkey. Considerable progress has been made in NICUs, and they are now available in almost all university hospitals and large centres.

However, the situation is different for PICUs. Unfortunately, PICUs have not been well-established and organised in Turkey. A considerable number of critically ill children, who should be admitted to the PICU, receive care and treatment in AICU.

Although some PICUs have been established, because of shortcomings in the curriculum, graduates of nursing colleges

are inadequately prepared for specialist paediatric intensive care practice. Most education for paediatric intensive care nursing is provided by in-service training courses, following graduation. An independent education programme is not yet available for PICU nursing. This review emphasises the need to improve the current situation of PICU nursing in Turkey.

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► CONFERENCE CONNECTIONS ◀

1st Conference of the European Federation of Critical Care Nursing Associations

Hotel New York Convention Centre, Disneyland, Paris, France. May 26–27, 2002

Information from: *Conference Secretariat, Index Communications Meeting Services, Crown House, 28 Winchester Road, Romsey, Hampshire SO51 8AA, UK. Tel: +44 (0) 1794 511331/2; Fax: +44 (0) 1794 511455; E-mail: icms@dial.pipex.com; www.efccna.org*

13th Annual Congress of the European Society of Paediatric and Neonatal Intensive Care (ESPNIC)

Ljubljana, Slovenia. June 13–15, 2002

Information from: *www.kclj.si/pedkr*

World Congress on Drowning

Amsterdam, The Netherlands. June 26–29, 2002

Information from: *World Congress on Drowning, Attn. Congress Secretariat, PO Box 3530, 1001 AH Amsterdam, The Netherlands. E-mail: secretariat@drowning.nl; www.drowning.nl*

Austrian International Congress: Anaesthesia & Intensive Care: Art or Science?

Austrian Society of Anaesthesiology, Resuscitation and Intensive Care Medicine

Vienna, Austria. September 11–13, 2002
Information from: *ÖGARI Secretarial Office, Lazarettgasse 13, A-1090 Wien, Austria. Tel: +431/406 48 10; Fax: +431/406 48 11; E-mail: oegari@oegari.at; www.oegari.at*

8th Symposium of European Society of Paediatric and Neonatal Intensive Care

Göteborg, Sweden. September 13–14, 2001
Information from: *Monica Johansson, PICU–Avd 328, The Queen Silvia Children's Hospital, S-41685 Göteborg, Sweden. Tel: + 46 313434746; Fax: +46 313435884; E-mail: monica.rn.johansson@vgregion.se*

6th Scientific Congress of the European Resuscitation Council

Florence, Italy. October 3–5, 2002
Information from: *Organising Secretariat, Noema Srl, Via Orefici, 4, 40124 Bologna, Italy. E-mail: noema@alinet.it*