

## Neonatal Intensive Care Unit in Malaysia: Staff Nurses' Positive Experiences

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### Abstract

**Background:** Stress can come in many forms and NICU is an environment where there may be many types of stress such as nursing a critically ill baby, increased workload, taking on other roles, coping with the death and dealing with parents.

**Purpose:** To explore and describe staff nurses' (SN) positive experiences while working in a Neonatal Intensive Care Unit (NICU) in one of Malaysia

**Method:** A qualitative interpretative approach using a convenience sample of four staff nurses; described using pseudonyms, from NICU in one Malaysian hospital participated in an interview conducted in English, followed by answering a semi-structured questionnaire in Malay. Responses were translated into English prior to thematic analysis using the method of Braun and Clarke [1].

**Results:** Two major themes emerged, learning opportunities; describes the new knowledge and skills staff nurses had developed, and feelings of satisfaction; describes sources contributing to staff nurses' satisfaction while working in NICU.

**Conclusions:** The findings revealed that staff nurses' positive experiences of gaining knowledge, developing new skills, opportunity to further study in post-basic courses and being appointed as a team leader upon their achievements.

**Keywords:** Positive experiences; Staff nurses; Neonatal intensive care unit; Job satisfaction

### Introduction

In Malaysia several thousand nurses graduate from various nursing institutions every year. These newly graduated nurses' work throughout the country to fulfil the requirements of care for patients in various general and specialised areas, including NICU without any neonatal post-basic course training. NICU is a highly specialised environment however, requiring nurses with additional expertise in neonatal nursing care, and in my own experience, the NICU environment is unique and differs from general nursing units. In Malaysia, therefore, these new graduates are expected to adapt and cope with working in a specialised area without additional education and under extremes of poor staffing and minimal resources. It is not surprising that retention of staff tends to be an on-going continuing problem in NICU.

This study focuses on staff nurses' experience of working in one Neonatal Intensive Care Unit (NICU) in Malaysia. The research question to be addressed is the staff nurses' experience of working in NICU particularly on the positive side of that contributed to job satisfaction. The study explores how the nurses experience their workplace and how this impacts on job satisfaction while giving care to ill infants. In western countries a numbers of studies have been done to explore nurses' experience of working and other issues related to job satisfaction [2-6] in different areas of the nursing workplace.

An extensive literature review had revealed that stress is a common condition experience by all working people including nurses from all specialty areas. Stress can result from various kinds of stressors; work overload, time pressure, little or no teamwork, poor relationships among all categories of staff in the workplace, lack of staff, and other internal factors which impacted on their job satisfaction [3,4,6,7]. Nevertheless, studies also revealed that nurses gain positive experiences long with the stress and dissatisfaction.

Nothing was found about Asian NICU nurses, or more specifically, Malaysian nurses' experiences of working in NICU. It was important to conduct this study to gain a beginning understanding of Malaysian

staff nurses' experiences working in NICU. However, this study merely focused on positive experiences rather than negative experiences.

As known from the literature, stress is identified as the negative aspects experienced by nurses working in NICU, however, the literature also revealed that in spite of negative experiences, nurses also gained positive experiences and enjoy working in NICU. Therefore, this study intentionally was to explore the positive aspects viewed by the staff nurses as their experience of working in NICU.

### Methodology

#### Design

A qualitative approach was chosen for this study because it is well suited for investigating the meanings, interpretations, social and cultural norms and perceptions that impact on health-related behaviour, medical practice and health outcomes [8]. Further, this study used an interpretative research approach, which is used to describe experiences and focuses on the ways in which human beings makes sense of their subjective reality and attach meaning to it [9]. The use of an interpretive descriptive method in this study allowed exploration of staff nurses' experiences they were working in the NICU, and to make sense of their experiences.

#### Sample and method

A convenience sample of four volunteered staff nurses that met selection criteria based on the length of time they were employed in

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NICU. The data were collected initially using recorded semi-structured interview, followed by semi-structured questionnaires in Malay language. The data then translated and transcribed into English, once translated and transcribed, the data Pseudonyms were used to protect the participants identity and for the purpose of confidentiality. Prior to the interviews, participants were asked to complete a one-page demographic background form designed to provide information about their age, marital status and nursing background (see Table 1) with a question about nursing education to determine the participants' neonatal nursing background. The period of time working in the NICU was asked so as to identify the extent of their neonatal intensive care experience.

### Data analysis

Data analysis in this qualitative study was undertaken thematically following the method of Braun and Clarke [1] which consists of six phases of analysis processes, from getting familiar with the data, generating initial codes, searching for themes, reviewing the themes, defining and naming themes, and producing the report. Thematic analysis was used to assist in finding meanings and insights from the participants. Analysing qualitative data is an active and interactive process by scrutinising the data carefully and deliberately [10]. The themes were then divided into several categories using a coding scheme. A theme is never universal; instead of discovering commonalities across participants, it also seeks the natural variation [10].

### Results

Two major themes describing the participant's positive experiences working in NICU: (1) learning opportunities, and (2) feelings of satisfaction. Within these two major themes are sub-themes that discuss the various types of experiences that relate to each main theme.

#### Theme 1: Learning opportunities

The data shows that the participants' learning consisted of acquiring multiple layers of new knowledge and skills while working in the NICU;

**Learning new conditions:** Staff nurses working in the NICU learnt a lot about diseases and certain conditions that affect neonates, how to nurse high-acuity neonates and they experienced nursing neonates for extended periods: sometimes from birth until discharge from hospital. Recalling what she had learnt in NICU Saleena said:

*...I gained a lot of new experiences especially in nursing care of the newborn. I have learnt to handle premature cases, low birth weight babies, ventilator machine and using it for the baby and other machines in the ward.*

Aleeya recalled the first time she worked in the NICU without any

neonatal nursing experience, she felt that she 'cannot give good nursing care to the babies'. As she learnt more about working in NICU however, Aleeya gained confidence. She recalled that:

*At first day, I feel scared to get near the sick babies especially the very tiny and very ill. I assumed that these babies will not able to receive best nursing care from me. I don't have any experience of nursing care a pre-term and newborn baby. But as time pass by, I start to catch up the routine work and I have learnt more from other NICU staff, and I'm very confident to give my best nursing care to the babies.*

As a result, Aleeya and Saleena were satisfied when they learnt new things such as how to handle critically ill neonates, operate machines, and provide good nursing care, and as a result, they gained confidence in their neonatal nursing care.

The most rewarding aspects of working in NICU were having the opportunity to learn how to care for a neonate over an extended period of time. For example, Munirah recalls that she: '...had a chance to take care of infants from the day they are born until their age of three months and experienced... nursing babies until they are totally recovered and fit for discharge home'. Furthermore, they also had the opportunity to nurse neonates re-ferred from other hospitals due to unusual or rare conditions, such as harlequin disease, which is a severe congenital skin disorder with a high mortality rate [11].

The staff nurses also had the opportunity to manage critically ill neonates who were admitted directly from the delivery room with complications during birth until the neonate had totally recovered. Zulaikha said that she:

*... had an experience of receiving and managing [a] neonate with meconium aspiration syndrome (MAS) and persistent pulmonary hypertension (PPHN )... during the admission [I] and NICU team work hard to manage the neonate until they are in stable condition, well recovered and allowed for discharge home.*

Although the staff nurses had learnt the principles of isolation nursing in their general nursing course or from adult experience, the NICU provided opportunities to learn how these principles should be applied to the care of critically ill neonates.

Furthermore, Saleena stated that she had gained experience providing and ensuring the safety of neonates while they were treated in the NICU. The most valuable experience, however, was when the staff nurses were providing therapeutic touch or infant massage to help the neonate gain weight, especially for pre-term and low birth weight babies. Interventions requiring human contact allowed the staff nurses the opportunities to learn more about communicating with critically ill, premature and technologically supported neonates.

Participants Background			
Participant (pseudonyms/ Age/ Marital status)	Nursing Education	Year of Graduation	Period of working in present NICU
Munirah, 32 years Single	1. Basic Nursing 2. Neonatal Nursing Post Basic	1. 1999 2. 2006	8 years
Aleeya 42 years Married	1. Basic Nursing 2. Midwifery Post Basic 3. Neonatal Nursing Post Basic	1. 1988 2. 1996 3. 1997	15 years
Saleena 40 years Singl	1. Basic Nursing 2. Neonatal Nursing Post Basic 3. Midwifery Post Basic	1. 1995 2. 1998 3. 2001	9 years
Zulaikha 49 years Married	1. Basic Nursing	1. 1984	5 years

Table 1: Background data.

**Learning new technology:** Technological supports such as ventilator machines and cardiac monitoring machines are commonly used in any intensive care units, including the NICU. These technologies – operated in the NICU by the doctors and nurses – are part of their routine work as it supports neonates during treatment in the NICU.

Staff nurses also had the opportunity to learn about the technology needed to support the neonates during treatment. As they engaged in the NICU environment, they had to keep up and learn the new technology because it has not been taught during basic nursing training. For example, Saleena mentioned that she had learnt 'how to handle critically ill babies and operate a ventilator machine' since working in the NICU. Munirah and Saleena had the opportunity to operate various types of machines such as a ventilator, infusion pump, cardiac monitor, and pulse oximeter while working in the NICU. According to Munirah, she had the opportunity to learn the proper techniques of setting up and maintain the TPN for the neonates.

The benefit of knowing how to use this technology is that it can be applied when receiving new cases within the NICU. This opportunity helped them to deliver improved nursing care to neonates as these technologies supported the neonates as they recovered from various conditions and diseases. Therefore, helps reduce the time taken to operate and set up the machines so that neonates receive immediate care thus increasing their chance of survival.

**Attending post-basic courses:** Post-basic courses, such as Neonatal Nursing, are offered to staff nurses who are interested in working in the NICU, or currently working in the NICU with no neonatal nursing qualification. There is a midwifery post-basic course, however, that is specifically for staff nurses who intend to work in a maternity unit or hospital; but staff nurses with this qualification are also eligible to work in the NICU because one of the main topics in the midwifery course is neonatal nursing. The opportunity to attend post-basic courses is important for staff nurses to improve their knowledge and skill in nursing neonates in NICU.

Working as a staff nurse in the NICU gave these nurses the opportunities to upgrade their education level in neonatology by attending neonatal or midwifery post-basic courses. The knowledge gained from those courses supported them in learning about the new conditions and diseases in the NICU. Three of the staff nurses in the study have qualifications in both neonatal and midwifery post-basic courses. Zulaikha said she felt very lucky because after one year working in the NICU, she had the chance to attend a neonatal post-basic course for one year, and after completing five years working in the NICU following the neonatal course she was given the chance to undertake a midwifery post-basic one-year course.

Since these two courses comprised a neonatal nursing topic, attending either the neonatal or midwifery post-basic course made staff nurses aware of rationales for nursing a neonate and allowed them to deliver high quality nursing care. Post-basic study also provided opportunities for greater achievement and for staff nurses to develop their nursing careers further, especially in the NICU. Additional skills the nurses learnt included organising their time and managing routine work in the NICU, especially for the staff nurses without any neonatal experience.

This theme explains the new knowledge and skills staff nurses have experienced since their first day working in the NICU. Three sub-themes describe learning about the new conditions affecting neonates, how to nurse high-acuity neonates, and they experienced nursing neonates for extended periods: sometimes from birth until discharge

from hospital, difficulties and the willingness to learn and take on the challenge for example operating machines, care the conjoint twins and Harlequin disease with high mortality rate. The staff nurses also experience of learning new technology used in NICU, attending post-basic courses in neonatal nursing or midwifery. These opportunities contributed to sources of satisfaction from working in NICU.

## Theme 2: Feelings of satisfaction

In addition to the learning opportunities presented to staff nurses working in NICU, participants' feelings of satisfaction came primarily from;

**Relationships:** There are different types of nursing and medical staff working in the NICU, such as staff nurses, sister-in-charge, medical officers, consultant neonatologist, as well as laboratory technicians. Therefore an important source of satisfaction from working NICU involved relationships with co-workers, which could become more valuable when the staff nurses were involved in team work. Relationships with parents and seeing positive outcomes for the neonates in their care were other aspects that contributed to feelings of satisfaction.

**Relationships with co-workers:** All staff nurses claimed that they had a good relationship with other co-workers. The nature of this NICU environment meant that these nurses often worked in teams. Working in a team made their professional relationships closer and more supportive. The less experienced nurses for example, were grateful when senior staff nurses helped them with the NICU routines and when they did not have enough experience nursing the neonates. Moreover, the team leader and senior staff nurses taught the newer nurses how to organise their work in the NICU, even when they were busy with their own work commitments. For example, Zulaikha said she, '... received a lot of help from the senior staff nurses the first time she work[ed] in the NICU'. Furthermore, she felt that the work environment of the NICU was good even though it is quite busy, and because of good teamwork she enjoyed working there.

Munirah also commented that she had a good relationship with other co-workers in the NICU, such as staff nurses, doctors, the pharmacist, dietician and technicians. Although Munirah admitted that she sometimes experienced misunderstandings with other co-workers, these instances were settled in a constructive way without any hard feelings.

Teamwork involves working collaboratively rather than individually, and can be applied to any work environment, including the NICU. Good teamwork can reflect the positive relationships among co-workers and assist in the smooth flow of work. Teamwork helped NICU staff act immediately to care for newly-admitted, unstable, and critically ill neonates. In the NICU, teamwork occurred between staff nurses and doctors, other staff nurses, laboratory technicians, and with the babies' parents.

Zulaikha recalled critically ill babies being admitted to the NICU with meconium aspiration syndrome and persistent pulmonary hypertension. Zulaikha, with other staff nurses and the doctor, worked together to manage these babies from a critical condition until they were in a stable state. For Zulaikha and other staff in the NICU team, satisfaction was obtained from working well as a team and seeing these neonates discharged from the intensive unit to the semi-intensive unit within two to three days. Quick intervention and working as part of a team within the NICU contributed to early recovery of neonates, as well as job satisfaction. As a result, Zulaikha felt that NICU environment was a pleasurable place in which to work.

While Aleeya indicated that good relationships among staff made the NICU environment 'harmonious' it was important to ensure that all the staff were productive and able to deliver effective and high quality care to the neonates. In spite of the significant responsibilities within the NICU environment, a positive work environment could lead to good work flows and reduce work tension.

**Relationships with parents:** As NICU is an admitting ward for neonates, staff nurses must communicate with parents when providing nursing care to vulnerable neonates. Staff nurses' relationships are, therefore, not only with co-workers, but also with the parents. In this NICU, the only family members allowed to visit neonates were the mother and father, and parents' involvement in their baby's nursing care - while in the NICU - is welcome. Parents were informed by the staff nurses at their first visit to the NICU that they were allowed to be involved in their baby's nursing care, but only at a certain level, such as changing napkins, infant massage, or breast feeding.

The data shows that all the participants found satisfaction regarding their relationships with parents. Both Munirah and Aleeya noticed that parents wanted more involvement in their child's care and found communication with them to be a source of satisfaction. According to Munirah, parents were curious and wanted to know their baby's progress, which was a natural demonstration of concern about their baby's condition. Munirah said, 'Nowadays, parents are well educated and know what management and treatment their babies receive in NICU ...' According to Aleeya, one of her tasks as a staff nurse was to provide adequate information to parents regarding their baby's condition or progress, and to explain how parents can be involved in nursing care of their baby in the NICU. The staff nurses were also responsible for teaching parents proper hand washing before and after touching their baby, to prevent infection. Indirectly, this type of communication built good rapport between parents and the staff nurses.

On some occasions, however, Munirah felt that their curiosity could be annoying to the staff nurses, especially when parents kept asking questions at unsuitable times when the staff nurses were busy. Staff nurses were required to attend to the parents' needs, but as a result their routines were interrupted. Munirah recalled that:

*... the parents are very fussy and very demanding to know the progress of their babies. It is good, and shows that they concerned about their babies ... the parents are very annoying on and off asking about their babies, especially when we are in busy with our work.*

Good relationships with parents can contribute to collaboration and improve nursing care for the neonates. The participants felt that parents should, however, be made aware as to the limitation of their involvement and avoid distracting NICU staff, especially during busy times.

**Positive outcomes for neonates:** NICU is known as a place for ill neonates, especially those born prematurely. Full-term neonates with complex diseases or conditions are also admitted in the NICU. Survival rates for the neonates are unpredictable, and dependent on many variables: the age of gestation, level of complications, and on the presence of diseases or congenital conditions. Furthermore, external factors such as medical intervention or infection acquired during treatment may also affect survival of neonates. Therefore, survival of a critically ill neonate is a positive outcome for both parents and staff nurses. As Aleeya recalled: '... it is very satisfying [for] me to see the parent's face is cheerful and happy during their visit to NICU, especially at the time when the doctor said that their baby can be discharge[d] home.'

Three participants; Munirah, Zulaikha, and Aleeya, specifically expressed their satisfaction that neonates under their care had recovered and discharged home after staying for a long period in the NICU. Munirah felt: '... proud and happy when the ill baby under my care gets well and discharge home from NICU.' Zulaikha enjoyed the continuity of the neonatal nursing experience, and as she recalled: 'Delivering care to babies and their families in NICU is a terrific experience for me. Began from the day of baby admitted to NICU ... [to]... the day the baby is allowed to discharge home.' Aleeya also felt satisfied when there were positive outcomes for the neonates in her care:

*I feel happy and satisfaction working in this NICU and taking care of sick babies from their first day admitted with severe health condition[s], until they discharge home with better recovery. I feel much happy when the babies discharge home with no other medical complication that effect their growth and development.*

For these three participants, seeing neonates under their care recover and discharge home well and without any complications was a satisfying and terrific moment to experience.

**Personal achievement and professional development:** Both personal achievement and professional development were sources of satisfaction for the staff nurses, which enhanced their ability and confidence in nursing neonates in the NICU. These are important aspects of job satisfaction because they demonstrate what knowledge and skills can be gained while working in the NICU and provide ways for career advancement. Almost all the staff nurses who participated in this study expressed feelings of satisfaction about their personal achievements and professional or career development while working in the NICU.

An important aspect of achievement in the NICU environment was being recognised for gaining good results or for organisational and management skills. When Aleeya received a high result (a distinction) for a neonatal post-basic course examination, she was then appointed by the NICU sister-in-charge as a team leader. This additional management responsibility gave her a sense of personal achievement and helped her feel more confident in performing at her best and delivering quality nursing care.

Opportunities for professional development in NICU were provided through attending weekly Continuous Nursing Education (CNE). These staff development sessions provided the nurses with information and resources relevant to their work in the NICU. They included the focus of nursing care; for example, how to improve nursing care, or a discussion of particular cases that included a nursing care error; and introduction and demonstration sessions regarding new machines in the NICU. Beside CNE sessions, there were monthly staff meetings to discuss any issues or problems faced during work. Through CNE the staff nurses continuously developed and up-dated their knowledge, practice, and management skills.

## Discussions

This study has described the rich experiences of staff nurses working in the NICU which are explored using a framework (see table 2) of positive experiences that benefits staff nurses working in NICU. In particular, learning opportunities and feeling satisfaction contributed to their job satisfaction while working in NICU.

## Positive experiences

The main themes describing positive experiences that brought benefits for nurses were learning opportunities and feelings of

Beneficial for staff nurses	<ol style="list-style-type: none"><li>1. Gaining knowledge and developing new skills</li><li>2. Teamwork<ul style="list-style-type: none"><li>• Interpersonal relationships</li><li>• Family centred care</li></ul></li><li>3. Job satisfaction<ul style="list-style-type: none"><li>• Survival of neonates</li></ul></li></ol>
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**Table 2:** Framework of summary of positive experiences.

satisfaction. Staff nurses participating in this study appreciated a number of factors leading to their positive experiences including:

**Gaining knowledge and developing new skills:** Learning was the most valuable experience, having the opportunity to develop new skills and increase their knowledge. All the participants clearly expressed their gratitude to learn about neonatal conditions and diseases, technologies, and opportunities to attend post-basic courses. Specialisation and knowledge of technical and intervention skills was important and a major contributor to job satisfaction [12]. With this knowledge staff nurses were aware of the rationale for nursing neonates and this helped them in developing skills and confidence. The value of gaining knowledge and developing new skills is consistent with Barriball, et al. [13] who affirmed that continuing professional education among unqualified nurses helps in maintaining and improving professional standards throughout each qualified nurse's career.

**Teamwork:** Working together in a busy ward environment such as NICU helped the staff nurses reduce tension and increase ability to complete nursing tasks maximally during a shift. Similar to findings by Archibald (2006), teamwork among nurses is one of the main findings that contribute to nurses' job satisfaction. Teamwork helps the staff nurses enjoy working in the NICU, even though the environment is very busy and stressful. The findings of this study agree with research by Archibald [6] and Hopkinson et al. [7] who found that good relationships with other co-workers can create a positive work environment and alleviate stress while working in the NICU. Hopkinson et al. [7] also affirmed that good relationships contributed to the relief of stress in the workplace.

**Job satisfaction:** Staff nurses in this study confirmed that their positive experiences in NICU came from job satisfaction, which included having good relationships with co-workers and positive interactions with parents, as well as the survival of neonates under their care. Ernst et al. [14], in their research, found that job satisfaction was derived from satisfaction with relationships among nurses, the wage, having self-confidence, and opportunities to nurse critically ill patients. Having adequate support from supervisors, rewards and having control over their work were the strongest contributing factors for nurses' job satisfaction [15]. Furthermore, positive outcomes for neonates were a source of job satisfaction because the nurses were such important contributors to the neonates' survival. Beal [16] found that nurses helped to reassure parents that their baby was progressing well from the day the baby was admitted until the day the baby recovered and was allowed to go home. Parents admitted that nurses play a large role in the neonates' survival and recovery [16]. These three factors provided benefits for staff nurses to improve their ability and confidence in nursing critically ill neonates.

## Conclusions

Overall, the NICU provided opportunities to learn about neonatal conditions and the technologies used to treat neonates. The staff nurses

in this study gained lots of experiences while working in the NICU, including knowledge and skills in nursing critically ill patients, some of whom had unusual medical conditions. Learning experiences became more complex as the staff nurses also had to learn the new technologies used in the NICU. After they had worked in the NICU for a year or more, they were given opportunities to further their education by attending post-basic courses such as neonatal nursing and midwifery. They reported feelings of satisfaction with teamwork, having good relationships with co-workers and interaction with parents, and when there were positive outcomes for neonates. Participants had a great boost in their career by attending post-basic courses and were more likely to be appointed as team leader in the NICU when they gained good results in post-basic courses or showed ability.

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