The nursing role in postoperative care of neonates

A qualitative literature review

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Summary

The aim of the study is to define the nurse's role in the postoperative care of neonatal patients. This should include not only the care of the patient themselves but also the encouragement and support of the parents.

1. What is the nurse's role in post-operative care of neonates?
2. How can the nurse encourage and support the parents?

The method used for the study is a qualitative literature review.

The analysis of the articles reviewed supported the importance of encouragement and support of parents by nurses. They brought forward that the main nursing role in post-operative care of neonates is pain assessment and management.

It is the duty of the nurse to prevent suffering and neglect. The neonate cannot be their own advocate as they cannot communicate that they are in pain. Therefore, the nurse has the responsibility to assess pain and manage it by reducing the frequency of painful procedures and use of both pharmacological and non-pharmacological pain management.

Parents had positive experiences within the NICU when emotional support was shown by nurses listening, comforting, encouraging interaction with the neonate, and giving information both verbally and written.

Language: English Key words: Nursing role, parental, care, neonate, support, surgery, caring, post-operative, communication, nurse, parents, guidelines

EXAMENSARBETE

Författare: Daniella Maher

Utbildningsprogram och ort: Sjukskötare, Vasa

Handledare: Anita Ståhl-Levón

Titel: Sjukskötarens roll inom den post-operativa vården av neonatala. En kvalitativ literatur studie.

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Abstrakt

Syftet med studien är att definiera sjukskötarens roll inom postoperativa vården av neonatala patienter. Detta bör inte enbart omfatta vård av patienten utan även uppmuntran och stöd för föräldrarna.

1. Vilken är sjukskötarens roll inom post-operativa vården av neonatala?
2. Hur kan sjukskötaren uppmuntra och stöda föräldrarna?

Som forskningsmetod används en kvalitativ litteraturstudie.

Analysen av de granskade artiklarna stödde vikten av uppmuntran och stöd för föräldrarna av sjuksköterskor. De framhöll att den huvudsakliga omvårdnadsrollen i postoperativ vård av nyfödda är smärtbedömning och smärtbehandling.

Sjuksköterskans plikt är att förhindra lidande och försummelse. De nyfödda kan inte vara sina egna förespråkare eftersom de inte kan kommunicera att de har ont. Därför har sjuksköterskan ansvaret att bedöma smärtan och hantera den genom att minska frekvensen av smärtsamma förfaranden, detta kan göras genom både farmakologisk och icke-farmakologisk smärtlindring.

Föräldrar hade positiva erfarenheter av intensivvården av nyfödda när emotionellt stöd visades av sjuksköterskor som lyssnade, tröstade, uppmuntrade föräldrarna till interaktion med den nyfödda och gav information både muntligt och skriftligt.

Språk: Engelska Nyckelord: Sjukskötarens roll, föräldrar, vård, nyfödd, stöd, operation, vårdande, post-operativt, kommunikation, sjukskötare, riktlinjer.

OPINNÄYTETYÖ

Tekijä: Daniella Maher

Koulutusohjelma ja paikkakunta: Sairaanhoitaja, Vaasa

Ohjaaja: Anita Ståhl-Levón

Nimike: Sairaanhoitajan merkitys vastasyntyneiden postoperatiivisessa hoidossa. Kvalitatiivinen kirjallisuustutkimus.

Päivämäärä 1.6.2017 Sivumäärä 19 Liitteet 5

Tiivistelmä

Tutkimuksen tavoitteena on määritellä sairaanhoitajan rooli vastasyntyneiden potilaiden postoperatiivisessa hoidossa. Rooliin tulisi sisältyä potilaan hoidon lisäksi myös vanhempien rohkaiseminen ja tukeminen.

1. Mikä on hoitajan rooli vastasyntyneiden postoperatiivisessa hoidossa?

2. Miten sairaanhoitaja voi rohkaista ja tukea vanhempia?

Käytetty tutkimusmenetelmä on kvalitatiivinen kirjallisuuskatsaus.

Tarkastetut artikkelit painoittivat vanhempien rohkaisemisen ja tukemisen tärkeyttä sairaanhoitajien keskuudessa. Artikkelit tuovat esille, että vastasyntyneiden postoperatiivisessa hoitotyössä hoitajan tärkein tehtävä on kipuarviointi ja -hoito.

Sairaanhoitaja on velvollinen estämään kärsimystä ja laiminlyöntiä. Vastasyntynyt ei voi ajaa omaa asiaansa, sillä tämä ei osaa ilmaista tuntevansa kipua. Tämän takia sairaanhoitaja on vastuussa kivun arvioinnista ja hallitsemisesta vähentämällä kivuliaiden toimenpiteiden tiheyttä sekä hallitsemalla sekä farmakologisen että ei-farmakologisen kipulääkityksen käyttöä.

Vanhemmilla oli myönteisiä kokemuksia vastasyntyneiden tehohoidosta, kun sairaanhoitajat osoittivat henkistä tukea kuuntelemalla, lohduttamalla, kehottamalla vuorovaikutukseen lapsen kanssa ja tiedoittamalla sekä suullisesti että kirjallisesti.

Kieli: Englanti Avainsanat: Sairaanhoitajan rooli, vanhemmat, hoito, vastasyntynyt, postoperatiivinen, kommunikaatio, sairaanhoitaja, ohje

Contents

1. Introduction

Neonatal care requires teamwork within the multi-professional health care team. The respondent's interest in the topic has developed from an early age and from enthusiasm for childcare and babies. My little twin sisters were born pre-term and were kept in the hospital for some time for observation and for some extra time to grow and develop. One of my sisters also had a premature baby who spent 5 weeks in neonatal care in England. The lack of courses in Novia discussing this topic also raised a greater interest and desire to learn more about it. (Novia, 2016). Also an interest to work in either neonatal, paediatric or operative care in the future made me think this was a great opportunity to gain some more insight into the different areas.

The aim of the study is to define the nurse's role in the postoperative care of neonatal patients. This should include not only the care of the patient themselves but also the encouragement and support of the parents. The study intends to throw light on the importance of communication and involvement of the parents in the post-operative care of neonates.

According to Oxford (2008, p.332) a neonate is an infant which is no older than 28 days. The term neonate is specifically used for those infants who are just born or are in the first week of their life. Neonatal refers to a newly born infant, specifically the first 4 weeks after birth. The same definition can also be found in Duodecim (2007, p.782) meaning that the term neonate has the same meaning in Scandinavia as it does in America and the United Kingdom.

Post-operative care is the care given to the patient after an operation and before being discharged from the hospital. There can also be post-operative guidelines given for the recovery time at home.

Approximately 15% of infants that need hospital care have a surgical diagnosis and many more develop surgical problems during their hospital stay. These patients are closely monitored and are taken care of by a multi-professional team containing nurses, physicians, and surgical specialists. (UCSF Children's hospital, 2004).

This means that there are a lot of parents who experience a huge range of emotions including; fear, sadness, anxiety, guilt (feeling that they may have done something wrong during the pregnancy), uncertainty, and hopelessness. Therefore, it is very important as a nurse, or as

part of the health care team to be careful of what you say in the presence of the parents, the smallest comment could cause greater anxiety or make them feel better about the situation. (Lagercrantz, 1981. p136).

According to a study done on 196 parents with infants in neonatal wards, parents felt that there was a lack of communication and information about the procedures being done and the post op pain management. Only 4% of parents received written information whereas 58% had received verbal information. Therefore, many parents reported that they weren't shown the signs of infant pain, this in turn caused worry about pain management. Communication with the parents is very important. The study showed that parents would have liked a greater involvement and information on their infant's pain care. The concern about pain management may increase stress for the parents. (Mann & Carr, 2006, p.65).

The most common surgical conditions in these patients are; oesophageal atresia, intestinal obstruction and gastroschisis. (UCSF Children's hospital, 2004). Intestinal obstructions can occur in many forms and in different locations of the intestines. Common obstructional conditions are Hirschsprung's disease, also known as mega colon, meconium ileus accounts for almost one-third of obstructions in the small intestine, midgut malrotation/volvulus and necrotising enterocolitis. Another common surgical condition is congenital diaphragmatic hernias. (Hansen & Puder, 2009).

2. Aim and Problem Definition

The aim of the study is to define the nurse's role in the postoperative care of neonatal patients. This should include not only the care of the patient themselves but also the encouragement and support of the parents. The study intends to throw light on the importance of communication and involvement of the parents in the post-operative care of neonates.

The research questions for this study are:

1. What is the nurse's role in post-operative care of neonates?
2. How can the nurse encourage and support the parents?

3. Theoretical Background

If we go back to the very beginning, we find that in 460 BC. Hippokrates clarified that no infant born before 7 months of pregnancy could survive. (Saugstad, 1999, 20).

The very first nursing school was opened in 1860 in London by Florence Nightingale, since then the nursing profession has developed into various different specialities. Neonatal nursing was a relatively new speciality in comparison to general nursing or midwifery. (Nursing School, 2016).

3.1. History

At the turn of the 19th century almost 20% of infants were dying before their first birthday in American cities. The industrialisation in the 19th century saw a rise in employment of women in factories which led to a decrease in breast feeding and an increase in child abandonment. This resulted in the highest recorded infant mortality – 230 per 1000 births in 1870. Numerous infants died immediately after birth from respiratory distress, and others died in the first few weeks of life from infections, hypothermia, or weight loss. This led to paediatricians increased interest in improving the health of, and preventing the death of neonates by emphasizing the importance of adequate nutrition and prevention of infection. The U.S. birth registry from 1915 shows a significant decrease of neonatal mortality rate to 99.6 per 1000 births. There have been dramatic improvements in all areas of neonatal care since 1900, especially in the last 50 years. (Jorgensen, 2010).

3.1.1. Neonatal Hospital

The development of neonatal medication and hospitals in France and Germany came about after the war in 1870. In 1880, there were twice as many infants born in Germany than there were in France. There was a French physician who pointed out the severity of this, by stressing the fact that Germany could gather twice as many soldiers as France in the next 40 years if things didn't change. This was the reason for the modernisation of neonatal medicine. Neonatal medicine was developed due to political and economic needs. (Saugstad, 1999, 20). Although, according to Jorgensen (2010) the first neonatal hospitals were

established in the beginning of the 20th century in America, these were at fairs, amusement parks and exhibitions.

3.1.2. Incubator

The first incubator for an infant was invented by Stephane Tarnier in 1878. The idea came from the word “couveuse”, which is French for an egg hatching machine. The incubator was made using the same principle. The first incubator was taken into use in Paris in 1880 by Tarnier’s co-worker Pierre Budin. He became known and was considered to be the founder of modern neonatal medicine. He pointed out that infants born too soon, had three main issues 1) little temperature control, 2) feeding problems and 3) increased risk for disease and infection.

Tarnier’s incubator had an alarm which would ring if the temperature of the infant got too high. Infants who had problems feeding were spoon fed breastmilk, either from the infant’s mother or from a wet nurse. Budin isolated sick infants from healthy ones and was very strict on sterility to avoid spreading infections. Budin was also aware of the importance of the infant and mother getting to bond and build a relationship. He encouraged the mothers to help take care of the infant in hospital and later had glass walls made for the incubators so that the mother could see the infant and vice versa.

Budin took on a German student named Couney, who later become known as the father of neonatology due to the fact that he got permission to borrow six premature babies from a hospital in Berlin to exhibit worldwide in incubators. The exhibition was a huge success and Couney went on to arrange a permanent exhibition of the incubation infants at an amusement park in New York. He took care of about 5000 premature infants in the years between 1901-1940. (Saugstad, 1999, 21).

3.1.3. Neonatal Intensive Care Unit

According to Jorgenson the number of hospital births increased from fewer than 5% in 1900 to greater than 50% in 1921, because of this hospital nurseries began appearing, and pediatricians assumed a greater role in neonatal care. The care of neonates entered the academic setting through Julius Hess’s work, who was Chief of Pediatrics at Michael Reese

Hospital in Chicago. In 1922, the Sarah Morris Premature Center was founded; it was the first unit solely for premature infants. Julius Hess's textbook "Premature and Congenitally Diseased Infants," was the first book devoted to new-borns. He developed the Hess Incubator, and became the leading American expert on prematurity. The Sarah Morris Hospital at Michael Reese Hospital promoted advances in aseptic techniques, neonatal transport service, and nasal feeding. By the year 1948, both the American Academy of Pediatrics and World Health Organization uniformly defined prematurity as infants with a birth weight less than 2,500 grams. (Jorgensen, 2010).

On August 7, 1963, Patrick Bouvier Kennedy, the third child of President John F. Kennedy was given birth to by First Lady Jacqueline Bouvier Kennedy. He was born at 34 1/2 weeks with a birth weight of 2,112 grams, because of progressive respiratory distress, Patrick was transferred to Boston Children's Hospital, where he was put in a hyperbaric oxygen chamber, and died 39 hours after birth due to hyaline membrane disease. More than any other single event, the death of this Patrick served to ignite public and medical awareness for the need of neonatal intensive care and soon led to the establishment of NICUs around the country. Just two years later, in 1965, the first American newborn intensive care unit (NICU) was opened at Yale Hospital in New Haven, Connecticut. However, according to Boxwell (2010, 41) the first neonatal intensive care unit was opened was in the United Kingdom in 1930. Premature care became increasingly centralized in regional NICUs, with dramatic improvements in survival. (Jorgensen, 2010.)

3.2. Role of a neonatal nurse

Neonatal Intensive Care Nurses will take care of premature and critically ill newborns in the neonatal intensive care unit (NICU) of a hospital. These babies are born needing immediate medical attention, so neonatal nurses will connect them to technology that helps them breathe and which will allow them to be fed intravenously, so they will be able to gain weight. (Johnson & Johnson, 2016).

As a Neonatal Intensive Care Nurse, you'll work under the direction of a physician, and will be caring for the new-born, and help to educate their new mothers about their infant's condition, breastfeeding, and answering their questions. Also as a neonatal nurse you will have daily tasks of, comforting the distressed new-borns, changing diapers, monitoring the

infant's condition, and administering medicines, as well as documenting progress and recovery. (Johnson & Johnson, 2016).

A neonatal nurse will work in a Level I, II, or III nursery. A Level I is usually a healthy newborn nursery—largely non-existent now because mothers and babies have a very short hospital stay these days and often share the same room. (Nurses for a healthier tomorrow).

Level II is intermediate care or special care nursery where the infant is born prematurely or could be suffering from an illness, these babies may need supplemental oxygen, intravenous therapy, specialised feedings, or more time to mature before discharge from the hospital. (Nurses for a healthier tomorrow).

The Level III (NICU) neonatal intensive care unit admits all neonates during the first 28 days of life who cannot be treated in either of the other two nursery levels. These babies may be small for their age, premature or sick term infants who require high technology care, such as ventilators, special equipment or incubators, or surgery. These Level III units may be in a large general hospital or part of a children's hospital. Neonatal nurses provide the direct patient care to these infants. (Nurses for a healthier tomorrow). We will be looking mainly at the level III nursery care for babies who need post-operative care and the nurse's role in this care.

3.3. Surgery

When a neonate needs surgery within the first 28 days of life, it is usually a serious condition, although saying that most surgical emergencies are "urgencies" rather than "emergencies". They can usually wait 24-48 hours before the surgery is performed, this allows time for the neonate to be stabilised. A physician will not recommend an operation if it is not necessary for a child so young. The most common reasons for surgery to be performed on a neonate include but are not limited to; Congenital diaphragmatic hernia, tracheoesophageal fistula, cardiac abnormalities, gastroschisis, intestinal obstruction, meningomyelocele, necrotising enterocolitis, hernia, abdominal masses, and duodenal atresia. (Jacob, Raj, Saravanan & Jayasudha, 2008, 60).

3.4. Post-operative care

The nurse's role in post-operative care of a new-born is to ensure continuous monitoring is maintained and the following are recorded hourly, respiratory rate, blood pressure, pulse, saturation, skin and body temperature. (Charge Nurse – Newborn, 2016).

The nurse will also have to carry out a variety of different tasks while the infant is in post-operative care such as measuring temperature every 4 hours, maintaining ventilation as per orders, administer IV fluids as prescribed. Nurses also observe the infant's wounds for signs of bleeding or infection and report excessive bleeding. They administer antibiotics and ensure pain relief is administered as prescribed by the physician. The nurse will also act as an informant to the parents and will explain all procedures and treatments in an understandable way. The nurse will try and minimize stress for the family, by making sure parents are kept informed of their infant's condition and progress. Also arrange for the parents to speak with the surgeon/physician. (Charge Nurse – Newborn, 2016). See Appendix.1 table of guidelines for post-operative care. (Kuschel, Beca & Morreau, 2004).

3.5. Parents experiences of neonatal surgery

As humans, every parent can react differently and use different coping mechanisms when faced with a difficult situation, such as your new born infant needing surgery. Parents can go through a whole range of emotions when faced with the fact that their infant needs surgery. It will be an emotional rollercoaster, from the shock of diagnosis to the worry for their infant's health and recovery from the surgery. Some parents said that the first few days were the worst, due to the uncertainty of the whole situation and that there were some days it was difficult to keep going unsure of when they would get to go home and start getting to know their infant. One couple commented on how difficult it was to see negative outcomes of other patients on the NICU, and that it made them more worried about their own daughter. It also made them realise that they had no choice but to try and stay strong, although saying that there were days when they just broke down. (University of Oxford, 2014).

Another mother developed post-traumatic stress after her son had a set back after his surgery, she had been strong for weeks but one day she was overwhelmed by her emotions and fell apart. She received therapy once her son was well enough to go home. Many others said that they managed due to adrenalin kicking in and just staying positive and hopeful through it

all, some were surprised at their ability to cope when in normal day life they were considered to be worriers. (University of Oxford, 2014).

Many parents revealed that they wanted as many details as possible about the diagnosis, surgery, and post-operative care to feel in control of the situation, some parents wanting to spend all their time by the infant, gathering information from the nurses and physicians to feel comfort and less helpless. (University of Oxford, 2014).

There were also some parents who felt that thinking about the worst-case scenario was the only way to cope. Others went into complete denial and blocked out what was happening, even leaving the hospital for the duration of the surgery. It appears this reaction/coping mechanism is more common among the male parents, they shut down and bottled up their feelings, trying to stay strong, especially in front of their partners. (University of Oxford, 2014).

Parents who coped differently with the worry for instance if one was positive and the other was negative, or if one was emotional and the other was practical the couple found that it was a good way to support each other through the ordeal. It created a balance between them, where the practical one could remind the other to go eat or walk around for a while instead of staying put by the cot during the surgery. (University of Oxford, 2014).

3.6. Breast Feeding

Years ago, it was the norm for parents to be seen as potential carriers of infection and were therefore seen as a risk to the new-born, which was not without reason as antibiotics were not what they are today. Often parents were not able to come in contact with their infant until the day of discharge from the hospital, they often only saw their infant through a window in another room. Advances in the use of antibiotics and aseptic technique, allowed for skin to skin contact between the infant and the mother through breastfeeding. Recent research would suggest that the importance of this contact has a positive effect for both infant and mother. Especially with consideration of breastfeeding, the mother will begin to produce milk better when the infant is suckling the breast. (Boxwell, 2010, 41).

4. Theoretical Framework

Jean Watson's theory of caring has been chosen for the purpose of this study. Her theory throws light on the importance of the humanistic aspect of nursing as it intertwines scientific knowledge and nursing practice. Watson states that caring is centre to the nursing practice, and she believes in a holistic approach to health care. The nursing model states that caring for patients promotes growth, the caring environment accepts a person for who they are, but also looks to what they may become. (Wayne, 2016).

Watson uses the term carative instead of curative to help differentiate between nursing and medicine. The carative factors are factors used by the nurse in the delivery of care to the patient to improve the caring process, encouragement for the patient to attain/maintain health. Meanwhile, curative factors aim to cure the patient of disease, less holistic more medical. (Watson, 1985, 7).

Watson makes 7 assumptions in her model; (1) Caring can be effectively demonstrated and practiced only interpersonally. (2) Caring consists of carative factors that result in the satisfaction of certain human needs. (3) Effective caring promotes health and individual or family growth. (4) Caring responses accept the patient as he or she is now, as well as what he or she may become. (5) A caring environment is one that offers the development of potential while allowing the patient to choose the best action for him or herself at a given point in time. (6) A science of caring is complementary to the science of curing. (7) The practice of caring is central to nursing. (Watson, 1985, 8-9).

Watson then devised ten carative factors which need to be addressed by nurses with the patient when in a caring role. As Watson's ideas evolved she made the original carative factors into clinical caritas factors. See appendix 2. (Wayne, 2016).

For the purpose of this study the respondent chose to look more closely at the carative factors that may be applicable for the interpretation of the results. The factors the respondent found most suited to the topic were; the cultivation of sensitivity to one's self and to others, developing a helping-trust relationship, promotion and acceptance of the expression of positive and negative feelings and the promotion of interpersonal teaching-learning. (Watson, 1985, 9-10).

Watson claims that the only way to become sensitive to someone else's feelings is to become aware of and recognise one's own feelings, not only that but one should also feel those feelings, whatever they may be, painful or happy. A sensitive nurse is more authentic than a

nurse who is unable to show emotion, a nurse who can recognise their own feelings is more capable of showing empathy towards others. This is important in the development of the nurse-patient relationship. (Watson, 1985, 16-19).

One of the strongest tools a nurse has is communication, therefore it is vital to establish a helping-trust relationship with the patient. It is important to remember that communication includes verbal, nonverbal and listening. According to Watson a patient who feels heard, seen and really cared for by the nurse is more likely to establish trust and hope in the nursing care and therefore feel more comfortable to open up and disclose sensitive matters to the nurse. (Watson, 1985, 23-25).

Emotions have a big role in how people behave. The expression of both positive and negative feelings is important and they need to be considered and allowed for in the carative relationship. Feelings can alter thoughts and being aware of that help the understanding of why a person may behave in a certain way. An inconsistency between thoughts and feelings can cause stress, anxiety and confusion, this can in turn influence a person's understanding or attitude, which can in turn affect behaviour. (Watson, 1985, 41-43).

Often nurses have the teaching role, naturally this occurs when they need to give information and instructions to patients, but Watson brings forward the importance of learning. The nurse should focus equally on learning as on teaching, this will allow for the understanding of what the patient's perception of the situation is and it will help the nurse to prepare a cognitive plan. (Watson, 1985, 69).

5. Methodology

The respondent has chosen to do a systematic literature review and a deductive content analysis for the purpose of this thesis. In this chapter, the respondent has identified to the readers how the data was collected and analysed. The methodology process needs to be systematic and structured.

5.1. Qualitative systematic literature review

A qualitative research method is using a non-statistical method of analysis to analyse the subjective human experience. According to Broomfield (2015) this allows for the exploration of the complex human being's experiences with an association of naturalistic

inquiry. This method suits nursing related studies or researches that focus on patients and health care professional's experiences.

A qualitative literature study is a flexible way to collect and analyse data. It is a scientific research method that follows a set of steps to answer the research questions. The researcher aims to find a new perspective of knowledge based on previous studies (Polit & Beck, 2010). The aim is to identify, collect and summarise data from empirical studies that are already done in a specific area. The systematic review should have a clearly formulated aim with research questions, it should also use clear inclusion and exclusion criteria to determine the material used for the study.

5.2. Ethical consideration

There are three basic ethical principles in human research according to The Belmont Report (1974). These include respect for persons, beneficence and justice. Individuals should be autonomous, i.e. they should receive full disclosure of the nature of the study, the risks and the benefits and they should be given the opportunity to ask questions. Beneficence means that the benefits should be greater than any possible risks. Equitable selection of participants and fairness in distribution is justice in the study.

Due to the method of this study there are none of these ethical dilemmas but instead it is important to make sure to use literature in the correct way and not change the information in such a way to make it untrue. The respondent should not misconduct the research. The respondent strives for accuracy, caring and honesty throughout the entire study. This includes fabrication, falsification, and plagiarism in proposing or reviewing research or reporting research results. Misrepresentation is wrong in scientific research and in order to claim authorship a significant intellectual contribution is required. (Jackson, 2007).

The respondent has strived to be careful, considerate, and honest throughout the entire process and duration of the study. Being mindful not to misinterpret or misrepresent the information gathered and analysed. The importance of honesty and accuracy has been at the forefront of the respondent's mind while writing each chapter of the study, especially in the referencing of all materials used.

5.3. Reliability and Validity

The reliability of a study can be determined by the accuracy and consistency of the data collected for the research. (Polit & Beck, 2010). However, this can be slightly different in a qualitative study due to the personal aspect which is just that, personal, everyone experiences and reacts differently to fear, stress and pain. Although this is true the validity of the data found for the use of this study has been consistent through several of the articles found and examined.

5.4. Criteria of selection

To ensure that this study was qualitative needed to find articles which were specific and accurate to our area of interest. Began by choosing the words applicable to the topic, search words we used in different combinations included; “nursing role”, “parental”, “care”, “neonate”, “support”, “new-born”, “caring”, “surgery”, “nurses”, “post-operative care”, “communication”, “nurse”, “parents”, “supporting”, “post-operative” and “guidelines”. Before starting the search for articles the inclusion criteria had to be decided to ensure the articles would be of academic standard. That the articles were related to the topic and were available in full text and peer reviewed. The articles had to be free to access. Also, they should be published within the last 10 years, to ensure that the information is up to date. The exclusion criteria were mainly set by the opposites of the inclusion criteria, articles in languages other than English, and articles that were irrelevant to the study were excluded.

5.4.1. Inclusion criteria

The inclusion criteria for this study were as follows;

- The study is written in English
- The study is published within 2006-1017
- The study is a full text and free to access
- Articles have been peer reviewed
- The study is relevant to the respondent’s topic and research questions

5.4.2. Exclusion criteria

- Articles that had no relevance to the study
- Articles written in other languages than English
- Non-academic articles

- Articles published before 2006
- Articles which were only accessible after payment

5.5. Sources of data

The search was conducted through the search engine FINNA, which is accessed through Novia university of Applied Science, Tritonia library. The databases that were used were EBSCO host and CINAHL. The list of articles used can be found in the appendices, appendix 3.

5.6.Practical implementation

As mentioned in the previous paragraph the search was conducted through the search engine FINNA. After applying all the inclusive criteria, the respondent started with the combination of "nurses, new-born and post-operative care", this showed 380 hits of which 1 article was selected. Several different combinations were entered and all the results were documented and listed in the table "search matrix". After several searches, it became clear that the results list showed several duplicates of articles. This was an inconvenience seen as it made the number of hits inaccurate, but the original number of hits are documented in the search matrix. The searches that showed articles of interest can all be the found in appendix 1. After the selected articles were printed and read in their entirety. This allowed for the respondent to divide the articles into two categories, those that help answer research question number 1 and those that help answer research question 2. The articles were put into a table which can be found in the appendix. The articles were then read again to determine the common themes. When the common themes were found, the respondent could compile the data and structure the answers for the research questions.

6. Results

Oftentimes, painful procedures are performed on neonates without proper pain management. This is something that has been studied and is better understood now but for some reason, even when there are guidelines in place for proper pain management, the neonate doesn't receive proper pain medications. It is the duty of the nurse to ensure that the patient isn't suffering or being neglected. (Baulch, 2010; Barker, Kaye & Wilson, 2014; Cruz, Fernanades & Oliveira, 2015).

6.1. Nurse's role in post-operative care of neonates

For optimal care of a neonate that has been in surgery, the nurse needs to be aware of how to assess and manage pain. The nurse can do this by regularly checking the patient's condition, anticipating painful procedures, and preparing to manage the pain of such procedures. This includes the combination of both pharmacological and non-pharmacological pain management. If pain is left untreated it can develop into chronic pain as the neonate grows. This is now recognised and therefore pain management should be a priority for nurse when caring for the post-operative neonate. The nurse needs to be vigilant in the assessment of pain for the pain management to be successful, this will allow for the development of a treatment plan. The nurse should be able to detect when a infant is in pain early on and prevent it or reduce the exposure to painful procedures. The most common and frequent painful procedures performed on neonates were: heel lance, suctioning and the peripheral venous cannulation. (Baulch, 2010; Cruz et.al, 2015.)

There are different areas in which pain can be assessed, observational, behavioural and physiological measures. Pain indicators in infants include; crying, odd facial expressions and altered body movements. Infants can also have individual ways of displaying pain/discomfort. The physiological signs are easier to interpret and they include increased blood pressure, pulse, breathing and sweating. (American Academy of Pediatrics, Canadian Paediatric Society, 2006).

Every hospital that has a NICU should have clear guidelines and steps for the nurses to follow to provide proper pain assessment and management. This will in turn allow the nurse to fulfil their duty as a health care professional to prevent suffering and neglect. It is critical that new nurses are made aware of these guidelines when they start working on the ward. (Barker et.al, 2014).

6.1.1. Pharmacological pain management

Neonates have very little fat and muscles, this means that the analgesics work quite differently than they would on adults. Also, a neonate's liver and kidneys may not be fully developed and functioning as they should, so prescribing analgesics is very tricky. The

weight needs to be considered very carefully, this responsibility lands on the physician but it is also extremely important for the nurse to be aware of the medication and the dose being prescribed to the patient as it will be they who administer it. Mild medications are usually prescribed at first, if this is sufficient then the need for opioids is decreased, and therefore also the side-effects of such. (American Academy of Pediatrics, Canadian Paediatric Society, 2006; Baulch, 2010).

6.1.2. Non-pharmacological pain management

Non-pharmacological pain management can be very beneficial in the care of neonates. Non-pharmacological pain management include, breastfeeding, (including non-nutritive sucking) kangaroo care, oral sucrose, swaddling and massage. These can be done either prior to or during the procedure, for example during a blood draw. (American Academy of Pediatrics, Canadian Paediatric Society. 2006).

Kangaroo care is a nursing practice, which should be taught to parents and encouraged whenever possible, especially in the care of neonates. The effects of skin-to-skin are beneficial to both the parent and the neonate. The closeness can help bonding between the parents and infant, stimulate the production of breast milk in the mother, and help regulate the infants heart rate, temperature and respiration. As mentioned earlier it can also be used as a form of non-pharmacological pain management. It also encourages the parents to get closer to the infant, which can be very scary when the infant is so small and must be hooked up to machines. (Lemmen, Fristedt & Lundqvist, 2013).

6.2. Encouragement and support of parents

Parents with a neonate in the NICU would like and require a range of support from nurses. According to one study many nurses felt as though they were present and supportive to parents most of the time, although the parents didn't feel as confident on the same question, they felt that nurses were the most present but still only present some of the time. Interestingly enough the parents still felt confident in the nurses' ability to take good care of their neonate. The parents also felt that the nurses didn't include them sufficiently in the discussion prior to decisions being made. (Franck, 2013)

Parents would like to receive information that relates to the condition, symptoms, treatment, waiting times and guidelines for care from the nurses. The nurse should communicate openly

and effectively with parents. Preferably in both one-on-one discussion and with written information. Nurses should keep this in mind as many parents found it difficult to remember information that was solely given verbally. Nurses can also mention support groups for the parents, it was found helpful. (Jackson, 2007; Turnbull & Petty, 2013).

It is important for the nurse to make time for discussions with the parents so they can be involved in the decision making of their child. The nurse needs to explain the care being provided to the neonate so as to avoid confusion, stress and unnecessary fear among the parents. (Turnbull & Petty, 2013).

Parents expressed a need for a closer relationship with the nurse, which in turn would support the parent-infant relationship. Specifically, mothers appreciated being involved in the infant care, nurses should encourage the mother and support the development of their parental role. Fathers valued receiving information and support. Parents felt that receiving information gave comfort and reassurance. The communication (more detailed rapports/ more time for rapports) between nurses during shift changes needs to be improved and be more complete so the parents don't feel as though they are responsible to inform the staff about the care of their child. (Jackson, 2007; Franck, 2013; Wigert, 2013).

To ensure proper communication between the nurse and parents it is important to develop a trusting relationship, where the parents feel heard and understood by the nurse. It is also important to the parents that the nurse sees and treats their child as an individual. The nurse should encourage the physician to allow the parents to be present during the rounds, this would include the parents in the discussion of the care plan for their child. (Jackson, 2007; Wigert, 2013).

Encouraging the parents to use the skin-to-skin care technique had positive effects on the infants' development and on the parent-infant relationship. Nurses were praised by parents when they had encouraged them to participate in the care of their infant. Nurses need to be professional in their role, competent, calm, knowledgeable, and confident. These were traits appreciated by parents. (Franck, 2013; Wigert, 2013).

Parents felt that the infant was fragile and the feared they might hurt the infant when using kangaroo care, this is when it was important for the nurse to encourage the parents to hold their infant and teach them how to do so. Many parents were nervous to move in fear of tubes or wires being disconnected, the nurse should be close by in case this were to happen. Mothers and fathers found that good verbal and practical preparation helped make their first experience of kangaroo care positive. (Lemmen et.al, 2013).

Studies have shown that close contact at birth has a positive effect on both infant and parent. When a neonate must be separated from its parents early in life the bonding can be affected, therefore it is important that the nurse encourage the parents to touch the infant, skin-to-skin care (KC) and enable the parents to take part in the infant care. This is even more important if the parents can't be present on the ward much. Parents should be involved in as much as possible. (Jackson, 2007; Turnbull & Petty, 2013)

7. Interpretation of Results

The review of literature chosen for this study showed very strong common themes by several authors; the importance of pain management after neonatal surgery and the importance of developing a trusting relationship with the parents to allow for good communication and the encouragement of parental involvement in the infant care while in the NICU.

Due to the fact that 15% of neonatal patients are also surgical patients I was surprised that the existing guidelines for post-operative care barely mentioned pain management, whereas the results of the study showed pain management as the most important nursing task in post-operative care. (UCSF Children's hospital, 2004). The results also showed that even though most NICUs have pain assessment scales the nurses rarely use them. (Cruz et.al, 2015).

Watson states that caring is the centrepiece of nursing and that a holistic approach should be maintained when caring for people. The science of caring is complementary to the science of curing. (Watson, 1985). This supports the result that pain management needed to be at the forefront of the post-operative care, otherwise the infant will be left suffering with pain and feel neglected. The results also brought forward how important early pain management is due to an increased awareness of the risk for the neonate to develop chronic pain in later life. (Baulch, 2010, Cruz et.al, 2015.).

Kangaroo care was presented as a great tool for the nurses to encourage the parents to get close to and bond with their new-born, this was also supported in the previous research where skin-to-skin care and early bonding was mentioned as being beneficial to both infant and mother, especially in the breast-feeding mother. (Lemmen et.al, 2013).

Some of the parents felt as though they would have liked more information regarding the care of their infant, some even stated that they were only seen and included by the nurses sometimes but even though they felt this, they were very confident in the nurses' ability to take care of their infant. (Franck, 2013). Watson says that communication is one of the

nurses' main tools but in this case the nurses did such a good job taking care of the infants that they instilled confidence in the parents even when they hadn't had the time to include them in the infant care. (Watson, 1985; Franck, 2013). This conflicted with the result that the nurse should make time for discussions with the parents so they could be more involved in the care of their infant. (Jackson, 2007; Turnbull & Petty, 2013).

It was interesting to see how the parents gained confidence quickly through proper guidance and encouragement. The nurse had an important role as a teacher, especially when parents felt afraid and were cautious to use skin-on-skin care on their tiny fragile infant. The nurses' encouragement helped the parents to bond with their infant. Especially the mothers appreciated the help with bonding. (Lemmen et.al, 2013). Watson states that it is important for nurses to take the teaching role but that they should also remember the importance of learning. When the parents are more involved in the infant care, the nurse can learn what the observational signs of pain are for that specific infant. (Watson, 1985).

When the patient or the parents in this case, experience that the nurse is really listening and caring for them and the infant there is a great opportunity for the establishment of trust and hope in the nursing care and therefore the parents may feel more comfortable to open up and disclose sensitive matters to the nurse. (Watson, 1985).

8. Reflection

The aim of the study was to define the nurse's role in the postoperative care of neonatal patients and to show how important the encouragement and support of the parents was during this time. An interest in neonatal nursing as a future career option was how the scope of the study was determined.

The method chosen for the study proved to be a little more difficult than first expected. As the article searches gave loads of results but when reading the summaries, I was disappointed to find that many of the articles were not at all suitable for the study and that there were a lot of duplicates in the search results. I think this is due to the search words having such a broad spectrum, that I had trouble to find articles that were specific enough to be included in the study. It may have been more interesting to conduct interviews with the parents but that would have involved a lot of ethical considerations as it is such a sensitive issue. Therefore, I am content with the choice to do a literature review.

There is very little information about neonatal care in the curriculum of Nursing degree at Novia, University of Applied science, therefore this study could be of value to other students who are interested in the field. It may also be the basis for future studies into why the pain management scales have been left unused on the NICU wards. A future study could be conducted to investigate why nurses have failed to use the pain assessment tools available to them. Is it a lack of time, are the scales difficult to use and understand or are they simply not aware of their existence? Another topic that would be interesting to know more about is how nurses' experience the transition from being the main care giver to becoming a teacher and supporter.

I think the study could be a useful tool for student nurses who are going out on placement, it shows what qualities the patient appreciates in a nurse, it also shows how important it is to give proper information prior to an intervention. The emotions patients are feeling can be aided by good information about how the procedure will take place and what the patient can expect.

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Appendices

Appendix 1. Post-operative care guidelines

Step	Action
1	Ensure continuous monitoring is maintained and recorded hourly of: ▪ Cardiorespiratory ▪ Blood pressure ▪ SpO_2 ▪ Skin temperature
2	Take and record temperature 4 hourly.
3	Maintain ventilation as per orders.
4	Ensure arterial blood gas/capillary gas, FBC, group & cross-match, and U&E's are taken as ordered.
5	Administer IV fluids as prescribed. The baby remains nil by mouth until doctor/NS-ANP orders.
6	Maintain accurate input and output record.
7	Observe wounds for signs of bleeding. Report excessive bleeding.
8	Ensure pain relief is administered as prescribed.
9	Administer antibiotics as prescribed.
10	Explain all procedures and treatment to parents.
11	Ensure stress for the family is minimized: ▪ Parents are kept informed of baby's condition and progress. ▪ Parents are given the opportunity to speak with the surgeon/doctors/NS-ANP.

(Kuschel, Beca, & Morreau. 2004.)

Appendix 2. Table of Carative factors & Caritas Processes

Carative Factors	Caritas Process
1. "The formation of a humanistic-altruistic system of values"	"Practice of loving-kindness and equanimity within the context of caring consciousness"
2. "The instillation of faith-hope"	"Being authentically present and enabling and sustaining the deep belief system and subjective life-world of self and one being cared for"
3. "The cultivation of sensitivity to one's self and to others"	"Cultivation of one's own spiritual practices and transpersonal self going beyond the ego self"
4. "Development of a helping-trust relationship" became "development of a helping-trusting, human caring relation" (in 2004 Watson website)	"Developing and sustaining a helping trusting authentic caring relationship"
5. "The promotion and acceptance of the expression of positive and negative feelings"	"Being present to, and supportive of, the expression of positive and negative feelings as a connection with deeper spirit and self and the one-being-cared for"
6. "The systematic use of the scientific problem solving method for decision making" became "systematic use of a creative problem solving caring process" (in 2004 Watson website)	"Creative use of self and all ways of knowing as part of the caring process; to engage in the artistry of caring-healing practices"
7. "The promotion of transpersonal teaching-learning"	"Engaging in genuine teaching-learning experience that attends to unity of being and meaning, attempting to stay within others' frame of reference"
8. "The provision of supportive, protective, and (or) corrective mental, physical, societal, and spiritual environment"	"Creating healing environment at all levels (physical as well as nonphysical, subtle environment of energy and consciousness, whereby wholeness, beauty, comfort, dignity, and peace are potentiated)"
9. "The assistance with gratification of human needs"	"Assisting with basic needs, with an intentional caring consciousness, administering 'human care essentials,' which potentiate alignment of mind body spirit, wholeness, and unity of being in all aspects of care"
10. "The allowance for existential-phenomenological forces" became "allowance for existential-phenomenological spiritual forces" (in 2004 Watson website)	"Opening and attending to spiritual-mysterious and existential dimensions of one's own life-death; soul care for self and the one-being-cared for"

(Wayne, G. 2016.)

Appendix 3. Matrix of data collection

Date	Database	Search words	Hits	Used	Title
20.04.17	CINAHL	Nurses, new-born, post-operative care	380	1	Assessment and management of pain in the paediatric patient.
20.04.17	EBSCO	Nursing role, parental, care	2	1	Parental decision-making for medically complex infants and children.
20.04.17	EBSCO	Parental, neonate, care	1	1	Epidemiology of painful procedures performed in neonates.
20.04.17	EBSCO	Support, parent, new-born	13	3	Evidence-based thermal care of low birthweight neonates. Part two: family-centred care principles. Effect of nursing interventions on stressors of parents of premature infants in neonatal intensive care units. Early contact versus Separation: Effects on mother-infant interaction one year later.
20.04.17	EBSCO	Guidelines, post-operative, new-born	115	1	Mapping pain assessment and management in a surgical neonatal intensive care unit_ a process for best practice.

20.04.17	CINAHL	Neonate, caring, surgery	289	2	Prevention and management of pain in the neonate: an update. Assessing pain in ventilated new-borns and infants: validation of the Hartwig score.
20.04.17	EBSCO	Supporting, nurse, parents	7242	2	Differences in parents´, nurses´ and physicians´ views of NICU parent support. The neonatal nurses´ view of their role in emotional support of parents and its complexities.

20.04.17	CINAHL	Communication, nurse, parents	10985	7	Parents´ perception of satisfaction with pediatric nurse practitioners´ care and parental intent to adhere to recommended health care regimen. Kangaroo care in neonatal context: parents´ experiences of information and communication of nurse-parents. Communication skills training enhances nurses´ ability to respond with empathy to parents´ emotions in a neonatal intensive care unit. An integrative review of communication between parents and nurses of hospitalized technology-dependent children. Strengths and weaknesses of parent-staff communication in the NICU. Breaking bad news to parents: the children's nurse's role. Qualitative analysis of parents´ information needs and psychosocial experiences when supporting children with health care needs.

Appendix 4. Matrix of articles used for Research question 1.

Author	Name	Year	Aim	Method	Result
American academy of pediatrics & Canadian Paediatric society	Prevention and management of pain in the neonate: An update	2006	Emphasize that despite increased awareness of the importance of pain prevention, Present objective means of assessing neonatal pain by health care professionals. Review appropriate methods to prevent and treat pain associated with	Qualitative evaluation of pain assessment tool	Every health care facility caring for neonates should implement an effective pain-prevention program, which includes strategies for routinely assessing pain, minimizing painful procedures performed, effectively using pharmacologic and non-pharmacologic therapies for the prevention of pain associated with minor procedures, and eliminating pain associated with surgery.
Amy Barker, Kaye Spence & Valerie Wilson	Mapping pain assessment and management in a surgical neonatal intensive care unit: a process for best practice	2014	To describe a process for mapping current practice within the NICU to inform practice change. Despite guidelines, there continues to be poor utilisation of evidence to guide pain assessment and management in the NICU.	Retrospectiv e study	Compliance with clinical guidelines was poor. Effective pain management practices are not occurring within the surgical NICU.

Author	Name	Year	Aim	Method	Result
Baulch. I.	Assessment and management of pain in the paediatric patient	2010	How to best assess and manage pain in paediatric patients	Literature review	A combination of pharmacological and non-pharmacological interventions ensures the highest standard of care in the management of pain in paediatric patients.
M.D Cruz, A.M. Fernandes & C.R. Oliveira	Epidemiology of painful procedures performed in neonates	2016	To determine the frequency of painful procedures and pain management interventions as well as to identify their predictors.	Systematic review of observational studies	Pharmacological and non-pharmacological approaches were inconsistently applied. Predictors of the frequency of procedures and analgesic use included the neonate's clinical condition, day of unit stay, type of procedure, parental presence, and pain assessment. The existence of pain protocols was not a predictor of analgesia.

Appendix 5. Matrix of articles used for Research question 2.

Author	Name	Year	Aim	Method	Result
Franck. L.	Differences in parents, nurses and physicians' views of NICU parent support	2013	To measure the perceptions of parent support by parents, nurses and physicians.	Nurse Parent Support Tool	Parents reported receiving support from nurses some or most of the time and their perceptions were related to the aspects of their NICU experience.
Jackson. R.	Qualitative analysis of parents' information needs and psychosocial experiences when supporting children with health care needs	2007	To identify the information needs of parents of children with health care needs.	In-depth interviews	Parents expressed a preference for information to be delivered on a verbal, 'one-to-one' basis by a professional, supplemented by written materials.
Lemmen. D., Fristedt. P. & Lundqvist. A.	Kangaroo care in neonatal context: parents' experiences of information and communication of nurse-patients.	2013	To describe parents' experience of information and communication mediated by staff nurses before and during kangaroo care at neonatal wards.	A qualitative study with semi-structured interviews	The overall thee was that good information and preparation will contribute to a positive experience of kangaroo care.

Author	Name	Year	Aim	Method	Result
Turnbull. V. & Petty. J.	Evidence-based thermal care of low birthweight neonates. Part two: family centred principles	2013	Parents should be involved in the care of and decision making for their new-born.	Case-study	A family centred approach is important when nursing neonates in any context. Essential to holistic and best practice.
Wigert. H., Dellenmark. M. & Bry. K.	Strengths and weaknesses of parent-staff communication in the NICU: a survey assessment.	2013	To find the strengths and weaknesses in the communication between nurses and parents.	Survey	Parents rated communication with the staff in the NICU positively and appreciated having received emotional support and regular information about their child's care.