

Challenges of Nursing Care of the Paediatric Surgical Patient

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Abstract

Paediatric surgical nursing is the nursing care of children of age 0-15 years who present with surgical problems. The nursing care of children is quite challenging in view of their peculiarities in social, psychological, emotional and physical reaction and response to illness and sometimes their inability to give necessary history and clue to assist in evaluating and management of their health problems. This paper intends to address the importance of history taking, assessment of the patient on admission, monitoring of vital signs, management of knowledge deficit in patient and parents, care of intravenous fluids/oral fluids and preventing of wound infection. The need to achieve drug compliance, post-operative care, counselling, and health education were also discussed. Skilful nursing care is considered indispensable tools in improving outcome of paediatric surgical patients.

Keywords: Close monitoring, knowledge deficit, nursing, paediatric

INTRODUCTION

Paediatric surgical nursing is the nursing care of children of age from 0 to 15 years who present with surgical problems. The nursing care of children within the above age bracket is quite challenging in view of their peculiarities in social, psychological, emotional and physical responses and reactions to illnesses and sometimes because of their inability to give necessary history and clue to assist in evaluating and managing their health problems.

This paper aims at highlighting some of the nursing challenges under the following headings: history taking, assessment of the patient on admission, management of knowledge deficit in patients and parents, monitoring of vital signs, care of intravenous fluids/oral fluids, compliance to drug administration, post-operative care including, pain relief, wound care and prevention of infection. The need for high skills of observation, child advocacy, psychological care, counselling and advice on discharge will also be discussed.

A nurse should be the first person to resume work in the hospital setting in order to enhance the shifting system. Patients need to be taken over physically with the sufficient time to enable the nurse get enough salient information that will ensure error free care. Therefore, the key here is early rising, settled mind,

clean start, no mistakes. The need for punctuality is therefore more critical to the nurse.

HISTORY TAKING

The following should be noted in history taking. Age – age will aid the nurse in planning where to nurse the patient e.g., a neonate requires incubator nursing because of poor temperature control. Age will also help in ascertain the degree of weight loss – a child should double the birth weight in 6 months and triple the birth weight in 1 year of life. For instance, age helps in formulating nursing diagnosis of illnesses, which are age related for instance intussusceptions occur between ages 3 months and 12 months.^[1]

Age also guides drug administration. For instance, Phenergan, which causes temporary psychosis and convulsion in some children under the age of 2 years should be prescribed with caution.

History of onset of illness will also give a clue towards appropriate diagnosis as it reveals the pattern of development and manifestation of signs and symptoms.

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Duration of Illness

Seeking information on duration of illness will also give a clue towards diagnosis and severity. For instance, duration of abdominal distension and pain in a child with febrile illness will suggest typhoid intestinal perforation and its duration.

Signs and symptoms

Skilful history taking will reveal such symptoms as non-passage of meconium in a neonate which is a pointer to intestinal obstruction like Hirschsprung's disease or Anorectal malformation. This can further be confirmed in by an inability to insert a rectal thermometer. An excessive salivation may indicate oesophageal atresia, which will require frequent suctioning and nursing patient in lateral position to ensure a patent airway.

ASSESSMENT OF THE PATIENT ON ADMISSION

The patient's general condition should be assessed to note how severe the illness is, to enable the nurse plan adequate care. For instance, a child with abdominal distension and breathlessness, preparation will be made for nasogastric intubation, positioning and oxygen administration.

Weighing

The child should be weighed for accurate calculation and administration of drugs and intravenous fluids. Adequate hydration is essential for optimal recovery in child undergoing surgery.

Nutritional status

The child's nutritional status should be assessed. Optimal nutritional status will ensure speedy recovery, as well as reduce the period of hospitalization, reduce the financial burden, period of absence from school and unnecessary morbidity and mortality.

Hydration status: Adequate hydration will ensure optimal renal function and saver respond to drugs, especially in neonates.

Personal hygiene

Adequate personal hygiene reduces the risk of wound infection and other nosocomial infection.

Jaundice

The child should be assessed for jaundice which is often a pointer to the severity of infective process and sometimes is indicative of an obstructive illness like biliary atresia.

Full examination

This will also reveal hidden abnormality like spinal bifida, anal stenosis, undescended testis and hypospadias which the mother may consider insignificant.

MONITORING OF VITAL SIGNS

Because children may not be able to verbalize their feelings and symptoms, vital signs should be closely monitored and documented. The various values for the different age grades must be known to the nurse so that appropriate measures will be taken promptly. Pyrexia and hyperpyrexia should be treated

with tepid sponging, exposure to fresh air and use of antipyretic when indicated. Derangement in vital sign may need prompt attention of the managing clinician.

CARE OF INTRAVENOUS FLUIDS

Fluid administration in paediatrics is guided, approximately 100 ml/kg/day. It should be calculated properly to avoid under or over hydration. For instance, a 3 kg child's daily fluid requirement is $100 \text{ ml} \times 3 = 300 \text{ ml}/24 \text{ h}$. If given with drip set (20 drops = ml)/4 drops/min, if with burette given set (solucet) 60 drops = ml/12 drops/min. Use of solucet is both prudent and proactive against over hydration in the new born whose body compartment is 70% fluids. Close observation is needful. Paediatric fluid chart helps in calculating intake hourly so as to note any deviation from normal early. If drugs like potassium chloride (KCl) are added, the drip must not exceed the prescribed rate to avoid its potentiating action on the cardiac muscle with resultant tachycardia. Two years ago, we have a 10-year-old female child that had a transient tachycardia to KCl post exploratory laparotomy for typhoid intestinal perforation. Her pulse was 90 beat/min before setting up Intravenous fluid (IVF) of 4.3% D/saline containing KCl, the pulse rose to 120 beat/min with KCl, and dropped to 92 cpm after the fluid was discontinued (personal experience). Accurate intake and output recording is mandatory as a guide to monitoring renal function and subsequent fluid replacement.

MANAGEMENT OF KNOWLEDGE DEFICIT

Both patients and parents should be made to know the cause of the illness, mode of acquisition, signs, and symptoms, need for early hospital care, danger of patronizing quacks and preventive measures. Furthermore, what to expect pre- and post-operation. Passage of Naso-Gastric tube to decompress the stomach pre- and post-operative to relieve operative-site of tension to encourage healing. If the child needs colostomy the mother should be taught hygienic colostomy care. The challenge for nurses is to intervene effectively with information and support in the context of a trusting and collaborative relationship.^[2]

PREVENTION OF INFECTION

This is a major concern in surgical units. Such measures such as adequate hand washing before and after procedures, in between patients, frequent and prompt change of bed linen and soiled dressings, turning off fans before opening wounds, adequate autoclaving of dressing materials and packs, individualization of dressing packs and optimal nutrition will go a long way in preventing infection especially, nosocomial infections which are often stubborn to treatment because of resistance to antimicrobial agents.

NEED TO ACHIEVE DRUG COMPLIANCE

Ignorance and poverty are major huddles in the care of the paediatric surgical patients. Non-compliance to medication

will result in significant morbidity and mortality and increase overall health cost. The nurse therefore, needs to go extra-mile in persuading the parents, to ensure availabilities of prescribed drugs to ensure sustained improvement.

PAIN CONTROL

The paediatric surgical nurse should know how to recognize and assess pains in young children who may not be verbalized pain. Signs of pain in children may be fretfulness, restlessness or excessive cry.^[3] Children may see the pain as punishment and may react with regressive behaviours. Non-pharmacological steps of pain relief such as involving parents during procedures, explaining what to expect to the older child, answering their questions in clear language, cold or warm compress, proper positioning and support as in scrotal pain or splinting fractured limb have been employed with reasonable positive effects. Hypnosis has also been effective in reducing the pain and associated with anxiety in children. Analgesics can also be used Pro-Re Nata in severe pain as in the case of extensive burns. A recent approach to pain relief is the use of computer-controlled infusion pump that permits a patient to administer medication by pressing a button. Patient controlled analgesia can be used by adolescents. Empathy should always be demonstrated by health care provider when managing patient with a painful condition. A child may actually interpret pain as punishment or even wickedness from a well-meaning health care giver. To overcome the negative impact of a child's understanding and reaction to pain the use of a local anaesthetic, an oil-water emulsion of lidocaine and prilocaine eutetic mixtures of local anaesthesia (EMLA) on the intended site of venipuncture 60 min prior to the procedure is advocated.^[4] It hinders initiation and conduction of nerve impulses that conduct pain.^[5,6] This EMLA ensures higher success rate in venipuncture, fewer blood vessel damage, as well as spare more healthy vessels for later use.^[7]

WOUND CARE

The benchmark in wound care is asepsis. In the immediate post-operative period, the wound should be observed for bleeding. Any blood stain on the dressing should be noted and observed closely as increasing stain size and a rapid pulse suggest on-going bleeding and should be reported immediately to the surgeon: Subsequently, the wound should be observed for serosanguinous discharges, pus and yellowish or greenish discharge which should also be documented and reported. Soiled dressings should be carefully, aseptically and promptly changed with sterile packs, and surgical gloves. Prompt and guarded suture removal is required. Use of antiseptic solutions like providone iodine will reduce the risk of infection. If the wound does not heal with primary intention and is sloughy, natural honey will both act as anti-slough as well as increase blood supply to enhance wound healing.^[8,9]

HIGH OBSERVATION SKILL

Skilful observation is needful especially in the new born or younger children who cannot communicate. The neonate has to be observed for evidence of cyanosis. The problem of poor temperature control due to functional immaturity of the temperature regulating centre and large incubator surface area has to be overcome by using incubators with inbuilt alarm. If the neonate is febrile exposure to fresh air without tepid sponging is often enough to control the temperature. It should be noted that extremes of temperature is a killer to the new born.

POST-OPERATIVE CARE

In the immediate post-operative period, the level of consciousness should be ascertained by calling the child by name or pinching the skin. This will serve as a guide to frequency of checking vital signs and administration of narcotic analgesic. If unconscious, non-narcotics like injection Paracetamol (PCM) 10 mg/kg/dose should be given until full consciousness is regained. Operation site should be observed closely for bleeding. If the patient had nose or throat surgery the patient should be observed for trickling of blood from the mouth or nose or frequent swallowing which is evidence of bleeding. Patent airway should be ensured by placing the child in left or right lateral positioning. Pulse should be monitored for rapidness. The normal range for various age groups should be known to the nurse.

- Intravenous fluid (IV) fluids should be properly calculated, labelled, documented and monitored.
- Urinary output: Urine in the bag on arrival to the ward must be emptied immediately, measured and documented in terms of the amount, character and volume. Subsequently, hourly monitoring is carried out – normal 1-2 ml/kg/h. If urine output is below 1 ml/kg/h, adequacy of the fluid should be ensured and the attention of the surgeon sought.

Nasogastric tube should be aspirated 2-4 hourly, effluent measured, documented and replaced volume for volume with normal saline to avoid electrolyte imbalance.

- Need for warmth-pt should be kept warm because of exposure to air conditioner in the operating theatre.
- Furthermore, observe for a sign or symptoms of an unduly tight plaster of paris.

PSYCHOLOGICAL CARE

Nurses are most involved during the critical times in the child's life, at diagnosis and during times of surgery or complications. These times of increased chaos and stress are opportune for nurses to offer parents ideas about devising rituals as a way of coping with their challenges.^[2] Psychological support augments every other aspects of nursing care. Because of sickness in a single child disrupt a whole family system. Therefore, approach should be both holistic and empathetic. By empathetic means "I could have been one" attitude which will be far reassuring and makes the patient and parents

confide in the nurse who has become a friend in need and not just a worker. Their questions should be answered in clear language. Good listening skill is a must. Show them convalescents from similar problems.

CHILD ADVOCACY

Because of high level of ignorance, taboos and poverty some Nigerian children are still prey to preventable illnesses, prolonged suffering, morbidity and wasteful mortality. The United Nations Rights of the child should be made known to the parents as follows:^[10]

- Freedom from discrimination.
- Right to develop physically and mentally in freedom and dignity.
- Right to adequate nutrition, housing, recreation and medical care.
- To receive special treatment if handicapped.
- When recruited into a research, consent must be obtained from the older child and confidentiality ensured.
- To be loved, understood and given material care.
- Right to education, development of his skills and ability.
- To be the first to receive protection in disaster.
- To be brought up in the spirit of friendship among people.

The nurse should also serve as liaison officer between the child and other health care provider.

COUNSELLING AND HEALTH EDUCATION

Religious and philosophical views may influence how parents respond to the birth of an infant with a medical condition. Fatalism and guilt feelings in relation to congenital malformations or genetic conditions have an influence, while poverty and illiteracy negatively affect access to health care. Therefore, counselling form an integral part of care. The older child and parents should be health educated on the cause of the illness, transmission of infection, need for personal and environmental hygiene and proper disposal of waste, food and water hygiene, especially in case of typhoid intestinal perforation.

At discharge, it is expected that the older child and parents become actors and not observers in educating members of their community on how to avert the preventable problem that brought them to the hospital.

ADVICE ON DISCHARGE

At discharge parents and patients are advised on the need to book and keep the follow-up appointment, continue on a balanced diet, use take home drugs.

CONCLUSION

Nursing is concerned with the experience of illness as it affects the patient and family. Thus, skilful nursing care are considered indispensable tools in addressing the challenges related to the growing number of parents whose babies “beat the odds” as well as devoting ourselves to advancing the frontiers of care of children with surgical conditions.

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