Prognosis of Prematurity

Courtney Wiener

Kent State University

Data Collection

Description of the child and family

The infant, V.N., is a 3 week old male you who was born 36 weeks premature, so he is 39 weeks corrected. He is an African American infant who was born on August 26, 2010. V.N. needed further hospitalization for his prematurity, experiencing trouble with feeding, and not sucking properly. Along with having some feeding troubles, he was brought into the hospital because he had reflux issues, and was excessively spitting up while bottle feeding, making it even harder for him to feed properly. When he was born he was diagnosed with hypoglycemia, abdominal distension, and cold distress; these are all problems associated with prematurity. He is an infant of a diabetic mother, who had gestational diabetes when she was pregnant. The infant has no other siblings. His biological mother is 19 years old and is also African American. She is currently not employed anywhere or going to school. She was going to Stark State for a couple of semesters and then stopped going because of the birth of her son. She lives with her mother, the grandmother of the infant, in Plain Township who works at Heinz. The grandmother of the infant and the mother of the infant are the only members of the household. The infant's mother is with the Medicaid Buckeye Health Plan as her health insurance.

Developmental Assessment

The development for a typical infant is to establish a sense of trust when basic needs are met and to learn from movement and sensory input (Ball, Bindler, & Cowen, 2010). V.N. was very much developed in the same way, expressing Erikson's developmental stage of Trust versus Mistrust. He had a very positive emphasis on this developmental stage because he showed trust in everyone he came in counter with, and was very comfortable with his mother. An important task during the first year of life is to establish a sense of trust. Developing a sense of trust leads

the infant to have confidence about the world and teaches them to approach life with a general sense of optimism when they shift into adulthood (Ball, Bindler, & Cowen, 2010). V.N. was very trusting anytime I would touch or hold him. He also trusted me when I was doing his head to toe assessment, allowing me to do tasks like vital signs, auscultation, and measuring his body without getting scared or upset. If the basic needs of trust are not met then the infant will learn to mistrust others. A balance between trust and mistrust is important because if the child is too trusting, child abuse and other negative outcomes might occur in the child's life. The sense of trust must be predominant, but individuals need mistrust at times for a healthy development (Ball, Bindler, & Cowen, 2010).

Infants have no knowledge on how to speak or use words, although they are very conscientious as to when a person would enter their room and being able to notice their voice. The infant uses forms of nonverbal communication and crying when they are trying to portray what they need. V.N. was very vocal with crying and would let me know if he was uncomfortable or needed something. V.N. demonstrated very normal fine motor abilities for an infant his age. He normally would hold his hands in a fist position most of the time, and whenever he would cry he would bring his arms and legs into the body. V.N. displayed adequate gross motor skills for an infant his age as well. He showed signs of reflex, like being startled and was alert to loud noises. He also showed he was very comforted with touch; sometimes he would be so relaxed and fall right to sleep in my arms. One observation I made was that he was very tired and sleeping most of the time. The nurses said he would sleep during the day and be awake all night. Since he had his days and nights mixed up he had to be set on a schedule that taught him to be awake during the day and to sleep throughout the night to get him back on track.

When V.N. was born at 36 weeks premature he weighed 3.3 kilograms. According to Ball, Bindler, & Cowen's fetal-infant growth chart for preterm infants, when he was born he was in the 90th percentile for his weight, this means that he is large for gestational age (LGA). Now at 39 weeks corrected he weighs 4.02 kilograms and is still in the 90th percentile for his weight and is still LGA. He is 52.5 centimeters in length putting him in the 90th percentile. His head circumference is 36.5 centimeters placing him once again in the 90th percentile. According to the fetal-infant growth chart for preterm infants in the Ball, Bindler, & Cowen book, V.N. is large for his gestational age for every percentile.

Nutritional Assessment

V.N. is taking Enfamil AR, an anti-reflux formula. This formula is thickened with added rice starch to ensure that it gets down into his stomach, and is designed to thicken in the stomach to make sure it does not come back up through the esophagus. He receives 110 milliliters every 4 hours. Since he does not want to suck I had to insert a nasogastric tube through the right nostril to ensure he gets the adequate amount of caloric intake and nutrition. His feeding times are at 0800, 1200, 1600, and 1800. By the end of the day, the doctor made an order for occupational therapy to help the infant do a bottle feeding every other feeding, to try and have him increase his sucking reflexes. Occupational therapy came in to try and bottle feed him to see how he would tolerate it. They also evaluate the infant and manage his feeding times. His nasogastric tube was just disconnected, not taken out. V.N. was very tired and would not wake up for the occupational therapist when she tried to bottle feed him. He was very lethargic and had no energy to suck. The occupational therapist tried for 15 minutes and he would not respond at all to the bottle. Then she hooked him back up to the nasogastric tube so he could get his formula through that route. He had a total intake of 330 milliliters and an output of 302 milliliters by the

end of my shift. He had yellow urine and a medium amount of soft, yellow, clay-like bowel movement in every diaper. When I calculated his body mass index (BMI), I got 14.6, which is indicating that he is underweight because his BMI is less than 18.5. In Chapter 12 of the Ball, Bindler, & Cowen text book it says, "Body Mass Index is first calculated at 2 years of age." This states that his BMI does not pertain to his weight and height calculations at this age. Caloric intake is necessary for growth in an uncompromised healthy preterm and is 95-135 calories per kilogram per day (Davidson, Ladewig, & London, 2008). This equation calculates V.N's caloric intake as 381.9 – 522.6 calories per day. His formula, Enfamil AR, is 22 calories per ounce (Aurora Health care, 2007). To convert V.N's intake feedings into ounces, take 110 milliliters and divide that number by 30 to get ounces, which equals 3.67 ounces. This means he receives 3.67 ounces every 4 hours, or 22.02 ounces a day. Then you take 22 calories and multiply it by 22.02 ounces and it equals 484.44 calories per day, which is within his required caloric intake for his age.

Pathophysiology

Prematurity is applicable for an infant born before 37 weeks gestation (Ball, Bindler, & Cowen, 2010). V.N. was diagnosed with prematurity because he was born during the 36^{th} week of gestation. If an infant is born before the full term of pregnancy, it could be due to the mother having poor nutrition, use of tobacco or alcohol, insufficient prenatal care, or psychological influences (Ball, Bindler, & Cowen, 2010). Prematurity is a diagnosis that has a wide range of manifestations and symptoms associated with the health of the infant. All of the below symptoms manifest due to underdeveloped body systems because most body systems don't fully mature until the third trimester, which premature infants never make it to that stage of gestation. Infants may experience symptoms of inadequate respiratory function, cold stress, hypoglycemia,

inability to suck, retinopathy of prematurity, apnea, inadequate kidney function complicating the administration of drugs and the ability of the infant to manage fluid and electrolyte variations, lowered immune protection against pathogens, and immature neurologic system (Ball, Bindler, & Cowen, 2010). V.N. was at risk for all of these symptoms because he was born premature.

When the respiratory system is not fully developed the lungs are not fully matured and are unable to produce adequate amounts of surfactant, which decreases the ability of the lungs to fill with air easily and impairs the gas exchange of oxygen and carbon dioxide (Davidson, Ladewig, & London, 2008). This is a symptom of prematurity that can result in the infant to become hypoxic, have inefficient pulmonary blood flow, and have depleted energy (Davidson, Ladewig, & London, 2008). V.N. showed a major absence of energy. He didn't have any energy to suck from a bottle or any energy to stay awake longer than five minutes. The bronchi and trachea are very narrowed due to the immature lung development that can cause mucus, or esophageal reflux, to possibly obstruct the airway (Davidson, Ladewig, & London, 2008). This symptom of respiratory underdevelopment puts V.N. at risk because he is a premature infant and has gastroesophageal reflux.

V.N. had cold stress when he was born which is a usual symptom that occurs because of prematurity. Premature infants normally develop this symptom because their skin is thinner, more permeable, and they do not develop normal amounts of subcutaneous fat that they would if they were full term (Davidson, Ladewig, & London, 2008). Heat loss occurs because of their more permeable skin and decreased subcutaneous fat to keep them warm. Cold stress can cause other complications such as hypoglycemia. Hypoglycemia is also a manifestation of prematurity and one of the conditions V.N. had at birth. Hypoglycemia can result in irregular respirations, refusal to suck, poor feeding, hypothermia, and if is untreated can cause cerebral damage to the

infant (Davidson, Ladewig, & London, 2008). An infant who is premature and hypoglycemic are at a higher risk for becoming hypothermic because of their decreased thermoregulation (Davidson, Ladewig, & London, 2008).

V.N's major symptom of prematurity is his inability to suck. This is due to the underdevelopment of gag reflex, incompetent esophageal cardiac sphincter, and poor swallowing reflexes of the gastrointestinal system (Davidson, Ladewig, & London, 2008). With ineffective reflexes the infant could have trouble receiving adequate caloric intake into the body and could lead to nutrition deficiencies necessary for growth. This symptom can occur from the immaturity of the gastrointestinal and neurologic system. The brain grows and develops most rapidly in the third trimester of pregnancy, so the closer the infant is born to full term, the better the neurologic development (Davidson, Ladewig, & London, 2008). V.N. showed an inability to suck by not responding to bottle feedings. Sometimes he would become too tired to bottle feed and not try at all. Premature infants are at risk for many conditions that can interfere with normal developmental growth and need treatment early in life to progress towards a healthy development.

Treatment

Treatment for premature infants focuses more on the symptoms caused by prematurity, and controlling those symptoms to help the infant grow and develop into a healthy child. Because preterm infants have an increased danger of respiratory obstruction due to their undeveloped, narrower trachea, the nurse must maintain patency to their airways through suctioning when necessary (Davidson, Ladewig, & London, 2008). Positioning the infant in the supine position with the head of bed slightly elevated will also help to maintain the airway. Positioning the infant in the prone position splints the chest wall and facilitates chest expansion

allowing an increase of oxygen getting into the lungs while using little effort (Davidson, Ladewig, & London, 2008). Whenever a premature infant has weak gag reflexes, they are at risk for aspiration. It is important to position them properly to ease the throat of regurgitated fluids and support the airways. V.N. was in supine position with the head of bed elevated. He also had a small towel rolled up and put under his head for support and to keep the head positioned properly. He did not need any suctioning when I was there, but it was still provided in case he needed it. To help with his reflux issues he was treated with Ranitidine, an antiulcer agent used to prevent symptoms of gastroesophageal reflux.

When treating a preterm infant it is important to provide a warm environment, especially if they are experiencing cold stress. Providing a thermal environment decreases the oxygen consumption required to maintain a normal core temperature and facilitates growth by minimizing caloric expenditure to maintain body temperature (Davidson, Ladewig, & London, 2008). Treatment also involves keeping the infant warm by making sure they are clothed properly with a double-thickness cap, cotton shirt, diaper, and keeping the infant swaddled in a blanket if possible (Davidson, Ladewig, & London, 2008). V.N. was wearing a diaper, clothed in cotton garments, and had a blanket placed over him to keep him warm.

Medications

Ranitidine is an antiulcer agent ordered for the infant to decrease symptoms of gastroesophageal reflux. It prevents gastric acid secretion by inhibiting the action of histamine at the H_2-receptor sites located in the gastric parietal cells (Deglin & Vallerand, 2008). The recommended dose for the neonate weighing 4.02 kilograms is 2 milligrams per kilogram (Deglin & Vallerand, 2008). To figure out the safe dose you take the child's weight, 4.02, and multiply it by 2, or the number of milligrams given, resulting in 8.04 milligrams. The dose that

was ordered for the infant was 7.5 milligrams, it was to be taken orally, and given three times a day. The ordered dose was safe because it was not higher than 8.04 milligrams.

Poly Vi Sol, a multivitamin supplemented with iron, was ordered to be given to the infant every day by an oral syringe. Poly Vi Sol is a very thick viscous fluid that does not taste good. We mixed this medication into his formula, going through his nasogastric tube, to make it easier on the infant to get the full amount of the medication. This way he does not choke on the fluid, because it is so thick, and he doesn't spit it back up, because of the awful taste. "This vitamin is used to prevent deficiency in patients whose nutritional status is unsure of" (Deglin & Vallerand, 2008). He is receiving the Poly Vi Sol to increase his nutritional status and to help prevent a deficiency of iron in his system. The recommended dose is 1 milliliter per day. V.N. was ordered 1 dose of 1 milliliter per day, so he is within a safe dose range.

A topical vitamin A, D, and E ointment was ordered for the infant. This ointment is used to treat irritated, chapped, or dry skin (Deglin & Vallerand, 2008). The recommended dosage is to apply to the affected area as needed. The infant was ordered 1 dose or 1 application to the diaper area as needed for a rash.

Physical Assessment

"Preterm infants may be large for gestational age, but still experience the problems of prematurity, such as respiratory distress syndrome, temperature instability, and feeding problems. A higher birth weight does not indicate increased maturity of the newborn" (Ball, Bindler, & Cowen, 2010). For my patient it was important to assess all the areas of the body because of his prematurity. The most important portions of the body to assess were his respiratory, thermoregulation, neurologic function, and gastrointestinal tract. It was important to assess his lungs and auscultate to make sure he had no abnormal lung sounds. He had clear

sounds in all lobes on both sides of the body anterior and posterior. His respirations were important to observe of the quality, rate, retractions, and for any dyspnea or apnea. During his 0800 and 1600 vitals, I observed 34 to 36 respirations without any difficulty or retractions. The respiratory assessment is just as important as the cardiac assessment. I also checked his peripheral pulse to make sure they were all equal and strong, which they all were. To ensure his heart was pumping normally I auscultated, and got 124 beats per minute. He had a blood pressure of 71/42, and it was within normal limits. When assessing his thermoregulation I checked his skin and found that it was warm, dry, and intact with a temperature of 36.7 degrees celsius, which is all within normal range. I made sure to check his skin turgor to observe for any dehydration, but his skin turgor was normal. His capillary refill was also less than 3 seconds indicating his tissue perfusion was adequate and he had a pulse oximetry of 100%. It is important to assess the lungs, thermoregulation, and tissue perfusion to make sure his blood is flowing normally to all parts of the body and the lungs are expanding normally.

Based on his decreased sucking reflexes, it is important to assess his neurologic system to see if he is having any other neurological deficits or problems. “Alterations in behavioral organization include a lower capacity of self-regurgitation, less behavioral alertness, hypersensitivity to stimulation, and poorer oral feeding” (White-Traut, & Knorr, 2009). When I cared for him, he was very tired and had no energy. He was on bottle feedings during the night shift, before my shift, and the nurses said that he would hardly suck at all. They also said that he would become very tired and weak quickly after they started the bottle feeding. Since he was too tired to feed through a bottle, I had to insert an 8 french nasogastric tube into his body. This way he would not have to spend so much of his energy on bottle feeding, and would still get all the nourishment he needs. He was very irritated during insertion of the nasogastric tube, and I

observed he had a strong, responsive cry and showed grimaces with his eyes tightly closed. Occupational therapy tried to feed him with a bottle towards the end of the day and she had no success because he would not fully wake up to feed. V.N. had his days and nights mixed up because I noticed that he slept throughout the whole day, and the night nurses said he was awake all night. It was important to start shifting him to get his days and nights back on track, by leaving the lights on from 0700 to 1900, and turn the lights off from 2000 to 0700. I also observed that he had strong hand grasps and moved all of his extremities very well. He did not move his arms and legs very much, unless he was uncomfortable or upset.

When assessing his gastric system it was important to check residual of his nasogastric tube, to see if he is properly receiving his formula. V.N. had 0.5 milliliters of watery residual when I checked. This is a normal finding for the infant and also indicates it is in the right place. Since the residual was normal, I pushed it back into the nasogastric tubing. I made sure to do a different check point for placement, and do a double check that the nasogastric tube to was in the right spot. I inserted 1 milliliter of air into the nasogastric tube while listening to his stomach and heard a popping noise, which indicates the tube was in the right place. I listened to the bowel sounds to make sure they were all present and all clear, to make sure everything is functioning normally. I measured his abdomen circumference, which was 38 centimeters. I observed that his stomach was soft and slightly rounded but did not observe any swelling, distension, or abdominal girth. Assessing for abdominal girth and presence of bowel sounds is important to observe for detection of abdominal distension and decreased peristaltic activity, which may indicate necrotizing enterocolitis or paralytic ileus (Davidson, Ladewig, & London, 2008). Since the infant has premature body systems there are many responsibilities the nurse needs to monitor to make sure the infant remains healthy and stable.

Lab Values

V.N. only had few lab results that were out of the normal range. His blood urea nitrogen (BUN) to creatinine ratio was elevated to 33:3. For children under 12 months old, the normal BUN to creatinine ratio is up to 30:1 (Rhodes, 2008). This test measures the amount of nitrogen in your blood that comes from the waste product urea and the level of creatinine in the blood to indicate any problems with the kidneys (Rhodes, 2008). Increased values can be caused by high blood pressure, blockage of the urinary tract, or low blood flow to the kidneys from dehydration (Rhodes, 2008). His lab was only increased by a small amount. At the time V.N. got the lab test done, he could have been dehydrated due to not getting enough fluids into his system because of his decreased sucking reflex.

Another lab value V.N. had out of range was his red cell distribution width (RDW), part of the complete blood count lab test. "RDW shows if the cells are all the same or different sizes or shapes" (Rea, 2008). This lab result was elevated to 18.5%. The regular range of this lab is 11.5%-14.6% (Rea, 2008). This could be increased due to dehydration, diarrhea, vomiting, infection, inflammation, and physical or emotional stress (Rea, 2008). When he got the lab test done he could have been experiencing any of these symptoms. When I actually cared for him he did not have any of these symptoms other than some physical distress during his nasogastric tube insertion. He could have also experienced some physical stress when he wasn't feeding properly, making him fussy and upset.

V.N's last lab result was a decreased level of chloride at 89 mEq/Liter. The normal value for this test is 96-106 mEq/Liter (Essig, 2008). This test measures the amount of chloride in the blood. "Chloride is an important electrolyte of the blood and helps keep the amount of fluid inside and outside of cells in balance. It also helps maintain proper blood volume, blood

pressure, and pH of body fluids" (Essig, 2008). Low chloride levels can occur due to Cushing's syndrome, heart failure, kidney failure, ongoing vomiting, and severe burns. V.N. did not have any of these conditions when I was caring for him. He could have been possibly vomiting when he got the lab test taken, or due to his reflux problem with feeding it could have resulted in his chloride levels to decrease.

Normal Growth and Development

Based on my patient's diagnosis, if proper interventions are carried out accurately to encourage and increase the sufficiency of the infant's ability to suck, he will fully develop and grow into a healthy normal child. The infant's sucking reflex helps provide nourishment and physical comfort with the mother, and is important to get food into the body. The food enables the baby to grow and perform a gradually expanding array of motor skills (Ball, Bindler, & Cowen, 2010). If proper interventions are not implemented to help V.N. learn how to suck and stimulate his reflexes, he can develop long-term complications in the future. Care for the preterm infant does not stop at discharge and needs to continue throughout the infant's first year of life (Deglin & Vallerand, 2008). "Follow up care is extremely important because many developmental problems are not noted until the infant is older and begins to demonstrate motor delays or sensory disability" (Deglin & Vallerand, 2008). The most common long-term problems observed in preterm infants include retinopathy of prematurity, speech defects, neurological defects, and auditory defects (Deglin & Vallerand, 2008). The mother of the infant will need to be educated on how to perform interventions accurately for her child. She will need to demonstrate that she understands how to take care of the infant properly at home to ensure that he will be able to grow and develop successfully. My patient's development should not be

affected in the future, as long as competent interventions are performed and they are continued in the infant's home after discharge, V.N. should grow and develop normally in the future.

Nursing Diagnosis # 1

V.N's first nursing diagnosis is: Risk for Aspiration related to impaired sucking refluxes secondary to prematurity (Carpenito-Moyet, 2009). This diagnosis is supported by the infant's decreased sucking reflex, insertion of nasogastric tube, and complication with bottle feeding.

Data for Nursing Diagnosis #1

V.N. has a decreased sucking reflex and gastroesophageal reflux due to an underdeveloped gastrointestinal system. "As a result of GI immaturity, the preterm newborn has a marked danger of aspiration and its associated complications due to the infant's poorly developed gag reflex, incompetent esophageal cardiac sphincter, and poor sucking and swallowing reflexes" (Davidson, Ladewig, & London, 2008).

Patient had nasogastric tube inserted during shift, due to inability to suck. If the infant loses the ability to suck while bottle feeding, they could potentially choke on the formula that is in their mouth (Davidson, Ladewig, & London, 2008).

Infant experienced complication with bottle feedings and was excessively spitting up, or refluxing, after bottle feedings. "Difficulty in bottle-feeding is often associated with a milk bolus that is too large for the infant's oral cavity that can lead to aspiration" (Davidson, Ladewig, & London, 2008).

Short Term Goal and Interventions

V.N's short term goal for Nursing Diagnosis #1 is: The infant will not experience aspiration by the end of my shift. The first intervention for this goal is to position the infant in a side-lying or supine position, not prone, after all feedings. The rationale to this intervention is to

keep the infant on their left side or on their back, "to enhance gastric emptying and decrease the chance of aspiration if regurgitation occurs" (Davidson, Ladewig, & London, 2008). The second intervention for this goal is to keep the head of the bed elevated during feeding period and at least one hour after feedings. The rationale to this intervention is to keep the head of bed elevated during tube feeding because it will prevent reflux by the reverse of gravity (Carpenito-Moyet, 2009). If the patient is laying flat during feeding it would be easier for the body to trigger reflux because there would be no force of gravity keeping the formula down in the stomach, increasing the risk of reflux and aspiration.

Long Term Goal and Interventions

V.N's long term goal for Nursing Diagnosis #1 is: The infant will remain free of aspiration by the end of hospital stay. The first intervention for this goal is to regulate gastric feedings using a recurrent schedule. The rationale for this goal is that the same schedule of feeding will allow adequate periods of stomach emptying between feeding intervals (Davidson, Ladewig, & London, 2008). The second intervention for this goal is to educate the mother the possible dangers that could cause aspiration. The rational for this goal is to teach the mother not to prop the bottle up for the infant, keep the head of bed elevated, and to maintain a side lying position so the mother is aware what could be dangerous for the infant (Carpenito-Moyet, 2009). This way the parent will be educated on proper mechanics to maintain her child's airway when the nurses are out of the room.

Nursing Diagnosis # 2

V.N's second nursing diagnosis is: Ineffective infant feeding pattern related to lethargy secondary to disorganized sleep-wake cycle (Carpenito-Moyet, 2009). This diagnosis is

supported by decreased energy with bottle feedings, sleeping during the day/being awake throughout the night, and not waking up to feed.

Data for Nursing Diagnosis # 2

V.N. got tired easily with bottle feedings throughout the night, and lost his energy very fast. “Inefficient oral feeding in turn demands substantial energy exposure from the infant, delays hospital progression, and can cause fatigue during feeding” (White-Traut, & Knorr, 2009). If the infant loses energy quickly it affects the amount of nutrition they need to grow properly.

Infant had his days and nights mixed up, where he was sleeping all throughout the day and awake all throughout the night. “Preterm infants are more disorganized in their sleep-wake cycles” and are unable to engage in regular daily activities (Davidson, Ladewig, & London, 2008).

Occupational therapist tried to promote bottle feeding, after being on nasogastric tube, and she had no success because V.N. would not stay awake to feed. If the infant’s level of consciousness is decreased during feeding times they will not receive absolute nutrition (Davidson, Ladewig, & London, 2008). If V.N. continues to sleep during feeding times he will not receive the nutrients he needs to grow or be able to gain strength.

Short Term Goal and Interventions

V.N’s short term goal for Nursing Diagnosis #2 is: The infant will ingest adequate nutrition for growth and preserve energy by end of my shift. The first intervention for this goal is to assess the nasogastric tube and maintain nasogastric feeding to ensure lethargic infant receives nutrients. The rationale for this intervention is, “Preterm newborns who fatigue easily with nipple or bottle feedings are usually fed by gavage. The infant is essentially passive with these methods, thus conserving energy and calories” (Davidson, Ladewig, & London, 2008).

Nasogastric feeding will help the infant to conserve energy and regain strength. The second intervention is to check for residual before each feeding is administered. The rationale to support this intervention indicates if the residual you pull back is yellow, or clear, the tubing is in the right place and the formula is being absorbed efficiently (Davidson, Ladewig, & London, 2008).

Long Term Goal and Interventions

Long term goal for Nursing Diagnosis #2: The infant will adapt to normal sleep-wake cycle, be alert for feedings, and progress towards oral feeding by the end of hospital stay. The first intervention for this goal is to keep the lights on between 0700 and 1900, and turn the lights off at 2000 until 0700 every single day. Rationale for this intervention says that this will cause the infant to adapt to the normal sleep-wake cycle and learn the accurate times to remain awake (Davidson, Ladewig, & London, 2008). With the lights on all day and off all night, the infant will learn to stay awake during the day, and therefore will be awake for his feeding times. The second intervention for this goal is to increase oral feeding and decrease gavage feeding as the infant eats more effectively by mouth. The rationale for this intervention says, "As the baby matures, gavage feedings are replaced with nipple (breast or formula) feedings to assist in strengthening the sucking reflex and meeting oral and emotional needs" (Davidson, Ladewig, & London, 2008).

Nursing Action/Implementation

All of the nursing interventions were fulfilled for the first nursing diagnosis. When I was caring for my patient I had the head of the bed elevated to 30 degrees the entire day to maintain his airway and to prevent regurgitation with feedings. I made sure to keep the infant laying in a supine position and a side-lying position after feedings. I had a roll kept behind him for support when he was lying in the side-lying position with the crib rails up. Before every feeding I

assessed his neurologic status to try and see if he was getting any of his energy back, by trying to put his pacifier in his mouth and seeing if he would suck. I also gave the mother education on why we had the bed elevated and he was lying on his side after he ate, so she was aware of those interventions.

All of the nursing interventions were completed for the second nursing diagnosis. To ensure my infant would get the proper amount of nutrition intake I monitored his feeding times very well, and always checked on his nasogastric tubing when he was feeding, to make sure it was flowing at the right rate and on time. I checked the residual of his nasogastric tube before every meal to make sure I was in the right place and getting back normal residual. I educated the mother on the sleep-wake cycle and made sure she knew when to keep the lights on and when to turn them off so he could try and learn to stay awake during the day.

Evaluation

My short term goal for nursing diagnosis # 1 was met because I performed all of the interventions adequately. I am unsure if my long term goal for nursing diagnosis # 1 was met because I was not caring for him every day until he got discharged, but I did make sure to follow the interventions for that goal when I was caring for him. My short term goal for nursing diagnosis # 2 was met because I made sure to fulfill those interventions successfully during my shift. My long term goal for nursing diagnosis # 2 was achieved, even though I was not caring for him every day until he got discharged I know I did teach the mother about safety precautions for the infant and the nurses were aware of the sleep-wake cycle stimulation and to perform it every day to get the infant back on track.

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