Knowledge attitude and practice of educe ated working mothers towards breast feeding

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-157SUMMARYThe high risk infants are particularly dependant on the physician to provide the ideal ”external milieu” in order to ensure optimal neurologic and physical development.Undoubtedly, the skilfull application of new techniques in respiratory and nutritional support has made considerable contribution. Increased aware-ness of and responsiveness to the nature and special environmental requirements of very preterm infants contribute to the improvement.Current policy is to nurse the preterm infants in incubators or under radiant warmers. The aim is to provide an appropriate ambient temperature and humidity while protecting the infant from infection and other environmental hazards.Control of environmental temperature is important for survival of low birth-weight infants. The optimal ambient temperature at which the infant should be nursed is called the neutral thermal temperature.The thermoneutral temperature is generally defined as ”the range of environmental temperature within which the oxygen consumption is minimal”. Within this range, the body temperature can be kept normal by changes in skin blood flow, without sweating.-158Several guidelines for the neutral thermal temperature have been reported for different birth-weights and postnatal ages.Recently the neutral thermal temperature for premature infants has been. redefined as ”the ambienttemperature at which the rectal temperature of theinfant at rest is between 36.7 and 37.3°c and therectal and mean skin temperatures are changing less than 0.2 and 0.3°C/hour respectively”.Using this definition, new guidelines of neutral temperature have been made for healthy infants of 29-35 weeks gestation from the first day of life to 35 days of life.The most commonly used heating device of the nude infant is an incubator with a signle plastic wall, where the infant is heated by convection.Radiant heat panels placed above the infant without a complete enclosure have been used. It is useful in short warming in the -delivery room and in infants undergoing procedures (e.g. exchange trans fusion).Regulation of the heat output in the infant incubators is done either by manual control, skin temperature servo control, and air temperature servocontrol.-159In healthy preterm infants, when the incubator wall temperature is stable air temperature servo-control, skin temperature servocontrol and manual control are equally effective to operate infantsincubators.In situations where there are large changes in environmental temperature that alter the incubatorwall temperature and hence, the air temperature required for thermoneutrality, the skin temperature servocontrol should probably be used.In sick very low birth-weight

infants duringthe first few days of life, air mode control is the better method of temperature control.When the infants of less than 30 week’s gestation are nursed in incubators, humidity should be used since it greatly improves the control of body tempe-rature. Humidification should be stopped after a few days (four to seven days) of life, because matu-ration of the epidermal barrier is rapid in the premature infants.To avoid bacterial contamination of the humi-difier reservoir, the water must be drained eachday, the incubator run dry for an hour and the reser-voir refilled with sterile water.-160It is not necessary to humidity incubatorswhen nursing older or more mature infants unless their body temperature cannot be kept within the normal range.Cot nursing is an alternative approach to care for the infant dressed rather than naked and is less costly.The sensory stimuli may play a major role in neurologic and physical maturation and may be specially crucial in furthering the organization of many higher order processes.The sensory stimulation must be appropriate to the infant’s state of development and to the infant’s individual requirements.The sensory stimuli must optimize both the immediate and ultimate neurologic and physical development.Optimal nutrition is critical in the management of the over-increasing number of surviving small premature infants. Although the most appropriate goal of nutrition of low birth-weight infants is not definitively known, achieving a postnatal growth that approximates the in utero growth of a normal fetus at the same postconception age apears to be the most logical approach at present.-161•The assessment of post-natal growth in premature infants can be performed by using either intrauterine or extrauterine standards.The nutritional needs can be provided by enteral or parenteral means or a combination of both.Dietery mixtures for the low birth-weight infants are a highly controversial subjects. Dietery energyintakes ranging from 114 to 181 Kcal/kg/day and protein intakes of 3.5-4 gm/kg/day in which whey: casein ratio is 60:40, have been recommended for premature infants.Fat should provide 40-50% of energy supply; while carbohydrate should provide 40-45% of energy supply given in the form of lactose (40-50%) and glucose polymers (50-60%).The routine supplementation of multivitamins, folic acid, and vitamin E to all low birth-weight infants is controversial. Most investigators suggest vitamin supplementation be given until the intake of formula or breast milk is sufficient to meet dailyrequirements.Vitamin E appears to exert a protective effect in premature infants against the development of severe retinopathy. The supplementation of vitamin E should be dependent upon the serum vitamin E concentration that should be kept between 1 and 3 mg/dl.-162The daily oral regiurements of sodium is 4-5 mmol/kg/day and potassium is 2-3 mmol/kg/day.Calcium intake of 200-250 mg/kg/day and phos-phorus intake of 110 to 125 mg/kg/day with calcium: phosphorous ratio. 2:1. ensures adequate bone mineralization.It is controversial whether iron supplementationfor premature infants should be initiated soon after birth or at two months age. If iron supplementation started at birth, vitamin E stutus should be closelymonitored.The preterm human milk is the preferred food for the low birth-weight infants, provided nutritional supplements are used.The preterm formulas are superior to both banked human milk and conventional milk formulas in respect to energy balance, nitrogen balance and growth indices.Premature infants should ideally be tube fed by intermittent gastric feeding (gavage). Continuous gastric and transpyloric feedings are indicated

in selected infants.Parenteral nutrition is a mean of providing, either partially or completely, the nutritional requirements (fluid, calories, minerals and vitamins) of basal metabolism and growth to an infant incapable of tolerating them enterally.-163The indications for total parenteral nutrition or supplemental parenteral nutrition in the newborninclude, congenital gastrointestinal anomalies, post surgical infant unable to feed enterally for anextended period of time, the newborn with intractable diarrhea and the preterm infants unable to tolerate enteral feedings.The nutritional requirements of total parenteral nutrition include:1-Calories: the total caloric requirements are90 Kcal/kg/day, of which 80 Kcal/kg/day are in the form of nonprotein sources (glucose and lipids).2-Fluids: the fluid requirements during the firstday of life is 60 ml/kg and gradually increased toreach a maximum of 150 ml/kg/day by the 5th day of life.3-Glucose: the daily glucose requirement is10-20 gm/kg/day, which is given in the form of 10% glucose solution.4-Protein: the protein is given in the form of crystaline aminoacids, starting with 0.5 gm/kg/dayand increased by 0.5 gm/kg/day to reach a maximum of 2.5 gm/kg/day.-1645-Fats: the daily fat requirements are given in the form of fat emulsions, starting with 0.5-1 gm/kg/day, and gradually increased by 0.5 gm/kg/dayto a maximum of 2.0 to 3.0 gm/kg/day. The rate of lipid infusion should not exceed 0.25 gm/kg/hour.6-Electrolytes: the daily requirements of sodiumis 2-3 mEq/kg/day, of potassium in 2-3 mEq/kg/day and of chloride is 3-5 mEq/Ng/day.7-Minerals: the daily mineral requirements are 30-40 mg/kg/day for calcium, 30-40 mg/kg/day for phosphorus, 25 mg/kg/day for magnesium, 20 mcg/kg/day for copper, 500 mcg/kg/day for zinc and 0.14-0.2mcg/kg/day for chromium.The complications of parenteral nutrition are catheter related complications, infections and meta-bolic complications. The catheter related complications can be minimzed by the use of silicon rubber catheters. Infections can be prevented by strict asepsis during insertion and maintenance of the catheter. The meta-bolic complications can be minimized or prevented by proper and careful biochemical monitoring.The primary objective of assisted ventilation is to support ventilation until the patient can adequa-tely do so for himself. Ventilation may be required during immediate care of asphyxiated or apneic infants,-165prior to evaluation and disposition, or for prolonged periods for treatment of respiratory failure.Ventilation during emergency care should beavailable in every delivery room and newborn nursery.The optimal way of assisting respiration isventilation via an endotracheal tube and anesthesiabag by an experienced person. However, most infants can and shouldventilated with bag mask plus 100 per cent oxygen prior to attempting tracheal intu-bation. This improves oxygenation and decreases arterial PCO_2 decreasing the likelihood of cardiacarrest during endotracheal intubation.Hand ventilation is impractical for prolongedperiods of time but should always be used for immediateresuscitation, stabilization following trachealintubation and during transport to intensive care facilities when mechanical ventilation is unavailable.Prolonged ventilation will only be available in special units where continuous expert nursing, respiratory therapy and medical care are available.The respiration can also be assisted by expansion of lurigs with continuous positive airway pressure (CPAP). These techniques are of value where respiratory drive is normal and pulmonary disease is not over-whelming.-166The continuous

positive airway pressure (CPAP)is now the first method used to assist ventilation of the infant severely ill with respiratory distress syndrome who weighs more than 1500 gm at birth. Those Who weigh less are mechanically ventilated.The survival of -low birth weight infants has dramatically improved with the introduction of tech niques of assisted ventilation with continuous positive airway pressure (CPAP).The principle of all mechanical ventilation is to achieve a pressure gradient between lungs and mouth, producing a flow of gas into the lung. This is done by intermittently building up a positive pressure in the airway.The time cycled, pressure limited, continuous-flow ventilator is useful for ventilating newborns having any form of lung disease.The goal of assisted ventilation is to maintain Pa02 between 50 and 80 mmHg., PaCO2 between 35 and 50 mmHg. and pH between 7.25 and 7.45.Control of the infection in the nursery plays an important role in decreasing morbidity and mortality among the newborn infants.Admittance to the nursery is granted only to well individuals concerned with the care of the infant.-167Infants admitted from outside the nursery must be isolated in an incubator until results of cultures are available.Infants with toxogenic E. coli gastrointestinal infection, viral infectiQns and draining lesions must be excluded from the nursery and isolated inseparate rooms.The incubators & cribs must be washed with antiseptic solution at least every week and after each separate occupancy. The water is changed everyday.All equipments must be sterilized before use and respirator tubing and humidification areas are to be changed every 24 -hours while infants is on the respirator.All personnel must follow the rules of sterili zation in the nursery.The sudden unexpected changes in the status of sick infants are frequently encountered. Monitoring of the sick neonate is, therefore, a vital aspect of neonatal eare.Good clinical acumen, aided by various monitoring devices, is crucial for recognition and management of medical emergencies. Monitors displaying heart rate, respiration rate, electrocardiogram, and blood pressure guide in such managment.-168Advances in biochemical techniques have also enabled the clinician to document instantaneous physio-logic changes on a sequential basis.All the available devices should be assessed periodically according to their merits.Beyond doubt, a good outcom e in neonates depends upon a multidisciplinary approach to neonatal monitoring.