**CURRENT TRENDS IN MIDWIFERY AND OBSTETRICAL NURSING**

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**Introduction**

The maternal and child population is constantly changing along with change in social structure, variations in family style, increased health care cost, improvement in medical technology & changing patterns of illness. Current trends in midwifery & obstetrical nursing involves technological advances, increased cost of high-tech care, changing patterns of child birth, family centred care, role of fathers in child birth. Families are smaller in size than in previous decades. Children are more likely to be born and raised in non-traditional groupings such as:

* Single parent families can be result of unwed parenthood or divorce & mostly headed by the mother.
* Blended families formed by the marriage of two adult who have children from previous union.
* An increasing number of mothers work outside the home.
* Abuse is more common than ever before.
* Families are more health conscious than previously.

1. **Economic issues and trends**

The cost of having and raising children continues to increase faster than family income. As cost has increased and as more women work outside the home, the number of children in a typical family has decreased. More women of child bearing age are employed outside the home than ever before. Most commonly they work because of economic necessity. Single parents are even more likely to experience difficulty in coping with demands.

1. **Trends related to technology**

Advance in technology had led to change in every aspect of our lives. It affects us as individuals families, society or culture and even the approach of child bearing. Technology allows diagnosing and treating serious deformities and diseases. Specific are as where advance in technology affect child bearing include fertility concerns, genetic counseling and antepartum or intra partum diagnostic testing.

1. **Fertility concerns:**

 In the past, conception was a somewhat random event; today conception can be much better controlled. Pregnancies can be planned, infertile women or men can be become parents and unwanted pregnancies can be prevented or terminated. Technology can help women who are unable to conceive have a child. Procedures such as in vitro fertilization, artificial insemination and surrogate mother are current options and new techniques under study.

1. **Genetic counselling:**

 Genetic counselling enables to look at the genetic structure of individuals & pr3dict the like hood of occurrence of gene related disorders. Before genetic testing was available, a couple essentially took a risk each time pregnancy occurred.

1. **Diagnostic testing:**

The number and types of diagnostic tests used in medicine and especially in maternity care have grown dramatically as ultrasound examination. The technology helps in early diagnosis and treatment of problems.

**3. Demographic issues and trends:**

Shift in population distribution occurs as large cities provide the greatest opportunities and convenience. Therefore they attract more people and most of maternity services are concentrated in urban areas.

1. **Availability of maternal care:**

In cities number of hospitals are staffed & equipped to provide care to high risk maternity clients. Modern hospital offers more care for the child bearing women than available in the past. More facilities today provides some form of family centred care, with birthing rooms that encourages more supportive family friendly approach to the child birth.

1. **Increased cultural diversity:**

New population introduces new concerns in relation to indigenous infection agents, uncommon diseases & unfamiliar disorders. New cultures introduce unique beliefs and practices and child birth.

1. **Vital statistics:** Some statistics have the highest level of significance for identifying trends that will have impact on maternity nursing. The statistics include birth rates and morbidity rates.

* Maternal mortality: there is reduction in maternal mortality rates due to improvement in medical management, early detection of disorders & prevention of complications and better hospital facilities.
* Birth rates: in India the birth rate is increasing. Birth rates also vary according to age and racial groups.
* Number of low birth weight infants: the number of LBW babies has not decreased.
* Infant mortality rates: the number of deaths of infants under one year of age per 1000 live births. To effect change in mortality rate, the focus must shift from high technology medical interventions to improving access to preventive care.

**4. Trends in health care settings:**

1. **Managed care:**

 It is a system of health care delivery that focus on reducing the cost of health care through close monitoring. Before managed care health care insurance paid separately for each procedures or price of equipment the client received. Under managed care the agency receive a certain sum of money for the client care.

1. **Alternative setting:**

 The alternative system provides families with increase control in birth experience and options for birth surrounding unavailable in hospital. It also increase nursing responsibility for assessment & professional judgement & provides expanded role for nurse practitioner. This promotes a holistic, family centered approach to maternal and child health care.

1. **Community based care:**

 A shift in setting care institution to the home has been occurring. It is an agency privatizing the department of children & families function of providing care & services to children who have been abused & neglected. Even child bearing women at risk are cared for in the home.

1. **Shortening hospital stay:**

Routine hospitalization for mothers and new born after an uncomplicated delivery is now 2days or less. Short term hospitalization requires intensive health teaching from maternity nurses.

**5. Trends of patient involvement, self care and focus on health care:**

In the present scenario clients no longer passively accept and comply with the advice of health care providers, rather they demand information & take advice roles. Maternity patients are usually well and thus their care focuses on enhancing health and wellness. Visit to health care providers presents opportunities to address topics such as nutrition, education, stress management, smoking cessation, alcohol and drug treatment etc.

**6. Other trends:**

**i) Increase in high risk pregnancies:**

The number of high-risk pregnancies has increased which means that a greater number of women are risk of pregnancy outcomes. The high-risk cases are increasing more now a days due to mainly the lifestyle changes such as sedentary lifestyle, smoking cigarettes, drinking alcohol, drug abuse, unhealthy dietary patterns, lack of exercise etc. Age is another major cause of high-risk pregnancy, who will be under age 17 or over age 35 years for primigravida they faxed a greater risk of complications during pregnancy. The two important frequently reported maternal risk factors are gestational hypertension and diabetes during pregnancy.

* Drug abuse during pregnancy contribute the incidence of prematurity, LBW babies, congenital malformations, learning disabilities, withdrawal symptoms in infants etc.
* Alcohol consumption during pregnancy associated with miscarriage, mental retardation, LBW babies etc.

**ii) High cost of health care:**

 Health care is one of the fastest growing sectors. Due to use of advanced high cost technology for patient treatment, hike in demographic rate, pandemic issue, cost of health care service provider etc. the health care cost is now-a-days increasing.

**iii) Limited access to care:**

Limited availability of health care resources, inability to pay for the health care services are the most significant barrier to assess the medical care and that may increase the poor health outcome. Lack of transportation and dependent care are other barriers which limit the access to health care.

**iv) Family centered care:**

It is based on the understanding that the family is the patient’s primary source of nurturing and support and helps in client’s decision making. Family centered care is made up of a set of values, attitudes and approaches to services for children with special needs and their families. Here the emphasis on the delivery of professional health care that fosters family unity while maintaining the physical safety of mother during antenatal, intranatal and postnatal period.

**v) Labor, delivery, recovery and post-partum care (LDRP):**

 It is the maternity unit for family centered care. LDRP also called single room maternity care in which the women in labour and their family complete normal childbearing experiences in one home like room which was devised as a replacement for traditional maternity unit. In it the mother labors, delivers and recovers in the same room and the same bed. The LDRP has the advantage of providing comprehensive care with single setting.

**vi) Mother baby couplet care:**

It is the concept of care where both the mother as well as the baby cared together from the birth of the baby to discharge from hospital. Here one nurse care for the post-partum mother and her newborn as a single unit. It focuses and adapts to both the physical and psychological needs of the mother, the family and the neonate and fosters family unity. It provides new mother a safe, comfortable way to reach, soothe and care for their newborn independently.

**NEW TRENDS TO REDUCE THE RATE OF MATERNAL MORTALITY:**

1. **The WHO near-miss approach:** A woman who survives life threatening conditions during pregnancy, abortion & postpartum period or within 42days of pregnancy termination irrespective of receiving emergency medical or surgical interventions is called maternal near miss. So according to WHO near-miss approach, the process of review is as follows:

**Case identification as per the criteria**

**Filling the tools**

**Facility based review of cases & undertaking local corrective actions**

**Data feeding**

**District level review of cases**

**Corrective measures undertaken at different levels(institution/district/state)**

1. **Maternal Waiting home:** These are designed to help high risk pregnant mothers & the pregnant mothers who live far from the health facility in improving access to obstetric care after 37 completed weeks of gestation. It facilitates access to skilled care during intra-partum & postpartum time those who are having poor transportation in severely restrict access to delivery services. When the mother comes to hospital if there is any delay then she needs waiting home. So the three delays are

* Delay in seeking appropriate medical help
* Delay in reaching an appropriate facility
* Delay in receiving adequate care

1. **Post partum butterfly:** It is a simple, low-cost device designed to treat PPH through uterine compression. It is less invasive and less tiring than traditional Bimanual compression.
2. **Transvaginal Bakri Balloon replacement:** It is a non-surgical option in which an intrauterine device used for temporary control or reduction of postpartum haemorrhage when conservative treatment for uterine bleeding is warranted. Here the balloon is inserted into the cavity of the uterus under ultrasound guidance.
3. **The Vita HEAT during labour:** The Vita HEAT is a portable system that moves with the woman throughout entire labour and delivery process. It is portable, under-body system delivers warmth and helps improve women satisfaction &comfort. Also use as non-pharmacology pain relieve.

1. **Virtual reality (VR) relieve Labor Pains:** Virtual reality (VR) is one of the newest non- pharmacological labor pain management. VR is a new technology can help patients learn pain management skills like breathing exercises, meditation, and visualization that will helps to distract the brain from receiving pain signals.
2. **Massaging Bra:** It is a hand free pumping bra that mimics compression massage, a technique that will help to increase and maintain milk supply and make pumping easier.Massaging Bra helps to move more milk into breast pump. The milk is collected in a specially designed bag that fits inside the unit. It is used to stimulate milk glands and help to achieve let down by using the wireless, re-chargeable remote. Itis a powered bra that has a built-in massager. It used to prevent blocked milk ducts. It is one of strategies to relief breast engorgement.

**NEW TRENDS TO REDUCE THE RATE OF FETAL AND INFANT DEATH:**

1. **Wireless fetal monitoring using smart phone:** The special type of smart phone is used to record FHR continuously. Here the Doppler ultrasound signal was fed in the in-built microphone of the smart phone via an audio cable, thus the input Doppler signal is processed on the phone directly to estimate FHR using an application program.
2. **Non-invasive Prenatal Testing (NIPT):** It is a method which determine the risk that the fetus will be born with certain genetic abnormalities such as Trisomy 21 (Down syndrome), trisomy 18 (Edwards syndrome), trisomy 13 (Patau syndrome) and monosomy X (Turner syndrome) etc. This testing analyses small fragments of DNA circulating in blood.
3. **Vaginal Seeding :** it is also called microbirthing. It refers to the practice of inoculating a cotton gauze or a cotton swab with vaginal fluids to transfer the vaginal normal flora to the mouth, nose, or skin of the newborn infant have been born by caesarean section. This process transfers vaginal microbes to the baby helps to establish the baby’s own immunity to fight against diseases. It will helpful to reduce the risk of developing allergy, asthma, autoimmune disorders.

**NEW TRENDS TO REDUCE PRETERM BIRTHS:**

1. **Maternal progesterone supplementation:** vaginal progesterone administration is currently the best practice to reduce preterm births but it is mostly effective in women who have short cervix.
2. **Cerclage:** It is the process to close the cervix during pregnancy to prevent preterm birth due to cervical incompetent.
3. **Cervical length screening:** It is the procedure to measure the length of cervix during mid trimester using transvaginal ultrasound. If the length of cervix is <25mm then the risk of preterm birth is more.

**NEW TRENDS IN OBSTETRICS:**

1. **Delayed Umbilical Cord Clamping After Birth:** Immediately following delivery of the baby not to cut the cord, wait for a few minutes to clamp and cut the cord after that. By doing delay in cord clamping the baby will get an additional amount of blood which helps to increase the haemoglobin level at birth and improves iron stores in the first several months of life. In future it helps in better developmental outcome.
2. **Labouring In Water:** Labouring in water and water birth helps to increase maternal relaxation, reduce analgesic requirements and promotes a easy delivery of baby. Immersion in water can help decrease the need for an epidural or other pain medication in women with healthy, uncomplicated pregnancies. It will lessen the tearing the episiotomy. However, once it's time to begin pushing it's best to get out of the tub because delivering baby in the water hasn't been well studied and there have been reports of serious complications.
3. **Cell-Free DNA Genetic Screening:** It is a test that can determine if a pregnant woman has higher risk of having a fetus with Down syndrome, abnormality in sex chromosome**,** trisomy 18, trisomy 13 etc.Cell-free DNA screening is the newest way to screen for genetic problems in the baby. This is a simple blood test done after 10weeks of pregnancy, that can detect pieces of the baby's DNA in mothers blood to determine if there may be a problem with the pregnancy.
4. **Effective Anaesthesia during labour:** The introduction of combined spinal– epidural anaesthesia (CSEA) offers better results than the epidural type. CSEA also decrease the anaesthetic failure rate in compare to epidural type.
5. **Cord blood sampling:** After delivery of baby the cord blood sample is collected from the umbilical cord in a specimen collection container for the diagnosis of fetal anemia, other blood related problems such as Rh incompatibility, diagnose any genetical abnormalities etc.

**NEW TECHNOLOGY IN GYNECOLOGICAL NURSING:**

1. **Robotic Gynecological Surgery:** Robotics is a new field in surgery especially in complex operations where movement is critical. It will help to taking a patient's vitals, medical history and updating medical records. The robotic nurse plays an essential role in a successful robotic surgery. As part of the robotic surgical team, each one of the robotic nursing team nurse coordinator, scrub- nurse and circulating-nurse has a certain job description to ensure maximum patient's safety and robotic surgical efficiency. Well-structured training programs should be offered to the robotic nurse to be well prepared. Robotic surgery will cover Hysterectomy & tubal ligations, Removal of fibroid tumors & Myomectomy, Removal of ovarian cysts & ovarian tumors, Infertility surgery, Endometriosis surgery, Genital Prolapse surgery etc.
2. **Clearblue Digital pregnancy test:** Clearblue Digital Pregnancy Test is a highly effective and advanced digital pregnancy test. It is more than 99% accurate at detecting fertility. It will give double confirmation of the result in word i.e. Pregnant/Non-pregnant within 3minutes & the unique smart sensor gives a clear result. During pregnancy the hCG hormone level is more in maternal urine so the clear blue digital pregnancy test will helps to detect the tiny amounts of this hormone from urine.
3. **Remote control contraceptive computer chip:** A contraceptive computer chip that can be controlled by remote control has been developed. The chip is implanted under a woman's skin, releasing a small dose of levonorgestrel, releasing the 30mcg dose into the body for 16 year daily but can be stopped at any time by using a wireless remote control. It is safe, effective & gives long-term birth control effect.
4. **Telemedicine / Telenursing:** It refers to the practice of caring for patients remotely when the provider & patient are not physically present with each other. It allows the health care professionals to evaluate & treat patients at a distance using telecommunication technology. The distribution of health services via electronic information and telecommunication during high-risk pregnancy including:

* **Electronic medical record (EMR) consultations:** It is the electronic record of healthcare information of an individual that is created, gathered, managed & consulted by authorized clinicians & staff within one healthcare organization.
* **Genetic counselling:** it is the process of investigating individuals & families affected or at risk of genetic disorders to help them understand & adapt to the medical, psychological & familial implications of genetic contribution to disease.
* **Video conferencing:** It is the live visual connection between two or more remote parties over the internet that stimulates a face-to-face meeting.
* **Virtual rounding:** It is the process in which the physicians visits a patient via videoconferencing ad able to treat their disease.

**NEW TRENDS IN EDUCATION OF MATERNAL AND NEWBORN HEALTH NURSING**

1. **Tele-communication:** It is the process of transmission, emission, reception of signals, writing, images and sound transmission of any nature by wire, radio, optical and other electromagnetic systems. Through that an important information can be send to the distance area that will help in better communication process. It will help in patient care of chronic illness in a improves way.
2. **Problem based learning:** It is a teaching method that encourages critical thinking, group interaction and application of theory into practice. In which the students are subjected to an open-ended problem and they were allowed to work on it and found the solution by their own way, so that will helps to increase the interest towards learning, drives the motivation and problem solving approach.
3. **Mind mapping:** It is the process that will able to develop an understanding of critical thinking by using a collaborative team approach. It involves writing a core theme and think about the new related ideas which are radiated from that central theme and also relate each ideas with the core theme and finally represent all in a diagram.
4. **Training With Simulator Mannequins In The Laboratories:** Learning with simulator mannequins in nursing is the combination of interactive simulations of real- life clinical scenarios for the purpose of nursing training, education and assessment. The simulation provides standardization of cases, promotes critical thinking, allows supervision of patient care, provides feedback and helps students to assimilate knowledge and experience. The mannequin is a life like patient simulator used to represent real world nursing scenario. Through that the nursing care practice teaching should be given to students.

**Conclusion**

Due to changing population trends, demand in health care facilities new trends should be important in maternal and child health nursing field to provide quality care and to reduce the maternal and infant mortality and morbidity rates. It should be important for the nurses to know the new trends in obstetric and gynecological nursing field which will help them better during the practical settings in actual delivery of care to the needed one.

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