WISELEAF SCIENTIFIC VENTURES



Chapter 9: Postnatal Mother Care, Breastfeeding and Lactation Management

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Abstract

Postnatal care is a crucial aspect of the maternal and newborn health care system. It ensures that the mother recovers physically, mentally, and socially after childbirth. The chapter explains the significance of postnatal care in terms of maternal care, physiological changes after delivery, nutrition, hygiene, and aftercare both naturally and through cesarean section. In addition, the chapter explains the signs of postpartum complications, postpartum blues, and postpartum depression. Most importantly, the chapter discusses breastfeeding and managing lactation, for which the benefits of breast feeding, the role of colostrum, and how lactation is regulated via hormones are highlighted. The chapter highlights correct breastfeeding methods comprising early initiation, proper positioning and attachment, frequency of feeding, and expelling and store of breast milk. Other breastfeeding issues (lactation problems), are also included in the chapter, for example: breast engorgement, average sore nipple, milk duct clogging, mastitis, and stress about low milk supply. Thus, the chapter concludes that (chasing) proper postpartum care, scientifically based breastfeeding recommendations, timely medical treatment, and family support are essential in faster recovery of mothers, successful implementation of breastfeeding, as well as development of a baby.

Keywords: Postnatal care, Maternal health, Breastfeeding, Lactation management, Postpartum depression

9.1 Postnatal Care after Delivery

Postnatal care is the health care and support that a mother and a newborn receive shortly after delivery and during the first six weeks after childbirth. This time is critical for the recovery of a mother, establishment of breastfeeding, adaptation of a newborn to extrauterine life, and prevention of complications. Postnatal care includes examination, nutrition counselling,

hygiene aspect of care, emotional support, and education about newborn care. Continuous supervision allows early detection of possible complications such as postpartum hemorrhages, infections, disorders associated with hypertension, and mental problems. Proper postnatal care ensures good state of health for a mother, health of an infant, and adaptation of a mother to new duties.

9.1.1 Overview and Importance of Postnatal Care

As shown in (Fig 1), the time after childbirth is full of physical, hormonal, and emotional shifts as the body of the woman slowly recuperates from giving birth. Engaging in solid care during this period allows the uterus to recover along with healing of the wounds, restoration of nutritional state, and achievement of successful breastfeeding of the child. Additionally, it helps in determining possible complications such as dangerous bleeding, infections happening after childbirth, anemia, and depression. Postnatal care is made of various aspects including nutrition advice, information about water intake, hygiene, comfort, and physical activity. Information about breastfeeding of the new baby, the fundamentals of parenting, planning of the family, and emotional assistance can also prove to be necessary.[1,2]

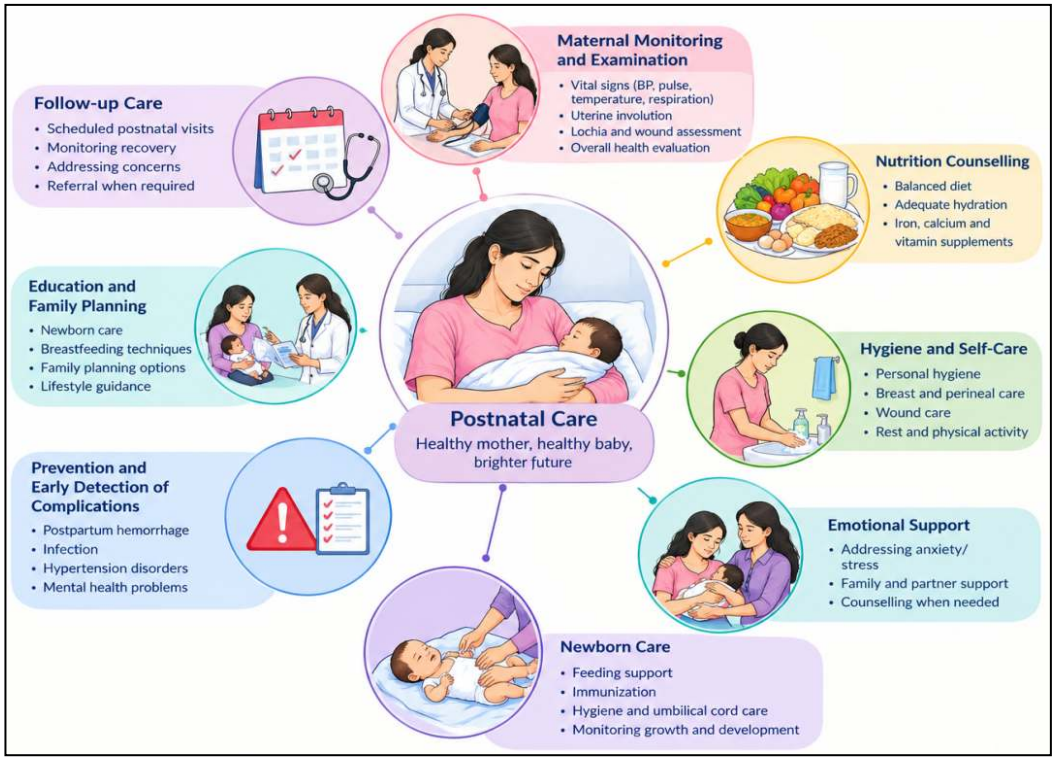


Fig 1: Components of Postnatal care

9.1.2 Maternal Monitoring and Postnatal Check-ups

Maternal supervision is pivotal in monitoring recovery and uncovering problems that arise after childbirth. As soon as the baby is born, healthcare providers monitor indicators of health such as blood pressure, pulse, breathing rate, and temperature. The assessment at this stage also includes vaginal bleeding, contraction of the uterus, and pain as well as the general condition of the mother in order to detect the symptoms of postpartum hemorrhage or other complications. Another aspect of health that should not be neglected is the recovery of perineal and surgical wounds, bladder and bowel function, and signs of infection. Postpartum visit-after birth care is useful in checking breastfeeding and breast health, nutritional status, physical activity, and emotional status. The medical staff gives advice on food consumption, hydration, wound treatment, and any other medication that may be necessary along with the determination of blood pressure and hemoglobin level depending on the mother's medical needs and risk factors.[3]

As stated by the World Health Organization (WHO), post-natal care must consist of a proper assessment in the initial 24 hours after the baby is born and subsequent visits between 48 to 72 hours, 7 to 14 days and around the sixth week. Such visits are essential in helping understand the health condition of the mother and providing necessary information regarding breastfeeding difficulties, family planning, and health issues that the mother may be facing and that require treatment. If the mother has any medical conditions or health concerns that require special attention, then additional visits may be required.[4]

9.1.3 Follow-up Care and Warning Signs

Maternity care involves continuous care for the mother after the discharge from the medical institution. This care entails advising on physical rehabilitation, an evaluation of the wound healing process, support for breastfeeding, health weight guidance, and dealing with some psychological concerns. Mothers are encouraged to rest adequately, have a good personal hygiene, observe proper diet and to progressively carry out their daily activities while recovering from any mishap they may experience. Support from family members is very important in reducing mothers' stress and providing care for the newborn baby. Knowledge about some post-delivery symptoms is important in preventing different forms of complication. Heavy bleeding, fever, bad vaginal discharge, severe pain in the abdomen, constant headache, blur vision, chest pain and difficult breathing are clear indications that medical assistance is required. Swelling of one leg accompanied by pain may mean that one has a blood clot and requires urgent help. Severe headache, and problems with sight may indicate hypertension or pre-eclampsia even in cases when the blood pressure is normal.[5]

Following up on emotional changes should also be necessary. Continuous sadness, a high level of anxiety, disinterest in any daily activities, or supposed incapacity to care for oneself or the

baby suggest mental problems. In cases when a person goes through extreme confusion, is confused about whether to harm themselves or their baby, hallucinations must be treated as an emergency situation requiring immediate intervention. It is imperative to explain the criteria for identifying emotional changes to mothers and their close relatives, persuade them to attend scheduled appointments, and provide them with timely access to needed assistance.[6]

9.2 Physical Recovery of the Mother

As mentioned in (Table 1), Physical recovery following delivery is a gradual process whereby the mother's body experiences a series of changes to get back to its pre-pregnancy shape. The recovery period involves hormonal changes, uterine contractions, integration of the tissues, and getting the body back to its normal functioning. The length of recovery may depend on the mode of delivery, mother's health, blood loss during delivery, or any complications. Follow-up of mother's nutrition, rest, hygiene, breastfeeding, and medical follow-up is necessary for effective recovery.

9.2.1 Physiological Changes after Delivery

After giving birth, the body of the woman slowly returns back to its original state. The secretion of some hormones, such as oestrogen and progesterone, falls, while prolactin keeps increasing. Oxytocin, on the other hand, helps to let the milk out and contributes to the contractions of the uterus. All these hormonal changes may affect the emotional state of the woman. The healthcare system returns to the prenatal condition as blood circulation changes gradually. In the first few days, lots of sweating and peeing may occur.[7] The abdominal muscles and pelvic floor can be still somehow weakened, leading to pain in the back or urinary tract malfunctions. Bowel movement may also be affected by temporary inactivity, dehydration, and perineal injury or caesarean delivery. Breasts generally become larger and harder as women's milk begins to flow in the days after delivery. In some cases, mothers experience mild pain and swelling of their breasts if feeding was not carried out successfully. In addition, new mothers often go through emotional changes, suffer from fatigue, and experience sleep problems. Nevertheless, recovery can be facilitated by proper nutrition, physical exercises, and breastfeeding support.[8]

9.2.2 Uterine Involution and Postpartum Bleeding

The uterus undergoes the process of uterine involution after birth, allowing it to return to its previously normal size before the pregnancy. This process starts once the baby is born, when the uterus contracts around blood vessels located under the placenta to minimize possible bleeding post-birth. During the next days and weeks, the uterus shrinks until it finally reaches its original size in about six weeks. Another important aspect of recovery after giving birth is the presence of lochia. It is a mixture of blood, placental tissue, and mucus expelled from the uterus, which has a varying volume and its color changes as well.[9] Lochia rubra appears bright red right after the birth and becomes maximum in the first days after birth. A little bit later,

lochia rubra changes into lochia serosa, which has pinkish red color. Finally, it becomes lochia alba after lochia rubra is fully transformed into it. Mild abdominal cramping that is prevalent during lactation is said to arise from contractions of the uterus due to oxytocin. But, in the event of excessive bleeding, the presence of large clots, any unpleasant urge from the discharge, the rise in temperature, or the worsening of abdominal pain, immediate medical attention is needed. Severe bleeding accompanied by any signs of dizziness, faintness, or fatigue demands urgent intervention. Therefore, monitoring bleeding and visiting the doctor regularly is crucial when trying to detect abnormalities. [10]

9.2.3 Pain, Fatigue and Resumption of Daily Activities

During the postpartum phase, pain and fatigue accompany the healing process from labor and delivery as well as lack of sleep. New mothers who have recently undergone a vaginal birth may experience pain, swelling, or discomfort from the episiotomy or injury in the perineum. After a cesarean, women can endure pain for days in the abdomen where the surgery was performed. Afterbirth contractions are the contractions of the uterus that can be aggravated by breastfeeding and are more strong in the case of multipara women. Pain can be managed with the help of prescribed medications, finding comfortable positions, resting as much as possible, and by taking care of the area properly. Vaginal pain can be alleviated by proper hygiene, applying cold compress for the first few days, and following medical recommendations. [11]

Fatigue may result from blood loss, changes in hormones, insufficient sleep, the demands of feeding a child, and taking care of the newborn. The mother has to make sure she gets enough rest and seeks help from her family members, drinks enough water, and eats healthy food rich in proteins, iron, and vitamins. If the fatigue is too strong and lasts too long, the patient might have to go for a check-up to find out the possible disease, such as anaemia, infections, or thyroid disorders. It is important to return to one's normal routine gradually depending on the mother's condition after giving birth. After doctor's recommendations, mother may start taking walks and performing specific pelvic exercises. No heavy lifting or intensive workout should be done until the mother recovers completely. These restrictions must be respected even when the mother experiences pain or has some discharge from her wound.

Table 1: Common Physiological Changes during the Postpartum Period

Body System	Physiological Changes
Reproductive system	Uterine involution and lochia discharge
Breasts	Milk production and breast enlargement
Cardiovascular system	Gradual return to pre-pregnancy status
Urinary system	Increased urine output
Gastrointestinal system	Gradual return of bowel function

Musculoskeletal system	Gradual recovery of abdominal muscles and pelvic floor
Endocrine system	Changes in pregnancy-related hormone levels
Skin	Gradual fading of pigmentation and stretch marks

9.3 Postpartum Nutrition

Nutrition after childbirth is important for a mother to recover. As shown in (Fig 2), after a pregnancy, a woman's body will need the right mix of energy, protein, vitamins, minerals, and liquid, so that the body can heal from the pregnancy and delivery. Since food is very important for women who lost a lot of blood during the pregnancy or those who had a C-section or who breastfeed, it is vital to the recovery process. Proper nutrition will allow new mothers to have the energy they need and will also help boost the immune system and milk production. Hence, people have to customize their menu, depending on one's health, nutritional state, traditional cuisine, and medical problems.

9.3.1 Nutritional Requirements after Delivery

Nutritional needs during the postpartum period vary based on several factors impacting the mother, like age, body weight, activity level, health condition, and the necessity of breastfeeding. Adequate intake of energy helps in tissue repair, daily practices, and lactation. Proteins help heal the perineal and surgical wounds and preserve muscle endurance. Good sources of dietary proteins include milk, cheese, eggs, lentils, legumes, fish, lean meats, nuts, and seeds.[12]

Iron helps replenish the iron reserves after the loss of blood during the birth process and to avoid or treat anaemia. Foods rich in iron include green leafy plants, legumes, meat, and iron-fortified food products. Foods rich in vitamin C such as guava, citrus fruits, and amla facilitate the process of iron absorption from plant sources. Calcium and vitamin D help keep bones healthy while folic acid, vitamin B12, zinc, and other microelements help build blood, enhance immunity, and mend the tissues. During the initial stages of recovery period, mothers should not go for severe meal restrictions but consume a balanced diet rich in nutrients. Those affected by illnesses such as diabetes, anemic condition, thyroid issues, or others may require a tailored diet plan with necessary supplements from a physician. Quality nutrition helps mothers recover faster and be energetic while looking after newborns.[13]

9.3.2 Balanced Diet and Essential Nutrients

Daily nutrition plan after childbirth should include several types of food from different groups of foods. Whole grain products and all sorts of cereals, such as rice and millet, are sources of energy and fiber. Protein is represented by legumes, lentils, eggs, and poultry, which are also needed for growth of new tissues.[14] Fruits and vegetables give vitamins, minerals, antioxidants, and fiber necessary for immune system and treatment of constipation. Healthy

fats from nuts, seeds, and plant oils provide energy and improve absorption of vitamins, which are fat-soluble. Omega-3 fats from certain fish are of great importance for breastfeeding mothers and their babies. Finally, milk, creams, cheese, and their generators supply calcium and other nutrients needed. Food safety is essential for avoiding foodborne illness. Mothers are advised to eat food that is freshly cooked, well-prepared, and free of potentially dangerous products. When selecting traditional postpartum foods, mothers should consider the nutritional value of the foods, the cleanliness of their preparation, and their suitability for the mother's situation. Diets should not involve unnecessary restrictions or dubious practices.[15]



Fig 2: Balanced Diet and Essential Nutrients during the Postnatal Period

9.3.3 Hydration and Nutrition during Breastfeeding

Adequate liquid intake is essential for mothers who are breastfeeding since breast milk consists of mostly water. A nursing mother must drink the required liquid quantity during the day, whenever thirsty, especially while nursing, or after if he/she is thirsty. Liquid like milk, soup, and other good liquid types can help in attaining the daily liquid dosage. A lot of liquid

consumption is not needed to improve breast milk production. What is more important is good hydration and regular and efficient feeding of the baby.[16]

Lactation means that the mother's need for nutrients and energy increases as they are needed for milk production. For lactating mothers, the need for dietary energy is usually more than for their pre-pregnancy time, but it may differ depending on physical activity, fat stores, and feeding regimen. A proper diet consists of adequate amounts of protein, calcium, iron, vitamins, and fats. Some nutrients, for instance, vitamins B12 and D, need to be specially focused on depending on the mother's diet, exposure to the sun, and state of health. Those women who adopt vegetarian or vegan diets should be mindful of their nutrition so that they include sufficient amounts of vitamin B-12, iron, calcium, iodine, protein, and omega-3 fatty acids in their diets. Furthermore, it is advisable to take vitamins and supplements based on their preferences and recommendations of medical professionals. Alcohol consumption should be eliminated while breastfeeding, together with limiting caffeine intake during this period. Proper nutrition, hydration, and nursing help new mothers cope with the process of making milk. New mothers can receive personal dietary recommendations from doctors based on their preferences and needs.[17]

9.4 Maternal Hygiene and Self-care

Hygiene among mothers and a good degree of self-care are important aspects in postnatal recovery, preventing infection, facilitating healing of wounds, and aiding overall physical and mental wellness. Immediately after delivery, a mother might face several issues such as vaginal bleeding, discomfort in the perineal area, changes in her breasts, fatigue, and trouble with the care of the newborn. Therefore, proper hygiene measures, breast and delivery wound care, correct sleep practices, and involvement of helpers where and when necessary all results in good recovery and lower chance of complications. In this regard, health professionals should provide mothers with proper guidance in terms of hygiene practices and other matters that can help mothers notice any symptoms that can demand medical help.

9.4.1 Personal Hygiene and Perineal Care

Postpartum personal hygiene is critical for mothers as it takes time for the reproductive tract and birth wounds to recover after childbirth. It is essential for mothers to take a bath several times a week, thoroughly wash their hands prior to and after using sanitary pads as well as touching any area around the perineum and to wear clean and comfortable clothes. Sanitary pads need to be changed on a regular basis, while mothers also need to pay attention to how much discharge they produce after childbirth, as well as its color and smell. It is important to avoid the use of tampons and menstrual cups in the vagina during the early postpartum period until it is safe from a medical standpoint. Perineal hygiene is especially important for mothers who have had vaginal births, undergone episiotomy, or suffered perineal lacerations. The

perineum should be washed gently with clean water after urinating or defecating, and should be dried properly from front to back. After giving birth, the use of a clean, cool compress provides relief from swelling. Drinking enough fluids and having enough fiber helps prevent constipation and thus reduces straining during bowel movements.Women should call their doctor if they have increasing perineal pain, signs of infection, or any other concerning symptoms.[18]

9.4.2 Breast, Nipple and Wound Care

Taking care of breasts and nipples can help ensure comfort and successful breast feeding. It is important for mothers to wash their hands before feeding or expressing milk. Washing nipples regularly with soap and antiseptic is unnecessary and may cause drying or irritation; bathing normally and gently cleaning the area is generally adequate. Keeping baby in the correct position during feeding helps avoid sore nipples, cracking, and ineffective removal of milk. Breast milk can be expressed when needed and should be absorbed using absorbent pads that are changed when wet. Breast engorgement may occur during increase in milk production or when breast milk is not removed properly.[19] To relieve discomfort, mothers should breast feed frequently based on their babies' feeding behavior, correct attachment problems, and express a little of breast milk when necessary. In case of a persistent red condition of the breast, fever, severe pain, or flu-like symptoms, medical assistance should be sought as there may be signs of mastitis or another complication. The care of the wound fully depends on various delivery methods. In the case of a caesarean section, the incision must be kept clean as per the recommendations of a medical expert. Mothers should stay away from using any powders, oils, or creams that are not recommended by a doctor. After the process of vaginal delivery, women need to keep the areas affected by episiotomy or tearing clean and dry. In case of experiencing pain, separating of the wound, development of redness, or appearance of swelling, a patient should consult a medical professional. Timely wound care, breastfeeding assistance, and necessary treatment can help mothers recover successful.[20]

9.4.3 Rest, Sleep and Maternal Well-being

Getting enough rest and sleeping is important for physical recuperation and emotional balance as well as meeting the challenges of breast-feeding and caring for a newborn. The frequent feeding and waking of the baby can hinder mothers from getting uninterrupted sleep during postpartum. It is important for mothers to be advised to rest as often as they can, take brief naps when their infant is asleep, and accept help from family members with household chores and baby care. Healthy diet, enough water intake, light physical training (if allowed by the doctor), and gradual return to habitual lifestyle contribute to the increase of physical energy. Women who have gone through cesarean section or difficult delivery may need more rest. Equally important is the emotional component.[21] The hormonal shifts, fatigue, breastfeeding difficulties, and adjustment to motherhood may make the mother feel stressed, anxious, or

miserable. Effective communication with family members and medical personnel can help overcome all challenges. If the mother suffers from constant sadness, intense anxiety, inability to cope with life, and loss of interest in things, she should turn to a doctor. In case of thoughts about self-harm or harm to the baby immediate emergency assistance should be obtained. Mother self-care should be regarded as a fundamental component of postnatal healthcare rather than an optional process. Good rest, emotional assistance, hygiene, and medical care can provide effective recovery and enable mothers to look after their newborn.[22]

9.5 Recovery after Normal and Caesarean Delivery

As mentioned in (Table 2), the process of recovery after giving birth differs from mothers to mothers. Some mothers may have their cesarean section operations or normal deliveries to give birth. Similar to the cesarean operation, having normal deliveries requires proper care, pain relief, food, rest, and treatment after birth. After childbirth, patients experience a gradual process of uterine recovery, some hormone changes, and restoration of normal body functions. Proper management of wounds, as well as mobilization and breastfeeding, makes recovery easier. It is important to learn how the postpartum recovery varies after normal and cesarean deliveries.

9.5.1 Recovery after Vaginal Delivery

Vaginal birth tends to be accompanied by shorter recovery times compared to cesarean birth with the qualification being that recovery duration can differ depending on the presence of complications like perineal tearing, episiotomy, or excessive bleeding. The first few days after the delivery may include episodes of vaginal bleeding, uterine cramps, perineal pain, and generalized fatigue, but these signs usually diminish as the uterus and related tissues heal. Perineal care is essential especially in cases of episiotomy or tearing of the perineum. The affected part must be cleaned and dried thoroughly. The application of a cold compress might be beneficial because it helps in reducing the swelling and relieving discomfort after consulting with the doctor.[23] Drink a lot of fluids and eat a healthy and well-balanced diet containing sufficient fiber to help avoid constipation and aid recovery. In general, initiation of breastfeeding can begin right after childbirth, once mother and baby are in good health. Proper breastfeeding has the added benefit of helping to establish milk production and of causing the release of oxytocin, which stimulates uterine contractions. Careful attention to self-care practices such as rest, nutrition, and following up with postnatal appointments during this sensitive postpartum moment for mothers is important. Any increase in perineal pain, high temperatures, excessive bleeding, or foul-smelling vaginal discharge should be reported to a healthcare professional.[24]

9.5.2 Recovery after Caesarean Section

It takes a longer time to recover from a caesarean section for the reason that its recovery process incorporates various procedures such as the recovery of the abdominal skin and other layers below the skin. After the operation, the mother may feel abdominal pain, tenderness around the area where the operation was performed, tiredness and be unable to move around. The medical personnel has to perform the regular procedure of sign monitoring and follow changes in bleeding and pain. The significance of early and slow mobilization is in its beneficial effect in improving blood circulation as well as helping the patient's bowel to function properly and preventing blood clotting problems. It is very important to keep the wound clean and monitor how it heals.[25] Furthermore, in the first days, women should avoid heavy lifting and doing tough household chores. Sufficient supply of protein, iron, vitamins, and fluids is necessary for tissue repair and recovery. In general, breastfeeding after cesarean section can begin when the health condition of mother and baby are stabilized. Although side-lying and other positions may be found for breastfeeding in a way that puts the least pressure on the surgical area, it is important to consider the prescription of pain medication during the breastfeeding period. Follow-up visits should allow analyzing the healing process to control the overall recovery of the patient. In case of development of disturbing symptoms such as fever, incisional pain, wound discharge, or signs of infection, medical advice should be sought.[26]

Table 2: Comparison of Recovery after Vaginal and Caesarean Delivery

Feature	Vaginal Delivery	Caesarean Delivery
Recovery	Generally faster	Generally slower
Pain	Perineal pain and uterine cramps	Abdominal and incision pain
Wound care	Perineal hygiene	Surgical incision care
Mobility	Gradual activity as tolerated	Early, gradual mobilization
Nutrition	Balanced diet and adequate fluids	Protein-rich diet and adequate fluids
Breastfeeding	Early initiation if stable	Comfortable positioning to avoid incision pressure
Warning signs	Heavy bleeding, fever, severe pain	Fever, wound redness, discharge, severe pain
Follow-up	Assess healing and recovery	Assess incision healing and recovery

9.5.3 Pain Management and Wound Care

As shown in (Fig 3), Postpartum recovery includes pain management as an essential component, since uncontrolled pain hampers the ability to walk, breastfeed, sleep, and care for the newborn. The level and type of pain are determined by the method of delivery and type of

healing. While vaginal delivery may cause perineal pain, caesarean section will likely result in abdominal pains. Uterine cramps often occur during breastfeeding due to the contractions of the uterus triggered by oxytocin hormone. In some cases, pain relief involves taking medication, choosing the right posturing, resting enough, and providing appropriate local treatment. Generally, paracetamol and ibuprofen might be safe for many lactating mothers, but the choice of medication must take into account the individual contraindications and recommendations of doctors. The use of cold compresses is prevalent in treating perineal edema and applying movement and correct abdominal support can help ease any pain following the Caesarean section. It is vital to keep the incisions free from bacteria and to watch for any signs of infection. After the surgery, patients must follow their physician's instructions on bathing, dressing changes, and limits on physical activity. The patients should avoid applying any ointments, powders, or other folk remedies to their surgical injury. A good diet with sufficient fluid intake and gradual movement favors healing of the wound. If the woman experiences uncontrollable pain or has signs of infection such as fever, redness, swelling, or discharge, she needs to consult a physician without delay.

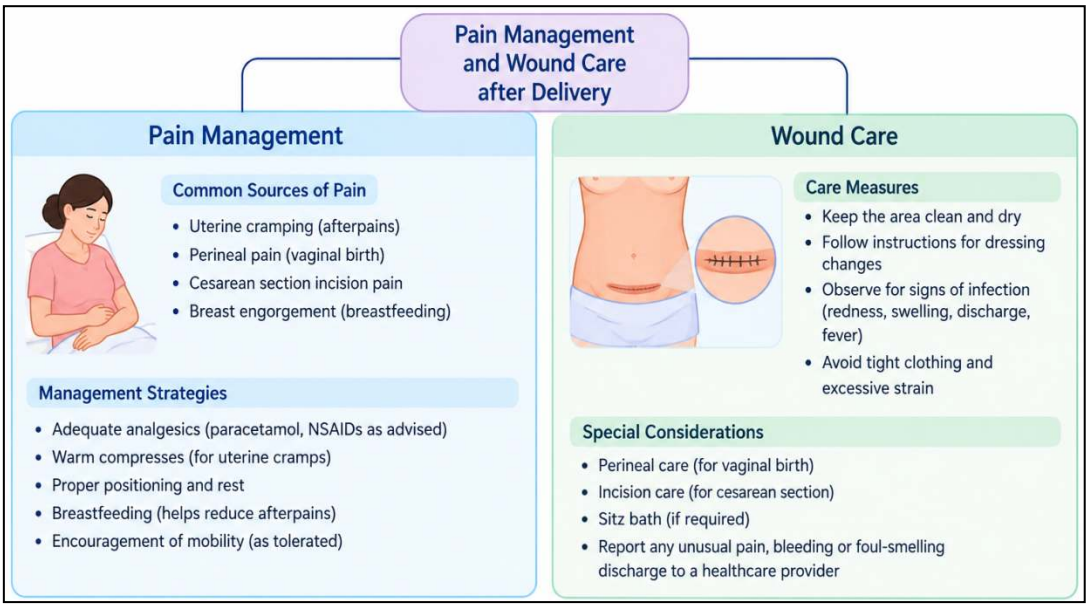


Fig 3: Pain Management and Wound Care after Delivery

9.5.4 Complications and Warning Signs

A majority of women experience a normal postpartum recovery without any complications, however, issues may arise that require assistance. For instance, postpartum hemorrhage may appear as severe bleeding, blood clots, weakness, or dizziness. A fever, chills, foul-smelling discharge, worsening tummy ache or pain in the area of the surgical cut may signal a possibility

of infection, which needs urgent treatment. Postpartum eclampsia can lead to experiences of dizziness and visual changes, or pain in the upper abdomen. DVT can exhibit as swelling and pain in one limb. Other issues mentioned are difficulty urinating, chronic constipation, separation of the wound, and symptoms of post-partum depression. Mothers with issues of persistent sadness, extreme anxiety, or inability to cope with problems should get professional help. Having ideas of self-harm or harming the child is an immediate sign that emergency help is required. Awareness of warning signs as well as follow-ups are vital for the incidence of complications. The family should also be educated about these symptoms.

9.6 Postpartum Mental Health

Postpartum mental health is considered a significant aspect of maternity care, as childbirth implies profound emotional, hormonal, social, and physical transformations. Women who just gave birth may experience many feelings including happiness, excitement, anxiety, irritability, and uncertainty. Changes in hormone levels, lack of sleep, physical discomfort, trouble with breastfeeding, and stress in relationships may affect a woman's mental health. Although many women feel somewhat unstable during the first few months after giving birth, long-lasting or strong symptoms might signalize about a serious mental disorder.

9.6.1 Emotional Changes after Childbirth

Each person goes through distinct emotional changes after childbirth but this is influenced by hormones, past mental issues, experience in childbirth, and support systems around them. While some mothers become happy and start bonding with their children, others may struggle with anxiety and feelings of being lost in their parental role. These issues may be aggravated by sleep problems, physical fatigue, and worries about children's health. Commonly, the first few days after childbirth are characterized by an increased emotional sensitivity. At the same time, if a mother feels sad, worried, unable to participate in her life fully, or incapable of taking care of her child, it may mean that the symptoms of postpartum depression are forming. Mothers who used to suffer from mental illnesses in the past should be watched closely. During postnatal visits, healthcare providers should promote mothers to talk about their emotions openly. Providing reassurance, good communication, proper rest, and early detection of concerning symptoms is often sufficient to stop emotional problems from worsening.[27]

9.6.2 Postpartum Blues and Psychological Adjustment

Postpartum blues, also called baby blues, is the term for the short-term emotional changes that are typically seen in the first few days after childbirth. Women suffering from postpartum blues may experience fatigue, upset moods, restlessness, worry, and extreme sensitivity, as well as disturbances in sleep. The changes typically happen because of shifts in hormones, exhaustion, lack of sleep, and adjusting to being a mother. In most cases, postpartum blues will go away within a couple of weeks of being experienced without any help from professionals.

Psychological adjustment means making changes in various areas of life after giving birth, like adjusting one's daily routine, changing self-perception, fulfilling obligations toward the family, and managing relationships. The symptoms of postpartum depression are more severe in nature than that of postpartum blues and could hamper the normal daily activities of the mother. In case of symptoms lasting beyond two weeks or showing improvement in mood or just showing signs of disinterest in taking care of herself and her baby, a health professional needs to be consulted. Postpartum psychosis is a very rare but serious medical condition that could have symptoms such as confusion, hallucinations, delusions or serious behavioral changes.[28]

9.6.3 Coping Strategies and Family Support

Mothers can deal with the emotional and physical challenges of the postpartum phase with efficiency as well as through the support from family. Eating healthy food, drinking plenty of fluids, sleeping sufficiently, and undertaking light physical exercises can facilitate the recovery. Mothers must engage in talking openly about their issues and emotions and should not be afraid of asking for help if necessary. Additionally, understanding that it will require time for recovery can also be beneficial. Family members can contribute to solving the problem of household chores and cooking meals for mothers as well as provide mothers with their time. Fathers should support their partners in dealing with the problems and communicating about them. Healthcare practitioners play an essential role in identifying emotional issues through the sector's routine evaluation, communication through dialog, and urgent referral. Mothers who are facing chronic anxiety, depression, or coping issues should be assessed and treated with the help of a scientific approach. In case there is a need for treatment, it can be therapeutic (psychological) or through the use of medication and it is important to take into consideration if a mother is breastfeeding. Treatment should be provided immediately in circumstances when there is a threat of self-harm or harm to the baby.[29]

9.7 Postpartum Depression Awareness

As mentioned in (Table 3), Postpartum depression (PPD) is a mental affliction that might occur after childbirth, impacting a mother's emotional state, daily activities, and her capability to care for both herself and her infant child. Unlike passing mood changes unique to the post-delivery period, postpartum depression is linked to ongoing depression symptoms that disrupt both healing period of a mother and mother–baby attachment. It may appear within the first weeks after delivery or later during the first post-delivery year. Anyone may get affected by postpartum depression regardless of age and financial situation as well as previous pregnancy experience. Thus, early diagnosis, effective screening, emotional assistance, and timely treatment must be provided to the mother.

9.7.1 Risk Factors and Causes

In reality, postpartum depression can be argued to develop from a multitude of biological, psychological, and social factors working in a synergetic relationship. The array of hormonal changes that take place in the post-partum will fuel mood alterations in a susceptible population. Secondary emotional stressors on top of these may include sleep deprivation, physical weariness, postpartum pain, difficult pregnancy, or breastfeeding or newborn care challenges. Other notable significant risks entail the history of depression or anxiety or any other mental illness, bipolar disorder, history of postpartum depression, as well as stressful life events, troubled relationships, domestic violence, financial stress, and scarce family support.[30] Pregnancy complications, preterm birth, worries about the baby's health, and unanticipated changes in the plan for childbirth can raise levels of psychological distress. Unrealistic views on motherhood and the pressure to conform to cultural or social standards can affect one's psychological health. Nonetheless, postpartum depression is not an indication that the mother is weak or incapable of being a good mother. It is possible to develop this condition even with the presence of family support or in the case of a planned pregnancy. A careful analysis of risk factors throughout pregnancy and the postnatal period allows healthcare professionals to carry out early counselling and treatment, ensure closer surveillance and offer timely preventive assistance.[31]

9.7.2 Signs and Symptoms of Postpartum Depression

As shown in (Fig 4), Emotional, cognitive, behavioral, and physical symptoms of postpartum depression may occur and have long-term effects that disturb normal functioning. The symptoms include a prolonged state of sadness, increased frequency of crying, inability to feel pleasure, hopelessness, feelings of guilt, irritableness, and difficulty with concentration. Some mothers may face extreme anxiety, excessive concerns about the health of the baby, or the feeling of being overly burdened with mundane responsibilities.[32] Postpartum depression may also provoke physical and behavioral symptoms which include sleep disturbances even when sleep has been possible, appetite issues, tiredness, lack of motivation, and withdrawal from others. Some mothers may find it hard to form a bond with their children or feel inadequate as caregivers. Seek medical help if the symptoms continue for more than two weeks, worsen over time, or interfere with any aspect of daily living. Postpartum depression differs from temporary baby blues, which typically resolve within two weeks. Symptoms such as paranoia, hallucinations, delusions, or unusual behaviours may indicate the occurrence of a rare and severe condition called postpartum psychosis. Suicidal ideations and thoughts of harming one's baby also need urgent medical attention.[33]



Fig 4: Signs and Symptoms of Postpartum Depression

9.7.3 Screening, Treatment and Support

It is important to detect early symptoms of postpartum depression and initiate treatment as soon as possible through early screening and assessment. Healthcare professionals should inquire about a woman's mood, anxiety levels, sleeping hours, daily functioning habits, and emotional adjustment at prenatal and postnatal appointments. Various screening tools that have been validated such as the Edinburgh Postnatal Depression Scale (EPDS) and the Patient Health Questionnaire-9 (PHQ-9) can be used in determining whether a mother needs more examination. Nevertheless, the results of screening alone are not sufficient for diagnosis, which can be made only by an experienced healthcare professional through assessment of symptoms and their consequences on the mother's daily functioning. The type of treatment will be determined by the severity of symptoms and needs of the mother. Psychotherapy, potentially cognitive behavioural therapy or interpersonal therapy, is found to be effective for a lot of women. Antidepressants can be prescribed if clinically appropriate, especially for moderate or severe depression or in case psychological therapy alone is not enough. When selecting medications, one should consider woman's history, health state, and availability of breastfeeding.[34]

Therefore, family support is very important in the process of recovery. Partners and family members can help in household duties, provide opportunities for rest, encourage attendance at treatment appointments, and listen nonjudgmentally. Peer support, counseling, and follow-ups may aid recovery further.[35] A mother with persistent symptoms will be encouraged to seek help earlier instead of waiting for the symptoms to resolve on their own. Immediate emergency

mental health care is necessary when a mother experiences suicidal ideation, plans to inflict self-injurious behavior upon herself or the infant, or enters severe delirium or hallucinations. Awareness concerning postpartum depression will help overcome stigma and lessen barriers to screening and treatment to promote maternal recovery and the well-being of mothers and babies.

Table 3: Postpartum Blues, Depression, and Psychosis: A Comparison

Feature	Postpartum Blues	Postpartum Depression	Postpartum Psychosis
Onset	First few days after delivery	Usually within weeks after delivery	Often within the first 2 weeks
Symptoms	Mood swings, tearfulness, irritability	Persistent sadness, anxiety, loss of interest	Hallucinations, delusions, confusion
Severity	Mild	Moderate to severe	Severe psychiatric emergency
Duration	Usually resolves within 2 weeks	May persist for months without treatment	Requires urgent treatment
Management	Reassurance and family support	Professional assessment and treatment	Immediate psychiatric care and hospitalization may be needed

9.8 Importance of Breastfeeding

Breastfeeding is a fundamental part of mother and child care, because it helps in providing infants with complete nutrition and protection in the first years of their life. Breast milk has an ideal combination of nutrients, antibodies, enzymes, and some other bioactive elements that promote growth and development of the child. Breast milk is easily digested and its composition changes depending on the infant's growing needs. It affects mother-infant bonding and supports mothers' recovery after delivery. Providing the right education regarding breastfeeding to mothers will help them with having successful breastfeeding.

9.8.1 Benefits of Breastfeeding for Mother and Infant

Breastfeeding has many nutritional, immunological, and developmental advantages for infants. Breast milk contains all the proteins, fats, carbohydrates, vitamins, and minerals that one needs for healthy growth. It contains antibodies such as the secretory immunoglobulin A (IgA) and other immune cells, and it has a number of protective properties. As a result, breastfed children are less vulnerable to infections, including those of the gastrointestinal tract and respiratory system. The infant's digestive system strongly benefits from breastfeeding, which makes the infant's development of both the digestive and immune systems easier. Breastfeeding helps the baby grow and provides comfort through the physical contact with the mother. It eliminates the

need for taking extra fluids and foods in the first six months of life when a child is exclusively breastfed. Mothers who breastfeed experience the release of oxytocin, which causes contractions of the uterus in addition to enabling it to contract and return to its normal size after childbirth. In addition, breastfeeding allows mothers to feed their babies without the need to prepare formula milk. Overall, breastfeeding is believed to contribute to a lower risk of breast and ovarian cancer in mothers and improved metabolic health.

9.8.2 Colostrum and Its Importance

Colostrum refers to the milk that comes from the breast during late pregnancy and the first day or days of life. Colostrum has a thick and yellow color and is produced in small amounts sufficient to suit the capacity of the stomach of the newborn. Although produced in small volumes, colostrum is very rich in proteins, antibodies, immune system cells, and other substances that help build an immune system in the newborn. Colostrum is characterized by a high content of secretory IgA, lactoferrin, and other substances that help protect the intestinal layer of the baby and decrease exposure to pathogens. It is also the source of substances that are needed for normal nutrition and early development while providing factors for development of the gastrointestinal system. The mild laxative effect can help to enforce elimination of meconium, a first dark stool. Initiating breastfeeding as soon as possible ideally, within one hour after delivery, provided that both mother and newborn are stable allows for adequate colostrum intake and facilitates milk production. Mothers should be supported to breastfeed their newborns frequently, using infant feeding cues to determine the timing of nursing sessions and avoiding colostrum disposal. Adequate assistance in breastfeeding is especially critical if the newborn cannot latch effectively or in case of mother-infant separation during the time after birth.

9.8.3 Exclusive Breastfeeding and Recommended Duration

Exclusive breastfeeding refers to the practice of feeding only breast milk to an infant. In other words, nothing else apart from the milk is fed to the baby, except if the doctor prescribes medications and vitamins. According to experts at the World Health Organization (WHO) and UNICEF, breastfeeding should start one hour after birth with exclusive breastfeeding being maintained for the first six months after birth. This means that the infant derives most of its required nutrients from breast milk since the body produces enough milk unless there medical problems. After six months, complementary foods can be added to the children's diets to take care of nutritional needs. WHO recommends that mothers continue breastfeeding until their children are two years old. Effective breastfeeding relies on proper positioning, attaching the baby onto the breast, feeding many times, and identifying hunger signs. Indicators of successful breastfeeding activity include weight gain, urinating, and proper feeding. Any difficulties encountered in the course of breastfeeding by the mother need to be addressed by an expert. Moreover, breastfeeding support may include many different things such as counseling, support

from family members, workplace support, and the help of a lactation consultant. Therefore, it is essential to be supportive of mothers.

9.9 Lactation Physiology

Lactation refers to the process where milk is produced and released from mammary glands in animals and humans to feed and immunize the young ones. The process of lactation includes the formation of mammary tissue during pregnancy, secretion of milk after birth, and continuous secretion of milk during the period of breast feeding. Hormones are responsible for lactation, particularly hormones such as prolactin and oxytocin. Lactation physiology is needed in the professional field in order to support breastfeeding mothers, diagnose feeding problems, and help mothers manage various issues of lactation.

9.9.1 Development of Mammary Glands and Stages of Lactation

Mammary glands change their structure and function during pregnancy to become capable of producing milk. Under the influence of hormones such as oestrogen, progesterone, and prolactin, the breast ducts and alveoli form and develop. The alveoli are microscopic sac-like structures with milk-secreting epithelium and myoepithelium. There are several stages in the lactation process. Mammogenesis is the process of formation of the mammary glands from the time of puberty to the time of delivery. The phase of lactogenesis I, or secretory differentiation, occurs while a woman is pregnant and mammary glands function. At this stage, mammary glands are able to produce colostrum. Lactogenesis II, referred to as secretory activation, occurs generally between 30 and 72 hours after delivery. After delivery of the placenta, a significant drop in progesterone levels takes place, which allows prolactin to trigger milk production. Mothers can feel their breasts to be fuller and note the rise in milk volume at this time. Lactogenesis III, or galactopoiesis, is characterized by stable (and mature) lactation. At this stage, milk production relies more and more on the removal of milk. If milk is removed regularly and effectively, the milk supply is maintained whereas when milk is kept for a longer time in the breasts, milk production is reduced. During weaning, milk production gradually declines as milk removal/vacuum decreases.

9.9.2 Hormonal Regulation of Milk Production

Lactation results from a carefully orchestrated interaction between hormones secreted by the ovaries, the pituitary gland, placenta, and other endocrine organs. The two main hormones involved in lactation are prolactin and oxytocin. Prolactin is produced in the anterior pituitary and it stimulates milk-producing cells in the mammary alveoli for the production of breast milk. As pregnancy proceeds, the production of prolactin increases significantly but due to high levels of progesterone and estrogen, milk production does not occur. After a woman gives birth to a child, the amount of progesterone decreases, thus leading to the contribution of prolactin in milk production. The process of suckling stimulates the secretion of prolactin, which helps

maintain the production of milk. Oxytocin is a hormone synthesized by the posterior pituitary gland that stimulates the contraction of myoepithelial cells in the mammary alveoli; this process promotes the transport of milk through the ducts toward the nipple and causes milk let-down. It has also been shown that oxytocin is involved in uterine contractions after childbirth and in additional recovery of the uterus to its original size. Other hormones such as insulin, corticosteroids, thyroid hormones, and growth hormone take part in various metabolic processes required for lactation and milk synthesis. Milk removal becomes especially important as soon as the breastfeeding has started because milk production is regulated by local mechanisms in the breast. Feeding frequency, proper technique of attachment, and correct removal of milk should be taken into consideration since lack of milk removal can lead to detrimental changes in the process.

9.9.3 Milk Ejection Reflex and Factors Affecting Lactation

Milk release, popularly referred to as the let-down reflex, is defined as the traveling of milk from the alveoli through the milk ducts to the nipple from which the milk is exuded. When the infant suckles at the breast, various sensory receptors are activated in the nipple and areola, generating impulses that travel to the hypothalamus, which sends out signals for oxytocin secretion by the posterior pituitary. The oxytocin tells the myoepithelial cells around the alveoli to contract, thus enabling milk to flow. Mothers sometimes experience a tingling sensation, feeling of fullness in the breast, or leaking milk at this time, though some women may not notice anything at all. Let-down may occur because of suckling, hearing the baby crying, or just by thinking about the baby. Stress, anxiety, pain, and discomfort may act as temporary hindrances to let-down; oxytocin release is inhibited during stress, anxiety, pain and discomfort. Lactation is influenced by a number of factors, including the health of the mother, hormonal status, nutrition, hydration, breastfeeding frequency, and the efficiency with which breast milk is removed. Initiation of breastfeeding soon after birth, along with the ability of a mother to read her infant's cues, increase the likelihood of success.

9.10 Breastfeeding Techniques

The techniques of breastfeeding are essential for efficient transfer of milk and not only to sustain milk flows while avoiding the problems like nipple pain and engorged breasts. Correct posture, proper latching, frequent feeding, and knowledge of the infant cues help mothers initiate breastfeeding successfully. Help and advice are needed by mothers especially at the beginning of the breastfeeding process.

9.10.1 Early Initiation of Breastfeeding

Starting breastfeeding immediately means breastfeeding must begin in less than one hour after the infant's birth if the mother and child are stable enough to start breastfeeding and be put together for this very purpose. The function of early feeding is to give the infant colostrum,

which is the first milk produced by the mother and consists of many important elements in relation to the immune system and digestion (for instance, antibodies). What is also essential is that skin-to-skin contact between the mother and her baby after the birth helps regulate temperature and allows the infant to display the instinctive feeding behavior. It is suggested that people give a mother appropriate assistance in performing the outlined process right after the delivery. Medical professionals ought to endorse early start by assisting the mother to detect infant feeding signs, put the infant in a comfortable position, and establish properly done attachment. In cases where the infant has trouble sucking, or mother and child need to be separated for health purposed, pumping breast milk shortly after birth is suggested to initiate milk production. Personalized help is very important to navigate the difficulties and encourage continuation of breastfeeding.

9.10.2 Proper Positioning and Latch

The correct positioning and attachment are important aspects of breastfeeding since they enable the baby to drink the mother's milk properly while minimizing nipple pain and damage in soft tissues. The mother should be seated or lying comfortably with support for the back, arms, and legs. The baby should be held close to the breast with the head and neck aligned and the body facing the breast. The baby's shoulder and neck must be supported to make feeding easier without straining the head. In order to facilitate the attachment, the mother can place the baby's nose in front of the nipple and encourage the baby to open the mouth widely. As soon as the mouth is opened, the baby should be brought to the breast with the chin against the breast and the mouth covering the nipple and a considerable part of areola. When you notice signs of a good latch, such as a wide-open mouth, lips turned outwards, a chin that is low on the breast, and no pain or discomfort after attachment, you can be sure that the latch is correct. If it is necessary to reposition the baby during feeding, the mother must break the suction with a clean finger and then take the baby away from the breast. If problems arise, a lactation consultant can help.

9.10.3 Feeding Frequency and Signs of Effective Feeding

It is recommended that newborns receive breast milk whenever they show signs that they are hungry, not only during the day but also at night. In most parts of the world, the average number of feedings done by a newborn in a 24-hour period is around 8 to12 hours of feeding, although feeding process times can differ. Some of the signs of hunger include stirring, opening the mouth, turning to the direction of breast, and bringing the hand to the mouth. Crying is the last sign of hunger, so mothers should always pay attention to other symptoms of hunger. During the breastfeeding process, babies should show that they are sucking and swallowing their feed. Feeding time greatly depends on the age and alertness of the newborn. However, mothers are encouraged to let their newborns feed until they start showing signs that they are done eating.

In cases in which the newborn is too sleepy or has other health problems, mothers might need to get individual recommendations regarding breastfeeding.

Signs of successful breastfeeding can be recognized through the audible or visible swallow, comfortable latching on, sufficient output of urine, and good weight gain. In initial days, urine and stool output increases progressively with improvement in milk intake. On arrival at the fifth day, most infants will have at least six wet diapers in 24 hours. Child may initially experience weight loss but should be checked for the recovery program. In case of anything that may seem to suggest feeding trouble, scarcity of weight gains, low urine output, increasing jaundice, or excessive drowsiness must be assessed by a doctor. Mothers are encouraged to ask for assistance if feeding is painful or if concerns arise over the amount of milk available. Through regular monitoring, it becomes easier to understand the needs of baby for breastfeeding.

9.10.4 Expression and Storage of Breast Milk

The process of expressing breast milk is simply taking the milk from the breast either by hand or by using a breast pump. Expressing breast milk is sometimes necessary when mother and baby are apart, baby is having trouble latching on, mother wants to relieve engorgement, or expressed milk is needed so that the baby can be fed by someone else. It is also helpful in maintaining the milk supply if a mother is unable to breastfeed for a while. Prior to expressing breast milk, mother should wash her hands and also make sure that the equipment being used is clean. Gentle massage of the breast and a relaxing atmosphere may help the milk to flow. During hand expression, mother has to position her fingers in C-shape around the nipple, apply pressure towards the chest wall, and compress the breasts without running the fingers over the skin. This action has to be repeated continuously and moving around the breast as needed.

Breastmilk is to be collected in clean, food-safe bottles with a secure lid, and it has to be labeled with the date and time of extraction. The Centers for Disease Control and Prevention (CDC) in the US stated that fresh breast milk can be kept for four hours at room temperature (25°C), four days in a fridge at 4°C, and six months in a freezer (−18°C) provided that proper storing is adopted. However, the storage instructions may differ depending on the local instructions and the temperature; thus, breastmilk should go to the fridge quickly. Thawing breast milk should be done in a refrigerator or in warm water as one should never use a microwave for heating breast milk as one can burn baby's mouth. After breast milk has been heated or warmed up, it can be used within two hours. Breast milk has to be used within two hours after the feeding is finished; otherwise, it will be unsafe to use it.

9.11 Breast Care and Lactation Problems

Breast care plays a vital role in postnatal management because it provides comfort for mothers, facilitates breastfeeding processes, and ensures that the most frequent complications linked

with the lactation period do not appear. After childbirth, the breasts experience changes associated with the production of milk, which may cause fullness, pain, sore nipples, and more. It is necessary to understand that such issues as breast engorgement, clogged ducts, mastitis, or problems with supply of breast milk can deter mothers from feeding their babies properly.

9.11.1 Breast Engorgement and Nipple Problems

Breast engorgement is a condition that leads to firm, sore, and swollen enlarged breasts due to excessive production of milk and fluid in the breast tissues. This condition mostly occurs within the first few days of giving birth due to milk secretion, but it can also arise when there is a missed feeding session or milk removal is not done properly. When the breast is engorged, the nipple and areola may become firm making it difficult for the baby to latch on appropriately. The management of this condition should involve regular breastfeeding in accordance with hunger cues of the baby, proper attachment, and hand-expression of a little amount of milk to soften the areola from time to time. The application of cold packs between feeding sessions may also help ease pain and full ing. Excessive breast pumping, breast massage, and efforts to empty the breast completely must be avoided as they may lead to increased inflammation and overstimulation of milk production. In the case of severe pain, fever, or change in color of the breast, one must seek medical attention. Commonly the issues that affect nipples include soreness, tenderness, cracks, and irritation. Problems with the nipple are often related to poor positioning, shallow latch or any excessive friction during feeding or pumping. A good latch and proper positioning of the baby should be established as this would help the mother manage the issue. Breastfeeding should be done whenever possible because it is only important for the baby to feed properly and for the mother to get the care she needs. Nipple care is done with tenderness and care where neither strong soaps nor irritating products can be used.

9.11.2 Blocked Milk Ducts and Mastitis

A blocked milk duct is defined as an area of the breast with inflammation that may be felt as a lump or painful region. The condition can occur due to difficulty in emptying the breast or due to inflammation causing constriction of the ducts. The site of the blocked milk duct may be associated with pain, but fever and flu-like illness is usually absent. The current approach to managing a blocked milk duct focuses on gentle and physiological feeding rather than forceful attempts at debulking the breast. The mothers are advised to continue feeding the baby as desired, to refrain from unnecessary pump use, and apply cold packs. Mastitis is an inflammatory condition affecting the breast that may occur during lactation and can sometimes be associated with bacterial infection. Symptoms can include breast pain, swelling, warmth, redness, fever, chills, and flu-like feelings. Early evaluation is important since some cases may need treatment with antibiotics while other cases may primarily include inflammation without bacterial infection. Caring for the breast can usually continue during the treatment, and milk from the affected breast has generally been considered safe for the infant. If the symptoms

become worse, last long, or are associated with painful and fluctuant swelling, medical evaluation should be done to check for abscess formation.

9.11.3 Low Milk Supply and Breastfeeding Difficulties

Low milk supply means that the breast milk isn't sufficient enough for the baby. Some mothers believe that their supply of milk is low because of softer breast feeling that the baby feeding often, or that that milk hasn't been pumped well. However, these symptoms alone don't indicate low breast milk production. Instead, the baby´s weight gain, urine quantity, amount of swallowing during feeding, and the doctor's examination provide more adequate assessment of feeding. There are many factors that can affect the amount of milk produced - rare breastfeeding, improper attachment, inefficient breast emptying, medications, blood loss after childbirth, hormone problems, breast surgery. Illnesses or difficult situations in the life may also stimulate the problems with breastfeeding. Management involves determining how well the baby is latching on and if feeding is successful, feeding the baby breast milk as needed, and making sure that milk is emptied properly. In case direct breastfeeding does not work or the feedings happen less frequently, hand expression, or pumping, may need to be used. Skin-to-skin contact and having skilled lactation support are important in helping breastfeeding success. If the baby shows a lack of weight gain, having fewer wet diapers than before, worsening jaundice, or abnormal sleepiness, then the baby needs to see a doctor as soon as possible. It may be necessary to give the baby some supplement, expressed breast milk, donated milk, or formula depending on the condition of the baby.

9.11.4 Prevention and Management of Lactation Problems

To prevent lactation issues, it is necessary to initiate breastfeeding as soon as possible, position the baby correctly, attach it to the breast properly, and feed the baby according to its needs. New mothers should be assisted in their lactation efforts immediately after giving birth and motivated to get help if they face difficulties in nursing their babies. The problem of proper breast care should not be neglected and medical personnel should explain this issue to mothers-to-be before they are discharged from the hospital. Adequate pumping is essential for establishing the milk supply and decreasing breast fullness, but excessive pumping can lead to increased milk production and inflammation. Therefore, mothers-to-be should be trained on how to use breast pumps properly. It is also essential for mothers to ensure that they eat well, drink enough liquid, have enough sleep and receive emotional support. It is up to medical professionals to determine whether the new mother suffers from nipple pain, inflammation of the breasts, infection, or poor milk production. Treatment should depend on the reasons for the condition.

9.12 Conclusion

Postnatal care is very important to maternal and neonatal care systems. Postnatal care practices help in direct recovery of female physique, emotional and psychological welfare of a mother. In this process, proper eating habits, cleanliness, sleeping pattern, observation of postnatal state of the body and identification of early warning signs are the main tasks of health professionals. Breastfeeding plays a key role in the growth of an infant since it delivers necessary nutrients and makes the baby immune. With correct timing and positioning at the moment of breastfeeding, the mother will be successful in lactation. Knowing about the most common problems like cracked breasts, breast engorgement, mastitis and lack of milk supply allows one to identify them at the early stages. In this respect, overall postnatal care is extremely important in order to improve maternal and infant health.

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