

The Role of Nurses In Preventing the Infant Mortality In India.

A Systematic Literature Review

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Abstract

Infant mortality is one of the main national issue that is faced in India. The main reasons of this problem lack of knowledge and difficulty in accessing the health care at the right time. The main theme of this study is to find out what are the preventive measures that nurses can do.

For this study systematic literature review was conducted. Ten articles were chosen after an extensive search in the following data bases. The databases which were used to find the articles are CINAHL ,MED-LINE,ACADEMIA and PUBMED. Infant mortality is one of the major problems that is faced by a large group of people. This is also a problem which can be prevented by taking proper actions and control measures .

The results depicted various preventive measures of infant mortality and how the nurses can organize the preventive measures in various communities. The role of nurses in helping the public is quite important.

Language: English

Key Words: Infant mortality, India ,Nurse's role in prevention, systematic literature review,

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1.Introduction

Today's children are tomorrow's citizen. They are one of the major resources of the country. We should give enough importance in nourishing the health of all infants. The proper nurturing should be started from the base of the population that is from the families. The child births and the development of an infant constitutes much to the emotions and its effects. This is also a new experience to the whole family life which is the primary unit of the population.

Infant mortality rate is an indicator in population. The infant mortality indicates the death of children who is under one per thousand live births. Infant mortality rates and child deaths depict the health of the country and the standard of living in that country. when we come to the case of India there are nearly 32 infant deaths per 1000 live births. The infant mortality rate in 2022 at India is 27.695. There is a decline of 3.74 percentage from the year 2021. When we take the statistics from the last 10 year it is decreased to almost half. This decrease is an clear evidence of improvements in the medical care, hygienic practices and the decrease in female infanticides. Increase in the life expectancy at the time of birth and the infancy period is yet another indicator that depicts the Indian population is also improving it's living standards. (O'Neill, 2022), (*India Infant Mortality Rate 1950-2022*).

India is one of the most populated countries in the world . India is having the second position among the world by holding sixth of the world population. The country is having the population rate greater than 1.36 billion. The infant mortality rate is calculated as 33 deaths per 1000 live births. The life expectancy of the Indian population is considered as 70 years in female and 68 years in male. (CDC 2021). The major part of the Indian population are living in the rural areas of that country .It is difficult to get access to the medical services and good hygiene for some groups. Those who live in the cities have a better lifestyle than the others. The national health mission organisation in India is conducting a child health programme that improves the health of the children and it also addresses the factors that contributes the infant and child mortalities. The main tenant of this policy is to reduce and to control infant mortality rate in India. (Ministry of health and family welfare : *national health mission 2022*).

The author of this thesis has chosen this particular topic to research in order to gain more knowledge and facts about infant mortality rate and further on by doing this literature review the author can help the common people by Providing various information on preventive

measures. The author can enlighten the nurses through an evidence based content to take proper actions to help the community to prevent the infant mortality. The main tasks of nurses is to promote health and for this thesis the focus is on preventing and controlling the causes of infant mortality . By doing and gaining information about this thesis author is planning to do community health education to the pregnant ladies and to other nurses about the topic voluntarily. Moulding the health of future generations is a holistic task that should be done carefully. Dedicated efforts must be taken to build a generation with good health which will also uplift India from a developing country to a developed country.

2. Background

This chapter will present the background including the causes, preventive measures and care that can be taken to control and reduce the same issue by the nurses.

2.1 Causes

The causes of the infant mortality can be divided into two as you can see in the table below. They are neonatal mortality which is from 0-4 weeks and the post neonatal mortality which is from 1-12 months. the neonatal mortality includes the reasons like low birth weight and prematurity, birth injury and difficult labour, sepsis, congenital anomalies, haemolytic diseases of new-born, condition of placenta and cord, diarrheal diseases, acute respiratory infections, and tetanus. The post neonatal mortality causes are diarrheal diseases, acute respiratory infections, other communicable diseases, malnutrition, congenital anomalies and accidents (Dutta & Konar, 2019), (Hockenberry et al., 2011).

Neonatal causes of infant mortality (0 - 4 weeks)	Non neonatal causes of infant mortality (1 month -12 months)
<ol style="list-style-type: none"> 1. Prematurity 2. Low birth weight 3. Cerebral haemorrhage 4. Infections 5. Birth injury 6. Contracted pelvis 7. Oligohydraminos 8. Cephalopelvic disproportion 9. Condition of placenta and the cord 10. Difficult labor or dystocia 11. Operative obstetrics 12. Neonatal sepsis 13. Congenital anomalies 14. Haemolytic diseases 15. Diarrheal diseases 16. Acute respiratory syndrome 	<ol style="list-style-type: none"> 1. Various communicable diseases 2. Malnutrition 3. Accidents 4. Diarrheal diseases 5. Acute respiratory infections 6. Congenital anomalies

Table 1. Causes of infant mortality in India.

2.1.1 Neonatal mortality causes

Preterm babies are prone to many complications since their organs are not developed completely. Asphyxia occurs due to the anatomical and functional immaturity the preterm babies are asphyxiated immediately. Asphyxiation in lower degree causes the subserosal haemorrhage in the main internal organs like heart, lungs and the liver. Severe congestion of the choroid plexus can also cause the intraventricular haemorrhage. Hypothermia in preterm and low birth babies lack the subcutaneous or the brown fat so they

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fail to maintain the thermometric range of the temperature. Pulmonary syndrome comprises several serious illnesses to the new born which could be of many serious illness to the new born which includes pulmonary edema, intra alveolar haemorrhage, idiopathic respiratory syndrome, and Broncho pulmonary dysplasia. The main factor that affects the babies are hypoxia . Many mortalities among preterm babies are because of respiratory distress syndrome (Dutta & Konar, 2019).

Birth weight is an important factor that decides the health of the baby. It do reflects the factors like metabolic , nutritional conditions and the foetal development. New-borns with low birth weight and prematurity are prone to mortality , morbidity and malnutrition in the first year of the life. They will be easily susceptible to infections, injuries and development of chronic non communicable diseases . (Hockenberry et al., 2011) (WHO.) (*New born mortality 2022*).

Low birth weight Can be defined as the baby who is born with the weight less than 2500 grams irrespective of the gestational age . Very low birth weight babies are the ones who born with the weight less than 1500 grams .Extremely low birth babies are born with the weight less than 1000 grams . In India about a third of the infants born weigh less than 2500 grams. The factors that affects the low birth weight are preterm birth, social and economic status , nutritional factors and the environment in the uterus (Dutta & Konar, 2019) .

Cerebral haemorrhage caused by the soft skull bones which allows the dangerous moulding can lead to the subarachnoid haemorrhage. Fragile capillaries cannot cope up with the hypoxia at this stage .This will lead to interventricular haemorrhage. Hypoprothrombinaemia can also be a reason of preterm death. Heart failure can be developed from the asphyxia with the very rapid development of the pulmonary edema . Oliguria and anuria can be happening because of the immaturity of the kidneys. Immature small kidneys cannot handle the water, salutes and the loads ,(Dutta & Konar, 2019).

The common types of the infections are bronchopneumonia, meningitis and the necrotising enterocolitis . There is a protective passive immunity that is passing from the mother to the child at the late period of the pregnancy. Since the passing of the immunoglobulin are less they can be prone to the infections. Both the humoral and the cellular immune response is poor. Jaundice can be happening to the babies because of the hepatic insufficiency. Bilirubin which are produced cannot be conjugated and excreted as bile. A rise in the unconjugated n lead to the physiological jaundice . Dehydration and anemia can be yet another reason for the infant mortality. Due to the lack of stored iron ,bone marrow won't be functioning

adequately. Excessive haemolysis can cause the anaemia. Retinopathy of prematurity caused by the excessive and the liberal administration of oxygen above a prolonged period that is continuously from 1 to 2 days. The blindness occurs due to the formation of an opaque membrane behind the lens (Dutta & Konar, 2019).

Birth injuries can be mechanical that can be avoided or cannot be avoided, hypoxic or ischemic that affects the infant during the labour or at the time of child birth. Seven infants out of thousand births are affected with the birth injury. Two percent of the neonatal deaths are due to the birth injuries. The factors that aggregate the birth injuries are the primiparity, short stature of the mother, anomalies to the pelvis of the mother, prolonged or difficulties during the labour, oligohydraminos, breech presentation of the neonate, cephalopelvic disproportion, difficult presenting part the foetus, improper use of the forceps, improper vacuum extraction, versions and extractions, very low birth weight or extreme prematurity, foetal macrosomia birthweight above four thousand grams, foetal macrocephaly foetus with very large head and other foetal anomalies. The birth injuries can be classified into soft tissue injuries, head and neck injuries, facial injuries, cranial nerve injuries, spinal cord injuries, peripheral nerve injuries, fractures, and intra abdominal injuries. (Dutta & Konar, 2018).

Contracted pelvis is when the pelvis is having the measurements less than 0.5cm in the essential planes. contracted pelvis is a state in which there is an alterations the size and shape of the pelvis in sufficient degree. This will alter the normal mechanism of labour of an average size of the baby. Due to the degree of contraction the head of the baby will pass through the pelvis by abnormal mechanism. The head of the baby fail to pass the pelvis due to the obstruction (Dutta & Konar, 2018).

Oligohydraminos is the condition in which the amniotic fluid is less than the required amount It will be less than 200 ml at the full term of the pregnancy. The cause for oligohydraminos can be divided into the fetal and the maternal conditions. The fetal conditions are chromosomal or structural anomalies, renal agenesis, obstructed uropathy, spontaneous rupture of the membranes, intrauterine infections, PG inhibitors and ACE inhibit drugs, post maturity intrauterine growth retardation, amniotic nodosum which is created when there is a failure of secretion by the cells of amniotic covering the nodosum. Maternal factors includes the hypertensive disorders, insufficiency, dehydration and idiopathic causes. (Dutta & Konar, 2018).

The uterus and birth canal is surrounded by the bones of the pelvis. Cephalopelvic disproportion occurs when the opening of the pelvis and the size of the baby's is not having the proportion correctly. The opening in the pelvis through which the baby is passing is 11cm wide at its narrow point . When the pelvis is short and head of the baby is big enough the labour will prolonged and many difficulties may occur . Usually lower segmental caesarean section is done to take the baby safely (Maharaj , 2020) , (Dutta & Konar, 2019).

Placental problems like placental abruption can affect the foetus too severe. This results in the peel off of placenta from the uterine wall as a result the oxygen supply for the baby is reduced . This can create problems to the baby and to mother at the time of delivery and after that . Umbilical cord accidents like knot on it, too big Umbilical cord ,small cord can affect the baby in dangerous manner. This will also reduce the oxygen supply to the baby (Dutta & Konar, 2018).

A difficult labour is when the labour progresses too slowly. It is more common in primi mothers than in the multipara mothers .when the mother is having poor uterine contractions but also when the mother is cooperating poorly. This also can occur when the size of the baby is big ,malpresentation contracted pelvis, soft tissue abnormalities like myoma and cervical cancer . (Dutta & Konar, 2018), (Dutta & Konar, 2016). Operative obstetrics can be dangerous at times. Improper use of the forceps can cause serious birth injuries to the baby . Since the forceps are clamped at the head of the baby if it is not used correctly this can cause brain damage , other injuries and it can be severe . They can be like bleeding in the skull, cerebral palsy, jaundice, seizures, skull fractures, bumps and bruises at the head of the baby,small cuts or lacerations at the face of the baby, temporary facial muscle weakness . The death of the baby can be happening soon after the birth or later . (Dutta & Konar ;2019), (*Birth Injury Resources for Parents & Caregivers*; 2023) .

Neonatal sepsis is one of the major contributing factors for foetal deaths. They are most commonly found in boy babies than in girl babies .There are one to eight neonatal septal cases per thousand live births. The mortality rate due to the neonatal sepsis is 13-70 percent. It is the bacteraemia with the classical symptoms of infections in the first four weeks of life .The common organisms found are the Escherichia coli,groupB streptococci and tetanus. (Hockenberry et al., 2011) (WHO, *Newborn mortality 2022*) The magnitude of neonatal tetanus is increasing in developing countries like India. The elimination of the neonatal tetanus can be achieved by improving the maternity care and by the fully coverage of immunization (WHO, *Newborn mortality 2022*).

Congenital anomalies are the commonest reason for infant deaths. It is the development disorders that affects the embryo and foetus. They can be divided under structural, functional, metabolic, and hereditary conditions. The most common congenital anomalies are heart problems, neural tube defects and down syndrome. It can cause long term problems to the babies and infants. It can affect individuals and families. (Hockenberry et al., 2011). Haemolytic disorders refers to the disorder in blood of foetus or new born infant. In some infants it can be really dangerous even fatal. Normally the life of an red blood cells is 120 days. For the babies with this disorder the RBC is destroyed very quickly and it does not last up to 120 days. At the time of pregnancy the RBC of the foetus can cross into the mother's blood stream through the placenta. When the mother's immune system sees the RBC of the baby as a foreign body they produces antibodies against it. These antibodies attack the RBC so that they break down too early. This can cause haemolytic disorders in infants. (Hockenberry et al., 2011).

Diarrheal diseases are one of the major causes of infant deaths. At the time of diarrhoea the water and essential salts in the body of infant is washed out. At this stage severe dehydration and the fluid electrolyte loss occurs which is necessary for the survival. Diarrheal diseases can be prevented as well as treated. The infants should be provided with safe drinking water, proper sanitation facilities and good hygiene to avoid mortality caused by the diarrheal disease. (Hockenberry et al., 2011) (WHO, *Newborn mortality* 2022). Acute respiratory disease is one of the causes for the deaths in very young population. Children from the poor socioeconomic and environmental conditions becomes the victims of this problems very easily. Acute respiratory diseases death can be caused by tuberculosis, diphtheria, pertussis, measles, otitis media, upper respiratory tract diseases, acute bronchitis, bronchiolitis, pneumonia, influenza and pleurisy (Hockenberry et al., 2011).

2.1.2 Post natal mortality causes

The post natal mortality causes can be also caused by the diarrheal diseases, acute respiratory infections, congenital anomalies and so on.

Other communicable diseases consists of wide variety of diseases that can cause the death of infant. Some of them HIV/AIDS, tuberculosis, diarrheal diseases, some of the vaccine preventable diseases like measles,. Discussed by the tropical parasites such as malaria and hookworms. The lower tract respiratory infections predominantly pneumonia upper

respiratory tract infections and otitis can also affect the infant severely. (Hockenberry et al., 2011) (WHO, *Newborn mortality* 2022). Malnutrition is the situation in which the infant doesn't receive enough micronutrients and micronutrients from the diet. This will reduce the immunity of the infants and they are more prone to get the diseases. (Hockenberry et al., 2011) (WHO, *Newborn mortality* 2022). Accidents can cause the long-term disability or even death to infants. They are preventable. Infants are having a risk of being injured mostly at their homes. Falls are the most common and it can account to the long term disability to more. Accidents can cause threat to the breathing and mostly fatal such as suffocation, strangulation, choking and so on. Then there also another causes like drowning, poisoning etc. (Hockenberry et al., 2011.).

2.2 Factors

This factor describes about the factors that affect the infant mortality rate are explained in table 2.

BIOLOGICAL FACTORS	ECONOMIC FACTORS	SOCIO-CULTURAL FACTORS
1.Age of mother	1.Quality health care	1. Breast feeding
2.Birth order	2.Good income status	2. Religion and caste
3.Birth spacing		3.Early marriages
4.Multiple births		4.Maternal education
5.Family size		5.Quality of mothering
6.Higher fertility rate		6.Broken families and brutal habits .
7.Birth weight		

Table 2 Factors that affect the infant mortality rate .

2.2.1BIOLOGICAL FACTORS

The biological factors include birthweight. Babies with low birth weight and high birth weight are at high risk. It is caused by the poor nutrition during the pregnancy. This will cause many difficulties at the time of pregnancy, delivery and after that. These infants nutritional status won't be stable and they will be lacking the immunity power too. They will be affected by the sickness very easily. Age of the mother - The very young and older mothers will be having different levels of health. In a very young mother like teenager; her body is not ready for a pregnancy which means her reproductive organs will be acquiring the maturity and it is on the path of development. Whereas the older mother will be facing different health problems, her hormonal levels will be altered at times and so on. The both group will be facing a high risk at their pregnancy. Birth order can also play a role in infant mortality. Usually the highest mortality rate is found among the first child and the lowest child. The second child will be facing the infant mortality less. The children after the third child will be at the risk of mortality. The repeated pregnancy in a woman causes the malnutrition and the anaemia in mother. This can lead to the low birth weight of the baby. Prematurely weaned children will be affected by the diarrheal diseases and the dehydration and other sickness easily since they lack the immunity. Infants who are born in multiple births face high risk while single births are safer than the other. When it is a multiple pregnancy there are chances where the children attain lower birth weight than required. Family size- The number of episodes of various diseases like acute respiratory infectious diarrhoea, malnutrition cases are higher in bigger family. In a family with fewer children it is easy to provide the better maternal care, share of family resources and there will be less morbidity too. Higher fertility rate increases the mortality rate of children. Higher fertility rate results in the early weaning and it also will reduce the care that mothers give to the children. (Hockenberry et al., 2016) (Dutta & Konar, 2019).

2.2.2 ECONOMIC FACTORS

The availability and the quality of the health care can depend upon the economic factors. If a person is having the good socioeconomic status the family can provide a good environment to the child. This can provide good medical, nutritional, hygiene status to the child. The most common man of the India is living in common surmal. Some of them are even living in the slums. The population rate is also high, so the resources will not be sufficient. As a result the resources and the raw materials turn to be very costly and it won't be affordable to everyone.

2.2.3 CULTURAL AND SOCIAL FACTORS

Early weaned and bottle-fed infants who is living in poor hygienic conditions are at higher risk than the infants who is breastfed. Religion and caste of an individual plays a role in the life .The differences can be seen in various socio-cultural patterns of living. This includes age-old habits, customs, traditions affecting cleanliness, eating, clothing and childcare. Early marriages create many teen aged mothers. Teen aged mothers are having a greater risk for neonatal and post neonatal mortality. Some of the Indians give more importance to the baby boys than the baby girls. Statistics depicts that female infant mortality is higher than that of the male child. women with education wish to marry later and they delay childbearing by practicing family planning. Educated mothers can take the precautions to avoid the infant death even from the time of conceiving . They can take the prenatal classes, read about the pregnancy in detail . They also attend the sessions with the doctors, nurses and community workers. The unavailability or shortage trained personnel like midwives and others can high the mortality rate. It is hard to take care of a child in a broken family . The attention which the child receives is really low in this situation. The practices like not giving the colostrum to the baby, bad feeding practices, bad skin care , fault in weaning and early weaning are some of the bad habits and customs that will make the situation of an infant bad . (Hockenberry et al., 2018).

2.3 PREVENTION

The preventive and the social measures for reducing the infant mortality rate includes the prenatal nutrition, prevention of the various infection, breast feeding, growth monitoring, family planning, sanitation, provision of the primary health care, socioeconomic development, and the education (Shetty, 2015).

Prenatal nutrition is an important factor that helps in the development of the baby . The mother should take adequate healthy food that contain all the vitamins and minerals . The mother should also take a supplement of prenatal vitamins with folic acid and all . This will prevent the congenital anomalies for the baby .

The centres for disease control(CDC) and prevention find that many of the children can get the hospital acquired infection easily. These can cause at the time of admission when the child is born or the at the time of hospital visits or other admissions. The infections can occur when the child comes in contact with the bacteria, affected persons or from the healthcare personal. The children are mostly affected by infections in the respiratory tract. The standard precautions are advised by the centres for the disease control and prevention to prevent the respiratory infections. This will reduce the transmission of the respiratory pathogens through

air droplet in the environment. Covering the mouth and nose at the time of the coughing or sneezing or using a small mask can reduce the incidence of the infection. At the least keep a distance of three feet when the child is infected or when some others are infected. (Hockenberry et al., 2016). Air borne infections can be prevented by the measures of isolation. The diseases like measles, varicella and tuberculosis can be prevented by strict isolation. Use of the standard previous like hand hygiene and droplet preventive measures can prevent the diseases like invasive Haemophilus influenzae type b that is haemophilus influenza type b, pneumonia, sepsis, epiglottitis and so on. Bacterial infections like diphtheria, mycoplasma pneumonia, pertussis, plague, streptococcal pharyngitis, scarlet fever in children. Several serious viral infections like adenovirus, influenza, mumps, human parvovirus B19 and rubella can also be prevented. (Hockenberry et al., 2016). Along with the standard prevention contact precautions can be taken to several serious bacterial infections. The diseases like clostridium, enterohemorrhagic Escherichia coli, shigella organisms hepatitis A can be avoided by preventing the contact. Skin infections that are highly contagious can be avoided by the contact precautions. Those skin infections that must be taken care of are cutaneous diphtheria, herpes simplex virus, impetigo, staphylococcus furunculoidis, zoster in infants and young children (Hockenberry et al., 2016).

Breast milk contains the immunoglobulins and it is the most safest food that can be given to the babies. An exclusive breast feeding for six months will increase the immunity power of the baby and it also give the protection from the sickness. The growth and development of the child should be checked and recorded. The weight of the babies can act as an indicator. By checking this we can identify the malnutrition earlier and can give care accordingly. Growth is when there is an increase in the number of cells and the size of them when they divide synthesis the new proteins. This results in the increase of the height and weight of the child. Development is the advancement from the simple stage to the more complex change. Infancy stage of the development is from birth to 12 months old. At this stage the motor, cognitive and social development will be fast and rapid. At this time the formation of the basic trust and interpersonal relationship happens. (Hockenberry et al., 2016). Proper spacing between the pregnancies will help to improve the health of the mother and the infant. This will reduce the risk in pregnancy and uplift the health of the new-born (Hockenberry et al., 2016).

Poor Sanitation and poor hygienic practices can deteriorate the health of an infant. This will bring different infections. The baby will be infected with various communicable diseases

easily when they have a bad exposure . All the people who are involved in maternity care should work as team ,like obstetrician, midwives, and care giver .prenatal care should be given with high importance .The mothers who are at high risk must be identified earlier. They should be given regular consultation, and should be hospitalized and treated and proper time to avoid the complications. Neonatal intensive care units should be given to high risk babies . Proper referral services should be also given at right time to prevent the accidents. (Dutta & Konar, 2019).

The common people should be given adequate information on how to prevent the infant deaths . Proper education should be given in small communities. Improving in the standards of nutrition such as good prenatal nutrition and infant nutrition should be taken in consideration. Improvement in the housing conditions will create a hygienic surmal and proper sanitation facilities . This will prevent various communicable diseases .Growth of agricultural and industries will help in improving the nutritional status and it will also give an income . Through this every common man can get access to the medical services. This will also increase the resources in the country . Availability of commerce and communications will help the pregame ladies and mothers to achieve adequate information and it will also help to seek the medical advices and services easily in a short span of time . (Hockenberry et al., 2016). Proper education will help in giving information. This will reduce the risk at the pregnancy . The early births will be limited at this point . The proper spacing between the pregnancies can also be done . This will uplift the quality of caring which is given to the baby and mothering (Hockenberry et al., 2016).

3. AIM

The aim of this study is to gain a better understanding of the nurse's role in the prevention of the infant mortality. This study can help nurses increase their knowledge in the prevention and practices that can be done to control and eliminate the infant deaths in India.

The research questions that arouse are

1. What are the roles of nurses in preventing the infant mortality in India?

4. THEORETICAL FRAMEWORK

The knowledge based on the theories are quite important because it helps in guiding the nursing education ,research works ,to practice the profession and to do the administration well . Significant developments in the nursing profession happened because of the foundation of various nursing theories. This also create nursing as an important field of practice which can be turned into a profession and also divides the education through various aspects of discipline. (Alligood, 2022).

4.1 THEORY OF CULTURE CARE DIVERSITY AND UNIVERSALITY

Madeline M. Leininger is a professional nurse who hold a doctorate in cultural and social anthropology. She is also known as the founder of transcultural nursing ,the leader in transcultural nursing and human are theory. Culture and care are the major determinants of this theory . (Alligood, 2022).The difficulties faced by the health care professionals were taken to consideration when this theory was created (McFarland & Leininger, 2014). Here the theorist firstly explained about the transcultural nursing and the cross cultural nursing . The transcultural nursing comprises when the nurses attain knowledge about the different cultures of the people . Whereas the cross cultural nursing supports the nursing practices based on the medical and anthropological facts during the time of nursing practice. The theorist also described the nurse who practices the transcultural nursing as a generalist and the nurse who practices the cross cultural nursing as the specialist(Alligood, 2022).

Leininger developed various concepts which is relevant for the culture care nursing theory . They are called constructs . The major constructs :

Care and caring – care refers to the occurrences with the expressions of assistance, support, that is being enable and facilitaing ways about self or about others .Caring points towards the actions, practices or the attitudes towards helping others for their healing and wellbeing.

Generic care – The. Generic care refers to the knowledge of learned practices that is being followed to meet the health needs in order to improve the living and to help the dying. The traditional practices and folks are given importance while giving the care .

Professional nursing care – it is the professional and the systematic learning process from an educational institution in order to help an individual for to improve their health and wellbeing, to prevent the diseases or to help with the dying or other human situation .

Culture – This refers to the values , beliefs , norms or other life ways, lifestyle followed by that is being learned and shared earlier . It reflects in the guiding , thinking decisions and

the actions in the pre patterned manner . Culture is equally important as the care that should be taken in consideration when we gave care to the patients .

Culture care – This shows the combination of the two major constructs of the theory . They are the culture and the care that helps the researcher to discover and explain about the health and wellbeing.

Culturally congruent care - The care which is based on the culture is given to the individual. The acts and decisions are made in meaningful ways by respecting the values, beliefs ,lifeways followed by the persons for the upliftment of their health and to prevent the illness or sickness .The culturally congruent and the safe care are the major goals of the culture care theory.

Culture care diversity- The culture care diversity comprises of the differences in the values, beliefs , meanings , patterns ,symbols , lifeways and the features of the human beings while giving the care for them in an beneficial manner . The person who gives the care and the one who receives the care may be following and practices different culture .

Culture care universality- This points out towards the commonly shared or similar cultural practices followed by an individual or by a group . This also stands as a guide for the care giver while giving the care for an healthy outcome .

World view – This is way people looks out to the world from the picture values about the life and environment around them . This gives a broad perspective about the orientation towards the life, people, groups, decisions and the action taken especially related to the health and the welfare.

Cultural and social structural dimensions - This points towards the dynamic, holistic and interrelated patterns of the systematic and the structural features of the culture and the subculture. They are not limited to any other factors like the religion, social factors, philosophies politics, education, environment and language.

Environmental context - comprises of the totality of an event, situation or the experience which give meaning to the expression of the people, interpretations, social interactions that happens within the particular geophysical , ecological ,spiritual, social, political, and technological factors in the specific settings .

Ethnohistory - This refers to the sequences of the past fact, instances and experiences faced by the human beings, groups and the culture over a particular contexts over a period of time. This explains about the lifeways in past , about the culture and practices followed . From this we will be able to understand about the differences in culture care influencers in the past and in present that work for the health and wellbeing of the individual.

Emic – This points towards a closed circle about the local , indigenous or the knowledge about the inside culture and views about the specific phenomenon .

Etic– This is much more broader than the Emic. This comprises of the outside knowledge and views . This will be more systemic because this is mostly attained from the educational institution. . Health care professionals are mostly included in this group .

Health – It is a state that is culturally confined , valued and practiced . This shows the capacity of an individual to perform their daily role activities in culturally expressed , beneficial and the patterned lifeways.

Culture care preservation or maintenance- This helps in making the decisions and actions in professional manner that will support , assist and facilitate to help the people or groups in a particular culture to retain, save and maintain the sensible care beliefs and values for the upliftment of the health and to prevent the diseases .

Culture care accommodation or negotiation – This comprises of the actions which are professional to help the people of a particular culture to adapt and negotiate with others for creating a safe culturally congruent, and effective care for meaningful health outcomes .

Culture care repatterning or reconstructing – This helps the client to change , reorder or to modify their health practices and lifeways for making beneficial health care patterns , practices and outcomes. (Alligood, 2022).

The universality of the care shows about the common nature of the human beings and the humanity whereas the diversity of the care represents the variability which is discovered and the unique features of the human beings The major assumption of the theory framed by Leininger are

Care is the foundation and the central dominant of the nursing .Humanistic and scientific bases of the care are important for the growth , wellbeing, survival of the individual and to face death and disabilities. Caring is essential for the healing .without proper caring there is no

curing . Culture and care and two interrelated determinants which help in guide the researcher to various human condition .Culture care expressions, meanings, patterns, processes and structural forms may be diverse but there are some common universalities between cultures Culture care values ,beliefs and the practices are influenced by the world view, factors that comprises the social structure, ethno historical and environmental contexts. Every culture has a generic and some specific care to be discovered and to be used for the culturally congruent care practices. Culturally congruent and therapeutic care occurs when the culture care values ,beliefs ,expressions and patterns are used appropriately , sensitively and usefully with the people of similar or different cultures. The theoretical model of Leininger helps in providing ,creative and different therapeutic ways of care to people . Transcultural nursing is a discipline with a strong body of knowledge and practices to gain and maintain the goa, of culturally congruent care for the health and wellbeing. (Alligood, 2022) (Peptiprin).

The theoretical assertions or tenets that formulated while developing the theory by the Mandeline M Leininger were four . They can be the culture care expressions and meanings , patterns which can be diverse but they shared some common features and some universal attributes. The worldview, different social structural factors, ethno history, different environmental context , linguistic variations, generic and professional care are the critical influencers of the culture care patterns to reflect the health, well being, illness, healing and ways people facing the disabilities and the death .Emic and Etic health factors in different environmental contexts influence the health illness outcomes . From the analysis of the various influencers three major actions or decision modes were formulated they are Culture care preservation or maintenance, Culture care accommodation or negotiation and culture care re patterning or reconstructing. (Alligood, 2022).

4.2 AN INTERVENTION BASED MODEL : THE TANNAHILL MODEL

Andrew Tannahill formulated a health promotion model since he believed that many of the health promotion theories lacks the theoretical knowledge. This was when Andrew formulated the Tannahill model .This model consists of three spheres of activity . They are health education, disease prevention and health protection . The health education sphere is designed to change the knowledge, beliefs, attitudes and behaviour in a way that up lift the health. The disease prevention focuses on the decrease in the risk factors and to minimize the consequences of the disease . It mainly includes the primary prevention, secondary prevention and the tertiary prevention . The health protection focuses on the fiscal or legal

controls and policies and the voluntary codes of the nursing practices that aim at the prevention of the illness and enhancing the health and the wellbeing . In 2009 Andrew Tannahill asserts that health protection also includes the public policies like housing, employment education and health care (Andrew;2008).

The Tannahill model was updated in 2009 . In the updated model the theorist gave a little more importance to the community. A new definition for the health promotion was as the sustainable up liftment of the positive health and the prevention of illness using various policies, strategies, and actions. These comprises the areas of 1)The factors which includes from social, economic, physical, environment and culture 2)equity and the diversity 3)education and learning 4) services, amenities and products 5) community led and community based activities (Andrew;2008).

The author of this thesis has chosen the above two theories because this phenomenon is happening in a different country like India which has got many cultures and different languages. India has got 28 states and 8 union territories which has got wide variety of cultures, practices, beliefs and languages . As a trained health professional from India the author has got a clear idea about the geographical area and the specific phenomenon regarding infant mortality faced by the people of India. As a nurse the author also think about the role of nurses in preventing the infant mortality . For this thesis the author thought about an health promotion model combined with the theory of Cultural care diversity is more suitable. These theories address the research question by giving importance to the prevention of the infant mortality in a different cultural scenario. These theories will also give an idea to nurses that what should be done and what should not be . This will help in creating a research paper with a strong theoretical background.

5.RESEARCH METHODOLOGY

The scientific way of approaching which is taken while doing research is called research methodology. This will help in solving the research problems thoroughly. Research methodology is the science that helps us in doing the research systematically. The scope for research methodology is broader than the research methods. In research methodology we do consider the logic behind the research methods and explain in detail which method is being used and why it is being used and the correct evaluation is being done. (Mishra & Aslok, 2011) (C.R Kohtari)It includes specific procedures and techniques which is being used to identify, select, process and analyse the information about the research topic. In the preparation of a thesis the research methodology gives freedom to the reader for the critical

evaluation of the study. It also help the reader to check the validity and reliability of the study . The research methodology mainly clears two areas . They are about how the data is being collected and how the data is being analysed(Mishra & Alok, 2011).

5.1 QUALITATIVE RESEARCH

Qualitative research is the research in which the collecting and the analysing of the non-numerical data is done. It can be of texts, videos or audios. It mainly talks about the understanding of concepts, about the opinions which is told and about the experiences. The qualitative research help the study by giving knowledge about the complexity and depth of the research topic. It helps to identify the feelings and motivations .The qualitative research also helps to give deeper insights into the real life situations(Bhandari, 2022).

In the qualitative studies the task of the sampling , collection of data, analysis of the data and the interpretation of the data place .qualitative research starts from talking with the people about topic of the study . The discussions and the observation at this place is loose structured so that the participants can express themselves completely. The process of data analysis include the clustering of all the information collected in a coherent scheme. By the way of inductive reasoning the research her will find out the concepts, categories and themes which can used for describing (Polit & Beck, 2021).

System literature review act as the base for the findings on the topic on which the research is going to be done. A systematic literature review identify, select and appraises the research in order to answer the research questions properly . This types of review should follow a clear-cut protocol through out the research process. It involves the planning and the well arranged search of literature that is capable of answering he research questions (Dewey & Drahota).

According to Pittway the main principles of the systematic literature review are Transparency, clarity, integration, focus, equality, accessibility and the coverage. Systematic reviews which originated in medical side are related to the evidence based practice .The expansion of the evidence based practice directly creates a lead in the increasing of variety of review types (Pittaway , 2008).

For this thesis systematic literature approach is applied . The qualitative research methodology is used. The author has chosen this way to think in a broad manner while writing the thesis. The working space in this manner will be literally more than the other (Bhandaari, 2020).

6. DATA COLLECTION

The study will be done in the basis of systematic literature review. The author will also do the content analysis based on Kyngäs and Elo. The thesis is done under the qualitative approach where the interviews, case studies. The analysis of the content is being done after that.

The data bases used were CINAHL , Pubmed, Med – line ,Academia application -The author have also used the databases electronically from the library of nursing college from Kerala . This step is done because the author focuses the problem from the country India. The data which is used in this thesis are selected after an extensive search from various databases . All the data is updated within the last 10 years .

The main words used for the research are “Role of nurse” , “Infant mortality”, and “Prevention”. The other words used are “ Infant mortality in India” “Role of nurses in infant mortality prevention”. The data which is collected is read thoroughly and the author created an inclusion and exclusion criteria .

6.1 INCLUSION CRITERIA

The searching and the reading is done from various places in order to do this thesis. On the basis of vast reading area the author have prepared an inclusion and exclusion criteria. That is reported in this section . The articles which are chosen is filtering and peer reviewed . The various markers which are used in the inclusion criteria are Data should be from the trusted academic journals. It should be written in comprehensive English language. Publications should contain the information about infant mortalities in INDIA. The data should be from last 15 years.

6.2 EXCLUSION CRITERIA

The various markers which are used in the Exclusion criteria are ; paid articles, articles which are not in English ,articles in which full texts cannot be accessed.

The collected data are analysed based on the inductive content analysis method. In this method the data is being analysed in written, verbal or visual verbal communication methods. Then the author will proceed to the coding. the author will try to create various category concepts based on this.

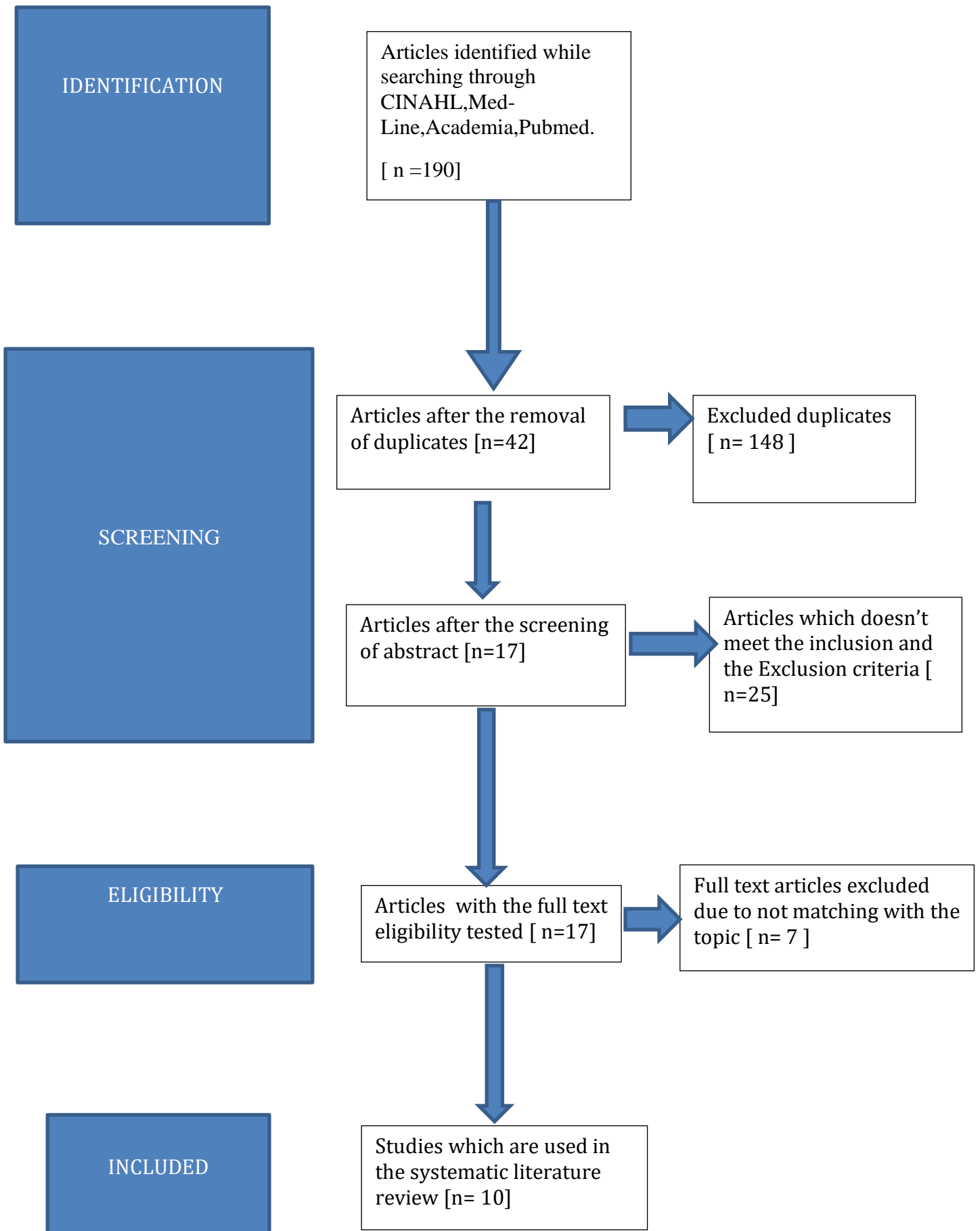


Figure 1: shows the selection process of articles .

6.3 CONTENT ANALYSIS

The information which is collected by the author through the searching are read thoroughly and systematically. This analysis of this study is done through the inductive content analysis method of Kyngäs and Elo . In this case the structure is operationalised from the data or theories which have been studied . There are three main phases in the content analysis method . They are the preparation phase, organizing phase and the reporting phase . (Elo & Kyngäs, 2008).The main code was selected from the articles and categories and the subcategories were made from the information which is capable of answering the research questions. The selected articles were read thoroughly and the analysis is made and the findings are documented.

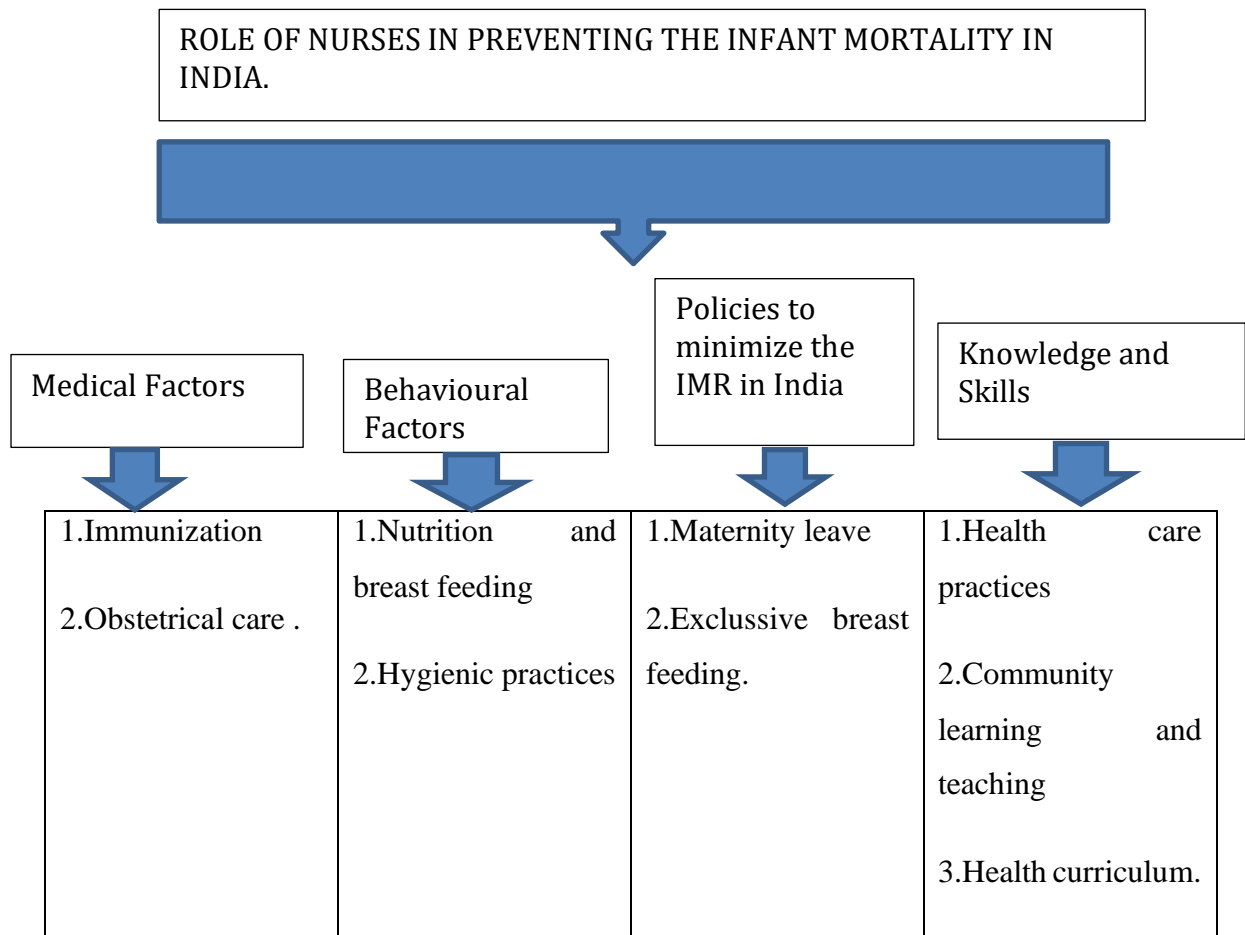


Fig 2: shows the content analysis.

7 .ETHICAL CONSIDERATIONS.

When a researcher is doing a research involving human beings they should also consider the ethical side . There is a line in nursing between the theory and the practice . So it is very important to have ethical consideration. The author of the study tried to protect the study by strongly considering the principles. The Finnish national board of research and integrity has created a framework in order to avoid the misconduct while doing the researches The researcher should respect the cultural heritage of the participants even if it is material or There is no room for the harm and discomfort. The beneficence is maintained by reducing the harm and maximizing the benefits. The human dignity is respected throughout the thesis. The justice and trustworthiness is kept in every steps of the thesis and it is closely monitored (Polit & Beck, 2021),.(TENK 2019).

8.RESULTS

The main phase of this thesis is the prevention of infant mortality in India and the role of nurses in this scenario. As nurses we can get into role of public health nurses or community health nurses to get this aim done. In the phase of the prevention there is the primary prevention where the nurses can provide the knowledge and care at the maximum before the arrival and the time of arrival of the baby . Then the secondary and the tertiary prevention can be done after the birth of the baby if there is any complications.

8.1 MEDICAL FACTORS

Immunization is one of the most important factors that help in reducing the infant mortality rate in India .It helps in giving the immunity to the children which help in fighting against various communicable pathogens . The nation has set up a schedule for immunizations for the pregnant women and for the children . The updated immunization schedule of India in 2023 is given in a table below,

VACCINE	WHEN TO GIVE	DOSE	ROUTE	SITE
TT-2	Early in pregnancy for the pregnant women	0.5 ml	IM	Upper arm
TT-2	4 weeks after TT-1 *	0.5ml	IM	Upper arm
TT-Booster	If received 2 TT doses in a pregnancy within in the last 3 years *	0.5ml	IM	Upper arm
BCG	At the time e of birth or as early as possible within 1 year of age	0.1ml	ID	Left upper arm .
Hepatitis B Birth dose	At the time of birth or as early as possible with in 24 hours	0.5 ml	IM	Antero – lateral some of mid - thigh
OPV 0	At the time of birth or as early as possible within the first 15 days	2 drops	Oral	Oral
OPV 1,2,3	At 6 th week ,10 th week and 14 th week can be given till 5 years of age .	2 drops	Oral	Oral
Pentavalent 1,2 and 3	At 6 th week , 10 th week and 14 week can be given till 1 year of age.	0.5ml	IM	Antero lateral side of mid thigh .
Rota virus	At 6 th week, 10 th week, and 14 th week can be given till 1 year of age	5ml	Oral	Oral
IPV	Two fractional doses at 6 th and 14 th week of age .	0.1ml	ID	Right upper arm

Measles / MR 1st doses	9 completed months – 12 months can be given till 5 years of age	0.5ml	Sub cue	Right upper arm
JE -1**	9 completed months – 12 months	0.5ml	Sub cue	Left upper arm
Vit A 1st dose	9 completed months with rubella and measles	1ml	Oral	Oral
DPT booster - 1	16 - 24 months	0.5ml	IM	Antero lateral side of mid thigh
Measles / MR 2nd dose	16 – 24 months	0.5ml	Sub cue	Right upper arm
OPV booster	16 – 24 months	2 drops	Oral	Oral
JE-2	16-24 months	0.5ml	Sub cue	Left upper arm
Vit A (2nd to 9th doses)	16 – 18 months ;then 1 dose in every 6 th month till 5 years of age	2 ml	Oral	Oral
DPT booster 2	5 – 6 years of age	0.5ml	IM	Upper arm
TT	10 years and 16 years	0.5ml	IM	Upper arm

Table : National Immunization schedule.

* Give TT2 or booster doses before 36 weeks of the pregnancy .Can give TT if the lady passes 36 week also, or give it at the time of labor if the lady has not received it .

* JE vaccines is only given to the selected endemic districts after the campaign.

* The 2nd to 9th doses of vitamin A can be given to the child from 1-5 years old during biannual rounds along with the ICDS.

Immunization is the basic component of primary health care. It is also the best health investment. Vaccines are also useful in the prevention and controlling of the communicable diseases. Immunization helps in reducing the risks of getting the diseases by working with the body's natural defense to build protection. (*National immunization Schedule (NIS) for infants, Children 2017*).

Obstetrical care is one of the yet another factor that help in preventing the infant mortality care at the time of birth is very important to avoid the birth injuries. The instruments and sets which are used should be sterilized and should be taken in a sterile manner . This will reduce the cause of Infections and injuries to the child. Operational obstetrics especially when using the forceps, vacuums extra care should be taken even if it is handled by a trained professional because this can create problems to the head of baby (Pavithra & Sujitha).

8.2 BEHAVIORAL FACTORS

Nutrition and breast feeding of the baby will help in solving the above mentioned issue . It improves the child and survival. Breast milk is the most perfect food for the infants . It is safe which contains a lot of antibodies that helps to protect against many of the childhood illnesses. It provides the nutrition and energy to the children. Various vitamins which is taken by the children that is the vitamin A and vitamin D also help to prevent the infant mortality . Giving proper meals at right times increase the immunity of the children . Then various practices like giving ORS at the time diarrheal diseases and vomiting will helps the child hydrated and this will also improve the health . By proper breast feeding and nutrition helps in preventing and controlling the infant mortality (Pavithra & Sujitha).

Hygienic practices like using the clean water, proper sanitation and safe environment will reduce the infant mortality and will also improve the chance of survival of infant . Hand washing with the help of soap water reduces the infections like diarrheal diseases and droplet infections. Hygienic practices followed at the home and hospitals at the time of birth should be taken care especially while using the instruments .This will reduce the incidence of the incidence of infections and the factors that aggregate the infant mortality .Especially in a developing country like India , proving the proper warmth and the exclusive breast feeding will help the infants to fight for the survival(Pavithra & Sujitha).

8.3 POLICIES TO MINIMIZE THE INFANT MORTALITY .

Exclusive breast feeding policy promotes in giving the breast milk to infants exclusively without giving any other foods till the six month of age. It provides the best and complete

nourishment to the child. The babies who are exclusively breast fed does not need any other minerals, food and fluid . But some mothers may not have enough breast milk so the babies are fed with special formula feeding . This will also provide the nutrients to the baby as like the breast milk and the health of the baby is maintained ;whereas the situation of anxiety and stress for the mother is also reduced . The breast milk is adequate to meet all the nutritional and hydration needs. This will prevent the diarrheal diseases , acute respiratory infections of the early childhood and the infant mortality due to that . Expectant mothers especially the primipara mothers should be educated properly about the management of the breast feeding. This can be done in community teaching or by personal teaching . In the last trimesters the pregnancy the nipples and the breasts should be examined properly and the advice should be given. When the ladies come for the antenatal check ups the information about the exclusive breast feeding , feeding the colostrum to the baby , discouraging the prelactial feed should be given by the public health nurse . They can also advise the pregnant women about the diet that can increase the breastmilk production and help them in practicing it (Pavithra & Sujitha).

Paid maternity leave and the benefits can help the Indian community while receiving a new child .India has got many poor and middle class people . When they are given free check ups and paid maternity leave they will try to visit the health care facility . Due to the low income many of the women are forced to work at the time of pregnancy and soon after that. If the women are in paid maternity leave , they will be supported well in their financial side which will reduce the stress and also they can seek the medical care for the child without any delay . This will reduce the infant mortality rate also.

8.4 KNOWLEDGE AND SKILLS

Health care practices can be achieved by proper information As the public health nurses we can conduct various programmers like plays , short act , video presentations to the public at the hospitals and public heath centres . This will make them to understand the importance of the infant health. Training the traditional birth attendants by making them to practice and handle the sterile delivery places and instruments , proper cord cutting will reduce the infections . Hand washing and the maintenance of the home delivery kit will reduce the spread of diseases and also will reduce the infant mortality rate. Proper knowledge about practicing prevention of hypothermia methods will help in keeping the baby's health saf (Pavithra & Sujitha).

Community based teaching and learning is the most affordable and the cost effective method that can be done by a public health nurse in solving the national issue. Small teaching about various topics corresponding to the time can be given by the public health nurses . Women's group and the forums can be conducted . This will help the women to gather in various group collect various information and practice various technique which will help to increase the survival rate of the infants . Ante natal check ups and seeking help at the time of pregnancy period can also be taken and delivering the baby at the health centers can be discussed and done . Group discussions which help in the birth planning and proper delivery techniques, health of the family pre and post natal visits can be designed and delivered by the public health nurse by combining with people. The services of the community health nurse is quite important in the areas where they cannot access the health care facility easily .Out reach programmers conducted by the public health nurses gave more knowledge about the health of the infant ,signs and symptoms showed by the infant which should be taken care of , follow up of the treatments and about the referrals if needed. The visits done by the public health nurse give more attention and knowledge to the mothers .This will also improve the health of the mother as well as the child . This will also reduce the infant mortality rate in India (Mall ; 2019).

Health curriculum gives emphasis on the education and practice , this will improve the standard of care which is given . Birth attendants and pediatric nurses should be given education and practice this will reduce the infant mortality rate and increase the chance of survival. Updating the curriculum with the knowledge from the evidence based practice will give a strong base to the care and the services that is provided to a lady at the time of the pregnancy period, Child birth and after that . As a result the chances of visiting the health care centers is increased if not the public health nurse can provide the care . This will help to achieve the aim.

9.DISCUSSION

This study reviewed ten articles which discussed about the infant mortality rate in India and the nurses role in preventing it . From the reading it was quite evident that immunization and vaccination reduced the rate of infant mortality . This will enhance the immunity power and the antibodies of the infant towards various communicable diseases . This will increase the rate of the survival. The public health nurses can educate the parents about the misconception about the immunization ; so the uneducated people can receive the right information. When the questions of parents are cleared with the detailed and proper

information they will try to seek the help of health care facility . If the area is lacking the health care facility the public health nurses can give vaccination at schools or in small daycares . Delegates from the health care centers along with the nurses can help the community. By this a healthy community can be created .This will also help in the development of the children and will also prevent the infant mortality rate (Pavithra & Sujitha).

The author has come to a conclusion that the community teaching and out reach programmes conducted by the health care professionals addresses many of the questions of the public . This will give them the correct and right information people who lives in the low socioeconomic surrounding will receive cost-effective interventions and implementations by these activities. Training of the pediatric nurses and the traditional birth attendants will reduce the rate of infant mortality rate. People who lives in the low socioeconomic background have many difficulties in accessing the health care facilities. Training which is given in the health care practices in the rural areas with very limited access to the health care facilities will improve the knowledge and skills. This will improve the health of the infants (Mall et al).

Health curriculum should be updated especially the pediatric nursing. This will provide clear ideas about the care which should be given. The evidence based practices reduces the risk of the infant mortality. Good knowledge and practices which rely on such knowledge will provide the quality care to all . This will help to save the life of the infants .

Exclusive breast feeding will reduce the rate of the infant mortality in India. It is the most safest method of providing the nutrition , immunity , prevents the sudden infant death syndrome, diarrheal diseases and vomiting infants and premature complications of illness. Proper nutritional supplementation and oral rehydration therapy will reduce the chance of infant mortality due to the diarrheal diseases. Nursing curriculum should involve the information of the exclusive breast feeding and nutrition. Training in services about these will also help to implement the good actions. Many of the hospitals in India celebrates the breast feeding week to make awareness among the public . And also there are milk booths at the hospitals with the breast milk . This can be provided to the kids whose mother is not having the breast milk, or situations at which the mothers milk cannot be taken by infant. So that such infants also gets the full nourishment. Practicing them will reduce the infant mortality (Pavithra & Sujitha).

Based on the results from the study hygienic practices like proper hand washing technique, using the sterile instruments at the time of delivery and cord cutting can reduce the rate of infections that can deteriorate the health of infants and infant mortality. In a country like India education should be given to the traditional birth attendants and nurses because there are a lot of low socioeconomic areas where they get the help from these people (Pavithra & Sujitha).

This study is done in India which has got many cultures, languages, traditions and practices within it. So it is very important to respect it while doing the research. The theory of nursing professor Madeline Leininger's transcultural theory helps the author to coordinate the information and reviews well by maintaining the complete integrity and trust. The thesis also focuses on the health promotion and prevention of the infant mortality. So it is necessary to these two aspects and it was completely answered by the Tanahil model.

10.LIMITATIONS

The first and foremost limitation of this study is the cost. Only the free articles which describes about the topic were selected. So some of the articles are missed in the process. The study is limited to only a particular country and the information is collected only based on it. The collection of data seemed to a bit difficult at this point. Another major limitation was the entire systematic review of literature was done only by one person. When two or more persons conduct the systematic literature review it is more reliable and well based. This will also reduce the biased view. So that it can be used in evidence based practice as a base. (Pilot & Beck).

11.CONCLUSION

The aim of the study was to find the answer from the articles which are searched - Nurse's role in prevention of infant mortality in India. It is focused on the preventive measures and nurses in implementing the preventive measures in all communities. By using the content analysis the main codes and sub codes were created. The immunization, breast feeding, nutrition, hygienic practices, community teaching and learning, health curriculum were discussed in detail and the research question is answered.

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APPENDICIES

	Bibliography	Objectives	Type of study	Methods of study	Targets and samples	Origin	Major themes	Results
1	A study on knowledge and practice of mothers of under-five children regarding management of diarrhea	To assess the knowledge and practice of mothers of Under-five children regarding the management of diarrhoea .	Cross sectional study	House to house survey was conducted with a pre structured questionnaire.	Mothers with under five children	India	Management of diarrhea.	The mothers who belongs in the age group 25 to 30 were literate and do have an idea how to handle it but many of them doesn't have the clarity .
2	The effectiveness of structured teaching programme on essential new-born care among post natal mothers.	To assess the knowledge of mothers at postnatal time regarding the essential new born care .	Quantitative approach is used	The pre experimental technique with a pre test and a post test design.	Post natal mothers	India	Essential new-born care	The pre test knowledge of mothers was poor and after the teaching programme the knowledge and test result showed the better understanding and knowledge level .

3	A descriptive study on the new born care .	To assess the knowledge among the primi Para mothers about the newborn care .	A descriptive approach is used.	The non experimental design is used .	Primi mothers	India	New born care	The primi mothers had moderate knowledge about the new born care .
4	The knowledge and practices towards neonatal care among mothers	To evaluate the knowledge and practices of new born care among Para mothers	A descriptive approach is used .	The non experimental design is used .	Mothers	India	Newborn care	The mothers had moderate knowledge about new born care ; but they need the teaching programme to improve the knowledge.
5	Effect of home based new-born care on neonatal and infant mortality	To evaluate the effectiveness of home based care delivered by specially recruited new born care workers, shishurakshak and	Based on the community , randomized trial was given	Community based cluster randomized trial conducted in various districts of India	Mothers Other members of family	India	Home based new born care .	The number of infant mortality is reduced by the contribution of health workers properly at home.

		anganwadi workers.						
6	A community based study of infant mortality in rural Aligarh.	To identify the various factors that causes the infant mortality .	A community based study approach was chosen.	All the infant and neonatal deaths were inquest within a given period of time	Mothers Other family members	India	Infant mortality	Most of the deaths were preventable. If they were directed to the proper reference and institutional delivery and also by early detection of causes of infant mortality.
7	Tracking India's path to maternal and child health.	To identify and to solve various reasons that can cause the maternal and child health decoration.	A case study	All the factors that lead to maternal and child health were recorded over a period of particular time and asses it.	Mothers Other family members	India	Maternal and child health	Most of the major reasons were found out and answered . It is explained in detail under results .
8	Reducing neonatal mortality in India: critical role of	To identify and to solve the factors influencing	A study	Analysis is based on the household data from the	Mothers	India	Neonatal mortality and critical role of access to	The result clearly shows how important is hospital based

	access to emergency obstetric care .	the neonatal mortality and to trying to improve the survival outcomes in India		district level household survey. Probit regression techniques are used to get the link between the details from survey analysis and neonatal mortality and obstetric care .	Other family members		emergency obstetric care.	obstetric care in reducing the neonatal mortality.
9	The Role of place of delivery in preventing neonatal and infant mortality rate in India	It examines the importance of place of delivery for preventing the mortality	A study	Analysis is based on the Indian national family health survey don within a period . Descriptive analysis is the method used .	Mothers Other family members	India	Importance of place at where the delivery happens	The result clearly shows how important is hospital based obstetric care in reducing the neonatal mortality.

10	Infant and child mortality in India in last decade	It examines the infant mortality and child health in last decade	A study	The geospatial analysis were done from the surveys of reproductive and child health district level house hold surveys and demographic health surveys .	Mothers Other family members	India.	Infant and child mortality	The result came as there is a reduction in the infant and child mortality than as years passes by.
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