Study Conducted to Assess the Knowledge of Mother Regarding the Newborn Health

By

Dipa Vivek Vengurlekar

Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management

Academic year, 2016-2018

The IIHMR University, Jaipur

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INSTITUTE OF HEALTH MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that **Dr. Dipa Vivek Vengurlekar** student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at IVC Advisory LLP, Gandhinagar from **5th February, 2018 to 5th May, 2018**.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

Col (Dr) Ashok Kaushik
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INNER VOICE CONSULTANTS
ADVISORY (LLP)

Date: 05/05/2018

To Whomsoever It May Concern

This is to certify that Dr. Dipa Vengurlekar a student of MBA, Health and Hospital Management at Institute of Health Management Research (The IIHMR University, Jaipur) has successfully completed three month of dissertation from 5th February 2018 to 5th May 2018 at IVC advisory llp, Gandhinagar (M/s MJ Solanki Group).

During her dissertation Dr. Dipa Vengurlekar has worked as a **Project Manager** on projects of manpower outsourcing and telemedicine at IVC advisory llp, Gandhinagar and MJ Solanki Group.

Apart from general understanding of company, she has undertaken following activities:

1. A Comparative study on health care infrastructure of EAG states of India.
2. Developed company profile in the areas of skill development, manpower outsourcing and hospital supplies and presented to government officials and other clients.
3. Attended National Skill Development Corporation (NSDC) Soch TP TC capacity building boot camp 2018.
4. Assisted in development of business plan for Care4home Company in collaboration with Soch NGO.

She was sincere, hardworking, inquisitive and has successfully carried out the assigned task during dissertation.

We wish her success in all the future endeavours.

For IVC Advisory LLP

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **"A study conducted to assess the knowledge of mother regarding newborn health"** and submitted by **Dr. DipaVivekVengurlekar** Enrollment No **IIHMR-U/01/2016-18/0412**under the supervision of **Dr. Susmit Jain** for award of MBA in Hospital and Health in The IIHMR University carried out during the period from 5th February 2018 to 5thMay 2018 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Dipa

Dr. DipaVivekVengurlekar
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ABSTRACT

A study conducted to assess the knowledge of mother regarding newborn health

Author : Dipa Vengurlekar

Guided by: Dr. Susmit Jain

BACKGROUND

Civil Hospital, Ahmedabad is 2000 bedded hospital. It is one of the finest public healthcare institution in state of Gujarat providing quality medical care services. Since Newborn health is very important aspect of any country as the survival of the baby is concerned with the five decades of productivity. A mother is the most important women in the life of newborn and the person who is always close to him. The current IMR of India is 37/1000 live births and that of Gujarat is 34/1000 live births. The enhancement of the knowledge of the mother regarding the child health is the most crucial factor to improve the existing IMR. Essential Newborn Care (ENC) is a set of recommendations from WHO which are designed to improve the health of newborn. It includes guidelines for recognition of danger signs and management of newborn illnesses. It includes 8 signs that needs to be assessed to for early detection of newborn illness i.e, stop feeding well, history of convulsion, fast breathing, severe chest indrawing, no spontaneous movements, temperature >= 37.50C, temperature < 37.50C, any jaundice in first 24 hrs of life.

OBJECTIVES

The specific objectives of the study are:

1) To study the aspects of the advice given by community health worker to mothers during ANC and PNC visits regarding newborn care.
2) To assess the knowledge of the mothers regarding the danger signs of newborn.
3) To assess the knowledge of mothers regarding the treatment of diarrhea.
4) To assess the knowledge of mothers regarding the danger signs of pneumonia.

METHODOLOGY

STUDY DESIGN

The study has used a descriptive research design.

DURATION OF STUDY

Study was carried out from a period of 5 Feb 2018 to 5 May 2018.

STUDY AREA

The work was conducted in the Civil Hospital, Ahmedabad

DATA COLLECTION METHODS

150 women having the newborn were interviewed. The data was collected using a structured questionnaire designed with help of literature review of previous

questionnaire for assessing the knowledge of post-natal women regarding the danger signs of newborn.

DATA ANALYSIS PROCEDURE

Primary data from the interview was recorded on the printed questionnaire. The data was then transferred to IBM SPSS version 20.0. The variables were coded according to the options of the questionnaire. The further analysis of the data was done using the SPSS.

RESULTS

The study found that maximum number (80%) of respondents were in the age group of 25-29 years and 45% of all respondents were from rural area. Further it was found that 5% of women and 7% of husband of respondents were illiterate. A knowledge index was designed composing 15 items that covers various aspect of newborn health for most common disease and its treatment. The Cronbach's alpha for the scale was 0.796. It was found that about 57.9% of mother has poor knowledge of the anger signs and 36.4% of mothers have average knowledge. Only 5.6% of mothers had good knowledge about the newborn care. Further association was found between the knowledge of the mothers regarding newborn health and demographic variables. It was found that knowledge of the women was significantly associated with the education level of the husband. The study concludes that mothers have poor knowledge about the newborn health and there is a need to enhance the knowledge of the mothers regarding newborn health for early detection of the sick newborn.

KEYWORDS : newborn health, PNC, ANC, danger signs

Acknowledgements

Dissertation is a golden opportunity in a student's life for learning and self-development. I consider myself very lucky and honoured to have so many wonderful people lead me through in completion of this project.

I wish to express my gratitude and sincere thanks to **Ms Neeta Gidwani, Managing Director, IVC Advisory LLP ,** for helping as me to complete my project with such a great learning curve. I'm also extremely thankful to **Mr. Minesh Solanki** and my teammates, for their immense support and guidance throughout my internship. Despite their busy schedule, all my teammates would regularly take out time to hear, guide and keep me on the correct path.

I would like to give my heartfelt thanks to my guide **Assistant Professor, Dr.Susmit Jain** for his prompt replies, able guidance, constant words of encouragement and making this dissertation an enriching experience .

Last but not the least, I would like to give my sincere thanks to my parents for supporting me throughout this course.

Dr Dipa Vengurlekar
Roll No-0412

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Abbreviations	Full forms
RMNCH+A	Reproductive Maternal Neonatal and Child and Adolescent Health
PNC	Post natal care
ANC	Ante natal care
WHO	World health organization
ENC	Essential Newborn Care
NRHM	National Rural Health Mission
DALY	Disability Adjusted Life Years
U5MR	Under 5 Mortality Rate
MCH	Maternal and Child Health
ASHA	Accredited Social Healthcare Activist
ANM	Auxiliary Nursing Midwifery

1. Introduction

Newborn care is the most effective way of developing quality of human resources as the saving of the newborn baby is associated with 5 decades of productivity. Estimates of world bank states that perinatal causes contribute to 25% of DALY's in India.[1]

The policy makers in India have recognized the newborn health as a crucial aspect of maternal and child health and have respectively made efforts to make NRHM (National Rural Health Mission) and RMNCH+A (Reproductive, Maternal, Newborn, Child and Adolescent Strategy) a tool to make healthcare accessible to needy. The U5MR have reduced from 74/1000 live births to 50/1000 live birth, but it is still high as compared to other countries in Asia. [2] There should be consistent efforts to reduce the U5MR to achieve the Sustainable Development Goals. Educating mothers to create an awareness among them about the newborn born care is the simple and most effective way of preventing infant mortality. Post-partum care is one of the most important aspect of the care of newborns. The post-natal period is the time immediately after the birth of the baby upto 42 days (6 weeks). It is the most crucial period to newborn as well as the mother to protect the newborn from any danger of infections. According to WHO guidelines on the post-natal and newborn care, the major aims of care in post-partum care are [3]:

1. Supporting the mother in transition
2. Prevention, early diagnosis and treatment of the complication of mother and infant
3. Referral of mother and newborn to the specialist care when necessary
4. Counselling on newborn care
5. Counselling on nutritional aspect
6. Provision of contraceptive services and
7. Immunization

Most of the newborn deaths can be prevented or managed by appropriate care at home and community centers by early detection of danger signs. Inappropriate practices such as delay in breast feeding and not seeking care immediately when newborn are sick increases the risk of newborn care. Post-natal care provides an opportunity to the healthcare providers to counsel mothers regarding the signs in newborn to look for in case of ill health of newborn.

Essential Newborn Care (ENC) is a set of recommendations from WHO which are designed to improve the health of newborn through interventions during preconception, prenatal, pregnancy and postnatal period. It includes thermoregulation, clean cord-care, initiation of breastfeeding, immunization, recognition of danger signs and management

of newborn illnesses. WHO guidelines for recommendations on the newborn health describes 8 danger signs of the newborn. They are (1) Stop feeding well (2) History of convulsion (3) Fast breathing (4) Severe chest indrawing (5) No spontaneous movements (6) Temperature >= 37.5^0C (7) Temperature < 37.5^0C (8) Any jaundice in first 24 hrs of life. [4]

According to the NFHS-4 report the infant mortality in Gujarat is 34/1000 live births with IMR of 39/1000 live births in rural area and IMR of 27/1000 live births in urban area. Following are the other indicators of the newborn health [5]:

Table 1 : Child health indicators in Gujarat

Sr.No	Indicator	NFHS-4	NFHS-3
1	Children with diarrhea in last two weeks who received ORS	46.2	26.3
2	Children under 3 yrs of age breastfed within one hour of birth	50	27.1
3	Children age 6-8 months receiving solid or semi-solid food and breast milk	49.4	54.1
4	Breast feeding children age 6-23 month receiving adequate diet	5.8	-
5	Non- breast feeding children age 6-23 month receiving adequate diet	2.8	-
6	Total children age 6-23 month receiving adequate diet	5.2	-
7	Children under 5 years who are stunted	38.5	51.7
8	Children under 5 years who are wasted	39.3	44.6
9	Children age 12-23 months fully immunized	50.4	45.2

Gujarat being one of the developed states of India have poor child care indicators in breast feeding and adequate nutrition. Despite of the continues efforts of the government to increase the coverage of newborn care there is a significant gap in the services received by the infants. The U5MR of Gujarat is 43/1000 live birth. The major reason can be a lack of response from the side of the family to seek care for the newborn in case of emergency. This can be due to lack of knowledge of the mother and family regarding the danger signs of the newborn. So, a study was carried out in the Medical college of Ahmedabad to assess the knowledge of mothers regarding the danger signs of newborn

As per the SRS 2014 data the under 5 mortality rate (UM5R) is 45 per 1000 live birth. About 44% of U5MR deaths take place with first 7 days of birth and around 58% of the U5MR take place within the first one month of birth. Approximately 87% of the U5MR takes place within the one year of the birth od child. Though the U5MR have declined at compound annual rate of 6.8% during 2009-14 from 64 in 2009 to 45 in 2014 it is still lagging. As per the WHO 2012 estimates, the causes of child mortality in the age group of 0-5 years in India are neonatal cause (35%), Pneumonia (15%), diarrheal diseases (12%), measles (3%), injury (3%) and others (14%). The factors contributing to the causes of infant deaths are home delivery by unskilled person, lack of essential newborn care for asphyxia and hypothermia, poor child care practices, lack of early detection of newborn, inadequate delay in the referral mechanism and inadequate healthcare infrastructure. [6]

2. Literature Review

Several studies have been conducted to assess the knowledge of the mothers in distinct phases of pregnancy and post-partum in different settings regarding the various aspects of the newborn care in different developing countries. These studies describe a collective understanding of the low level of knowledge regarding the newborn care among the mothers.

A study conducted in the Kancheepuram district of Tamil Nadu revealed that the knowledge of women for child care practices was less. It was found that level of adequate knowledge regarding the new born care was present only in the 15% of mothers. Further it was found that only 39% and 8% of women had the knowledge about the child feeding practices and immunization respectively. It was found that only 42% of women had knowledge about the growth and development and 33% of mothers had knowledge of new-born illness. It was also found that education status of mother had significant relation with the knowledge regarding the newborn care.[7]

Parul. A et al conducted a study in the government hospital of Ahmedabad to assess the knowledge of mothers regarding the newborn care. It was found that 60% of mothers have a poor knowledge about the umbilical cord care and timing of bathing. The women also had poor knowledge regarding the dangers of pre-lacteal feed (45%) and immunization (36%). The study also found that 32% of women practiced the oil instillation and 44% used gripe water for infantile colic. The study further discusses the need and methods of improving the knowledge of the mothers regarding the newborn care and the need for striving towards eliminating myths and misconception about the newborn care from the society.[8]

A study conducted in Nepal to assess the knowledge of women in regarding the child care found that about 62.76% of women had average knowledge about the postnatal care of newborn. The knowledge of the newborn care among the women was significantly associated with the occupation and the education level of the women. It was identified that among the different aspect of post-natal maternal and child health care and it was observed that 81% of women had knowledge about the dander signs of the newborn and lowest knowledge was in the area of family planning.[9]

A descriptive study conducted in Belgaum, Karnataka to assess the knowledge of the primi women regarding the post-partum care found that 62.7% of mothers have moderate knowledge of the newborn care. The knowledge of the newborn care was significantly associated with the education of mother. [10]

Few studies conducted in the developing nations reveals the poor knowledge of the mother s regarding the knowledge of newborn care. For instance the study conducted on knowledge of the mothers regarding the neonatal jaundice in Pediatric Teaching Hospital in Karbala City of Iraq on a 100 mothers using 76 item scale designed by experts revealed that mothers have only 34% of knowledge of neonatal jaundice. The knowledge of the mother was found significant with the age, education, socioeconomic status, place of residence, previous experiences.[11] Similar study conducted in Ethiopia on 368 mothers delivered in last 1 year to assess the mothers knowledge and practices about the neonatal danger signs found that only 31.32% mothers have good knowledge about the danger signs of the newborn and 64.5% of respondents' practices were unsafe for their sick neonate. The level of knowledge and practices was significant with mothers income, place of birth and source from where the mother received information. [12] A study conducted int the Nigeria on 376 mothers also revealed that identification of the WHO recognized danger signs of the newborn was very poor (0-30%). Only hyperthermia was the dander sign recognized by 92.5% of mothers. The study also described that healthcare seeking behavior was significantly determined by the knowledge of at least two WHO recognized danger signs. Cough, dieehea and excessive crying was the most perceived and experienced non-Who recognized danger signs.[13]

In certain cases knowledge of the mothers regarding newborn care was also assessed for improving the knowledge of the mothers by designing the information booklet. From a study conducted on 100 primi mothers attending the MCH session revealed that only 31% of mothers had adequate knowledge about the warning signs of the common newborn illnesses. Further it also described that only 16% of mothers had an adequate knowledge for homebased care of the newborn. This knowledge was found to be significant with the education status of mother, religion and source from where she obtained the information n at $p<0.01$ and with age, occupation, family income and standard of living at $p<0.05$.[14] A research article published in the Bulletin of WHO assessing the perception of health workers regarding the newborn care among 200 care givers in North India reveal

disturbing facts. It was found in the study that initiation of breastfeeding to the child was done after 3 days. The danger signs recognized by the care giver were fever, irritability, weakness, abdominal distension/vomiting, slow breathing and diarrhea. The sudy also describes the prevalence of use of traditional medicine bulging fontanelle, chest in-drawing and rapid breathing.[15]

3. Objectives

As described in the introduction part of the report, we see that approximately 87% of the U5MR mortality takes place with in the first year of birth. The major causes of infant deaths are prenatal conditions, respiratory conditions (46%), diarrheal disease (10%), other infectious and parasitic disease (8%) and congenital abnormalities (3.1%). The major reason described in literature for these deaths are poor child care practices and lack of early detection of the sick newborn. So, this study was conducted to assess the knowledge of the mothers regarding the danger signs of the newborn.

The specific objectives of the study are:

5) To study the aspects of the advice given by community health worker to mothers during ANC and PNC visits regarding newborn care.
6) To assess the knowledge of the mothers regarding the danger signs of newborn.
7) To assess the knowledge of mothers regarding the treatment of diarrhea.
8) To assess the knowledge of mothers regarding the danger signs of pneumonia.

4. Methodology

4.1 Study design:

The study has used a descriptive research design.

4.2 Setting:

The work was conducted in the Civil Hospital, Ahmedabad

4.3 Duration of study:

Study was carried out from a period of 5 Feb 2018 to 5 May 2018.

4.4 Sample size:

150 women having the newborn were interviewed.

4.5 Sampling technique:

Non-probability purposive sampling.

4.6 Data collection procedure:

The data was collected using a structured questionnaire designed with help of literature review of previous questionnaire for assessing the knowledge of post-natal women regarding the danger signs of newborn.

4.7 Ethical considerations:

Oral consent was obtained from the patient while conducting the survey. A formal permission from the Hospital Administrator was obtained for conducting the study on post-natal women.

4.8 Method:

Primary data from the interview was recorded on the printed questionnaire. The data was then transferred to IBM SPSS version 20.0. The variables were coded according to the options of the questionnaire. The further analysis of the data was done using the SPSS.

5. Results

5.1 Demographic Characteristics

5.1.1 Age :

Out of the 214 mothers interview for the study a maximum number (80%) of them were in the age group of 20-24 years. The maximum number of newborns (45%) were in the age group 4-7 months, 27% were in the age group of 0-3 months and 28% of infants were in the age group of 7 month to 1 year.

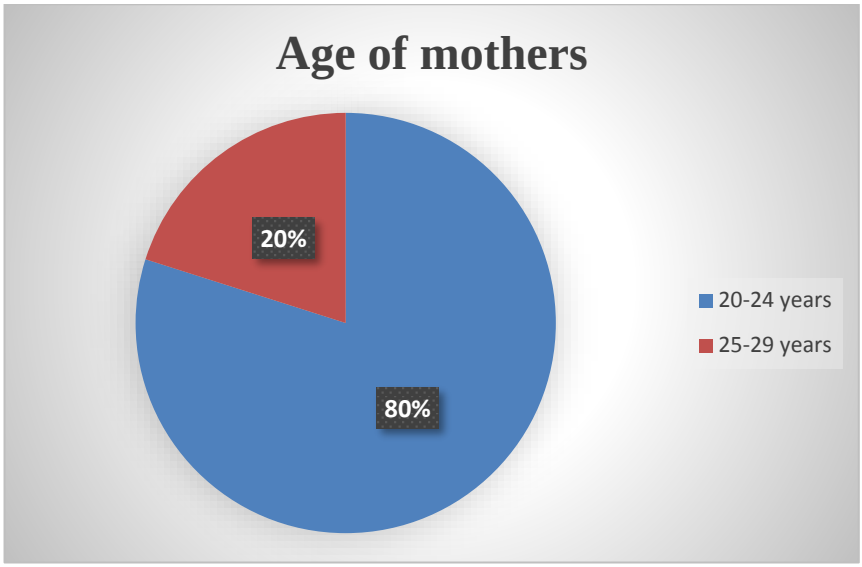

Figure 5.1 : Age of mother

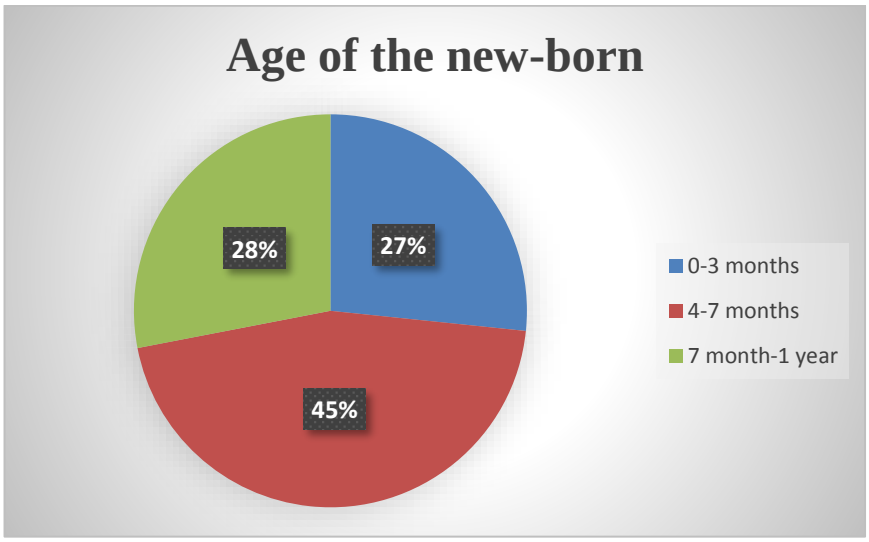

Figure 5.2: Age of newborn

5.1.2 **Parity of women**:

The number of children a women have given birth is an important factor for the assessing the knowledge as it is observed that women having higher birth order may have considerable knowledge of the birth of the danger signs of the newborn.

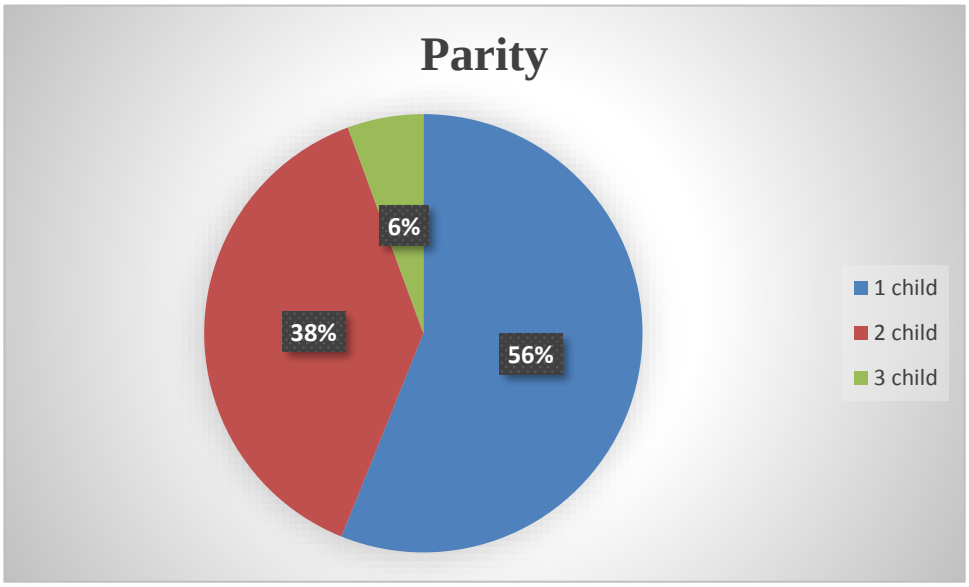

Figure 5.3: Parity of women

5.1.3 **Place of Residence**:

In a country like India there is a large parity among the health care indicators of rural and urban areas. So the place of residence was taken into consideration, It was found that 46% of the respondents were from the rural area and 54% of them were from the urban area.

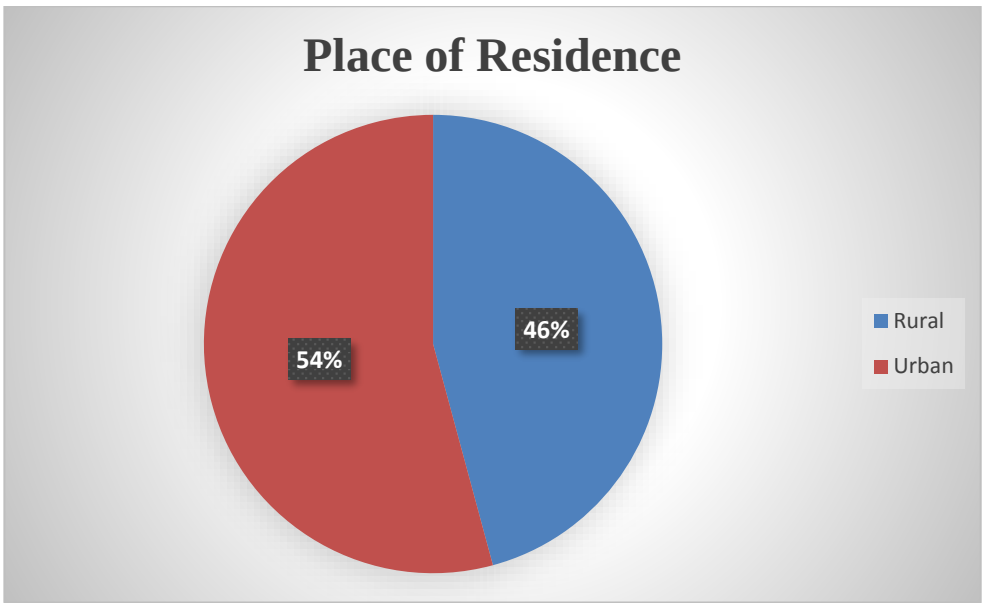

Figure 5.4 : Place of Residence

5.1.4 Religion :

In India there are multiple religions and the religious practices differ in each religion which can affect the neonatal and infant care that is being provided to the infants. From 214 respondents about 70% of the respondents belong to Hindu religion while 30% of them belong to other religion like Muslims, Sikhs, Christians.

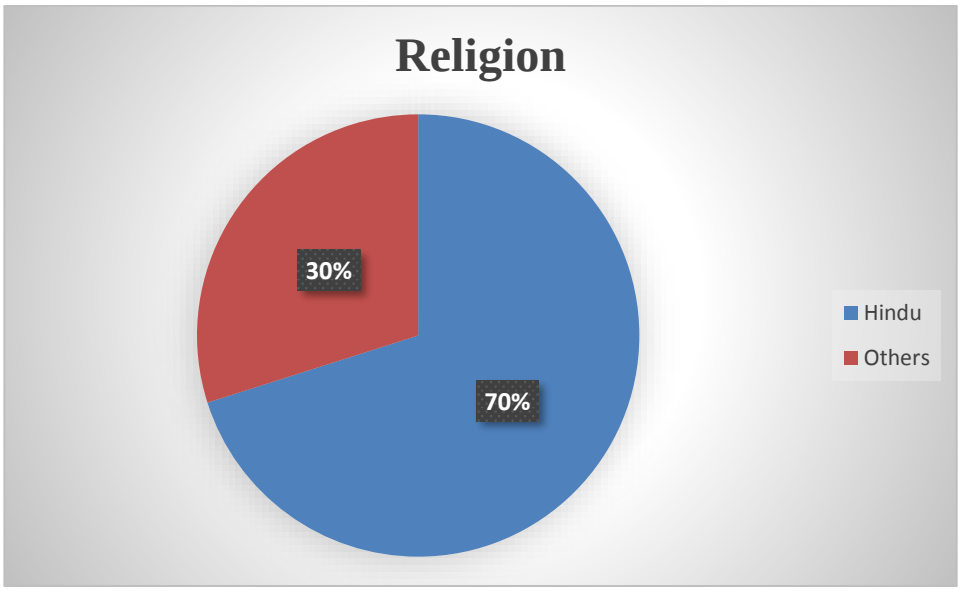

Figure 5.5 : Religion of respondents

5.1.5 Caste :

Caste is one of the important aspect for the distribution of care because certain caste or tribes have the history of being deprived and isolated from the communities so lack access to essential healthcare services. Out of the 214 respondents 50% of them belong to Other Backward Class (OBC), 10% belong to Schedule Class, 15% belong to Schedule Tribe and 25% belong to Other category.

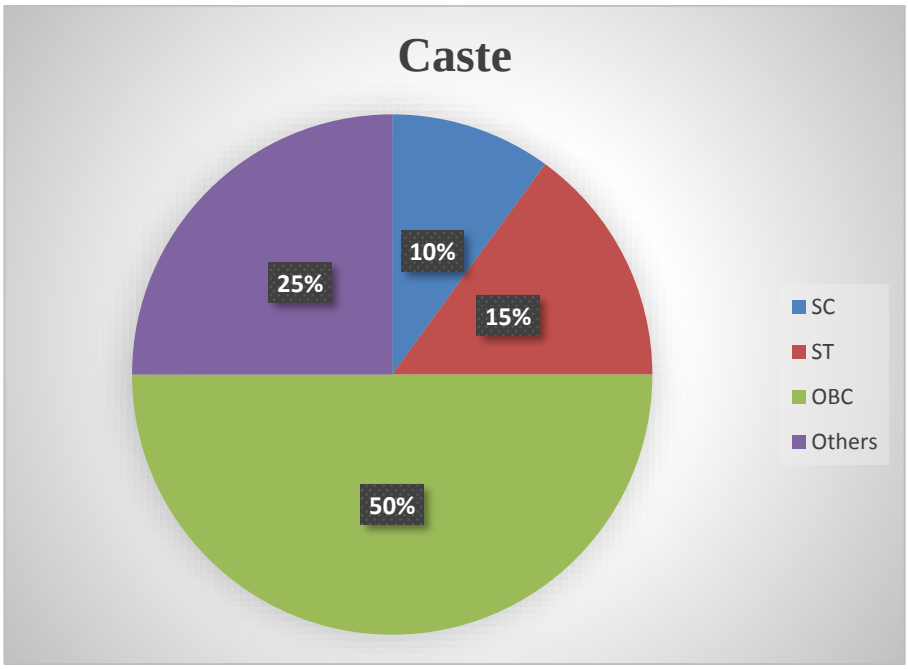

Figure 5.6 : Caste of mother

5.1.6 Education:

Education is one of the important aspect of the personality of an individual. Previous studies have found that education of the mother and the husband of the respondent plays a significant role in the seeking care for the newborn. Hence the education status of both mother and her husband was carefully studied and was divided in six categories. The study found that about 7% women were illiterate, 10% received primary education, 16% of women have completed middle school, 21% of women received secondary education, 19%

of women have completed higher secondary education and 27 % of mothers had education above higher secondary.

The Education status of husband was also quite similar as only 5% were illiterate, 10% of husbands have received primary education, 15% of husbands had completed middle school education, 24% of husband of respondents had secondary education , 23% had been to higher secondary school and about 23% had an education above the higher secondary.

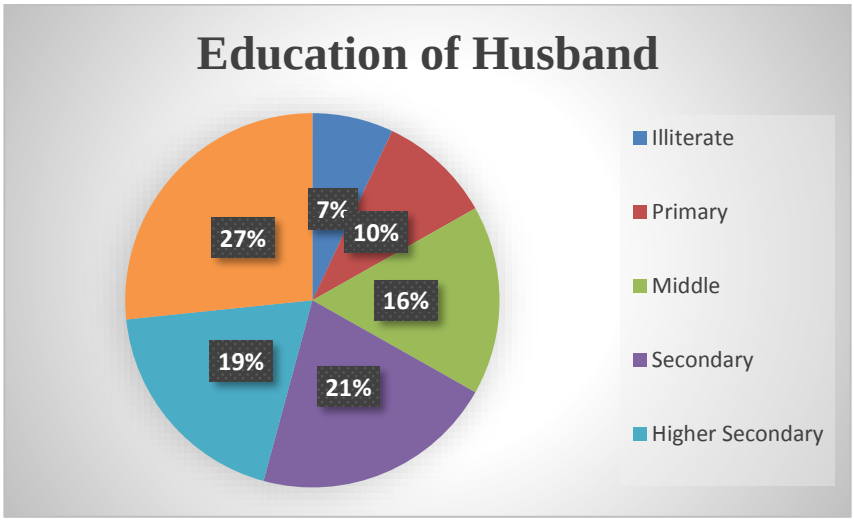

Figure 5.7 : Education of husbands of the respondents

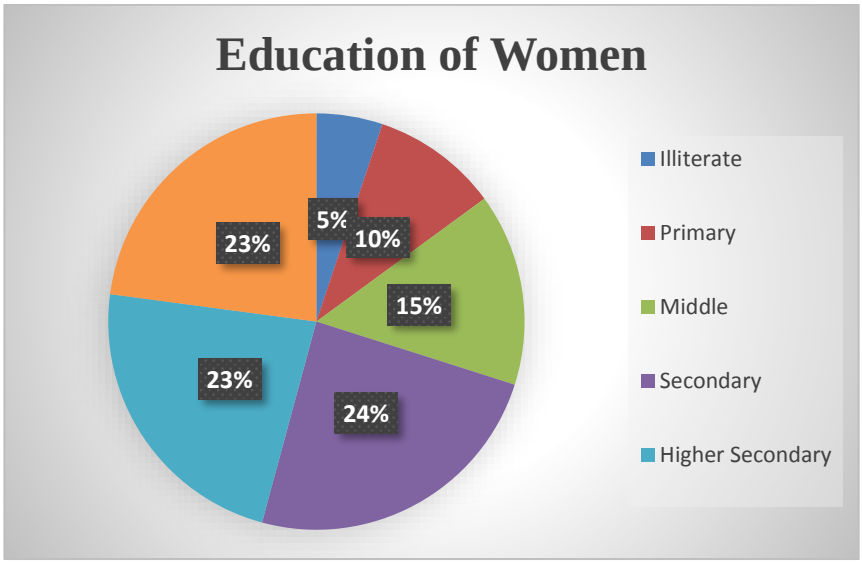

Figure 5.8 : Education of the mother

5.2 Advice received during the ANC visits regarding child care

The basic purpose of the ANC visit is to prepare mother for the parenthood. The mother is groomed by the healthcare service provider to handle the stress during the delivery and to take diligent care of the newborn. So, data was collected to assess the advice given to mothers in ANC visits. It was found that about 75% of mother received the advice on keeping the baby warm. Around 82% of women received advice on breastfeeding but only 57% of women received advice on the nutrition requirement of the newborn.

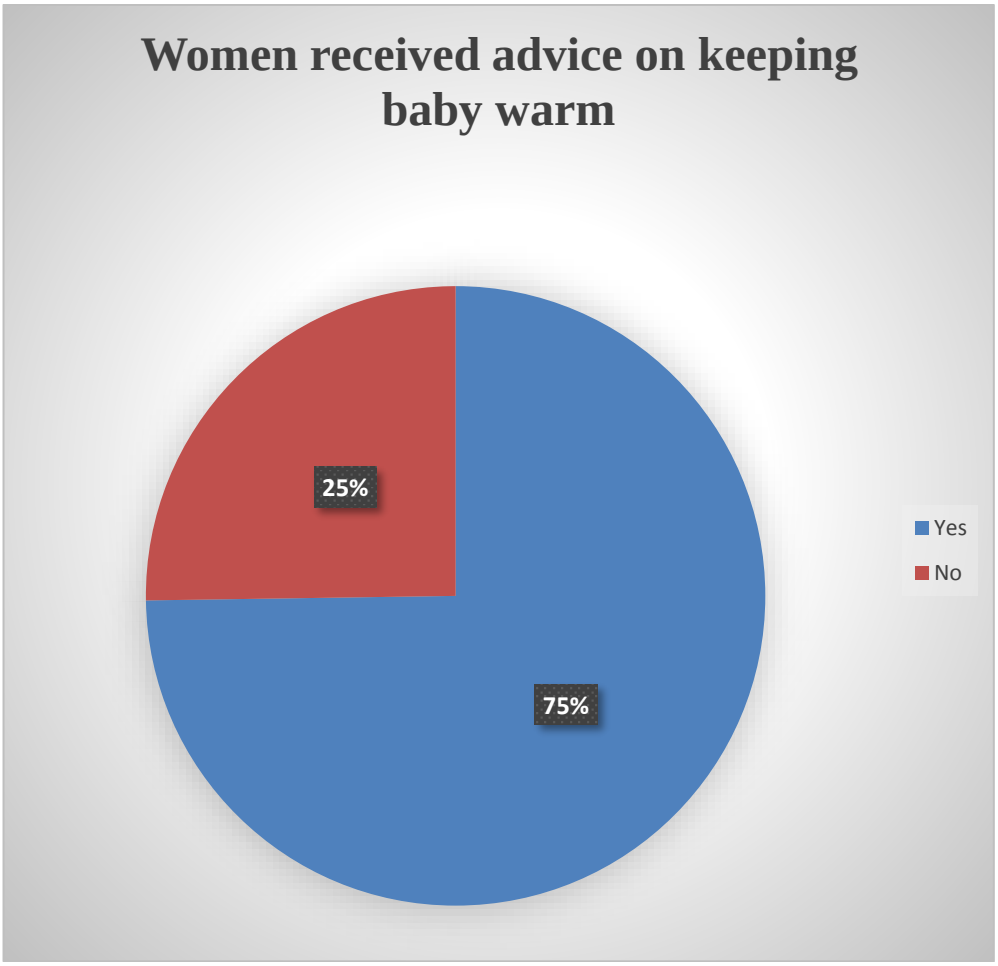

Figure 5.9: Advice on keeping baby warm during ANC

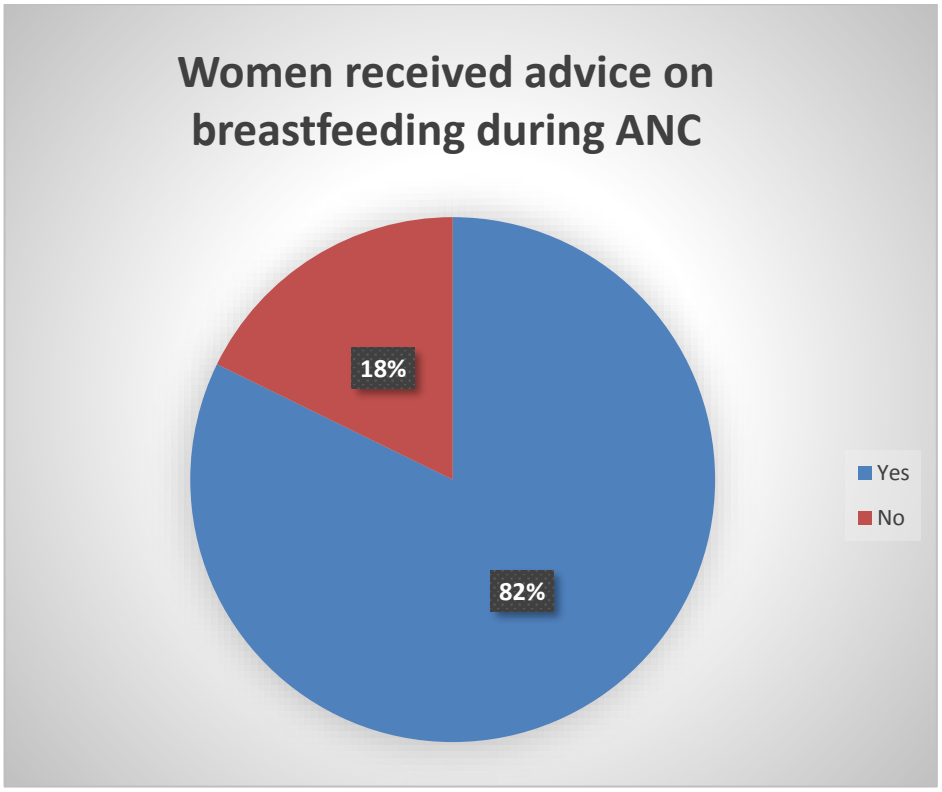

Figure 5.10: Advice receives on breast feeding during ANC

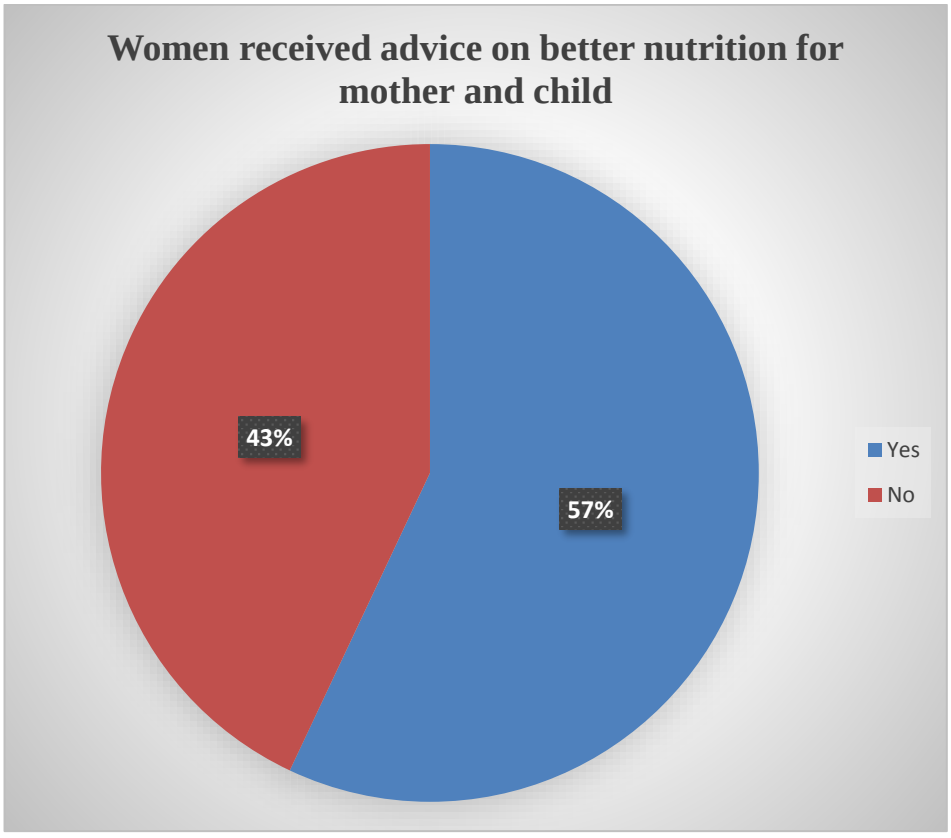

Figure 5.11 : Advice on nutrition given during ANC

5.3 Advice received during the PNC visits regarding child care

Post-natal care is one of brief period of contact between the women and the community health worker or the health service provider where there is an opportunity for the health care provider to communicate with mother and explains her the importance of the child care practices. So data was collected to determine the aspect of newborn care being advised to the mother during the PNC. It was found that only 57% of women received advice about breast feeding during the PNC visits. Further only 55% of women received advice about the care of newborn.

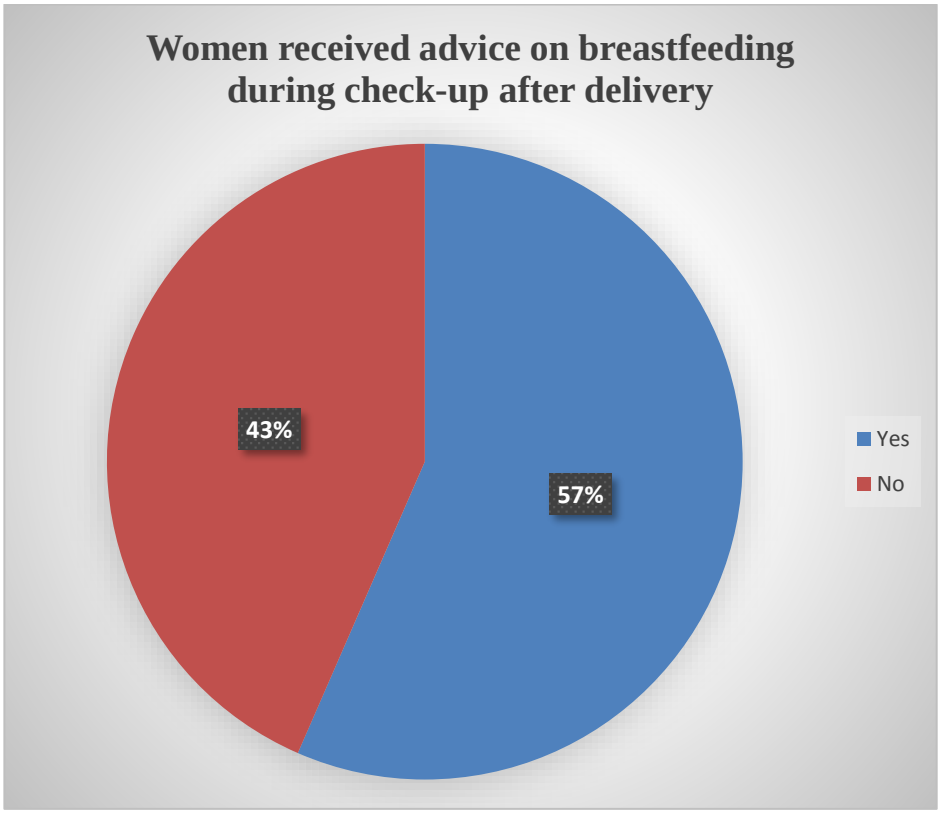

Figure 5.12: Advice on breast feeding at PNC visit

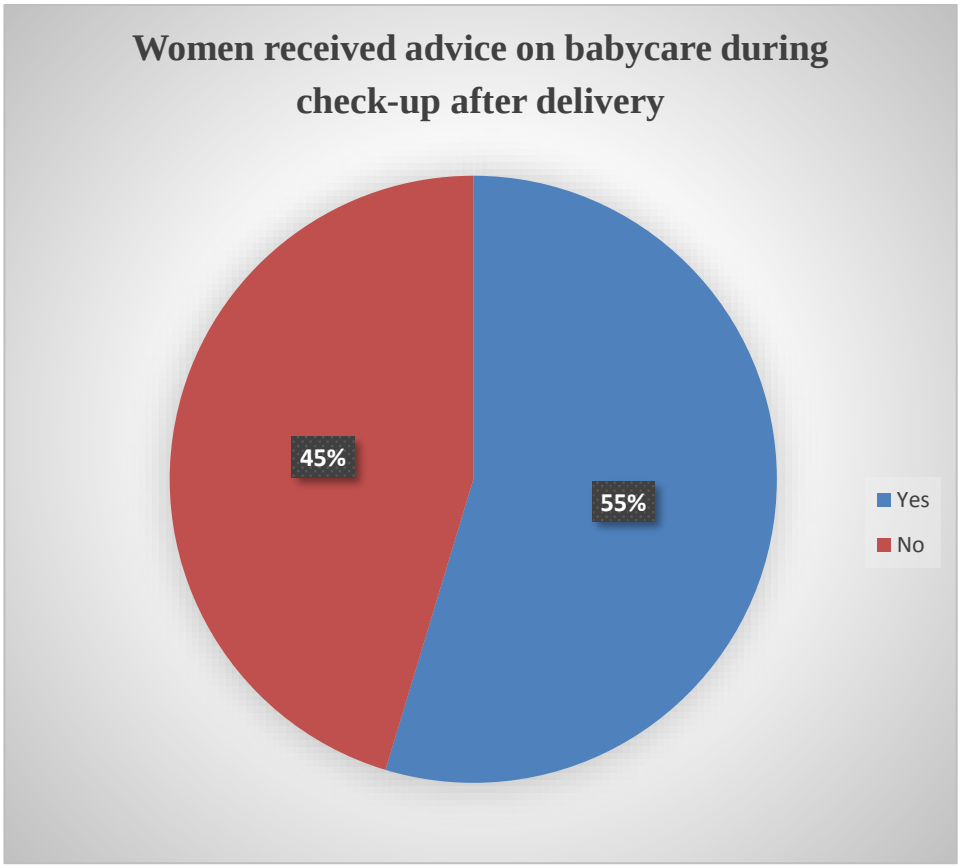

Figure 5.13: Advice on breast feeding at PNC visit

5.4 Check-up of Child and initiation of breast feeding of breastfeeding

In India a large share of the infant mortality in the newborn is the neonatal mortality. So, the first 24 hours are most crucial for the newborn as well as the mother. The data collected from the questionnaire revealed that 73% of the children received check up within 24hrs of delivery and 25% of them received the check up with in 72 hrs after the delivery.

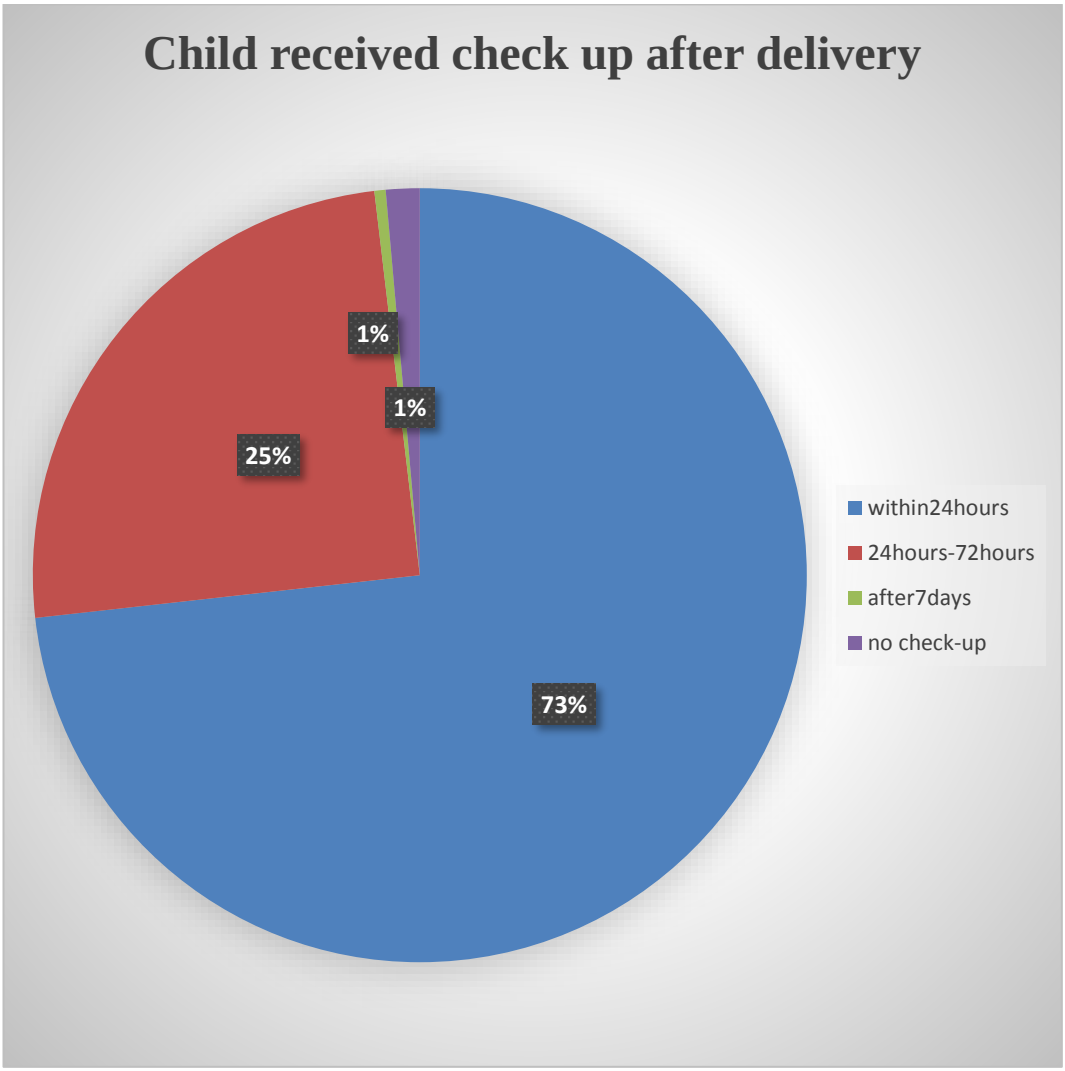

Figure 5.14 : Advice on breast feeding at PNC visit

The initiation of breast feeding with in 1 hour of the birth is very important for the immunity and proper nutrition of the newborn, Dur to the certain beliefs and misconceptions in India this is delayed for the first few days depriving the child of nutrition as well as immunoglobulins of the mother's milk. The community health worker or the healthcare providers in the institution where women delivers play a important role in the counselling the mothers and the family members regarding the faulty practices and the importance of colostrum to the newborn. So, the data was collected to determine the time of initiation of breastfeeding. It was found that only51% of mother initiated the breast feeding with in 1 hr of the delivery and around 44% mothers started feeding their child with 24 hrs.

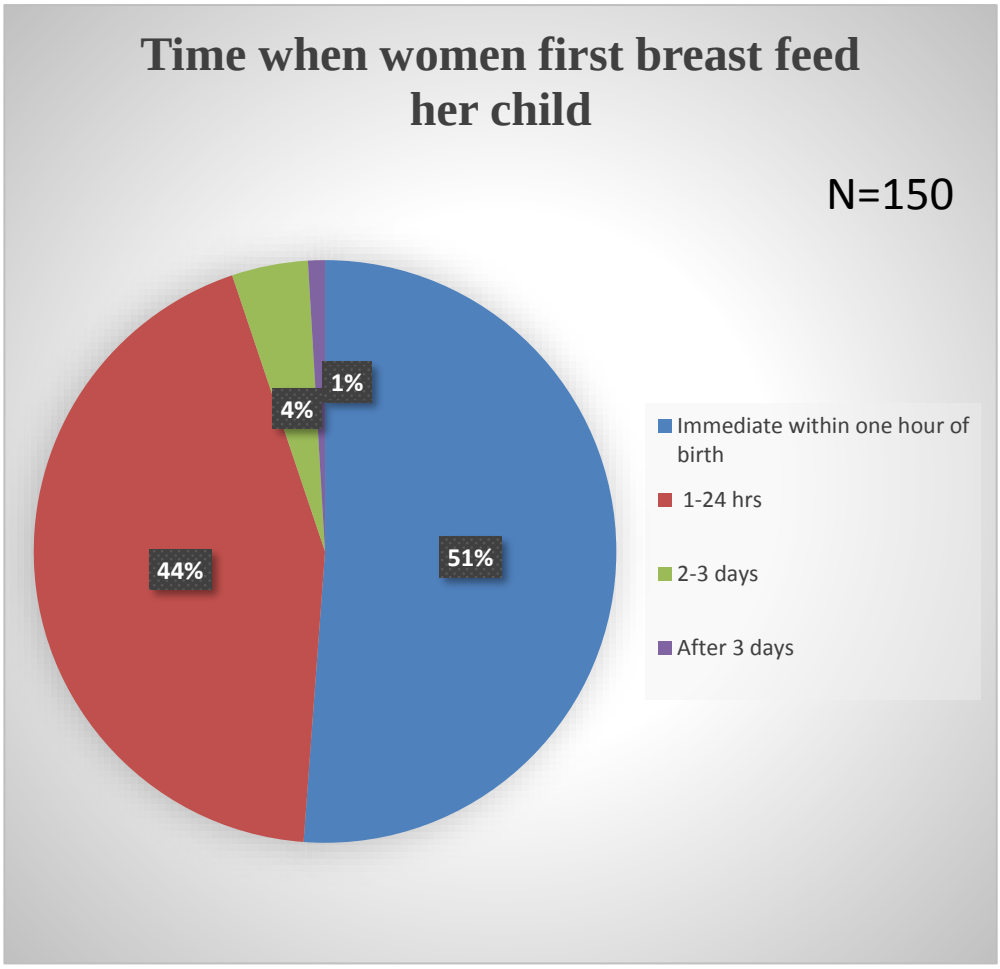

Figure 5.15 : Time of initiation of breast feeding

5.5 Knowledge of women regarding the danger signs of new-born

It was found from the study that only 22% of mothers knew that if baby is not feeding properly then it is a danger sign. Only 12% mothers and 7.5% of mothers knew that fast breathing and hypothermia or hyperthermia is a danger sign of newborn. Only 3% of women knew that no spontaneous movements is a danger signs of newborn and only 3% of women knew that jaundice is the danger sign of newborn.

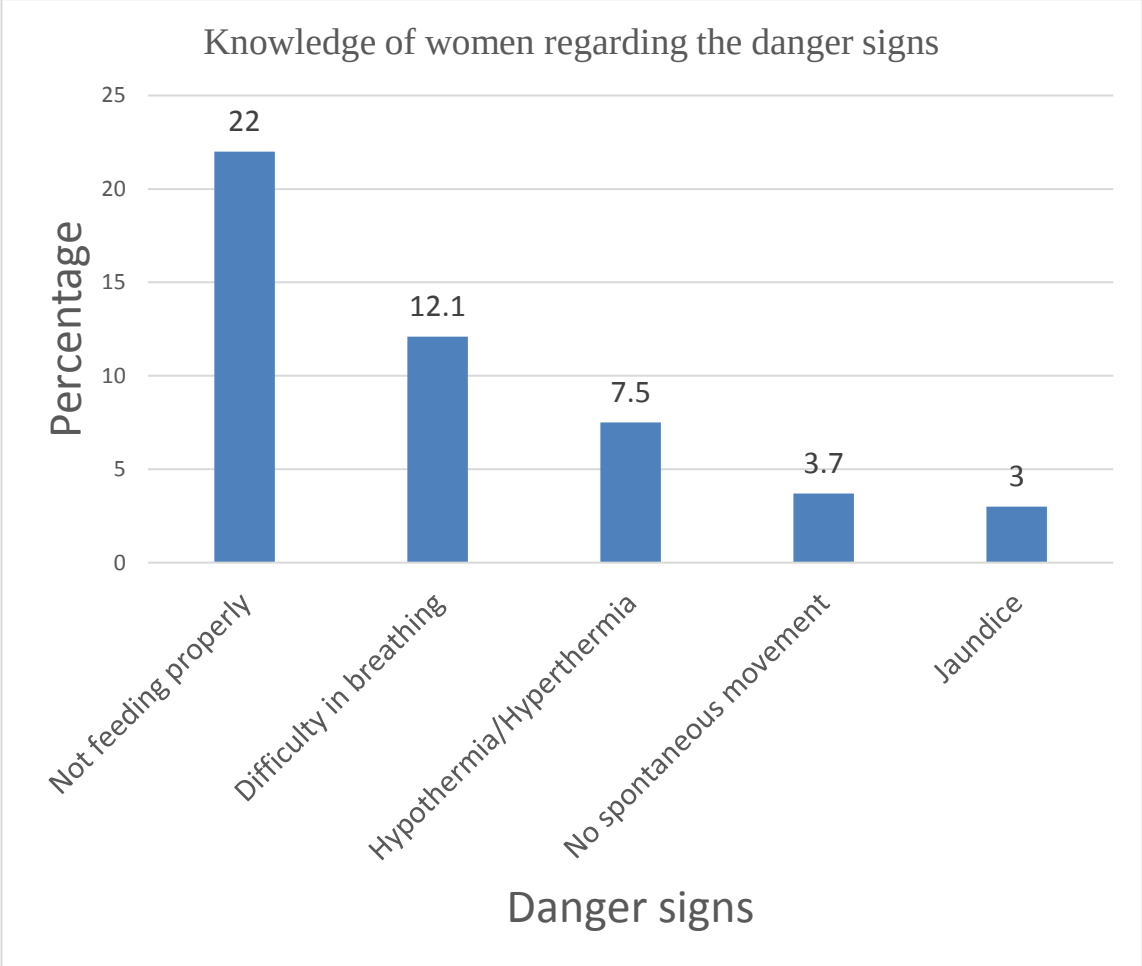

Figure 5.16 : Knowledge of mother regarding the danger sign of newborn

5.6 Knowledge of women regarding the treatment of diarrhoea

It was found from the study that 76% of women knew that giving ORS solution is a treatment of diarrhea, 36% of women knew that salt and sugar solution is a treatment of diarrhea. Only 16% of women have knowledge that giving plenty of fluid is the treatment of diarrhea. It was also found that 7% of women and 4.7% of women know that continuing normal food and continue breast feeding is the best treatment of diarrhea.

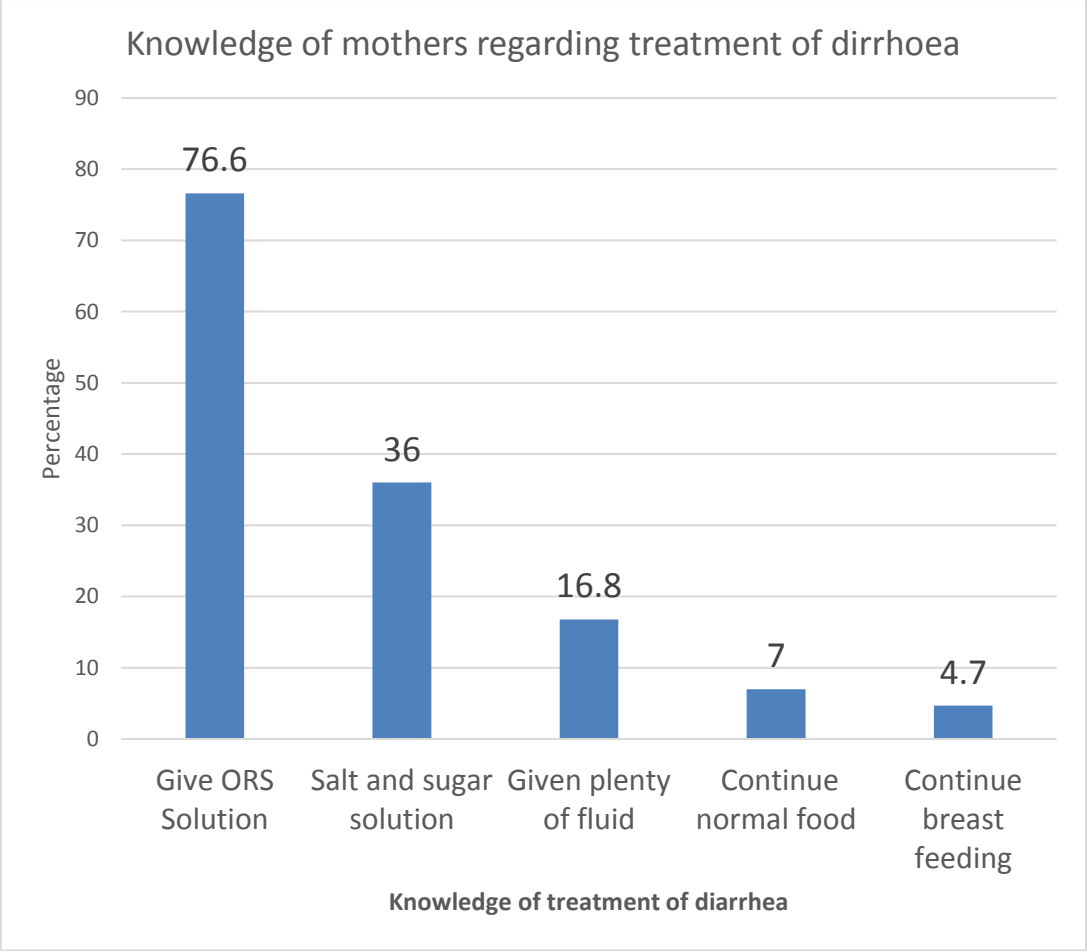

Figure 5.17 : Knowledge of mother regarding the treatment of diarrhea in newborn

5.7 Knowledge of women regarding the danger signs of pneumonia

The study analyzed that 49% of women and 27% of women know that difficulty in breathing and not able to feed is the danger sign of newborn. About 20% and 11.2% of women know that cough and running nose is the danger signs od newborn. Only 9.3% of mothers know that drowsiness is the danger sign of newborn. Only 7 % and 5% of women know that rapid breathing and wheezing is also a danger sign respectively.

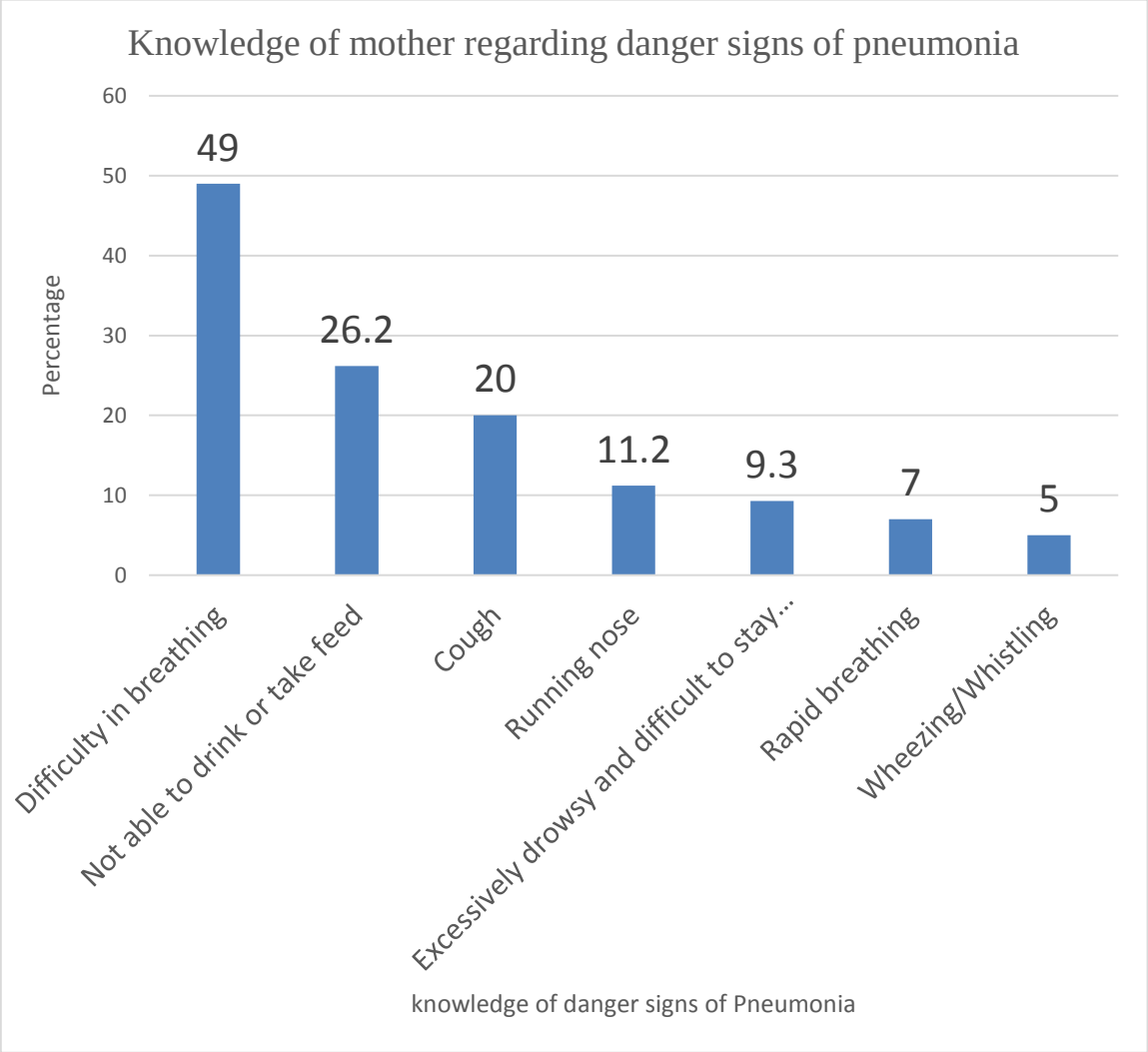

Figure 5.18: Knowledge of mother regarding danger signs of pneumonia in newborn

6. Discussion

The national program for the maternal and child healthcare have came a long way to provide a superior quality of care to mother and infant seeking medical attention. Nevertheless, the most vital component of the providing effective healthcare to mother and child is at the decentralized level of household is it need to enhance the knowledge of the mothers regarding newborn care. The 2016-2017 Annual Report of NRHM in its chapter of Child Health Program describes that the respiratory infections (22%) and diarrheal diseases (10%) are the causes of infant deaths. So, this study was carried out in a Civil Hospital of the Ahmedabad district of Gujarat to assess the knowledge of the mothers regarding the danger signs of the newborn and the practices done for treatment of the diarrhea. The study revealed that the about 60% of mothers have poor knowledge of the danger signs of the newborn.

About 45% of respondents in the study were from the rural area. A further analysis of the caste found that 50% belong to OBC, 25% belong to other categories and 10% and 15% belong to SC and ST respectively. About 80% of mothers were in the age group of 20-25 years as this is the most common age for child bearing in India. About 56% of mothers had their first child. Around 5% of women were illiterate and 22% were educated above the higher secondary level. It was found that 7% of husbands were illiterate, 21% have completed secondary schooling, 20% have completed higher secondary education and 26.6% were educated above the higher secondary level.

Many studies in the literature review stated that the knowledge of the mother for newborn care was dependent on the education of the mother but this study did not find the significant relation between the knowledge and the education status of mother. The study further reveled that 82% of mothers received the advice on the breastfeeding ,75% mothers received advice on keeping baby warm and 57% of women received advice on the better nutrition for mother and child during the ANC visits. Also it was found that only 57% of women received advice on breast feeding and 55% received advice on baby care during the Post-natal care visits. 73% of the infants of the respondents received the check-up within 24 hrs after the delivery which depicts the consistent efforts of the community health workers for community mobilization and creating awareness.

As breastfeeding forms the most important part of the care of newborn to improve its immunity this study tried to determine the period of initiation of breastfeeding among the mothers. It was found that only 51% of the mothers initiated the breastfeeding with an

hour after the delivery. This data is aligned with the NFHS-4 data for the state of Gujrat which states that 50% of children under the age of 3 years received breast feeding within an hour after delivery. Breast feeding is the most important aspect of the newborn care as the mother's milk in initial hours (colostrum) provide immunogens to the newborn for fighting against infections. Attention should be paid to the community mobilization activities of the community health workers to raise awareness regarding the breastfeeding among the mothers.

7. Conclusion

Any national program is incomplete without the participation of the targeted community. Same is the case for the maternal and child health programs. As mother is the only women who is near to the child in maximum situations, it is necessary for the mother to recognize the danger signs of the newborn for early diagnosis of diseases and seeking medical attention. A lot of training is given to the community health workers like ASHA (Accredited Social Health Activist) and ANM for counselling mothers regarding the newborn care. A notable change was observed in the infant mortality after the launch of NRHM and RCH programs by Government of India. Further incentivizing the institutional deliveries brought mothers to the institution and provided an opportunity to the healthcare provider for improving the health and nutrition of the mother and child. But this good opportunity is missed by the health workers as well as health providers to educated mother regarding the danger signs that need to be identified by mother. It is not possible for the hospitals to take care of the mother and infant after the discharge. With the availability of ASHA at the community level have brought the care at decentralized level. But to seek the medical advice it is necessary that the mother identifies the signs of distress at early so that the infant gets the adequate set of treatment at the earliest. There was a attempt to improve the knowledge of mother regarding the postpartum and newborn care by organizing small get together of the pregnant women and just delivered mother so as to boost peer learning and abolish the myths and misconception of the mothers and family members. The major problem of these interventions is the community mobilization of the family members of pregnant women and passion on the part of the community health workers to promote good maternal and child health.

8. Instrument

Questionnaire for assessing the knowledge of women regarding danger signs of the new-born

Name of the respondent :_____

Age of the respondent:_____ years

Date of delivery:__/__/_____

Age of child:_____

Type of locality: Rural/ Urban

Religion:_____

Caste: ST/SC/OBC/General

Education of Husband: Illiterate/Primary/Secondary/Higher Secondary/ More than Higher Secondary

Education of women: Illiterate/Primary/Secondary/Higher Secondary/ More than Higher Secondary

1. During your ANC visits did you receive training/Advice on any of the following?
    a) Breastfeeding
    b) Keeping body warm
    c) The need for cleanliness during the delivery
    d) Family planning for spacing
    e) Family planning for limiting
    f) Better nutrition for mother and child
    g) Need for institutional delivery
2. Did you know the danger signs of the new-born?
    A. Breast feeding or drinking poorly
    B. Fever or cold hot to touch
    C. Fast or difficulty in breathing
    D. Blue tongue and lips/convulsions
    E. Develop yellow staining of palm and sole
    F. Abnormal movement
    G. Baby did not cry

3. Did you have the PNC check up done within 48 hrs of delivery?
    a) Yes
    b) No
4. Did any of this happen when you had an PNC check up?
    a) Abdomen examined
    b) Advice on breast feeding
    c) Advice on baby care
    d) Advice on family planning
5. Did your child have any check up after delivery?
    a) Within 24 hrs
    b) 24-72 hrs
    c) 4-7 day
    d) After 7 day
    e) No check up
6. Was the birth weight of the baby taken?
    a) Yes
    b) No
    c) Dont know
7. Did you fed colostrum to child?
    a) Yes
    b) No
8. When did you first breast feed your child?
    a) Immediate within one hour of birth
    b) 1-24 hrs
    c) 2-3 days
    d) After 3 days
    e) Never breast fed
9. Did you give water to baby before completion of six months?
    a) Yes
    b) No
10. Do you know what to do when child gets diarrhoea?
    a) Give ORS Solution
    b) Salt and sugar solution
    c) Given plenty of fluid
    d) Continue normal food

e) Continue breast feeding
f) Don’t know

11. Do you know what are the danger signs of pneumonia?
    a) Difficulty in breathing
    b) Not able to drink or take feed
    c) Excessively drowsy and difficult to stay awake
    d) Pain in chest and productive cough
    e) Wheezing/Whistling
    f) Rapid breathing
    g) Running nose
    h) Not aware

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