

Study Report

On

**Assessment of Breastfeeding Patterns, Practices and
Determinants among Ever Married Woman with Special
focus on Role of Health Care Providers in Promoting Early
Breastfeeding in Selected Districts of Maharashtra**

Conducted by

**Pravara Institute of Medical Sciences - Deemed University,
Loni, Dist. Ahmednagar, Maharashtra**

Under the aegis of

**State Health Systems Resource Centre (SHSRC),
Govt. of Maharashtra, Pune**

August 2014

***Assessment of Breastfeeding Patterns, Practices and Determinants
among Ever Married Woman with Special Focus on
Role of Health Care Providers in Promoting Early Breastfeeding
in Selected Districts of Maharashtra***

Research Team

Principal Investigator

Prof. K.V. Somasundaram

Director, Centre for Social Medicine, PIMS-DU, Loni

Co-Investigators

Dr. V.B. Bangal

Prof. & Head, Dept. of Obstetrics & Gynecology, Rural Medical College, Loni

Dr. Sunil Thitame

Asst. Prof., Centre for Social Medicine, Loni

Under the Guidance of

Dr. Uddhao H Gawande

Executive Director, SHSRC, Pune, Govt. of Maharashtra

Ms. Mukta Gadgil

Senior Consultant, SHSRC, Pune, Govt. of Maharashtra

August 2014

PREFACE

Breast feeding practices have significant influence on health of both mother and baby. The influence varies by the duration and intensity of breastfeeding. Although breastfeeding is nearly universal in India, very small percentage of children is put to the breast immediately after birth.

National Family Health Survey (2005-06) – NFHS-3, of India has revealed startling lower prevalence /incidence/percentage of early initiation of breastfeeding (within half-an-hour of birth) and exclusive breastfeeding (EBF) rates as 23.6% and 46% respectively. Although the rates are better for Maharashtra there is still a big scope for improvement. The different barriers to breastfeeding, especially socio-cultural, economic factors are not clearly known. Therefore, Maharashtra State Health System Resource Centre, Pune has initiated a study across the State – rural, urban and tribal population to assess the breastfeeding patterns, practices, knowledge regarding usefulness of breastfeeding and factors influencing the breastfeeding practices. The study has also focused in understanding the role and involvement of health care providers and professional bodies in promotion of breastfeeding practices in the State.

Pravara Institute of Medical Sciences (PIMS) -Deemed University, Loni which is been empanelled as Technical Consultant with SHSRC, Pune has been assigned the task of conducting the study under the active contribution from the SHSRC, Pune & State NRHM, Mumbai. The efforts of all researchers headed by the Director, Centre for Social Medicine, PIMS-DU, Loni have assiduously worked and supported this study are acknowledged with appreciation.

I hope the study will provide the much needed insights into the determinants of breastfeeding practices in Maharashtra and will help policymakers and program managers to achieve the desired goals.

Dr. Uddhao H. Gawande,
Executive Director,
State Health Systems Resource Center, Pune

ACKNOWLEDGEMENTS

At the outset, Pravara Institute of Medical Sciences (PIMS) - Deemed University, Loni would like to thank State Health Systems Resource Centre (SHSRC), Pune for entrusting the responsibility of conducting the present Study on this important issue. We gratefully acknowledge the immense help, guidance and inputs received from Dr. Uddhao H Gawande, Executive Director, Ms. Mukta Gadgil, Senior Consultant of SHSRC, Pune, and Dr. Malati Bawadekar, Demographer-NRHM & UNICEF Consultant, Mumbai, while designing & implementing the research study.

Our special thanks to all the participants of the study including Breastfeeding mother(Respondents), DHO, Civil Surgeon, Medical Superintendent of Rural Hospitals, Medical Officers of PHC's, Nurses of Sub-centers, SHG's and ASHA's from Akola, Hingoli, Thane and Raigad districts for their active involvement in the study, without whom this study would not have been possible. We would also like to acknowledge with much appreciation the assistance & cooperation provided by office of DHO for providing information required to organize the study in individual districts.

We acknowledge the guidance and support provided by Shri Rajendra E. Vikhe Patil, Chief Executive Officer, PIMS-DU and Dr. Shashank D. Dalvi, Vice Chancellor, PIMS-DU during conduction of the study.

Prof. K.V. Somasundaram,
Principal Investigator,
Director, Centre for Social Medicine,
Pravara Institute of Medical Sciences – Deemed University, Loni

**Assessment of Breastfeeding Patterns, Practices and Determinants
among Ever Married Woman with Special Focus on Role of Health
Care Providers In Promoting Early Breastfeeding In Selected
Districts of Maharashtra**

CONTENTS

Preface

Acknowledgements

Abbreviations

Tables and Figures

Page No

CHAPTER 1: Introduction

1.1 Introduction

1.2 Review of Literature

1.3 Specific Objectives

CHAPTER 2: Study Design & Methodology

2.1 Type of Study:

2.2 Study Period

2.3 Study Methods (Quantitative & Qualitative)

2.4 Sampling Design

2.5 Selection of Respondents

2.8 Research Team

**CHAPTER 3: Socio-demographic, economic characteristics of Breastfeeding
Women**

3.1 Age-wise distribution

3.2 Age at marriage

3.3 Place of residence

3.4 Tribal/non-tribal background

3.5 Economic status

3.6 Educational status

3.7 Religious background

3.8 Caste-wise distribution

3.9 Occupational status

3.10 Status of Living Children, Youngest child

3.11 Place of last delivery

3.12 Birth attendant at Home delivery

3.14 Type of delivery

CHAPTER 4: Breastfeeding and Supplementary feeding: Knowledge & Practices

4.1 Initiation of breastfeeding

4.2 Exclusive Breastfeeding

4.3 Colostrums Feeding

4.4 Prelactel Feeds

4.5 Frequency & Duration of Breastfeeding

4.6 Hygienic practices in breastfeeding

4.7 Weaning Practices

4.8 Cultural Practices & Knowledge about Breastfeeding

4.9 Knowledge about Supplementary food

CHAPTER 5: Association of socio-demographic characters of women with Knowledge, Practices of breastfeeding and supplementary feeding

5.1 Association between knowledge and socio-demographic characters

5.1.1 Knowledge of initiation of breastfeeding Vs. Socio-demographic characters

5.1.2 Knowledge of exclusive breastfeeding Vs. Socio-demographic characters

5.1.3 Knowledge of supplementary feeding & Socio-demographic characters

5.1.4 Knowledge on duration of breast feeding & health of the baby

5.2 Association between practices in breastfeeding with socio-economic and demographic characters

5.2.1 Practice of initiation of breastfeeding & Socio-demographic characters

5.2.2 Practice on Colostrum feeding & Socio-demographic characters

5.2.3 Practice on Prelactal feeding & socio-economic, demographic characters

5.2.4 Practice on Supplementary feeding & socio-demographic characters

CHAPTER 6: Role of Health Care Providers, Community & Professional Bodies in promotion of breastfeeding practices

6.1 Role of Health Care Providers

6.2 Role of ANMs & Community members

6.3 Role of Professional bodies

CHAPTER 7: Summary of Results

CHAPTER 8: Recommendations

ENCLOSURES

Annexure 1: Data Collection Tool – Ever Married Woman (EMW) Questionnaire

Annexure 2: Data Collection Tool – Health Care Provider Questionnaire

Annexure 3: Data Collection Tool – Professional Bodies Questionnaire

Annexure 4 :Data Collection Tool – FGD Semi-structured Questionnaire

ABBREVIATIONS

ANM	Auxiliary Nurse Mid-wife
ASHA	Accredited Social Health Activist
AWW	Anganwadi Worker
BPNI	Breast Feeding Promotion Network of India
BFHI	Baby Friendly Hospital Initiative
CS	Civil Surgeon
DPM	District Program Manager
EBF	Exclusive Breastfeeding
EMW	Ever Married Women
FGD	Focus Group Discussion
FOGSI	Federation of Obstetrics and Gynaecological Societies of India
HCP	Health Care Provider
HIV	Human Immuno-deficiency Virus
ICDS	Integrated Child Development Services Scheme
ICTC	Integrated Testing Centre
IEC	Information, Education and Communication
IDI	In-depth Interview
IMA	Indian Medical Association
IMS	Infant Milk Substitute
IPA	Indian Paediatric Association
LHV	Lady Health Volunteer
MDG	Millennium Development Goal
MO	Medical Officer
MS	Medical Superintendent
NFHS	National Health and Family Survey

NGO	Non-governmental Organization
NRHM	National Rural Health Mission
OPD	Out-patient Department
PHC	Primary Health Centre
PHW	Peripheral Health Worker
PIMS	Pravara Institute of Medical Sciences
PPH	Post Partum Haemorrhage
RH	Rural Hospital
SHSRC	State Health Systems Resource Centre
SRS	Simple Random Sampling
TB	Tuberculosis
TBA	Traditional Birth Attendant
UNICEF	United Nations Children's Fund
WHO	World Health Organization

TABLES & FIGURES

TABLES

CHAPTER 2: Study Design & Methodology

Table 2.1 Data of Early Initiation of Breastfeeding among best five and Poor five performing districts in Maharashtra

Table 2.2 Details of Qualitative samples as per different stake holders with data collection tools

CHAPTER 3: Socio-demographic, economic characteristics of Ever Married Women

Table 3.1 Age wise distribution of EMW

Table 3.2 Age at Marriage of the EMW

Table 3.3 Economic Status of EMW

Table 3.4 Educational Status of EMW

Table 3.5 Religious background of women

Table 3.6 Caste wise distribution of EMW

Table 3.7 Occupational Status of EMW

Table 3.8: Number of living children of EMW

Table 3.9: Gender details of Youngest Child of EMW

Table 3.10 Details of the reference Child in relation to age

Table 3.11: Birth Attendant at Home delivery

Table 3.12: Type of Health facility for Institutional deliveries

Figures

Fig.3.1 Place of Residence of the Respondents

Fig.3.2 Tribal/non-tribal background of women

Fig.3.3 Place of last delivery of Women

Fig.3.4 Type of delivery experienced by women

CHAPTER 4: Breastfeeding and Supplementary feeding: Knowledge & Practices

Table 4.1 Time of Initiation of breastfeeding after delivery

Table 4.2: Reasons for late initiation of breastfeeding (after 30 min)

Table 4.3 Method of Initiation of Breast Feeding

Table 4.4 Reason for feeding of expressed breast milk
Table 4.5 Reasons for not giving breast milk
Table 4.6 Women who have given Exclusive Breastfeeding
Table 4.7 Feeding Colostrum to babies
Table 4.8 Knowledge about benefits of Colostrum feeding
Table 4.9 Source of advice to feed Colostrum
Table 4.10 Reasons for not giving Colostrum
Table 4.11 Type of Pre-lactal Feeds
Table 4.12 Method of pre-lactal feeding
Table 4.13 Reasons for giving prelactal feed
Table 4.14 Frequency of feeds of breast milk in first six month
Table 4.15 Duration of each breastfeed
Table 4.16 Duration of Breastfeeding
Table 4.17 Method of cleaning the breast before feeding
Table 4.18 Time of weaning
Table 4.19 Time of Weaning before the age of six months
Table 4.20 Type of supplementary food within first six months
Table 4.21 Reason for weaning before 6 months
Table 4.22 When are you planning to start weaning?
Table 4.23 Food given to increase mother's milk
Table 4.24 Type of food avoided during breast feeding
Table 4.25 Is initiation of early breastfeeding good?
Table 4.26 Benefits of Early Breastfeeding
Table 4.27 Knowledge about advantage of exclusive breast feeding
Table 4.28 Benefits of exclusive breast feeding upto 6 months to babies
Table 4.29 Benefits of exclusive breast feeding within first 6 months for mothers
Table 4.30 Opinion about – whether water should be given during the breast feeding
Table 4.31 Necessity to stop breast feeding if mother is sick
Table 4.32 Stoppage of breast feeding if child is sick
Table 4.33 Knowledge about supplementary food and the chance of child becoming sick
Table 4.34 Good supplementary food for child
Table 4.35 Knowledge about Necessity of supplementation of calcium to the breast feeding mother

Figures

Fig 4.1 Feeding Colostrum to babies

Fig 4.2 Pre-lactal Feeds

Fig 4.3 Cleaning of breast before feeding

CHAPTER 5: Association of socio-demographic characters of women with Knowledge, Practices of breastfeeding and supplementary feeding

Table 5.1.1 Knowledge of initiation of breastfeeding & socio-demographic characters

Table 5.1.2 Knowledge of exclusive breastfeeding Vs. Socio-demographic characters

Table 5.1.3: Knowledge of supplementary feeding and socio-demographic characters

Table 5.1.4 Knowledge about duration of breast feeding & health of the child

Table 5.2.1 Time of initiation of Breastfeeding & different demographic parameters

Table 5.2.2 Practice on Colostrum feeding & Socio-demographic characters

Table 5.2.3 Practice on Prelactal feeding & socio-economic, demographic characters

Table 5.2.4 Practice on Supplementary feeding & socio-demographic characters

Chapter 1

INTRODUCTION

1.1 Introduction

Breast feeding practices have significant effects on health of mother and baby. Mothers are benefitted through the influence of breastfeeding in preventing ovulation, thus providing temporary contraception. These effects vary by the duration and intensity of breastfeeding. Proper infant feeding, starting from the time of birth, is important for the physical and mental development of children. Breastfeeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides important nutrients but also protects the child against infection. The timing and type of supplementary foods introduced in an infant's diet also have significant effects on the child's nutritional status.

India is facing a grave challenge of having very high rate of child under nutrition and a high infant and child mortality, which demands for comprehensive multi-pronged evidence based strategy to tackle the situation. Evidence based interventions, which include initiation of breastfeeding within one hour of birth, exclusive breastfeeding for the first six months of life and introduction of appropriate and adequate complementary food at 6-9 month of age, are available to prevent under-nutrition in children and to improve child survival.^{1, 2}

Under-nutrition is an underlying cause of an estimated 53 per cent of all under-five deaths.³ Those who survive may get locked in a vicious cycle of recurring sickness and faltering growth, often with irreversible damage to their cognitive and social development.⁴ It is significant to note that a large proportion of under-five children are undernourished in India, contributing to high child mortality.^{5, 6,}

The WHO Global Database on Child Growth and Malnutrition concludes that the mean weights in developing countries start to falter at about 3 months of age and decline rapidly thereafter in infancy.⁷ Results of the third National Family Health Survey (NFHS-3) also confirms that at six months of age 29.5% infants are underweight.⁸ These findings highlight the need for early life interventions to prevent growth failure and consequent ill effects.

Early initiation of breastfeeding within one hour and exclusive breastfeeding for the first six months are the key interventions to achieve MDG 1 and MDG 4, which deal with reduction in child malnutrition and mortality, respectively.⁹ An epidemiological evidence of a causal association between early initiation of breastfeeding and infection specific mortality in the newborn infants has also been documented.¹⁰ In India, effective implementation of these interventions is yet to be achieved.

1.2 Review of Literature

Some of the following research studies on the subject have highlighted the importance of breastfeeding and attempted to dwell reasons for prevailing practices. A community based study in Utharakhanda showed that initiation of Breast feeding within an hour was practiced by only a few mothers (21.37%). Only 5.13% babies were exclusively breastfed till six months. Prelacteal feeds & colostrums was given to most of them i.e. 66.03% & 87.18%. Almost 89% babies were breastfed on demand. 72% of the mothers used to feed their babies till the baby sleeps or leaves breast on its own.¹¹ Similar study conducted in Bijapur revealed that the Prelacteal feeding was practiced in over 91% of the children, commonest Prelacteal feed given was sugar water (46.81%) followed by sugar water coupled with honey (28.63%) followed by Castor oil (8.63), Cow/Buffalo Milk (8.18) and honey (7.72%). As many as 23.3% of mothers had initiated breast feeding within 4 hours of delivery while 8.3% took more than 48 hours to start breast feeding. 25% of mothers who had studied up to college level & more had not practiced exclusive breast feeding, only 35% mothers gave colostrums, 61.29% of the mothers started weaning after 6 months of birth & 9.67% started weaning after one year of birth. Majority (62.91%) of the mothers were influenced by elderly female family members like mother, mother-in law/grandma, regarding exclusive breast feeding, followed by birth attendants/anganwadi workers 15%, doctors/ANMs 11.66%, Mass media 7.91%, and others like neighbours and friends 2.5%.¹²

NFHS-3 data showed that the initiation of breastfeeding within one hour was done in only 24.5% babies, while the exclusive breastfeeding rate in children under six months was only 46.4%. As per the findings of NFHS-3 (2005-06) survey, 51.8 % women adopted early breast feeding practices in Maharashtra. In spite of the efforts taken by the Breast Feeding Promotion Network of India (BPNI) and UNICEF, to

educate the health workers, including ICDS workers, there has not been much improvement in the adoption of early breast feeding practices in Maharashtra.

In the present study, an attempt has been made to find out various types of breastfeeding practices, factors affecting early initiation of breast feeding and also role of HCPs, PHWs and Professional organizations in promoting early initiation of breast feeding, amongst lactating mothers living in rural and urban areas of Maharashtra state of India

1.3 Specific Objectives:

- 1 To assess the level of knowledge and various breast feeding practices (early, exclusive, partial) among ever married women – EMW (who has a child < 2 years) delivered at institution or home
- 2 To review the level of involvement/participation of health care providers (doctors & nurses), peripheral health workers (AWW, ASHA etc) and professional organizations in promotion of healthy breastfeeding practices
- 3 To identify the determinants(deterants) in the form of (adverse)socio-cultural factors affecting the early initiation and duration of breastfeeding by the EMW in the state

Chapter 2

STUDY DESIGN AND METHODOLOGY

2.1 Type of Study:

A cross-sectional evaluation study was adopted with a mix of qualitative and quantitative analytical methods. The study was carried out at two levels. Level 1 – Community & Level II – Health facility.

2.2 Study Period:

The duration of study was five months, The study period was November 2013 to March 2014.

2.3 Study Methods (Quantitative & Qualitative):

Study was conducted in both urban and rural areas of selected districts through structured questionnaires addressed to EMWs. In addition to this, in order to identify the socio cultural factors, qualitative data was collected through IDIs and FGDs from various stakeholders.

2.4 Sampling Design:

The study was conducted in four districts of Maharashtra selected on the basis of the prevalence of early initiation of breastfeeding practices as per District wise performance of Breastfeeding new born with 1st hour of birth (2012-13), Published by State Family Welfare Bureau, Pune on the following criteria –

1. Two best performing districts and two poor performing districts were randomly selected from the top five and bottom five districts of Maharashtra based on the indicator - “percentage started breastfeeding within one hour of birth”

Table 2.1- Data related to Early Initiation of Breastfeeding among best five and Poor five performing districts in Maharashtra

District	% started breastfeeding within one hour of birth	Rank
Best Performing Districts		
Raigad	100.0	1
Ratnagiri	100.0	2
Akola	99.0	3
Satara	98.0	4
Osmanabad	97.0	5
Poor Performing Districts		
Amarawati	64.0	1
Dhule	65.0	2
Latur	68.0	3
Thane	70.0	4
Hingoli	70.0	5
Maharashtra State	76.0	

Districts Randomly Selected were

Best performing district Group: 1) Raigad 2) Akola

Poor performing district Group: 3) Thane 4) Hingoli

2.5 Selection of Respondents

In order to have a composite picture of breast feeding practices, the following categories of respondents were included:

- Women delivered in a reference period of six months were selected as respondent from the selected districts (both institutional and home based)
- Community link workers (Supervisors & AWW ICDS, ASHA of NRHM etc)
- Health care service providers (Hospital/Health Centers)-public and private
- NGOs and professional bodies working in the field of breast feeding promotion.

Community Level This phase was primarily used for collecting the data relating to the set objectives from lactating women from rural and urban areas as well as institutional and home deliveries. In this Phase, all 1080 Ever Married Women (15-49 years) having a child less than 2 years (270 EMW from each of the 4 selected districts) were selected using “WHO 30 cluster random sampling technique” for collecting the quantitative data. The sampling frame for selecting the 30 clusters of villages and towns of the districts were drawn from District Census 2011, so that the final sample was representative of the rural and urban population. After selecting the 30 clusters of villages and towns, 7 sample households where EMW (15-49 years) having a child less than two years resides and lactating up to 6 months were selected from each of the 30 clusters using a systematic random sampling method.

2.6 Sample Size Calculations for Community & Quantitative level:

As the aim of the study was to assess various prevailing breast feeding practices among rural, urban, institutional and home deliveries, with the emphasis on percentage of women adopting early initiation of breastfeeding of newborns; sample size was calculated using the formula:

$$n = 4 p q / L^2$$

Where; n = sample size

p = percentage of early breast feeding

q = 100 – p

L = allowable error, here 10% of p (10% of 76 i.e., 7.6)

Sample was calculated taking corresponding values of p (percentage of initiation of early breast feeding); sample size is calculated is detailed in the table below:

Indicator	P	Q	L	n
Maharashtra	76	24	7.6	126

1. The minimum sample size required at district level was 126 women as per Simple Random Sampling Technique, keeping Alfa = 95% statistical certainty (confidence level) and L = 10% of P (margin of error), P=76% & Q= 24%, where p is % of women breastfeeding within one hour in Maharashtra. q = 100 – p.

2. As we were using 30 cluster random sampling method, the sample size was $126 \times 2 = 252$. The multiplying factor 2 was used as a Design Effect for change of sampling method SRS to Cluster Sampling.
3. As we had to divide the sample size into 30 equal parts, sample size was rounded off to 270, so that in each cluster, 9 women were randomly selected, using systematic random sample method.
4. Total $N = 270 \times 4 = 1080$ women at State level for 4 selected districts.

Sampling Method and Randomization for Community & Quantitative Study

WHO - 30 Cluster random sampling methodology

- a) 30 clusters (villages/towns) were selected after obtaining the sampling frame, which consists of the list of all villages and towns, in the selected districts from the respective district health/administrative authorities.
- b) Following are the details of the district wise samples selected for the study.

District – Akola

Cluster Number	Name of Village	Taluka	Population of the Village
1	Telhara	Hiwarkhed	23216
2		Belkhed	7471
3		Telhara (M Cl)	20986
4	Akot	Akot	92637
5		Belura	1076
6		Kalwadi	831
7		Nakhegaon	1018
8	Balapur	Hata	3425
9		Vyalla	5528
10		Nakashhi	1651
11	Akola	Akola	500134
12		Akola	-
13		Akola	-
14		Akola	-
15		Akola	-
16		Akola	-
17		Akola	-
18		Kanchanpur	993
19		Dahigaon	3458
20		Borgaon	16858
21		Mhaispur	2462
22		Umri Pragane Balapur (CT)	20262

		WARD NO.-0001	
23		Malkapur (CT) WARD NO.-0001	15420
24	Murtijapur	Murtijapur	40295
25		Dhanora Waidhya	665
26		Dhotra Sinde	1955
27	Patur	Sawargaon	2394
28		Jirayat Patur	4371
29	Barshitakli	Pimpalkuta	1113
30		Chincholi Devdari	214

District – Hingoli

Cluster Number	Name of Village	Taluka	Population of the Village
1	Sengaon	Kelsula	2453
2		Pankanhergaon	6232
3		Suldali Kh	512
4		Mazod	2375
5		Warud chakrapan	2575
6	Hingoli	Kanhergaon naka	3211
7		Sagad	680
8		Parda	1728
9		Balsond	5008
10		Idoli	1701
11		Hingoli (M Cl)	85103
12		Hingoli (M Cl)	
13	Aundha (Nagnath)	Sawali	1261
14		Dewala	1209
15		Daregaon	1962
16		Jawala bajar	13219
17		Rameshwar	1300
18	Kalamnuri	Wai	1582
19		Yelegaon (G)	2016
20		Salva	2258
21		Kalyachiwadi	493
22		Sukleveer	2627
23		Kalamnuri (M Cl)	24784
24	Basmath	Ridhora	1549
25		Pangrasati	1325
26		Marsulwadi tanda	523
27		Pangra tarf dhamangaon	1681
28		Girgaon	9605
29		Basmath (M Cl)	68846
30		Basmath (M Cl)	-

District – Raigad

Cluster Number	Name of Village	Taluka	Population of the Village
1	Uran	Uran	69475
2		Aware	3774
3	Panvel	Panvel	497759
4		Panvel	-
5		Panvel	-
6		Panvel	-
7		Karavale Bk.	1403
8		Owe	9746
9		Vichumbe	6332
10		Somtane	1270
11	Karjat	Karjat	52485
12		Pathraj	2121
13	Khalapur	Khalapur	95964
14		Talegaon	1003
15		Savroli	2500
16	Pen	Kane	1408
17		Mangrul	852
18	Alibag	Alibag	41686
19		Rayande	244
20		Choul	9894
21	Murud	Rajpuri	4304
22	Roha	Wasgaon	1031
23		Kandane Bk.	666
24	Mangaon	Sanaswadi	791
25		Nalephodi	382
26	Tala	Wanjloshi	545
27	Mhasla	Mhasla	9679
28	Mahad	Mahad	41236
29		Sakadi	945
30	Poladpur	Borawale	591

District – Thane

Cluster Number	Name of Village	Taluka	Population of the Village
1	Talasari	Upalat	10893
2	Dahanu	Ranshet	2173
3	Jawhar	Sarsun	2235
4	Palghar	Palghar	225380
5		Kelwa Road	4754
6	Vasai	Vasai	1230140
7		Vasai	-
8		Tembhi	3220
9		Tilher	3690
10	Thane	Thane	3771413
11		Thane	-
12		Thane	-

13		Thane	-
14		Thane	-
15		Thane	-
16		Thane	-
17		Thane	-
18		Thane	-
19		Thane	-
20	Bhiwandi	Pimpalner	2258
21		Bhiwandi	863740
22		Bhiwandi	-
23	Shahapur	Satgaon	1396
24	Kalyan	Kalyan	1282225
25		Kalyan	-
26		Kalyan	-
27		Pisawali (N.V.)	31202
28	Ulhasnagar	Ulhasnagar	506098
29	Ambarnath	Ambarnath	440329
30		Nevali	2496

Facility based level & Qualitative Data: This phase was an essential part of the evaluation approach as it captured the breastfeeding program design, policies, influences/views, efforts of all the stakeholders in the selected districts with regard to the promotion of optimal/ideal breastfeeding practices. The stakeholders included were ASHA, AWW, TBAs, ANMs of Sub-centre/PHC, Mothers and Mother-in-laws at Community level. Following methodology was adopted for selecting the respondents from various types of health facilities. A District Hospital/Medical college hospital/large corporate or private hospital from each of the district (Level-1); one rural hospital/sub-district hospital (Level-2) and two PHCs / sub-centre (Level-3) per district were selected. The sample of respondents from health facilities were spread over through all three types of facilities. At institutional level, various stakeholders were Med. Superintendent/ Civil Surgeon of Teaching Hospital, District Hospital, Rural Hospital, Medical Officer of PHCs, Staff Nurse of Maternity/Pediatric department of Teaching/District/Rural Hospital and Training in-charge of Professional organizations like IMA, FOGSI, IPA etc. The qualitative research tools like FGDs and IDIs were applied to collect the relevant information from these stakeholders.

As the initiation of breast feeding is influenced by many other socio cultural factors, views/perceptions of influential relatives such as mother (many primis deliver at natal place), Mother in law as well as ASHA and ANMs were recorded. IDIs of health workers, providers and FGDs and in-depth interviews of Mothers and Mothers-in-laws were conducted.

Sample Size for Qualitative Study of at facility level

Three types of FGD Groups were interviewed keeping in view about their role in promoting the breastfeeding practices

Group 1: AWW, ASHA and TBA

Group 2: ANMs at Sub-centre

Groups 3: Mother and Mother-in-laws of Lactating Women Selected for primary data collection.

Table 2.2:Details of Qualitative samples as per different stake holders with data collection tools

Personnel	Sample per each district	Total sample in 4 districts	Tool administered
Facility/Hospital level			
Teaching Hospital Head (Pediatrics /Obstetrics)/Matron/Maternity ward in-charge nurse	1	4	Semi structured interviews
CS/DPM of the district	1	4	Semi structured interviews
MS of the RH	2	8	Semi structured interviews
MO of the PHC	3	12	Semi structured interviews
One Nursing staff who conducts deliveries in each type of 4 hospitals	4	16	Semi structured interviews
Head /office bearer of Professional Bodies (IMA,FOGSI,IPA)	3	12	Semi structured interviews
Total semi structured interviews	14	56	
IDIs with EMW (at least 2 per district 1 urban and 1 rural.)			
Community Level			
Gr. 1: ASHA, AWW, TBA	1	4	FGDs
Gr. 2: ANM at Sub Centre level	1	4	FGDs
Gr. 3: Mothers & Mothers-in Laws	1	4	FGDs
Total FGDs	3	12	

2.7 Data Collection Instruments/Tools:

Structured questionnaire: Ever Married Women (EMW) Questionnaire:

The respondents for EMW questionnaire was ever married women aged between 15 to 49 years living in the sampled household with a living child aged less than 2 years, at the time of interview. The Structured Questionnaire was predesigned and pretested.

Semi structured questionnaire for HCPs at facility/hospital level:

IDI and FGD guides: Respondent-wise IDI/FGD guides was prepared for various categories of stakeholders, as mentioned in the proposal was developed and pretested.

Data Analysis:

The quantitative data collected, cleaned and entered in Excel format and analyzed using SPSS-version 21. The qualitative information obtained from IDIs and FGDs were collated and analyzed along the lines of the research objectives. Analysis framework was developed and shared with the SHSRC.

Deliverables

a) Final outputs from this study include:

1. Percentage of lactating women following/adopting early initiation of breast feeding.
2. Percentage of lactating women following/adopting exclusive breast feeding
3. Various determinants influencing breast feeding practices.
4. Top-line findings as power-point presentation
5. Final report

b) Intermediate/Process outputs

1. Final Sampling Frame
2. Finalized research tools
3. Briefing plan
4. Field mobilization plan
5. Analysis framework
6. Cleaned, raw dataset in SPSS
7. Content analysis framework (for qualitative)

2.8 Research Team

The Primary Research Team consisting of Prof. K.V. Somasundaram, Director, Centre for Social Medicine of PIMS-Deemed University as Principal Investigator and Dr. V.B. Bangal, Professor of Gynecology and Obstetrics, PIMS-Deemed University as Co-investigator have undertaken the study along with Dr. Sunil Thitame and Dr. Gore as Field Supervisors. Each Field Supervisors were assisted by 8 Field Investigators (4 per district), for collecting field level quantitative data.

Chapter 3

SOCIO-DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS EVER MARRIED WOMEN

The study collected primary information from a representative sample of 1080 ever married women (EMW) in the age group of 15-49 who are currently breastfeeding across four randomly selected districts of the State of Maharashtra. The socio-demographic, economic, geographical characteristics of the ever married women interviewed during the study are presented in this Chapter.

3.1 Age-wise distribution

Most of the women respondents (82.87%) were from the age group 20-29 years followed by 14.07% in the age group of 30-39 years. A little over 3% of respondents are either below 19 years or above 40 years. However, as many as 4.81% women are below 19 years in Hingoli district, while it was 1.85% in Raigad district (Table 3.1).

Table 3.1 Age wise distribution of EMW Respondents

Age (yrs)	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No.	%	Total	%
15-19	6	2.22	13	4.81	5	1.85	8	2.96	32	2.96
20-29	241	89.26	224	82.96	217	80.37	213	78.89	895	82.87
30-39	23	8.52	33	12.22	48	17.78	48	17.78	152	14.07
40-49	0	0.00	0	0.00	0	0	1	0.37	1	0.09
Total	270	100	270	100	270	100	270	100	1080	100

3.2 Age at marriage

Age at first marriage has a profound impact on childbearing and subsequent breastfeeding practices because women who marry early have on average a more chance of repeated pregnancies and more number of babies. Early marriages are very common in India, (Over 58% married below 18 years-NFHS 3). Nearly 16% of the women interviewed got married below 18 years of age, while it was as high as 23.33% in Hingoli and as low as 6.67% in Akola district. However, majority i.e, 81.48% of respondents got married between 18 to 24 years. Only 2.87% of the women got married after 25 years of their age. (Table.3.2)

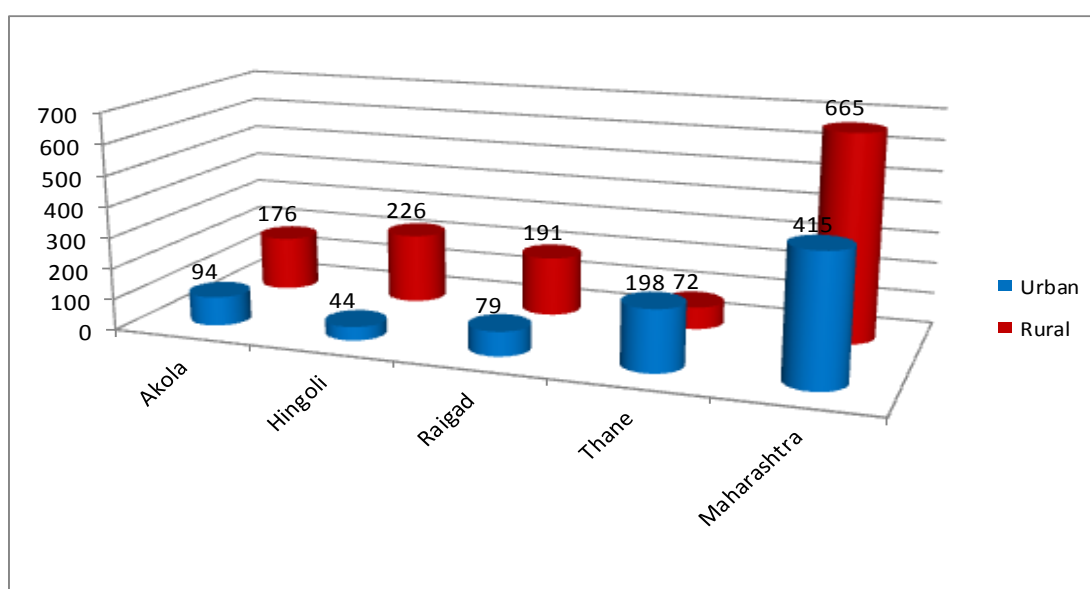
Table 3.2 Age at Marriage of the Women Respondents

Age (yrs)	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No.	%	Total	%
<18	18	6.67	63	23.33	39	14.4	49	18.15	169	15.65
18-24	245	90.74	205	75.93	216	80	214	79.26	880	81.48
25-30	7	2.59	2	0.74	13	4.81	5	1.85	27	2.50
> 30	0	0.00	0	0.00	2	0.74	2	0.74	4	0.37
Total	270	100	270	100	270	100	270	100	1080	100

3.3 Place of residence

In consonance with the Census report 2011 for Maharashtra, nearly two thirds (61.57%) of respondents are from rural areas – with a variation of 83.70% in Hingoli district and 26.67% in Thane District. While Thane district is more urbanized, Hingoli district has shown relatively less urbanization (Fig.3.1)

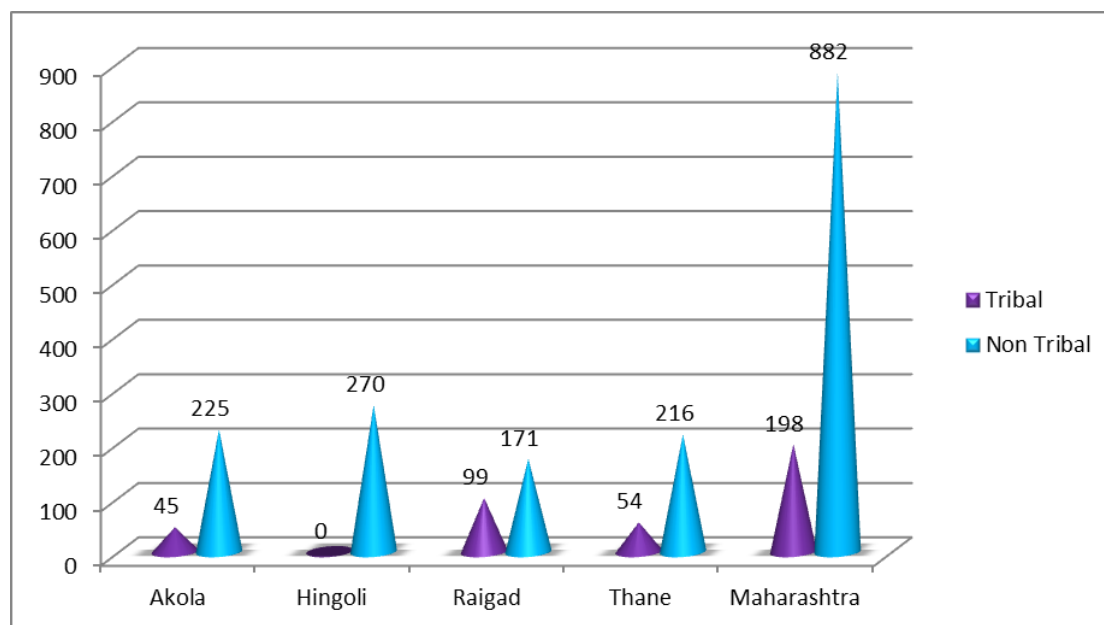
Fig.3.1- Place of Residence of the Respondents



3.4 Tribal/non-tribal background

The distribution of respondents living in tribal (18.33%) and non-tribal (81.67%) areas is also in consonance with the Census report 2011 for Maharashtra. While Raigad district has recorded more number (36.67%) of tribal respondents, Hingoli has shown less number (Fig.3.2)).

Fig.3.2- Tribal/non-tribal background of women



3.5 Economic status

The economic status of the family of respondent EMW has been assessed by collecting the monthly income of the family from all sources. Almost an equal number i.e., 38% of respondent families' income is between Rs 1001-3000 and Rs. 3001- 5000. Over 23% of respondent families' monthly income is more than Rs. 5000. While respondents from Thane district economic status is relatively better i.e, 72% families income bracket is Rs. 3000 to Rs. 7000, as less as 40% respondents from Hingoli district belong to this income bracket (Table 3.3).

Table 3.3 Monthly family Income of the respondents

Monthly Income	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
< Rs. 1000	3	1.11	8	2.96	6	2.22	6	2.22	23	2.13
Rs.1001 - Rs.3000	123	45.56	151	55.93	86	31.85	48	17.78	408	37.78

Rs.3001 - Rs.5000	92	34.07	88	32.59	107	39.63	116	42.96	403	37.31
Rs.5001 - Rs.7000	38	14.07	20	7.41	47	17.41	77	28.52	182	16.85
> Rs.7001	14	5.19	3	1.11	24	8.89	23	8.52	64	5.93
Total	270	100	270	100	270	100	270	100	1080	100

3.6 Educational status

Education is one of the most important socioeconomic factors that is known to significantly influence individual's behaviour and attitudes. Table 6 shows that as many as 52.87% of women respondents had education up-to secondary level ie tenth standard, followed by 19.35% higher secondary and 4% graduates/postgraduates. Nearly 13% of women never attended school and nearly 11% women had less than four years of schooling, which is highest (28%) in Thane district and lowest (14%) in Akola district (Table 3.4)

Table 3.4 Education wise distribution of the respondents

Educational Status	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Illiterate	15	5.56	31	11.48	40	14.81	52	19.26	138	12.78
Primary	24	8.89	35	12.96	32	11.85	23	8.52	114	10.56
Secondary	135	50.0	155	57.41	150	55.56	131	48.52	571	52.87
Higher Secondary	81	30.0	45	16.67	38	14.07	45	16.67	209	19.35
Graduate/ Post Graduate	14	5.19	4	1.48	8	2.96	18	6.67	44	4.07
Other	1	0.37	0	0.00	2	0.74	1	0.37	4	0.37
Total	270	100	270	100	270	100	270	100	1080	100

3.7-Religion wise distribution

In vast majority of the respondents the head of household is Hindu (76.76%) followed by Buddhist (13.89%), Muslims (7.78%). As far as Hindu religion is concerned ,while Thane district records highest (90%) Akola district records the lowest (63.70%), Baudha religion is concerned Akola highest (24.4%), Thane records the lowest (1.85%). Muslims are relatively more (9.26%) in Akola and Hingoli districts compared to the other two districts. (Table 3.5).

Table 3.5 Religious background of women

Religion	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Hindu	172	63.70	179	66.30	235	87.04	243	90.00	829	76.76
Baudha	66	24.44	60	22.22	19	7.04	5	1.85	150	13.89
Muslim	25	9.26	25	9.26	15	5.56	19	7.04	84	7.78
Shikh	3	1.11	0	0.00	1	0.37	0	0.00	4	0.37
Christian	1	0.37	0	0.00	0	0	1	0.37	2	0.19
Jain	0	0.00	1	0.37	0	0	2	0.74	3	0.28
Other	3	1.11	5	1.85	0	0	0	0.00	8	0.74
Total	270	100	270	100	270	100	270	100	1080	100

3.8 Caste-wise distribution

Over 41% of the respondent women belonged to general category, followed by 21.41% Scheduled Caste, 11.48% Other Backward Caste, 7.13% Scheduled Tribes. The percentage of scheduled caste was higher in Akola (29.63%) and Hingoli (30%) district. On the other hand the scheduled tribes were highest in Hingoli (11.85%) and lowest in the Akola (4.07%) district (Table 3.6).

Table 3.6 Caste wise distribution of respondent women

Caste	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
General	106	39.26	120	44.44	93	34.44	126	46.67	445	41.20
S.C.	80	29.63	81	30.00	39	14.44	32	11.85	232	21.48
S.T.	11	4.07	32	11.85	13	4.81	21	7.78	77	7.13
O.B.C.	61	22.59	16	5.93	25	9.26	22	8.15	124	11.48
Other	12	4.44	21	7.78	100	37.04	69	25.56	202	18.70
Total	270	100	270	100	270	100	270	100	1080	100

3.9 Occupational status

Majority (83.15%) of the respondent women were housewives, followed by 8.7% labour, 5.65% farmers in terms of occupation. In Hingoli district 15.93% of the women were involved in labour work. Respondents who were working in service area were highest in Thane (1.85%) and lowest in Akola (0.74%) (Table 3.7).

Table 3.7 Occupation wise distribution of women

Occupational	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
House Wife	234	86.67	179	66.30	238	88.15	247	91.48	898	83.15
Farming	15	5.56	38	14.07	8	2.96	0	0.00	61	5.65

Labour Service (Govt.)	17	6.30	43	15.93	19	7.04	15	5.56	94	8.70
Service (Pvt.)	0	0.00	3	1.11	2	0.74	0	0.00	5	0.46
Self Business	2	0.74	2	0.74	2	0.74	5	1.85	11	1.02
Other	2	0.74	5	1.85	1	0.37	2	0.74	10	0.93
Total	0	0.00	0	0.00	0	0	1	0.37	1	0.09
	270	100	270	100	270	100	270	100	1080	100

3.10 Status of Living Children, Youngest child

An attempt has been made collect the information with regard to total living children among respondent women and their gender. This has revealed that the mean number of living children per women is 1.92 compared to 2.52 at all India level (NFHS-3). The gender distribution of living children in the target area has shown that female is higher (53.84%) than male (46.16%). Further it is observed that this female: male difference is higher in Thane District (F: 59.9;M:40.41) and lower in Raigad district (M:50.1;F:49.90) (Table 3.8)

Table 3.8: Number of living children of the respondent women

Living children	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Male	231	48.43	244	46.12	263	50.10	219	40.41	957	46.16
Female	246	51.57	285	53.88	262	49.90	323	59.59	1116	53.84
Total	477	100	529	100	525	100	542	100	2073	100

Although there was a higher percentage of a female child in total living children with the EMW interviewed, the trend is reverse (F: 46.8; M: 53.1) when it comes to the youngest child (Reference Child for Survey). The percentage of female reference child was highest in Thane (59.59%) and lowest in Raigad (41.48%) district (Table 3.9).

Table 3.9: Gender details of Youngest Child of Respondent women

Gender	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Male	146	54.07	152	56.30	158	58.52	118	43.70	574	53.15
Female	124	45.93	118	43.70	112	41.48	152	56.30	506	46.85
Total	270	100	270	100	270	100	270	100	1080	100

The most frequent age of the youngest child of the respondent women was “between 6 months to 1 year” - (31.94%) followed by “1 year to 18 months” - (26.57%). More than 80% respondents had their youngest child below 18 months of age (Table 3.10).

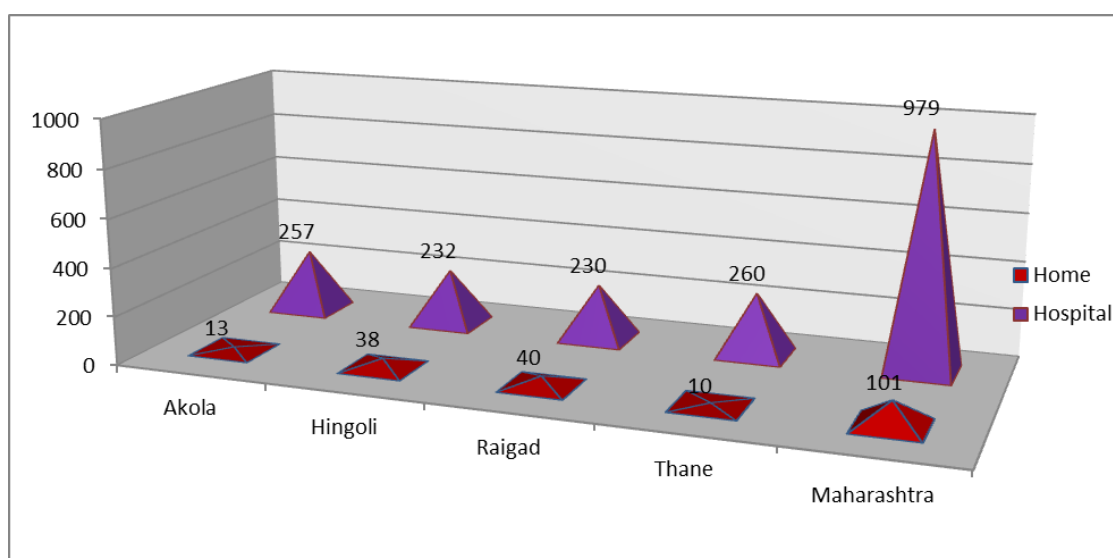
Table 3.10 Details of the reference Child in relation to age

Age	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
0-6	68	25.19	72	26.67	67	24.81	52	19.26	259	23.98
6.1 -12	90	33.33	77	28.52	85	31.48	93	34.44	345	31.94
12-18 months	75	27.78	78	28.89	63	23.33	71	26.30	287	26.57
>18 months	37	13.70	43	15.93	55	20.37	54	20.00	189	17.50
Total	270	100	270	100	270	100	270	100	1080	100

3.11 Place of last delivery

Another important factor that may influence the breastfeeding practices is institutional deliveries under proper hygienic conditions and supervision of trained health professionals. The survey has revealed that more than 90% of the respondent women delivered their last baby at institution/health facility, compared to less than 40% at all India level (NFHS-3). Less than 10% deliveries take place at home. However, home deliveries were more in Raigad (14.81%) and Hingoli (14.07%) districts compared to Akola (4.81%) and Thane (3.70%) districts (Fig. 3.3).

Fig.3.3- Place of last delivery of Women



3.12 Birth attendant at Home delivery

Assistance during home delivery from a trained provider is recognised as critical for promotion of breastfeeding practices. The survey has, however revealed that most (50.5%) of home deliveries were conducted by relatives like mother and mother in-law or by neighbourer, followed by trained dais (28.71%). Home deliveries were conducted by doctors in only 2.97% cases. More than 15% of home deliveries were conducted by untrained dais. Home delivery by untrained dais was highest in Thane (30%) and lowest in Raigad (7.5%). Home delivery by trained dais was highest in Raigad (42.5%) and lowest in the Hingoli (13.16%). Home delivery by relatives was highest in Hingoli (63.16%). It is interesting to note that none of the women delivered at home reported that the delivery was assisted by nurses (Table 3.11).

Table 3.11: Birth Attendant at Home delivery

Birth attendant	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Untrained Dai	3	23.08	7	18.42	3	7.5	3	30.00	16	15.84
Trained Dai	4	30.77	5	13.16	17	42.5	3	30.00	29	28.71
Nurse	0	0.00	0	0.00	0	0	0	0.00	0	0.00
Doctor	1	7.69	2	5.26	0	0	0	0.00	3	2.97
Relatives	5	38.46	24	63.16	18	45	4	40.00	51	50.50
Other	0	0.00	0	0.00	2	5	0	0.00	2	1.98
Total	13	100	38	100	40	100	10	100	101	100

3.13 Type of Health Facility for Institutional deliveries

More than one third (37.69%) of the respondents had delivered at private hospital, followed by district and sub-district hospitals (27.27%). Only 2.86% of them delivered at sub-centers. Akola was the district with highest district/sub-district hospital deliveries (43.19%), where as Raigad was the district with highest private hospital delivery (49.13%) (Table 3.12)

Table 3.12: Type of Health facility for Institutional deliveries

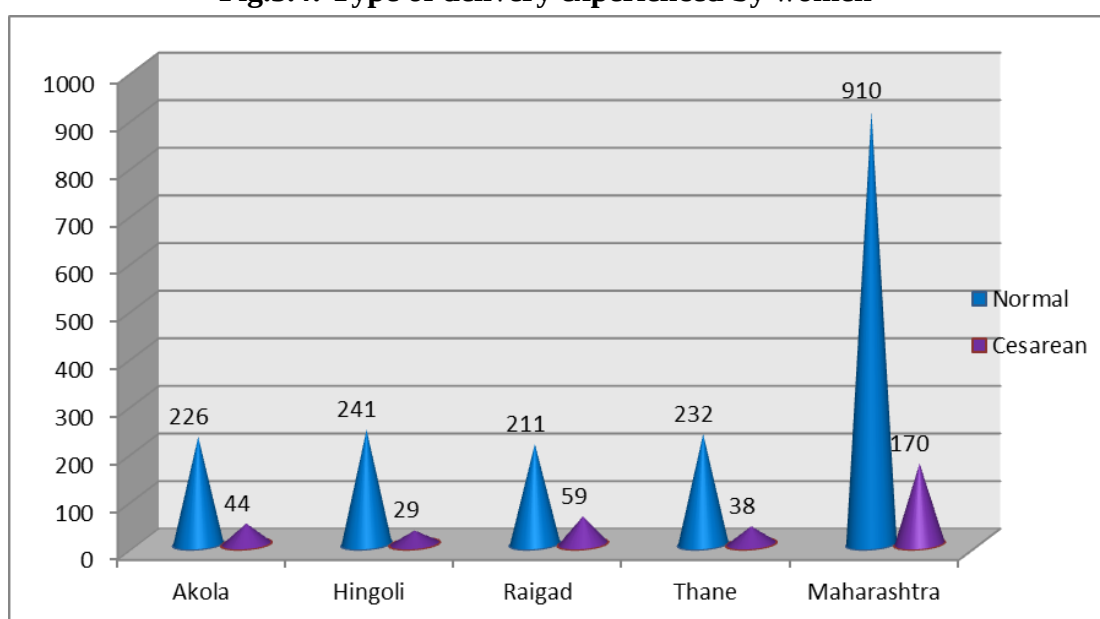
Type of institution	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Sub center	12	4.67	0	0.00	2	0.87	14	5.38	28	2.86
P.H.C.	29	11.28	61	26.29	41	17.83	35	13.46	166	16.96
R.H.C.	29	11.28	37	15.95	28	12.17	40	15.38	134	13.69

Sub/District										
Hospital	111	43.19	50	21.55	44	19.13	62	23.85	267	27.27
Pvt.										
Hospital	73	28.40	84	36.21	113	49.13	99	38.08	369	37.69
Other	3	1.17	0	0.00	2	0.87	10	3.85	15	1.53
Total	257	100	232	100	230	100	260	100	979	100

3.14 Type of delivery experienced

Most of the respondents (84.26%) had reported that they had a normal vaginal delivery. Deliveries with Cesarean section were highest (21.85%) in Raigad district and lowest (10.74%) in Hingoli district (Fig.-3.4)

Fig.3.4: Type of delivery experienced by women



Chapter 4

BREASTFEEDING & SUPPLEMENTARY FEEDING: KNOWLEDGE AND PRACTICES

Data on knowledge and practices on breastfeeding and complementary feeding were obtained from series of questions in the Ever Married Women Questionnaire (Annexure 2). These questions were asked with reference the youngest living child aged below 2 years.

4.1 Initiation of breastfeeding

The survey has revealed that the practice of Breastfeeding is near universal (99.72%) in the State of Maharashtra. It is very encouraging to note that nearly three fourths (74.07%) of the women respondents have reported starting breastfeeding within 30 minutes after delivery, as recommended by WHO and other international agencies. However, there is a slight variation observed within the four districts surveyed. The practice of early initiation was most common (79.63%) in Hingoli district, and least common (70.37%) in Akola district. Besides, another 6% of women have reported early initiation of breastfeeding between 30 minutes to one hour, which is also a very encouraging phenomenon. This shows that nearly 80% of the women have started breastfeeding within one hour of child birth, which was recommended by government of India (Ministry of Women and Child Development, 2006). Initiation of breastfeeding after 2 hours was highest (16.3%) in Raigad and lowest (7.04%) in Hingoli. Late initiation of breastfeeding not only deprives the child of valuable components of colostrum, but becomes a reason for introduction of pre lacteal feeds. Among the total respondents 0.28% never fed breast milk to their baby (Table 4.1).

Table 4.1 Time of Initiation of breastfeeding after delivery

Time of initiation	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
< 30 min	190	70.37	215	79.63	199	73.7	196	72.59	800	74.07
30Min-1 Hr	13	4.81	22	8.15	13	4.81	13	4.81	61	5.65
1 Hr - 2 Hrs	30	11.11	14	5.19	13	4.81	20	7.41	77	7.13
> 2 hrs	36	13.33	19	7.04	44	16.3	40	14.81	139	12.87
Never	1	0.37	0	0.00	1	0.37	1	0.37	3	0.28
Total	270	100	270	100	270	100	270	100	1080	100

The main reason as reported by the respondent women (37.67%) for late initiation of breast feeding was caesarean delivery, followed (35.27%) by mother's illness. Nearly 3.77% women were advised by health personal for late initiation of breastfeeding and almost a similar number of women (3.42%) began breastfeeding late because of their own perception. There were some other reasons for late initiation of breastfeeding like failure of initiation of lactation, sickness of the child, inability of child to suck due to crying & irritation etc. Mother's perception in favour of late initiation of breast feeding was higher in Akola and Hingoli districts (Table 4.2).

Table 4.2: Reasons for late initiation of breastfeeding (after 30 min)

Reasons for late initiation of BF	Akola		Hingoli		Raigad		Thane		Maharashtra	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Total	%
Caesarean delivery	28	34.15	20	35.09	35	44.87	27	36.00	110	37.67
Adv. by Dr/ Nurse	3	3.66	4	7.02	1	1.28	3	4.00	11	3.77
Adv. by AWW / ASHA	1	1.22	0	0.00	0	0.00	0	0.00	1	0.34
Adv. by Mother/ Mother in law	1	1.22	2	3.51	1	1.28	0	0.00	4	1.37
Mother was not feeling well/ill	30	36.59	21	36.84	22	28.21	30	40.00	103	35.27
Mother thinks this is right time	6	7.32	3	5.26	0	0.00	1	1.33	10	3.42
Other	13	15.85	7	12.28	19	24.36	14	18.67	53	18.15
Total	82	100	57	100	78	100	75	100	292	100

Most of the women (97.68%) have reported that they breastfed their baby directly and only a minor number of women (2.04%) fed through expressed breast milk. Feeding through expressed breast milk was relatively more commonly observed in Akola district (5.20%) compared to other districts. (Table 4.3)

Table 4.3 Method of Initiation of Breast Feeding

Method of Initiation of BF	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	No.	%
Direct BF	255	94.80	267	98.89	265	98.51	265	98.51	1052	97.68
Expressed BF	14	5.20	2	0.74	3	1.12	3	1.12	22	2.04
Other	0	0.00	1	0.37	1	0.37	1	0.37	3	0.28
Total	269	100	270	100	269	100	269	100	1077	100

The main reasons attributed by the respondents for expressed breast milk were either the illness of the child or mother or the child's inability to suck the breast. Child's illness was attributed as the commonest reason (56.25%) in Akola district, while mother's illness was commonest (66.67%) in Hingoli district for feeding expressed milk (Table 4.4).

Table 4.4 Reason for feeding of expressed breast milk

Reason for feeding with expressed milk	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Child was unable to suck	4	25.00	0	0.00	1	25	2	40.00	7	25.00
Child was ill	9	56.25	0	0.00	1	25	1	20.00	11	39.29
Mother was ill	3	18.75	2	66.67	1	25	1	20.00	7	25.00
Other	0	0.00	1	33.33	1	25	1	20.00	3	10.71
Total	16	100	3	100	4	100	5	100	28	100

Only a negligible number of respondent women ie., 3 out of 1080 have reported that they never breastfed their children. The reasons attributed for not giving breast milk were failure of lactation, child's inability to suck and other non specific reasons.

Table 4.5 Reasons for not giving breast milk

Reasons for not giving breast milk	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Breast milk not started	1	100	0	0.00	0	0	0	0.00	1	33.33
Child can't suck	0	0.00	0	0.00	1	100	0	0.00	1	33.33
Not specified	0	0.00	0	0.00	0	0	1	100	1	33.33
Total	1	100	0	0	1	100	1	100	3	100

4.2 Exclusive Breastfeeding

Exclusive breastfeeding for first six months is the most ideal because breast milk is uncontaminated and contains all the nutrients necessary for children in the first few months of life. In addition, the antibodies in breast milk provide immunity to the child to fight against the diseases.

As many as 87% women have revealed that they breastfed their babies during the first six months (exclusive breastfeeding), compared to 69% reported at all India level (NFHS-3). The percentage of women who exclusively breastfed was as high as 93% in Hingoli and as low at 80% in Raigad (Table 4.6)

4.6 Women who have given Exclusive Breastfeeding

	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Exclusive Breastfeeding	230	85	252	93	217	80	245	91	944	87
Supplementary Feeding with Breastfeeding	40	15	18	07	53	20	25	09	136	13
Total	270	100	270	100	270	100	270	100	270	100

4.3 Colostrums Feeding

The first breast milk (colostrum) is highly nutritious and has antibodies that protect the newborn from diseases. Late initiation of breastfeeding deprives the child of valuable components of colostrums. Hence, the study attempted to collect information from the breastfeeding women about colostrums to the babies, knowledge about the benefits of colostrums feeding, sources of knowledge about colostrums, socio-cultural barriers and other mis-conceptions about colostrums feeding.

It is heartening to note that a large majority of respondent women (96.19%) reported that they have fed the Colostrum to their babies. The percentage of women who did not feed colostrums was more in Hingoli district (4.44%) as compared to Raigad district (3.35%) (Table 4.7).

Table 4.7 Feeding Colostrum to babies

Colostrum Feeding	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Yes	259	96.28	258	95.56	260	96.65	259	96.28	1036	96.19
No	10	3.72	12	4.44	9	3.35	10	3.72	41	3.81
Total	269	100	270	100	269	100	269	100	1077	100

The main benefit respondents attributed to colostrum feeding was that “it provides immunity to the child” (58.64%), followed by “it gives vitamin A and C” (16.24%). However, nearly 4.93% of women had no idea about the benefits of colostrum feeding. The respondents with knowledge of immunological functions of colostrum were highest in the Akola (66.36%) and lack of knowledge about the functions of colostrum was highest in Raigad district (11.95%). (Fig.-4.1)

Fig 4.1- Feeding Colostrum to babies



Table 4.8 Knowledge about benefits of Colostrum feeding

Benefits of colostrum feeding	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
It Gives Immunity to Child	215	66.36	178	60.34	161	50.63	172	57.14	726	58.64
Helps in passing first stool	21	6.48	36	12.20	26	8.18	34	11.30	117	9.45
Helps in proper development of intestine	34	10.49	22	7.46	30	9.43	28	9.30	114	9.21
It gives Vit. A & Vit. C	44	13.58	46	15.59	51	16.04	60	19.93	201	16.24
Don't know	8	2.47	10	3.39	38	11.95	5	1.66	61	4.93
Other	2	0.62	3	1.02	12	3.77	2	0.66	19	1.53
Total	324	100	295	100	318	100	301	100	1238	100

As many as 77.53% of respondents had acquired the knowledge from doctors and nurses followed by 14% from their mother and mother in-laws. A small number of respondents i.e., 5.79% were advised by ASHA and AWW to feed colostrum. Only 0.87% of the women were self aware to feed the colostrum. The role of media also seems less effective (0.19%). The role of doctor and nurse was highest in the Thane (84.56%) and lowest in the Akola district (71.43%) (Table 4.9)

Table 4.9 Source of advice to feed Colostrum

Who Advised to feed Colostrum	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
ASHA / AWW/ Dai	21	8.11	12	4.63	16	6.15	11	4.25	60	5.79
Doctor/Nurse	185	71.43	206	79.54	194	74.62	219	84.56	804	77.53
Mother / Mother in law	47	18.15	33	12.74	41	15.77	24	9.27	145	13.98
Self knowledge	3	1.16	2	0.77	3	1.15	1	0.39	9	0.87
Neighbors/Relative	1	0.39	0	0.00	2	0.77	0	0.00	3	0.29
Through Media (TV/Radio)	0	0.00	2	0.77	0	0	0	0.00	2	0.19
Not specified	2	0.77	3	1.16	4	1.54	4	1.54	13	1.25
Total	259	100	258	100	260	100	259	100	1036	100

A small number of respondents 3.5% have revealed that they had not given the colostrums to their babies. The study tried to collect the reasons for not giving the colostrums from these women. Of which, as many as 34% could not give any specific reasons for not doing so, while nearly 29% of women have told their sickness prevented them. Nearly 5 or 12% women have told that the attending doctor/nurse have advised them not to give colostrums. This emphasises need for training to health care providers. Three women i.e., 7.3% gave-cultural and religious reasons for not giving colostrums and a similar number of women had told since the child was sick at the time of birth they had not given, followed by opposition by mother and mother in-law (4.88%). Cultural restrictions were highest in Raigad (11.11%) and restrictions by mother and mother in-law's were highest in Hingoli (16.67%) district (Table 4.10).

Table 4.10 Reasons for not giving Colostrum

Reasons for not giving colostrums	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Restricted by culture/ religion	0	0.00	1	8.33	1	11.11	1	10	3	7.32
Not good for child's health	0	0.0	0	0.00	0	0	0	0	0	0.00
Opposed by Mother/Mother-in-law	0	0.00	2	16.67	0	0	0	0	2	4.88
Difficult to digest	1	10	0	0.00	0	0	0	0	1	2.44
Opposed by Dr./ Nurse	3	30	0	0.00	0	0	2	20	5	12.20
Child was ill	2	20	0	0.00	0	0	1	10	3	7.32
Mother was sick	1	10	4	33.33	3	33.33	4	40	12	29.27
Breast milk not started	0	0.0	1	8.33	0	0	1	10	2	4.88
Not specified	3	30	4	33.33	5	55.56	1	10	13	31.71
Total	10	100	12	100	9	100	10	100	41	100

4.4) Prelactel Feeds

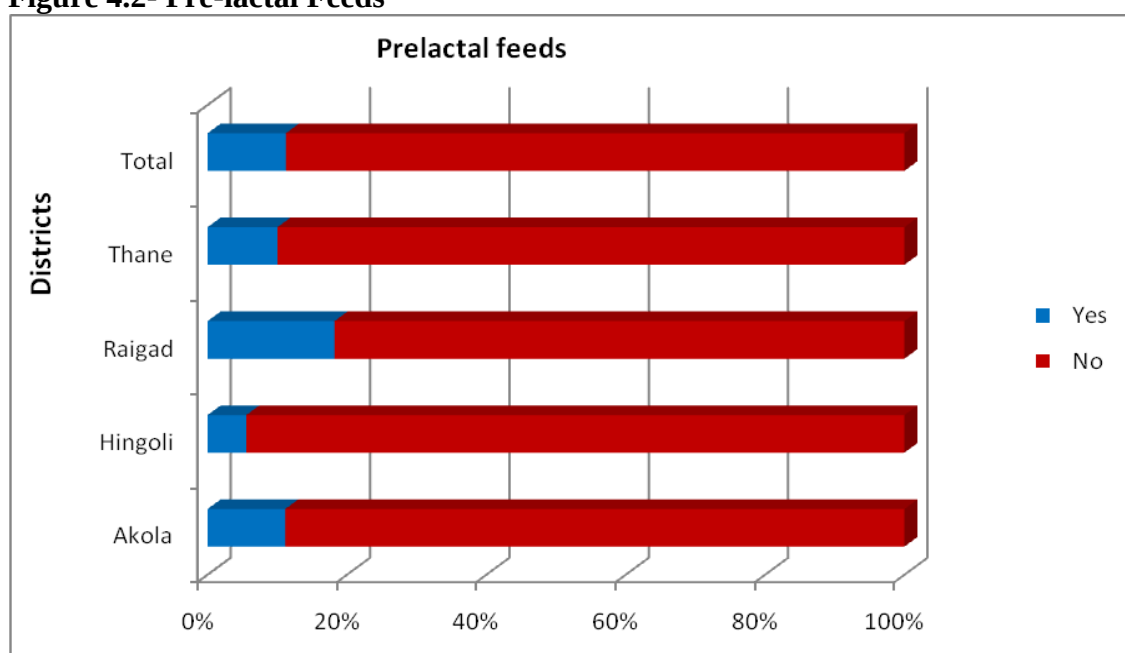
Contrary to the findings of NFHS-3 (All India 57.2% & Maharashtra 32.2%), only 11.23% of the respondent women gave pre-lactal feed to their last-born child, mostly in the first three days of the delivery. The practice of giving pre lacteal feeds was more common (18.22%) in Raigad district and relatively less common in Hingoli district (5.56%).

Most common prelactal feed given was similar to NFHS-3 observations, milk (animal/powder) in 43.20% cases. The second most common pre-lactal feed used was honey (31.20%) and sugar/jaggery water (9.6%)—often given as part of a blessing ceremony. Sugar/Jaggery water was seen more common in Raigad (17.65%), Honey in Akola (51.43%), Animal/powder milk in Thane (56%) and Janmaghuti in Hingoli district (28.57%). Plain water was given among the 8% respondents of Thane district.

Table 4.11 Type of Pre-lactal Feeds

Type of Prelactal Feeds	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Plain Water	1	2.86	0	0.00	2	3.92	2	8.00	5	4.00
Sugar/Jaggery water	2	5.71	0	0.00	9	17.65	1	4.00	12	9.60
Honey	18	51.43	5	35.71	10	19.61	6	24.00	39	31.20
Animal/powder milk	11	31.43	5	35.71	24	47.06	14	56.00	54	43.20
Janmaghutti	3	8.57	4	28.57	6	11.76	2	8.00	15	12.00
Total	35	100	14	100	51	100	25	100	125	100

Figure 4.2- Pre-lactal Feeds



The method followed for pre-lactal feed, influences the health of the baby. Hence information regarding this was collected, which revealed that one third (33.06%) of the women were using spoon followed by hand/fingers (31.45%), Cotton gauze (14.52%), Bottle (9.68%), Dropper (6.45%) to give prelactal feed. Spoon feeding was common in Raigad (42%) and Akola (35.48%) district, cotton gauze in Hingoli (33.33%), Bottle feeding in Thane (14.29%) district. Hand/finger feeding was common in Akola (51.61%) followed by Hingoli (46.67%).

Table 4.12 Method of pre-lactal feeding

Method of prelactal feeding	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
By spoon	11	35.48	1	6.67	21	42	8	28.57	41	33.06
By cotton gauze	1	3.23	5	33.33	4	8	8	28.57	18	14.52
By bottle	1	3.23	0	0.00	7	14	4	14.29	12	9.68
By hand /finger	16	51.61	7	46.67	11	22	5	17.86	39	31.45
By Dropper	1	3.23	0	0.00	6	12	1	3.57	8	6.45
Not specified	1	3.23	2	13.33	1	2	2	7.14	6	4.84
Total	31	100	15	100	50	100	28	100	124	100

It was necessary for the researchers to know why women gave pre-lactal feeds to the baby, so that appropriate health education measures could be initiated. Table 4.13 reveals that maximum number of women 52 out of 125 i.e, 42% had done so on the advice of attending doctor or nurse, followed by mother/mother-in-law. Mother's illness and caesarean delivery also attributed as reasons for giving pre-lactal feed in 5.65% cases. Doctors' advice in favour of pre lacteal feeds was as high as 58% in Raigad district and was as low as 13.33% in Hingoli district. Most of the women respondents in Hingoli district were advised in favour of pre lacteal feeds by mother and mother in-laws (46.67%) followed by advise from ASHA/ AWWs. (6.67%)

Table 4.13 Reasons for giving prelactal feed

Reasons for giving prelactal feed	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
Suggested by Doctor/Nurse	8	25.81	2	13.33	29	58	13	46.43	52	41.94
Suggested by ASHA/Aanganwadi Tai/Dai	0	0.00	1	6.67	2	4	0	0.00	3	2.42
Suggested by Mother/Motherin law	16	51.61	7	46.67	15	30	7	25.00	45	36.29
Myself	0	0.00	1	6.67	1	2	1	3.57	3	2.42
Mother was ill/Cesarean	2	6.45	2	13.33	1	2	2	7.14	7	5.65
Breast milk not started	3	9.68	0	0.00	1	2	1	3.57	5	4.03
First breast milk is not good	0	0.00	0	0.00	1	2	0	0.00	1	0.81
Not specified	2	6.45	2	13.33	0	0	4	14.29	8	6.45
Total	31	100	15	100	50	100	28	100	124	100

4.5) Frequency & Duration of Breastfeeding

Both frequency and duration of breastfeeding can affect the length of postpartum amenorrhea. It is important that breastfeeding is continued for two years or more because breast milk provides useful amounts of energy, good quality protein, and other nutrients.

Table 4.14 shows that over 40% women breastfed their new born baby in the first six months in response to the baby's hunger signals (after child cries). Almost an equal number 39.44% woman had told that they fed their baby every 2 hours. A little over 11% of women said they feed their baby when she/he woke up from sleep. It amounts to all most all breastfeeding children under 6 months old were fed 12 times during the day and night. Feeding after every two hours was commonly seen in Akola district (44.35%) and Thane district (34.71%)

Table 4.14 Frequency of feeds in first six month

Frequency of feeds of breast milk in first six month	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
After child cries	88	36.82	105	41.18	89	40.45	101	41.74	383	40.06
After child woke up from sleep	33	13.81	27	10.59	20	9.09	29	11.98	109	11.40
Every 2 hours	106	44.35	101	39.61	86	39.09	84	34.71	377	39.44
Every 3 hours	7	2.93	13	5.10	17	7.73	20	8.26	57	5.96
Every 4 hours	0	0.00	2	0.78	2	0.91	4	1.65	8	0.84
After child pass every stool	2	0.84	0	0.00	1	0.45	1	0.41	4	0.42
Other	0	0.00	5	1.96	4	1.82	3	1.24	12	1.26
Not specified	3	1.26	2	0.78	1	0.45	0	0.00	6	0.63
Total	239	100	255	100	220	100	242	100	956	100

Majority (60.54%) of respondents fed their baby for 5-10 min in each feeding session, followed by “till baby got satisfied” in 15.69% cases. Less than 5 min was reported by 12.91% women. Shorter breast feeding sessions were common in Akola (18.89%) and less common in Raigad (5.19%). In Raigad district, 26.3% of the women fed their baby till child got satisfied.

Table 4.15 Duration of each feed

Duration of each breastfeed	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
< 5 Min.	51	18.89	44	16.30	14	5.19	30	11.11	139	12.91
5-10 Min	178	65.93	167	61.85	154	57.04	153	56.67	652	60.54
Till child sleeps	24	8.89	28	10.37	27	10	33	12.22	112	10.40
Till Child satisfied	16	5.93	31	11.48	71	26.3	51	18.89	169	15.69
Not specified	0	0.00	0	0.00	3	1.11	2	0.74	5	0.46
Total	269	100	270	100	269	100	269	100	1077	100

More than 56% of women (60% in Thane & 48% in Akola) breast fed their baby for more than 1.5 years followed by 24% women (28.52% in Akola & 21.85% in Hingoli) “up to 1 year”. Only 14.17% of women breast fed their baby for 6 months. Shorter duration (6 months) of breast feeding was common in Akola district (17.78%). Longer duration (1.5 years) of breast feeding was observed in Thane district (60%).

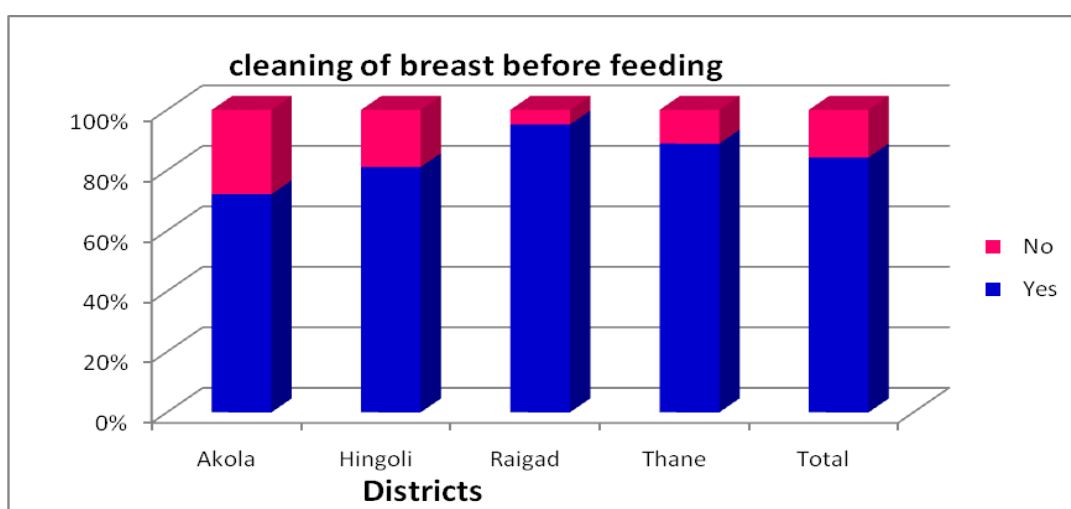
Table 4.16 : Total Duration of Breastfeeding

Duration of Breastfeeding	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
4 months	0	0.00	1	0.37	1	0.37	0	0.00	2	0.19
6 months	48	17.78	37	13.70	37	13.7	31	11.48	153	14.17
9 months	14	5.19	11	4.07	9	3.33	16	5.93	50	4.63
1 year	77	28.52	59	21.85	61	22.59	60	22.22	257	23.80
1.5 year or above	130	48.15	157	58.15	160	59.26	162	60.00	609	56.39
Other	1	0.37	5	1.85	2	0.74	1	0.37	9	0.83
Total	270	100	270	100	270	100	270	100	1080	100

4.6 Hygienic practices in breastfeeding

Most of the women (84.31%) responded that they clean the breast before every feed. This practice was most common (95.17%) in Raigad district and relatively less common (72.12%) in Akola district.

Fig 4.3 Care of breast before feeding



Regarding the care of breast before feeding, 42.53% of the women reported that they clean their breast with cloth, 32.75% clean their breast while they bath and 22.09% clean with water. Practice of cleaning breast with cloth was commonest in Thane (47.08%) and least common in Hingoli (29.26%). On the other hand cleaning with hand was more commonly seen in Thane district (3.33%). Cleaning of breast while bathing was observed more common (33.09%) in Raigad district and relatively less common (20.07%) in Akola district.

Table 4.17 Method of care of breast before feeding

Method of cleaning the breast before feeding	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
Cleaning with water	59	21.93	48	17.78	44	16.36	50	20.83	201	22.09
Cleaning with cloth	79	29.37	79	29.26	116	43.12	113	47.08	387	42.53
Cleaning by hand	2	0.74	6	2.22	8	2.97	8	3.33	24	2.64
Cleaning while bathing	54	20.07	86	31.85	89	33.09	69	28.75	298	32.75
Other	75	27.88	51	18.89	12	4.46	29	12.08	167	18.35
Total	269	100	270	100	269	100	269	100	1077	100

4.7) Weaning Practices

Over three fourths of women said that their babies were weaned after 6 months of age. This practice varies from district to district. It was 86% in Thane district, followed by 74% in Hingoli, 73.33% in Raigad and 72.22% in Akola district. A few, 1.3%, women had started weaning their babies before 6 months of age.

Table 4.18 Time of weaning

Time of weaning	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
Before 6 months	6	2.22	4	1.48	3	1.11	1	0.37	14	1.30
After 6 months	195	72.22	200	74.07	198	73.33	231	85.56	824	76.30
Not yet started	69	25.56	66	24.44	69	25.56	38	14.07	242	22.41
Total	270	100	270	100	270	100	270	100	1080	100

From those women who started weaning their babies before six months of age, over 45% did this during 3-4 months age, and 36% during 4-5 months age. Around 9% women weaned their babies before 3 months age.

Table 4.19 Time of Weaning before the age of six months

Time of weaning < six months	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
<3 months	1	20.00	0	0.00	0	0	0	0.00	1	9.09
3-4 months	2	40.00	2	50.00	1	50	0	0.00	5	45.45
4-5 months	2	40.00	1	25.00	1	50	0	0.00	4	36.36
5-6 months	0	0.00	1	25.00	0	0	0	0.00	1	9.09
Total	5	100	4	100	2	100	0	0	11	100

Animal/powder milk was the commonest (47%) supplementary food item used when weaning was before six month of age. Tea/coffee and honey were also occasionally used (5.88%).

Table 4.20 Type of supplementary food within first six months

Type of suppl. food within first six month	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No	%	No.	%	No	%	Total	%
Animal/powder Milk	3	30	3	75.	2	66.7	0	0.00	8	47.0
Water	2	20	0	0.0	0	0	0	0.00	2	11.8
Sugar-Salt water	1	10	0	0.0	0	0	0	0.00	1	5.88
Fruit Juice	1	10	0	0.0	1	33.3	0	0.00	2	11.8
Tea/Coffee/Honey	1	10	0	0.0	0	0	0	0.00	1	5.9
Dal/Rice water	2	20	0	0.0	0	0	0	0.00	2	11.8
Not specified	0	0	1	25.0	0	0	0	0.00	1	5.88
Total	10	100	4	100	3	100	0	0.00	17	100

Majority of women (45.45%) opted for weaning before six months of age as they thought that baby was not getting adequate milk through breast feeding. As per the perception of the mother, inability of the baby to digest breast milk (9.09%) and need of extra fluid in addition to breast feed was few additional reasons for early weaning among respondents

Table 4.21 Reason for weaning before 6 months

Reason for weaning before 6 months	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Child did not receive enough milk	3	60.00	2	50.00	0	0	0	0.00	5	45.45
Child could not digest the milk	1	20.00	0	0.00	0	0	0	0.00	1	9.09
Enough growth to start other liquid	0	0.00	0	0.00	1	50	0	0.00	1	9.09
Not specified	1	20.00	2	50.00	1	50	0	0.00	4	36.36
Total	5	100	4	100	2	100	0	0.00	11	100

Most of the women 82%, whose babies had not yet started weaning foods said that they would start weaning after six months from birth, and about 5% had planned to start weaning after 8 months and almost an equal number planned to wean their babies after 1year age.

Table 4.22 - Plan to time to start weaning

Time of plan starting weaning	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
After 5 months	0	0.00	1	1.52	2	2.9	0	0.00	3	1.24
After 6 months	60	86.96	55	83.33	49	71.01	34	89.47	198	81.82
After 8 months	0	0.00	4	6.06	6	8.7	1	2.63	11	4.55
After 1 year	3	4.35	3	4.55	6	8.7	0	0.00	12	4.96
After teething	1	1.45	0	0.00	0	0	1	2.63	2	0.83
Others	5	7.25	3	4.55	6	8.7	2	5.26	16	6.61
Total	69	100	66	100	69	100	38	100	242	100

4.8) Cultural Practices & Knowledge about Breastfeeding

A number of cultural practices had been followed in the districts surveyed in the belief of increasing the output of breast milk. The most preferable food was vegetable seeds like *Methi* (35.83%), Dink ladu (21.49%), Mixture of coconut, dalda and dry fruits (15.76%), Shatawari (4.6%). However 3.72% of women were given nothing and only 0.83% of women were given meat and fish to increase the quantity of breast milk. There were other food substances (3.92%) like Badishep Jira Mix, Bajari Pej, Black Til, Dal Rice, Dink Ladu, Eggs, Fruit, Katbol, Liquid food, Til, Jaggery, vegetables etc.

Table 4.23 Food given to increase mother's milk

Food given to increase mother's milk	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Cow Milk	6	1.30	6	1.37	5	0.84	16	3.19	33	1.62
Ayurvedic Medicine (<i>Shatawari</i> etc.)	17	3.68	11	2.51	29	4.85	39	7.77	96	4.70
Vegetable seeds	169	36.58	191	43.51	207	34.62	165	32.87	732	35.83
Mix of Coconut, Dalda & other dry fruits	68	14.72	77	17.54	90	15.05	87	17.33	322	15.76
Dink Ladu	114	24.68	79	18.00	131	21.91	115	22.91	439	21.49
Medicine prescribed by Doctor	50	10.82	28	6.38	29	4.85	41	8.17	148	7.24
Nothing special was given	6	1.30	4	0.91	59	9.87	7	1.39	76	3.72
Meat and Fish	0	0.00	0	0.00	14	2.34	3	0.60	17	0.83
Other	5	1.08	4	0.91	20	3.34	9	1.79	80	3.92
Not Answered	27	5.84	39	8.88	14	2.34	20	3.98	100	4.89
Total	462	100	439	100	598	100	502	100	2043	100

Various types of food substances were avoided during breast feeding in majority of the (92.53%) respondents. The common food substances avoided were fruits (Papaya, Custard apple), sour food items (26.94%), cold food (19.27%), Brinjal, Pumpkin, astringent food (14.86%).

Table 4.24 Type of food avoided during breast feeding

Food during feeding	avoided breast	Akola		Hingoli		Raigad		Thane		Maharashtra	
		No.	%	No.	%	No.	%	No.	%	Total	%
Nothing was Avoided		26	3.87	38	6.46	61	9.05	66	10.58	191	7.47
Cold food		171	25.45	113	19.22	93	13.8	116	18.59	493	19.27
Cold water		84	12.50	61	10.37	122	18.1	102	16.35	369	14.43
Cold drinks		58	8.63	22	3.74	44	6.53	28	4.49	152	5.94
Onion		31	4.61	29	4.93	28	4.15	38	6.09	126	4.93
Papaya, Custard apple, sour food		172	25.60	188	31.97	175	25.96	154	24.68	689	26.94
Dal		22	3.27	23	3.91	11	1.63	12	1.92	68	2.66
Brinjal, Pumkin, astringent food		89	13.24	102	17.35	105	15.58	84	13.46	380	14.86
Liquid food		4	0.60	2	0.34	0	0	1	0.16	7	0.27
Other		13	1.93	5	0.85	33	4.9	15	2.40	66	2.58
Not specified		2	0.30	5	0.85	2	0.3	8	1.28	17	0.66
Total		672	100	588	100	674	100	624	100	2558	100

Most of the respondents (97.22%) thought that early breast feeding is good for the baby. The misconception about early breast feeding was seen among the respondents from Raigad district (2.22%) and Thane district (1.11%). Small percentage of respondents were not able to answer the question from Thane district (2.96%) and Hingoli district (2.22%).

Table 4.25 Knowledge about importance of initiation of early breastfeeding.

	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Good	267	98.9	264	97.8	260	96.3	259	95.93	1050	97.2
Not Good	1	0.37	0	0.00	6	2.22	3	1.11	10	0.93
Don't know	2	0.74	6	2.22	4	1.48	8	2.96	20	1.85
Total	270	100	270	100	270	100	270	100	1080	100

According to the respondents, the main benefit of early breast feeding was in the form of vitamins (38.98%) that baby got through breast milk, followed by its immunological benefits to the baby (32.68%). Highest proportion of respondents from Akola (37.04%) and lowest from Raigad (27.07%) were aware about the immunological benefits of early breast feeding.

Table 4.26 Benefits of Early Breastfeeding

Benefits of Early Breastfeeding	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
It gives all vitamin	184	42.59	142	39.01	119	32.87	156	40.63	601	38.98
It is easy to digest	61	14.12	61	16.76	71	19.61	69	17.97	262	16.99
Increase immunity	160	37.04	123	33.79	98	27.07	123	32.03	504	32.68
Helps for mental development	11	2.55	4	1.10	19	5.25	21	5.47	55	3.57
Milks in right temp	7	1.62	9	2.47	2	0.55	3	0.78	21	1.36
Don't know	8	1.85	23	6.32	46	12.71	12	3.13	89	5.77
Other	1	0.23	2	0.55	7	1.93	0	0.00	10	0.65
Total	432	100	364	100	362	100	384	100	1542	100

Most of the respondents (88.61%) were of the view that exclusive breast feeding was good for the baby, while a few women (8.80%) thought otherwise, 2.59% women did not express any opinion. The highest number of (90%) women, who agreed that exclusive breastfeeding was good, was from Akola district, while the lowest number 86% were from Thane district.

Table 4.27 Knowledge about advantage of exclusive breast feeding

	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Good	243	90.00	239	88.52	242	89.63	233	86.30	957	88.61
Not good	23	8.52	20	7.41	22	8.15	30	11.11	95	8.80
Don't know	4	1.48	11	4.07	6	2.22	7	2.59	28	2.59
Total	270	100	270	100	270	100	270	100	1080	100

The respondents thought that the exclusive breast feeding was adequate for growth of the baby (64.34%) and it meets the vitamins needs of the baby (22.27%). Around 9 % of them also reported that exclusive breast feeding can protect child from diarrhoea. Respondents with a concept that “it is adequate for growth of child” were from Hingoli district (70.23%) and from Raigad (60.63%) district .Exclusive breast

feeding protects baby from diarrhoea was thought by 11.07% respondents from Hingoli district and 7.25% from Akola district. Non-specific answers were received from respondents from (9.06%) Raigad district.

Table 4.28 Benefits of exclusive breast feeding to child

Benefits of exclusive breast feeding to child	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
It is adequate for growth of child	180	65.22	184	70.23	174	60.63	164	61.65	702	64.34
It meets the need of vitamins	71	25.72	41	15.65	60	20.91	71	26.69	243	22.27
It protect from diarrheha	20	7.25	29	11.07	22	7.67	26	9.77	97	8.89
Other	1	0.36	4	1.53	5	1.74	0	0.00	10	0.92
Not specified	4	1.45	4	1.53	26	9.06	5	1.88	39	3.57
Total	276	100	262	100	287	100	266	100	1091	100

Majority of the respondents (55.04%) were unaware about the benefit of exclusive breast feeding to mother. The lack of knowledge about this fact was highest in Raigad (59.93%) and lowest in Akola (46.50%) district. On the other hand 15.25% of respondents thought that there was no benefit of exclusive breast feeding to the mothers. Only 14.54% respondents were aware about delay in onset of menstruation after exclusive breast feeding. Only 14.01% respondents were aware about the benefit of maternal weight reduction after exclusive breast feeding.

Table 4.29 Maternal benefits of exclusive breast feeding

Benefits of exclusive BF to mother	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Delays onset of menstruation	54	18.88	47	16.7	32	11.5	30	10.8	163	14.54
Helps in weight reduction	56	19.58	35	12.4	31	11.2	35	12.6	157	14.01
No benefits to mother	40	13.99	40	14.2	44	15.9	47	17.0	171	15.25
Don't know	133	46.50	157	55.6	166	59.9	161	58.3	617	55.04
Other	0	0.00	1	0.35	1	0.36	0	0.00	2	0.18

Not specified	3	1.05	2	0.71	3	1.08	3	1.09	11	0.98
Total	286	100	282	100	277	100	276	100	1121	100

Most of the respondents thought that supplementation was not necessary (72.22%) during breast feeding where as 3.7% were unaware about this issue. The “don’t know” option was in the range from 5.93% (Thane) to 2.22% (Raigad).

Table 4.30 Opinion about-whether water should be given during breast feeding

	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Yes	72	26.67	67	24.81	66	24.44	55	20.37	260	24.07
No	191	70.74	192	71.11	198	73.33	199	73.70	780	72.22
Don't know	7	2.59	11	4.07	6	2.22	16	5.93	40	3.70
Total	270	100	270	100	270	100	270	100	1080	100

Nearly two third of the respondents thought that stoppage of breast feeding was not necessary (64.26%) when mother falls sick. The district wise observations ranged from 68.52% in Akola to 57.78% in Raigad. The proportion of unawareness about this issue was higher in Akola district (3.7%). On the other hand the proportion of women who thought that it was necessary to stop breast feeding when mother falls ill ranged from 40.74% in Raigad to 27.78% in Akola.

Table 4.31 Knowledge about breastfeeding during mother’s sickness

	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Stop BF	75	27.78	81	30.00	110	40.74	94	34.81	360	33.33
Don’t Stop BF	185	68.52	181	67.04	156	57.78	172	63.70	694	64.26
Don't know	10	3.70	8	2.96	4	1.48	4	1.48	26	2.41
Total	270	100	270	100	270	100	270	100	1080	100

Majority of the respondents (41.85%) said they did not have the personal experience to answer whether they fed breast milk to their baby during illness. Overall 38 percent did not feed their babies while sick and 20 percent did breastfed their babies even when they were sick.

Table 4.32 Stoppage of breast feeding when women was sick

	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Stopped BF	63	23.33	41	15.19	60	22.22	53	19.63	217	20.09

Did not stopped BF	140	51.85	102	37.78	95	35.19	74	27.41	411	38.06
I was never fell ill	67	24.81	127	47.04	115	42.59	143	52.96	452	41.85
Total	270	100	270	100	270	100	270	100	1080	100

4.9) Knowledge about Supplementary food

Most of the respondent women thought that the supplementary food did not increase the chances of child becoming sick (62.41%). The percentage of respondents with this thought was highest from Akola district (67.78%) and lowest from Thane district (57.78%). On the other hand proportions of respondents aware about the increased chance of illness of child due to supplementary food (31.85%) were more from Raigad district (36.3%).

Table 4.33 Knowledge about supplementary food and the chance of child becoming sick

supplementary food increases the chance of child becoming sick	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Yes	75	27.78	78	28.89	98	36.3	93	34.44	344	31.85
No	183	67.78	173	64.07	162	60	156	57.78	674	62.41
Don't know	12	4.44	19	7.04	10	3.7	21	7.78	62	5.74
Total	270	100	270	100	270	100	270	100	1080	100

Dal water (32.56%) was the preferred choice of food, followed by rice water (30.09%) and Khichadi (20.73%). White part of egg was favoured by 3.97% and banana by 4.15%). However biscuits were also used as supplementary food by 2% of the respondents.

Table 4.34 Good supplementary food for child

Good supplementary food for child	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Dal water	237	34.00	242	33.89	202	30.1	230	32.12	911	32.56
Rice water	216	30.99	226	31.65	180	26.83	220	30.73	842	30.09
Khichadi (Fine floor mix, Dal rice)	149	21.38	162	22.69	140	20.86	129	18.02	580	20.73
White part of egg	27	3.87	16	2.24	33	4.92	35	4.89	111	3.97

Ripen banana	25	3.59	34	4.76	24	3.58	33	4.61	116	4.15
Boiled potato	13	1.87	14	1.96	5	0.75	18	2.51	50	1.79
Biscuit	17	2.44	8	1.12	13	1.94	18	2.51	56	2.00
Other	7	1.00	9	1.26	65	9.69	33	4.61	114	4.07
Not specified	6	0.86	3	0.42	9	1.34	0	0.00	18	0.64
Total	697	100	714	100	671	100	716	100	2798	100

Majority of the respondents thought that supplementation of calcium to mother during breast feeding was necessary (56.94%). Highest percentage of respondents in favour of giving calcium were from Raigad district (65.93%) and lowest from Hingoli district (39.63%).

Table 4.35 Knowledge about Necessity of supplementation of calcium to the breast feeding mother

	Akola		Hingoli		Raigad		Thane		Maharashtra	
	No.	%	No.	%	No.	%	No.	%	Total	%
Yes	174	64.44	107	39.63	178	65.93	156	57.78	615	56.94
No	76	28.15	118	43.70	62	22.96	78	28.89	334	30.93
Don't know	20	7.41	45	16.67	30	11.11	36	13.33	131	12.13
Total	270	100	270	100	270	100	270	100	1080	100

Chapter 5

ASSOCIATION OF SOCIO-ECONOMIC, DEMOGRAPHIC CHARACTERISTICS OF WOMEN WITH KNOWLEDGE AND PRACTICES OF BREASTFEEDING, SUPPLEMENTARY FEEDING

5.1 Association between knowledge on breastfeeding and socio-demographic characters

5.1.1 Knowledge of early initiation of breastfeeding Vs. Socio-demographic characters

Knowledge about early initiation of breastfeeding of the women was found to have significant association with her age, religion, occupation, no. of previous deliveries (children), type of institution (RH/PHC/SC etc) where she delivered.

But, it had no significant association with her rural or urban background, tribal or non-tribal background, economic status (income), educational status, caste, place (home/hospital) of delivery, type of birth attendant at the time home of delivery, and her type of delivery (normal or caesarean).

Table 5.1.1 Knowledge of early initiation of breastfeeding & socio-demographic characters

	Y	%	N	%	Don't Know	%	Total	%	
Age									
15-19	30	2.86	1	10	1	5	32	2.96	$\chi^2 =$
20-29	875	83.33	7	70	13	65	895	82.87	21.098,
30-39	144	13.71	2	20	6	30	152	14.07	χ^2_{cal}
40-49	1	0.10	0	0	0	0	1	0.09	(1.000) >
Total	1050	100	10	100	20	100	1080	100	χ^2_{tab} (0.01)
Place									
Urban	405	38.57	3	30	7	35	415	38.43	$\chi^2 =$
Rural	645	61.43	7	70	13	65	665	61.57	21.098,
Total	1050	100	10	100	20	100	1080	100	χ^2_{cal}
									(1.000) >
									χ^2_{tab} (0.01)
Area									
Non Tribal	864	82.29	4	40	14	70	882	81.67	$\chi^2 =$
Tribal	186	17.71	6	60	6	30	198	18.33	13.682,
Total	1050	100	10	100	20	100	1080	100	χ^2_{cal}

									(0.001) < χ^2_{tab} (1.83)
Income									
≤ 1000	21	2.00	0	0	2	10	23	2.13	$\chi^2 =$ 11.311, χ^2_{cal} (0. 185) < χ^2_{tab} (0.21)
1001-3000	393	37.43	4	40	11	55	408	37.78	
3001-5000	395	37.62	4	40	4	20	403	37.31	
5001-7000	177	16.86	2	20	3	15	182	16.85	
≥ 7001	64	6.10	0	0	0	0	64	5.93	
Total	1050	100	10	100	20	100	1080	100	
Education									
Non Educated	123	11.71	3	30	12	60	138	12.78	$\chi^2 =$ 47.172, χ^2_{cal} (0. 000) < χ^2_{tab} (0.04)
Primary	110	10.48	2	20	2	10	114	10.56	
Secondary	561	53.43	4	40	6	30	571	52.87	
Higher	208	19.81	1	10	0	0	209	19.35	
Secondary									
Graduate/P.Gra duate	44	4.19	0	0	0	0	44	4.07	
Other	4	0.38	0	0	0	0	4	0.37	
Total	1050	100	10	100	20	100	1080	100	
Religion									
Hindu	805	76.67	8	80	16	80	829	76.76	$\chi^2 =$ 0.918, χ^2_{cal} (1. 000) > χ^2_{tab} (0.02)
Baudha	146	13.90	1	10	3	15	150	13.89	
Muslim	82	7.81	1	10	1	5	84	7.78	
Christan	2	0.19	0	0	0	0	2	0.19	
Jain	3	0.29	0	0	0	0	3	0.28	
Sikh	4	0.38	0	0	0	0	4	0.37	
Other	8	0.76	0	0	0	0	8	0.74	
Total	1050	100	10	100	20	100	1080	100	
Caste									
General	432	41.14	5	50	8	40	445	41.20	$\chi^2 =$ 12.288, χ^2_{cal} (0.139) < χ^2_{tab} (0. 71)
OBC	121	11.52	1	10	2	10	124	11.48	
SC	228	21.71	0	0	4	20	232	21.48	
ST	71	6.76	3	30	3	15	77	7.13	
Other	198	18.86	1	10	3	15	202	18.70	
Total	1050	100	10	100	20	100	1080	100	
Occupation									
Farming	58	5.52	1	10	2	10	61	5.65	$\chi^2 =$ 6.972, χ^2_{cal} (0. .859) > χ^2_{tab} (0. 01)
House Wife	877	83.52	7	70	14	70	898	83.15	
Majur	88	8.38	2	20	4	20	94	8.70	
Self Employed	10	0.95	0	0	0	0	10	0.93	
Service(Govt)	5	0.48	0	0	0	0	5	0.46	
Service(Pvt)	11	1.05	0	0	0	0	11	1.02	
Other	1	0.10	0	0	0	0	1	0.09	
Total	1050	100	10	100	20	100	1080	100	
No. of children									
1	430	40.95	2	20	3	15	435	40.28	$\chi^2 =$ 20.643,
2	393	37.43	4	40	11	55	408	37.78	

3	153	14.57	3	30	4	20	160	14.81	$\chi^2_{cal}(0.111) > \chi^2_{tab}(0.01)$
4	54	5.14	1	10	1	5	56	5.19	
5	13	1.24	0	0	0	0	13	1.20	
6	3	0.29	0	0	1	5	4	0.37	
7	3	0.29	0	0	0	0	3	0.28	
8	1	0.10	0	0	0	0	1	0.09	
Total	1050	100	10	100	20	100	1080	100	
Place of delivery									
Home	95	9.05	1	10	5	25	101	9.35	$\chi^2 = 5.897, \chi^2_{cal}(0.052) < \chi^2_{tab}(0.94)$
Hospital	955	90.95	9	90	15	75	979	90.65	
Total	1050	100	10	100	20	100	1080	100	
Person conducting delivery									
Dai	15	15.79	0	0	1	20	16	15.84	$\chi^2 = 77.102, \chi^2_{cal}(0.00) < \chi^2_{tab}(0.02)$
Doctor	2	2.11	0	0	1	20	3	2.97	
Other	48	50.53	0	0	3	60	51	50.50	
Relative	29	30.53	0	0	0	0	29	28.71	
Other	1	1.05	1	100	0	0	2	1.98	
Total	95	100	1	100	5	100	101	100	
Institution of delivery									
P.H.C.	161	16.86	3	33.33	2	13.3	166	16.96	$\chi^2 = 11.345, \chi^2_{cal}(0.50) > \chi^2_{tab}(0.14)$
Private Hospital	363	38.01	2	22.22	4	26.6	369	37.69	
R.H.C	129	13.51	1	11.11	4	26.6	134	13.69	
Sub/Dist Hospital	260	27.23	3	33.33	4	26.6	267	27.27	
Sub Center	27	2.83	0	0.00	1	6.67	28	2.86	
other	15	1.57	0	0	0	0	15	1.53	
Total	955	100	9	100	15	100	979	100	
Type of delivery									
Normal	885	84.29	6	60	19	95	910	84.26	$\chi^2 = 6.177, \chi^2_{cal}(0.046) < \chi^2_{tab}(1.57)$
Cesarean	165	15.71	4	40	1	5	170	15.74	
Total	1050	100	10	100	20	100	1080	100	

5.1.2 Knowledge of exclusive breastfeeding Vs. Socio-demographic characters

Knowledge about exclusive breast feeding of the women was found to have significant association with her age, religion, no. of previous deliveries (children).

But, it had no significant association with her rural, urban background, tribal & non-tribal background, economic status (income), occupation, educational status, caste,

place (home/hospital) of delivery, type of birth attendant at the time home of delivery, type of institution (RH/PHC/SC etc) where she delivered and her type of delivery (normal or caesarean).

Table 5.1.2 Knowledge of exclusive breast feeding and socio-demographic characters

Characters	Yes	%	No	%	Don't Know	%	Total	%	
Age									
15-19	29	3.03	2	2.11	1	3.57	32	2.96	$\chi^2 = 83.34$, $\chi^2_{cal}(0.073) > \chi^2_{tab}(0.03)$
20-29	798	83.39	78	82.11	19	67.86	895	82.87	
30-39	129	13.48	15	15.79	8	28.57	152	14.07	
40-49	1	0.10	0	0.00	0	0.00	1	0.09	
Total	957	100	95	100	28	100	1080	100	
Place									
Urban	367	38.35	38	40.00	10	35.71	415	38.43	$\chi^2 = 0.189$, $\chi^2_{cal}(0.91) < \chi^2_{tab}(10.76)$
Rural	590	61.65	57	60.00	18	64.29	665	61.57	
Total	957	100	95	100	28	100	1080	100	
Area									
Non Tribal	783	81.82	79	83.16	20	71.43	882	81.67	$\chi^2 = 2.116$, $\chi^2_{cal}(0.347) < \chi^2_{tab}(5.13)$
Tribal	174	18.18	16	16.84	8	28.57	198	18.33	
Total	957	100	95	100	28	100	1080	100	
Income									
≤1000	21	2.19	0	0.00	2	7.14	23	2.13	$\chi^2 = 11.788$, $\chi^2_{cal}(0.161) < \chi^2_{tab}(0.60)$
1001-3000	355	37.10	41	43.16	12	42.86	408	37.78	
3001-5000	360	37.62	33	34.74	10	35.71	403	37.31	
5001-7000	159	16.61	19	20.00	4	14.29	182	16.85	
≥7001	62	6.48	2	2.11	0	0.00	64	5.93	
Total	957	100	95	100	28	100	1080	100	
Education									
Non Educated	117	12.23	8	8.42	13	46.43	138	12.78	$\chi^2 = 38.53$, $\chi^2_{cal}(0.00) < \chi^2_{tab}(0.10)$
Primary	99	10.34	10	10.53	5	17.86	114	10.56	
Secondary	509	53.19	53	55.79	9	32.14	571	52.87	
Higher Secondary	191	19.96	17	17.89	1	3.57	209	19.35	
Graduate/P.G	37	3.87	7	7.37	0	0.00	44	4.07	
raduate									
Other	4	0.42	0	0.00	0	0.00	4	0.37	
Total	957	100	95	100	28	100	1080	100	
Religion									

Hindu	730	76.28	79	83.16	20	71.43	829	76.76	$\chi^2 = 9.869,$ $\chi^2_{cal}(0.627)_{>}$ $\chi^2_{tab}(0.05)$
Baudha	134	14.00	11	11.58	5	17.86	150	13.89	
Muslim	78	8.15	4	4.21	2	7.14	84	7.78	
Christan	2	0.21	0	0.00	0	0.00	2	0.19	
Jain	2	0.21	1	1.05	0	0.00	3	0.28	
Sikh	4	0.42	0	0.00	0	0.00	4	0.37	
Other	7	0.73	0	0.00	1	3.57	8	0.74	
Total	957	100	95	100	28	100	1080	100	
Caste									
General	403	42.11	32	33.68	10	35.71	445	41.20	$\chi^2 = 11.301,$ $\chi^2_{cal}(0.185)_{<}$ $\chi^2_{tab}(2.00)$
OBC	107	11.18	15	15.79	2	7.14	124	11.48	
SC	204	21.32	24	25.26	4	14.29	232	21.48	
ST	63	6.58	10	10.53	4	14.29	77	7.13	
Other	180	18.81	14	14.74	8	28.57	202	18.70	
Total	957	100	95	100	28	100	1080	100	
Occupation									
Farming	52	5.43	6	6.32	3	10.71	61	5.65	$\chi^2 = 25.378,$ $\chi^2_{cal}(0.013)_{<}$ $\chi^2_{tab}(0.03)$
House Wife	801	83.70	81	85.26	16	57.14	898	83.15	
Majur	80	8.36	5	5.26	9	32.14	94	8.70	
Self Employed	9	0.94	1	1.05	0	0.00	10	0.93	
Service(Govt)	5	0.52	0	0.00	0	0.00	5	0.46	
Service(Pvt)	9	0.94	2	2.11	0	0.00	11	1.02	
Other	1	0.10	0	0.00	0	0.00	1	0.09	
Total	957	100	95	100	28	100	1080	100	
No. of children									
1	394	41.17	35	36.84	6	21.43	435	40.28	$\chi^2 = 16.745,$ $\chi^2_{cal}(0.27)_{>}$ $\chi^2_{tab}(0.03)$
2	355	37.10	41	43.16	12	42.86	408	37.78	
3	141	14.73	13	13.68	6	21.43	160	14.81	
4	50	5.22	4	4.21	2	7.14	56	5.19	
5	11	1.15	1	1.05	1	3.57	13	1.20	
6	2	0.21	1	1.05	1	3.57	4	0.37	
7	3	0.31	0	0.00	0	0.00	3	0.28	
8	1	0.10	0	0.00	0	0.00	1	0.09	
Total	957	100	95	100	28	100	1080	100	
Place of delivery									
Home	86	8.99	7	7.37	8	28.57	101	9.35	$\chi^2 = 12.792,$ $\chi^2_{cal}(0.002)_{<}$ $\chi^2_{tab}(2.62)$
Hospital	871	91.01	88	92.63	20	71.43	979	90.65	
Total	957	100	95	100	28	100	1080	100	
Person conducting delivery									
Dai	14	16.28	1	14.29	1	12.50	16	15.84	$\chi^2 =$

Doctor	2	2.33	0	0.00	1	12.50	3	2.97	29.57,
Other	1	1.16	1	14.29	0	0.00	2	1.98	$\chi^2_{cal} (0.001) <$
Relative	44	51.16	2	28.57	5	62.50	51	50.50	$\chi^2_{tab} (0.05)$
Trained Dai	25	29.07	3	42.86	1	12.50	29	28.71	
Total	86	100	7	100	8	100	101	100	
Institution of delivery									
P.H.C.	138	15.84	22	25.00	6	30.00	166	16.96	
Private Hospital	335	38.46	29	32.95	5	25.00	369	37.69	
R.H.C	123	14.12	8	9.09	3	15.00	134	13.69	$\chi^2 = 22.30,$
Sub/Dist Hospital	238	27.32	24	27.27	5	25.00	267	27.27	$\chi^2_{cal} (0.093) <$
Sub Center	24	2.76	3	3.41	1	5.00	28	2.86	$\chi^2_{tab} (0.39)$
Other	13	1.49	2	2.27	0	0.00	15	1.53	
Total	871	100	88	100	20	100	979	100	
Type of delivery									
Normal	808	84.43	77	81.05	25	89.29	910	84.26	$\chi^2 = 1.29,$
Cesarean	149	15.57	18	18.95	3	10.71	170	15.74	$\chi^2_{cal} (0.524) <$
Total	957	100	95	100	28	100.0	1080	100	$\chi^2_{tab} (4.41)$

5.1.3 Knowledge of supplementary feeding & Socio-demographic characters

Knowledge of women about the role of supplementary feeding in the health of child was found significantly associated with her age and no. of previous deliveries (children).

But, it had no significant association with her rural, urban background, tribal & non-tribal background, economic status (income), religion, occupation, educational status, caste, place (home/hospital) of delivery, type of birth attendant at the time home of delivery, type of institution (RH/PHC/SC etc) where she delivered and her type of delivery (normal or caesarean).

Table 5.1.3: Knowledge of supplementary feeding and socio-demographic characters

	Yes	%	No	%	Don't Know	%	Total	%	
Age									
15-19	16	4.65	12	1.78	4	6.45	32	2.96	$\chi^2 =$
20-29	278	80.81	569	84.42	48	77.42	895	82.87	59.759, χ^2_{cal}
30-39	49	14.24	93	13.80	10	16.13	152	14.07	(0.693) >

40-49	1	0.29	0	0.00	0	0.00	1	0.09	$\chi^2_{\text{tab}} (0.06)$
Total	344	100	674	100	62	100	1080	100	
Place									
Urban	137	39.83	251	37.24	27	43.55	415	38.43	$\chi^2 = 1.373,$
Rural	207	60.17	423	62.76	35	56.45	665	61.57	$\chi^2_{\text{cal}} (0 .$
Total	344	100	674	100	62	100	1080	100	$503) < \chi^2_{\text{tab}}$ (23.82)
Area									
Non Tribal	275	79.94	554	82.20	53	85.48	882	81.67	$\chi^2 = 1.413,$
Tribal	69	20.06	120	17.80	9	14.52	198	18.33	$\chi^2_{\text{cal}} (0 .$
Total	344	100	674	100	62	100	1080	100	$488) < \chi^2_{\text{tab}}$ (11.37)
Income									
≤1000	11	3.20	10	1.48	2	3.23	23	2.13	
1001-3000	126	36.63	254	37.69	28	45.16	408	37.78	
3001-5000	125	36.34	259	38.43	19	30.65	403	37.31	$\chi^2 = 6.69,$
5001-7000	61	17.73	110	16.32	11	17.74	182	16.85	$\chi^2_{\text{cal}} (0 . 57)$
≥7001	21	6.10	41	6.08	2	3.23	64	5.93	$< \chi^2_{\text{tab}} (1.32)$
Total	344	100	674	100	62	100	1080	100	
Education									
Non Educated	45	13.08	71	10.53	22	35.48	138	12.78	
Primary	31	9.01	74	10.98	9	14.52	114	10.56	
Secondary	186	54.07	358	53.12	27	43.55	571	52.87	$\chi^2 =$
Higher	66	19.19	140	20.77	3	4.84	209	19.35	$39.477, \chi^2_{\text{cal}}$
Secondary									$(0 . 00) <$
Graduate/P.	15	4.36	28	4.15	1	1.61	44	4.07	$\chi^2_{\text{tab}} (0.23)$
Graduate									
Other	1	0.29	3	0.45	0	0.00	4	0.37	
Total	344	100	674	100	62	100	1080	100	
Religion									
Hindu	281	81.69	503	74.63	45	72.58	829	76.76	
Buddha	31	9.01	112	16.62	7	11.29	150	13.89	
Muslim	31	9.01	47	6.97	6	9.68	84	7.78	$\chi^2 =$
Christen	1	0.29	1	0.15	0	0.00	2	0.19	$37.282, \chi^2_{\text{cal}}$
Jain	0	0.00	2	0.30	1	1.61	3	0.28	$(0 . 00) <$
Sikh	0	0.00	4	0.59	0	0.00	4	0.37	$\chi^2_{\text{tab}} (0.11)$
Other	0	0.00	5	0.74	3	4.84	8	0.74	
Total	344	100	674	100	62	100	1080	100	
Caste									
General	136	39.53	284	42.14	25	40.32	445	41.20	
OBC	54	15.70	67	9.94	3	4.84	124	11.48	$\chi^2 =$
SC	60	17.44	160	23.74	12	19.35	232	21.48	$22.309^a,$
ST	18	5.23	52	7.72	7	11.29	77	7.13	$\chi^2_{\text{cal}} (0 .$
Other	76	22.09	111	16.47	15	24.19	202	18.70	$004) < \chi^2_{\text{tab}}$ (4.42)
Total	344	100	674	100	62	100	1080	100	
Occupation									
Farming	28	8.14	31	4.60	2	3.23	61	5.65	$\chi^2 =$
House Wife	265	77.03	584	86.65	49	79.03	898	83.15	$28.731, \chi^2_{\text{cal}}$
Majur	35	10.17	48	7.12	11	17.74	94	8.70	$(0 . 004) <$

Self Employed	6	1.74	4	0.59	0	0.00	10	0.93	$\chi^2_{\text{tab}} (0.06)$
Service(Govt)	2	0.58	3	0.45	0	0.00	5	0.46	
Service(Pvt)	7	2.03	4	0.59	0	0.00	11	1.02	
Other	1	0.29	0	0.00	0	0.00	1	0.09	
Total	344	100	674	100	62	100	1080	100	
No. of children									
1	139	40.41	277	41.10	19	30.65	435	40.28	$\chi^2 = 13.988, \chi^2_{\text{cal}} (0.451) > \chi^2_{\text{tab}} (0.06)$
2	126	36.63	255	37.83	27	43.55	408	37.78	
3	56	16.28	96	14.24	8	12.90	160	14.81	
4	16	4.65	36	5.34	4	6.45	56	5.19	
5	5	1.45	6	0.89	2	3.23	13	1.20	
6	1	0.29	2	0.30	1	1.61	4	0.37	
7	1	0.29	1	0.15	1	1.61	3	0.28	
8	0	0.00	1	0.15	0	0.00	1	0.09	
Total	344	100	674	100	62	100	1080	100	
Place of delivery									
Home	33	9.59	61	9.05	7	11.29	101	9.35	$\chi^2 = 0.371, \chi^2_{\text{cal}} (0.831) < \chi^2_{\text{tab}} (5.80)$
Hospital	311	90.41	613	90.95	55	88.71	979	90.65	
Total	344	100	674	100	62	100	1080	100	
Person conducting delivery									
Dai	4	12.12	12	19.67	0	0.00	16	15.84	$\chi^2 = 6.198, \chi^2_{\text{cal}} (0.798) < \chi^2_{\text{tab}} (0.11)$
Doctor	1	3.03	2	3.28	0	0.00	3	2.97	
Relative	17	51.52	28	45.90	6	85.71	51	50.50	
Trained Dai	10	30.30	18	29.51	1	14.29	29	28.71	
Other	1	3.03	1	1.64	0	0.00	2	1.98	
Total	33	100	61	100	7	100	101	100	
Institution of delivery									
P.H.C.	34	10.93	116	18.92	16	29.09	166	16.96	$\chi^2 = 23.572, \chi^2_{\text{cal}} (0.023) < \chi^2_{\text{tab}} (0.86)$
Private Hospital	126	40.51	225	36.70	18	32.73	369	37.69	
R.H.C	39	12.54	86	14.03	9	16.36	134	13.69	
Sub/Dist Hospital	100	32.15	159	25.94	8	14.55	267	27.27	
Sub Center	9	2.89	17	2.77	2	3.64	28	2.86	
Other	3	0.96	10	1.63	2	3.64	15	1.53	
Total	311	100	613	100	55	100	979	100	
Type of delivery									
Normal	276	80.23	576	85.46	58	93.55	910	84.26	$\chi^2 = 8.972, \chi^2_{\text{cal}} (0.011) < \chi^2_{\text{tab}} (9.76)$
Caesarean	68	19.77	98	14.54	4	6.45	170	15.74	
Total	344	100	674	100	62	100	1080	100	

5.1.4 Knowledge about effect of duration of breast feeding on health of the baby

Knowledge of women about effect of duration of breastfeeding on the health of child had significant association with her age and no. tribal & non-tribal background, economic status (income), religion, occupation, educational status, of previous deliveries (children) place (home/hospital) of delivery, type of birth attendant at the time home of delivery, type of institution (RH/PHC/SC etc) where she delivered and her type of delivery (normal or caesarean).

But, it had no significant association with her rural, urban background and caste.

Table 5.1.4 Knowledge about effect of duration of breast feeding on the health of the child

	4 Months	%	6 Months	%	9 Months	%	12 Months	%	≥18 Months	%	Other	%	Total	%	
Age															
15-19	2	100	3	1.96	3	6	3	1.17	23	3.78	0	0	34	3.15	$\chi^2 =$
20-29	0	0	128	83.66	40	80	213	82.88	503	82.59	9	100	893	82.69	162.991,
30-39	0	0	22	14.38	7	14	41	15.95	82	13.46	0	0	152	14.07	$\chi^2_{cal} (0 .$
40-49	0	0	0	0.00	0	0	0	0.00	1	0.16	0	0	1	0.09	530) $> \chi^2_{tab}$
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	(0.00)
Place															
Urban	0	0	63	41.18	21	42	102	39.69	227	37.27	2	22.22	415	38.43	$\chi^2 = 3.521,$
Rural	2	100	90	58.82	29	58	155	60.31	382	62.73	7	77.78	665	61.57	$\chi^2_{cal} (0 . 62)$
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	$< \chi^2_{tab} (0.77)$
Area															
Non Tribal	2	100	131	85.62	41	82	211	82.10	490	80.46	7	77.78	882	81.67	$\chi^2 = 2.766,$
Tribal	0	0	22	14.38	9	18	46	17.90	119	19.54	2	22.22	198	18.33	$\chi^2_{cal} (0 .$
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	736) $> \chi^2_{tab}$
															(0.37)
Income															
≤ 1000	0	0	3	1.96	3	6	4	1.56	13	2.13	0	0.00	23	2.13	$\chi^2 =$
1001-3000	1	50	63	41.18	20	40	90	35.02	232	38.10	2	22.22	408	37.78	14.797,
3001-5000	1	50	58	37.91	13	26	106	41.25	220	36.12	5	55.56	403	37.31	$\chi^2_{cal} (0 .$
5001-7000	0	0	21	13.73	12	24	44	17.12	103	16.91	2	22.22	182	16.85	788) $> \chi^2_{tab}$
≥ 7001	0	0	8	5.23	2	4	13	5.06	41	6.73	0	0.00	64	5.93	(0.04)
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	
Education															
Non Educated	0	0	11	7.19	12	24	34	13.23	79	12.97	2	22.22	138	12.78	$\chi^2 =$
Primary	0	0	14	9.15	1	2	37	14.40	62	10.18	0	0.00	114	10.56	24.973,
Secondary	2	100	90	58.82	24	48	133	51.75	318	52.22	4	44.44	571	52.87	$\chi^2_{cal} (0 .$
H. Secondary	0	0	32	20.92	11	22	42	16.34	121	19.87	3	33.33	209	19.35	464) $> \chi^2_{tab}$
Graduate/P.	0	0	5	3.27	2	4	10	3.89	27	4.43	0	0.00	44	4.07	(0.01)
Graduate															
Other	0	0	1	0.65	0	0	1	0.39	2	0.33	0	0.00	4	0.37	
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	

Religion															
Hindu	1	50	119	77.78	37	74	185	71.98	482	79.15	5	55.56	829	76.76	$\chi^2 = 23.341,$ $\chi^2_{cal} (0.801) > \chi^2_{tab} (0.00)$
Buddha	1	50	17	11.11	8	16	41	15.95	81	13.30	2	22.22	150	13.89	
Christian	0	0	1	0.65	0	0	1	0.39	0	0.00	0	0.00	2	0.19	
Muslim	0	0	13	8.50	5	10	28	10.89	36	5.91	2	22.22	84	7.78	
Jain	0	0	0	0.00	0	0	0	0.00	3	0.49	0	0.00	3	0.28	
Sikh	0	0	1	0.65	0	0	1	0.39	2	0.33	0	0.00	4	0.37	
Other	0	0	2	1.31	0	0	1	0.39	5	0.82	0	0.00	8	0.74	
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	
Caste															
General	0	0	62	40.52	28	56	105	40.86	246	40.39	4	44.44	445	41.20	$\chi^2 = 27.549,$ $\chi^2_{cal} (0.121) < \chi^2_{tab} (0.14)$
OBC	0	0	16	10.46	3	6	23	8.95	80	13.14	2	22.22	124	11.48	
SC	2	100	25	16.34	8	16	61	23.74	134	22.00	2	22.22	232	21.48	
ST	0	0	10	6.54	3	6	16	6.23	47	7.72	1	11.11	77	7.13	
Other	0	0	40	26.14	8	16	52	20.23	102	16.75	0	0.00	202	18.70	
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	
Occupation															
Farming	0	0	6	3.92	3	6	14	5.45	37	6.08	1	11.11	61	5.65	$\chi^2 = 21.424,$ $\chi^2_{cal} (0.874) > \chi^2_{tab} (0.00)$
House Wife	1	50	125	81.70	39	78	218	84.82	507	83.25	8	88.89	898	83.15	
Majur	1	50	19	12.42	8	16	20	7.78	46	7.55	0	0.00	94	8.70	
Self Employed	0	0	1	0.65	0	0	2	0.78	7	1.15	0	0.00	10	0.93	
Service-Gov	0	0	1	0.65	0	0	0	0.00	4	0.66	0	0.00	5	0.46	
Service-Pvt	0	0	1	0.65	0	0	2	0.78	8	1.31	0	0.00	11	1.02	
Other	0	0	0	0.00	0	0	1	0.39	0	0.00	0	0.00	1	0.09	
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	
No. of children															
1	2	100	55	35.95	19	38	102	39.69	252	41.38	5	55.56	435	40.28	$\chi^2 = 27.42,$ $\chi^2_{cal} (0.816) > \chi^2_{tab} (0.00)$
2	0	0	57	37.25	23	46	96	37.35	230	37.77	2	22.22	408	37.78	
3	0	0	26	16.99	7	14	40	15.56	86	14.12	1	11.11	160	14.81	
4	0	0	14	9.15	0	0	16	6.23	25	4.11	1	11.11	56	5.19	
5	0	0	1	0.65	0	0	2	0.78	10	1.64	0	0.00	13	1.20	
6	0	0	0	0.00	0	0	1	0.39	3	0.49	0	0.00	4	0.37	
7	0	0	0	0.00	1	2	0	0.00	2	0.33	0	0.00	3	0.28	
8	0	0	0	0.00	0	0	0	0.00	1	0.16	0	0.00	1	0.09	
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	

Place of delivery															
Home	0	0	17	11.11	3	6	24	9.34	56	9.20	1	11.11	101	9.35	$\chi^2 = 1.478,$
Hospital	2	100	136	88.89	47	94	233	90.66	553	90.80	8	88.89	979	90.65	$\chi^2_{cal} (0 .$
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	$916) > \chi^2_{tab}$ (0.19)
Person conducting delivery															
Dai	0	0	6	35.29	0	0	4	16.67	6	10.71	0	0.00	16	15.84	$\chi^2 =$
Doctor	0	0	0	0.00	0	0	2	8.33	1	1.79	0	0.00	3	2.97	36.394,
Relative	0	0	2	11.76	2	66.67	11	45.83	35	62.50	1	100	51	50.50	$\chi^2_{cal} (0 . 66)$
Trained Dai	0	0	9	52.94	0	0.00	6	25.00	14	25.00	0	0.00	29	28.71	$> \chi^2_{tab} (0.00)$
Other	0	0	0	0.00	1	33.33	1	4.17	0	0.00	0	0.00	2	1.98	
Total	0	0	17	100	3	100	24	100	56	100	1	100	101	100	
Institution of delivery															
P.H.C.	1	50	31	22.79	9	19.15	43	18.45	80	14.47	2	25.00	166	16.96	$\chi^2 =$
Private Hospital	0	0	53	38.97	15	31.91	75	32.19	223	40.33	3	37.50	369	37.69	41.061,
R.H.C	1	50	10	7.35	9	19.15	45	19.31	66	11.93	3	37.50	134	13.69	$\chi^2_{cal} (0 .$
Sub/Dist	0	0	37	27.21	10	21.28	62	26.61	158	28.57	0	0.00	267	27.27	$086) > \chi^2_{tab}$ (0.03)
Hospital															
Other	0	0	2	1.47	2	4.26	5	2.15	6	1.08	0	0.00	15	1.53	
Total	2	100	136	100	47	100	233	100	553	100	8	100	979	100	
Type of delivery															
Normal	2	100	127	83.01	43	86	215	83.66	514	84.40	9	100	910	84.26	$\chi^2 = 2.43,$
Cesarean	0	0	26	16.99	7	14	42	16.34	95	15.60	0	0.00	170	15.74	$\chi^2_{cal} (0 .$
Total	2	100	153	100	50	100	257	100	609	100	9	100	1080	100	$787) > \chi^2_{tab}$ (0.31)

5.2 Association between breastfeeding practices and socio-economic and demographic characters

5.2.1 Practice of early initiation of breastfeeding & Socio-demographic characters

Table 5.2.1 shows that time of initiation of breastfeeding by the women found significant association with her age, age at marriage, tribal & non-tribal background, economic status (income), educational status, religion, caste, occupation, no. of previous deliveries (children), place (home/hospital) of delivery, and type of birth attendant at the time of delivery.

But, it had no significant association with her rural, urban background, type of institution (RH/PHC/SC etc) where she delivered, and her delivery status (normal or caesarean).

Table 5.2.1 Time of early initiation of Breastfeeding & different demographic parameters

	Within 30 Min		30 Min - 1Hr		1 Hr- 2 Hrs		2 hrs <		Never		Total		
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Age													
15-19	24	3.0	2	3.3	3	3.9	3	2.2	0	0.0	32	3.0	$\chi^2 = 235.392, \chi^2_{cal} (0.407) > \chi^2_{tab}(0.00)$
20-29	670	83.8	48	78.7	65	84.4	109	78.4	3	100	895	82.9	
30-39	106	13.3	11	18.0	9	11.7	26	18.7	0	0.0	152	14.1	
40 & above	0	0.0	0	0.0	0	0.0	1	0.7	0	0.0	1	0.1	
Total	800	100	61	100	77	100	139	100	3	100	1080	100	
Age at Marriage													
below 18	122	15.3	11	18	14	18.2	22	15.8	0	0	169	15.6	$\chi^2 = 195.861, \chi^2_{cal} (0.07) > \chi^2_{tab}(0.00)$
18-24	664	83	48	78.7	58	75.3	107	77	3	100	880	81.5	
25-30	13	1.63	2	3.28	3	3.9	9	6.47	0	0	27	2.5	
above 30	1	0.13	0	0	2	2.6	1	0.72	0	0	4	0.37	
Total	800	100	61	100	77	100	139	100	3	100	1080	100	
Place of residence													
Rural	509	63.6	43	70.5	42	54.5	69	49.64	2	66.66	665	61.6	$\chi^2 = 20.357, \chi^2_{cal} (0.005) < \chi^2_{tab}(1.15)$
Urban	291	36.4	18	29.5	35	45.5	70	50.36	1	33.33	415	38.4	
Total	800	100	61	100	77	100	139	100	3	100	1080	100	
Area of Residence													
Tribal	150	18.8	9	14.8	14	18.2	25	18	0	0	198	18.3	$\chi^2 = 5.798, \chi^2_{cal} (0.$
Non-Tribal	650	81.3	52	85.2	63	81.8	114	82	3	100	882	81.7	

Total	800	100	61	100	77	100	139	100	3	100	1080	100	564) χ^2_{tab} (0.55)
Income													
≤ 1000	16	2	3	4.92	0	0	4	2.88	0	0	23	2.13	
1001-3000	310	38.8	23	37.7	37	48.1	38	27.3	0	0	408	37.8	
3001-5000	298	37.3	26	42.6	27	35.1	51	36.7	1	33.3	403	37.3	$\chi^2 =$
5001-7000	133	16.6	5	8.2	9	11.7	34	24.5	1	33.3	182	16.9	37.022, χ^2_{cal}
≥ 7000	43	5.38	4	6.56	4	5.19	12	8.63	1	33.3	64	5.93	(0.118) χ^2_{tab}
Total	800	100	61	100	77	100	139	100	3	100	1080	100	(0.06)
Education													
Illiterate	106	13.3	11	18	9	11.7	12	8.63	0	0	138	12.8	
Primary	90	11.3	8	13.1	7	9.09	9	6.47	0	0	114	10.6	
Secondary	427	53.4	28	45.9	41	53.2	75	54	0	0	571	52.9	$\chi^2 =$
Higher Secondary	151	18.9	12	19.7	13	16.9	31	22.3	2	66.7	209	19.4	49.550, χ^2_{cal}
Graduate/P.G.	22	2.75	2	3.28	7	9.09	12	8.63	1	33.3	44	4.07	(0.053) χ^2_{tab}
Other	4	0.5	0	0	0	0	0	0	0	0	4	0.37	(0.01)
Total	800	100	61	100	77	100	139	100	3	100	1080	100	
Religion													
Hindu	609	76.1	46	75.4	58	75.3	113	81.3	3	100	829	76.8	
Muslim	62	7.75	3	4.92	10	13	9	6.47	0	0	84	7.78	$\chi^2 =$
Sikh	2	0.25	0	0	1	1.3	1	0.72	0	0	4	0.37	33.857, χ^2_{cal}
Christian	1	0.13	1	1.64	0	0	0	0	0	0	2	0.19	(0.81) χ^2_{tab}
													(0.01)

Jain	3	0.38	0	0	0	0	0	0	0	0	3	0.28
Buddhist	115	14.4	11	18	8	10.4	16	11.5	0	0	150	13.9
Others	8	1	0	0	0	0	0	0	0	0	8	0.74
Total	800	100	61	100	77	100	139	100	3	100	1080	100
Caste												
Open/General	325	40.6	28	45.9	28	36.4	62	44.6	2	66.7	445	41.2
Scheduled Castes	180	22.5	10	16.4	14	18.2	28	20.1	0	0	232	21.5
Scheduled Tribes	60	7.5	0	0	9	11.7	8	5.76	0	0	77	7.13
Other Backward	78	9.75	9	14.8	15	19.5	22	15.8	0	0	124	11.5
Classes												
Others	157	19.6	14	23	11	14.3	19	13.7	1	33.3	202	18.7
Total	800	100	61	100	77	100	139	100	3	100	1080	100
Occupation												
Farming	49	6.13	3	4.92	4	5.19	5	3.6	0	0	61	5.65
House Wife	662	82.8	46	75.4	64	83.1	123	88.5	3	100	898	83.1
Majur	75	9.38	11	18	4	5.19	4	2.88	0	0	94	8.7
Self Employed	8	1	0	0	0	0	2	1.44	0	0	10	0.93
Service(Govt)	1	0.13	1	1.64	0	0	3	2.16	0	0	5	0.46
Service(Pvt)	4	0.5	0	0	5	6.49	2	1.44	0	0	11	1.02
Other	1	0.13	0	0	0	0	0	0	0	0	1	0.09
Total	800	100	61	100	77	100	139	100	3	100	1080	100

$\chi^2 = 29.528, \chi^2_{cal} (0.386) > \chi^2_{tab} (0.21)$

$\chi^2 = 78.708, \chi^2_{cal} (0.001) > \chi^2_{tab} (0.00)$

No. of children

1	308	38.5	24	39.3	32	41.6	68	48.9	3	100	435	40.3	$\chi^2 = 48.600, \chi^2_{\text{cal}} (0.489) > \chi^2_{\text{tab}} (0.00)$
2	307	38.4	20	32.8	37	48.1	44	31.7	0	0	408	37.8	
3	126	15.8	12	19.7	4	5.19	18	12.9	0	0	160	14.8	
≥4	59	7.38	5	8.2	4	5.19	9	6.47	0	0	77	7.13	
Total	800	100	61	100	77	100	139	100	3	100	1080	100	
Place of delivery													
Home	79	9.88	6	9.84	7	9.09	9	6.47	0	0	101	9.35	$\chi^2 = 3.885, \chi^2_{\text{cal}} (0.793) > \chi^2_{\text{tab}} (0.28)$
Institution	721	90.1	55	90.2	70	90.9	130	93.5	3	100	979	90.6	
Total	800	100	61	100	77	100	139	100	3	100	1080	100	
Person conducting delivery at home													
Dai	14	17.7	0	0	1	14.3	1	11.1	0	0	16	1.48	$\chi^2 = 15.568, \chi^2_{\text{cal}} (0.998) > \chi^2_{\text{tab}} (0.01)$
Doctor	2	2.53	1	16.7	0	0	0	0	0	0	3	0.28	
Relative	37	46.8	4	66.7	3	42.9	7	77.8	0	0	51	4.72	
Trained Dai	24	30.4	1	16.7	3	42.9	1	11.1	0	0	29	2.69	
Other	2	2.53	0	0	0	0	0	0	0	0	2	0.19	
Total	79	17.7	6	100	7	100	9	100	0	0	101	18.3	
Institution of delivery													
P.H.C.	149	20.7	3	5.45	8	11.4	6	4.62	0	0	166	17	$\chi^2 = 84.178, \chi^2_{\text{cal}} (0.000) < \chi^2_{\text{tab}} (0.04)$
Private Hospital	237	32.9	25	45.5	32	45.7	72	55.4	3	100	369	37.7	
R.H.C	113	15.7	9	16.4	4	5.71	8	6.15	0	0	134	13.7	
Sub/Dist Hospital	188	26.1	12	21.8	24	34.3	43	33.1	0	0	267	27.3	
Sub Center	23	3.19	4	7.27	0	0	1	0.77	0	0	28	2.86	

Other	11	1.53	2	3.64	2	2.86	0	0	0	0	15	1.53	$\chi^2 = 352.771, \chi^2_{cal} (0.000) < \chi^2_{tab} (0.047)$
Total	721	100	55	100	70	100	130	100	3	100	979	100	
Type of Delivery													
Normal	769	96.1	40	65.6	41	53.2	58	41.7	2	66.7	910	84.3	
Caesarean	31	3.88	21	34.4	36	46.8	81	58.3	1	33.3	170	15.7	
Total	800	100	61	100	77	100	139	100	3	100	1080	100	

5.2.2 Practice of Colostrum feeding & Socio-demographic characters

It was found that the practice of Colostrums' feeding by the mother had a significant association with her age, educational status, religion, occupation, no. of previous children and person conducting home delivery.

But, it had no significant association with her rural/urban background, tribal & non-tribal background, economic status (income), caste, place (home/hospital) of delivery, institute of delivery and her type of delivery (normal or caesarean).

Table-5.2.2- Practice of Colostrum feeding & Socio-demographic characters

	Yes	%	No	%	Total	%	
Age							
15-19	31	2.99	1	2.33	32	2.96	$\chi^2 =$
20-29	860	82.93	35	81.40	895	82.87	42.788,
30-39	145	13.98	7	16.28	152	14.07	χ^2_{cal}
40-49	1	0.10	0	0.00	1	0.09	(0.118)
Total	1037	100	43	100	1080	100	$> \chi^2_{tab}$ (0.04)
Place							
Urban	393	37.90	22	51.16	415	38.43	$\chi^2 =$
Rural	644	62.10	21	48.84	665	61.57	3.071,
Total	1037	100	43	100	1080	100	χ^2_{cal} (0.08) < χ^2_{tab} (16.52)
Area							
Non Tribal	841	81.10	41	95.35	882	81.67	$\chi^2 =$
Tribal	196	18.90	2	4.65	198	18.33	5.599,
Total	1037	100	43	100	1080	100	χ^2_{cal} (0.018) < χ^2_{tab} (7.88)
Income							
≤1000	22	2.12	1	2.33	23	2.13	$\chi^2 =$
1001-3000	398	38.38	10	23.26	408	37.78	6.782,
3001-5000	382	36.84	21	48.84	403	37.31	χ^2_{cal}
5001-7000	176	16.97	6	13.95	182	16.85	(0.148)
≥7001	59	5.69	5	11.63	64	5.93	$< \chi^2_{tab}$
Total	1037	100	43	100	1080	100	(0.92)
Education							
Non Educated	134	12.92	4	9.30	138	12.78	$\chi^2 =$
Primary	112	10.80	2	4.65	114	10.56	4.869,
Secondary	549	52.94	22	51.16	571	52.87	χ^2_{cal}
Higher	196	18.90	13	30.23	209	19.35	(0.432)
Secondary							$> \chi^2_{tab}$
Graduate/P.	42	4.05	2	4.65	44	4.07	(0.16)
Graduate							

Other	4	0.39	0	0.00	4	0.37	
Total	1037	100	43	100	1080	100	
Religion							
Hindu	797	76.86	32	74.42	829	76.76	
Bauddha	144	13.89	6	13.95	150	13.89	$\chi^2 =$
Muslim	79	7.62	5	11.63	84	7.78	1.591,
Christian	2	0.19	0	0.00	2	0.19	χ^2_{cal}
Jain	3	0.29	0	0.00	3	0.28	(0.953)
Sikh	4	0.39	0	0.00	4	0.37	$> \chi^2_{tab}$
Other	8	0.77	0	0.00	8	0.74	(0.08)
Total	1037	100	43	100	1080	100	
Caste							
General	421	40.60	24	55.81	445	41.20	$\chi^2 =$
OBC	117	11.28	7	16.28	124	11.48	9.71,
SC	223	21.50	9	20.93	232	21.48	χ^2_{cal}
ST	77	7.43	0	0.00	77	7.13	(0.046)
Other	199	19.19	3	6.98	202	18.70	$< \chi^2_{tab}$
Total	1037	100	43	100	1080	100	(3.07)
Occupation							
Farming	59	5.69	2	4.65	61	5.65	
House Wife	859	82.84	39	90.70	898	83.15	$\chi^2 =$
Majur	92	8.87	2	4.65	94	8.70	2.35,
Self Employed	10	0.96	0	0.00	10	0.93	χ^2_{cal}
Service (Govt)	5	0.48	0	0.00	5	0.46	(0.885)
Service (Pvt)	11	1.06	0	0.00	11	1.02	$> \chi^2_{tab}$
Other	1	0.10	0	0.00	1	0.09	(0.04)
Total	1037	100	43	100	1080	100	
No. of children							
1	418	40.31	17	39.53	435	40.28	
2	391	37.70	17	39.53	408	37.78	$\chi^2 =$
3	155	14.95	5	11.63	160	14.81	2.685,
4	52	5.01	4	9.30	56	5.19	χ^2_{cal}
5	13	1.25	0	0.00	13	1.20	(0.913)
6	4	0.39	0	0.00	4	0.37	$> \chi^2_{tab}$
7	3	0.29	0	0.00	3	0.28	(0.04)
8	1	0.10	0	0.00	1	0.09	
Total	1037	100	43	100	1080	100	
Place of delivery							
Home	95	9.16	6	13.95	101	13.95	$\chi^2 =$
Hospital	942	90.84	37	86.05	979	86.05	1.119,
Total	1037	100	43	100	1080	100	χ^2_{cal}
							(0.29) $<$
							χ^2_{tab}
							(4.02)
Person conducting delivery							
Dai	15	15.79	1	16.67	16	15.84	$\chi^2 =$
Doctor	3	3.16	0	0.00	3	2.97	2.538,
Relative	47	49.47	4	66.67	51	50.50	χ^2_{cal}
Trained Dai	28	29.47	1	16.67	29	28.71	(0.771)
Other	2	2.11	0	0.00	2	1.98	$> \chi^2_{tab}$

Total	95	100	6	100	101	100	(0.08)
Institution of delivery							
P.H.C.	165	17.52	1	2.70	166	16.96	$\chi^2 =$
Private Hospital	347	36.84	22	59.46	369	37.69	11.496,
R.H.C	131	13.91	3	8.11	134	13.69	χ^2_{cal}
Sub/Dist Hospital	257	27.28	10	27.03	267	27.27	(0.074)
Sub Center	27	2.87	1	2.70	28	2.86	$< \chi^2_{tab}$
other	15	1.59	0	0.00	15	1.53	(0.60)
Total	942	100	37	100	979	100	
Type of delivery							
Normal	891	85.92	19	44.19	910	84.26	$\chi^2 =$
cesarean	146	14.08	24	55.81	170	15.74	54.22,
Total	1037	100	43	100	1080	100	χ^2_{cal}
							(0.00)<
							χ^2_{tab}
							(6.77)

5.2.3 Practice on Prelactal feeding & socio-economic, demographic characters

It is found that the practice of Prelactal feeding by the mother has a significant association with her religion and occupation.

But, it has no significant association with her age, status, rural/urban background, tribal & non-tribal background, educational status, economic status (income), caste, no. of previous children, place (home/hospital) of delivery, person conducting home delivery, institute of delivery and her type of delivery (normal or cesarean).

Table-5.2.3- Practice on Prelactal feeding & socio-economic, demographic characters

	Yes	%	No	%	Total	%	
Age							
15-19	4	3.23	28	2.93	32	2.96	$\chi^2 =$
20-29	95	76.61	800	83.68	895	82.87	55.93,
30-39	25	20.16	127	13.28	152	14.07	χ^2_{cal}
40-49	0	0.00	1	0.10	1	0.09	(0.008)<
Total	124	100	956	100	1080	100	χ^2_{tab}
							(0.11)
Place							
Urban	57	45.97	358	37.45	415	38.43	$\chi^2 =$
Rural	67	54.03	598	62.55	665	61.57	3.368,
Total	124	100	956	100	1080	100	χ^2_{cal}
							(0.066)
							$< \chi^2_{tab}$
							(47.65)
Area							
Non Tribal	101	81.45	781	81.69	882	81.67	$\chi^2 =$

Tribal	23	18.55	175	18.31	198	18.33	0.004,
Total	124	100	956	100	1080	100	χ^2_{cal} (0.948) $< \chi^2_{\text{tab}}$ (22.73)
Income							
≤1000	2	1.61	21	2.20	23	2.13	$\chi^2 =$
1001-3000	32	25.81	376	39.33	408	37.78	18.044,
3001-5000	46	37.10	357	37.34	403	37.31	χ^2_{cal}
5001-7000	29	23.39	153	16.00	182	16.85	(0.001)
≥7001	15	12.10	49	5.13	64	5.93	$< \chi^2_{\text{tab}}$
Total	124	100	956	100	1080	100	(22.64)
Education							
Non Educated	14	11.29	124	12.97	138	12.78	$\chi^2 =$ 9.675, χ^2_{cal} (0.085) $< \chi^2_{\text{tab}}$ (0.46)
Primary	14	11.29	100	10.46	114	10.56	
Secondary	59	47.58	512	53.56	571	52.87	
Higher	26	20.97	183	19.14	209	19.35	
Secondary							
Graduate/P.	11	8.87	33	3.45	44	4.07	
Graduate							
Other	0	0.00	4	0.42	4	0.37	
Total	124	100	956	100	1080	100	
Religion							
Hindu	100	80.65	729	76.26	829	76.76	$\chi^2 =$ 4.68, χ^2_{cal} (0.585) $> \chi^2_{\text{tab}}$ (0.23)
Bauddha	12	9.68	138	14.44	150	13.89	
Muslim	11	8.87	73	7.64	84	7.78	
Christen	0	0.00	2	0.21	2	0.19	
Jain	0	0.00	3	0.31	3	0.28	
Sikh	1	0.81	3	0.31	4	0.37	
Other	0	0.00	8	0.84	8	0.74	
Total	124	100	956	100	1080	100	
Caste							
General	61	49.19	384	40.17	445	41.20	$\chi^2 =$
OBC	12	9.68	112	11.72	124	11.48	8.663,
SC	17	13.71	215	22.49	232	21.48	χ^2_{cal}
ST	6	4.84	71	7.43	77	7.13	(0.07) <
Other	28	22.58	174	18.20	202	18.70	χ^2_{tab}
Total	124	100	956	100	1080	100	(8.84)
Occupation							
Farming	6	4.84	55	5.75	61	5.65	$\chi^2 =$ 4.753, χ^2_{cal} (0.576) $> \chi^2_{\text{tab}}$ (0.11)
House Wife	105	84.68	793	82.95	898	83.15	
Majur	9	7.26	85	8.89	94	8.70	
Self Employed	1	0.81	9	0.94	10	0.93	
Service(Govt)	2	1.61	3	0.31	5	0.46	
Service(Pvt)	1	0.81	10	1.05	11	1.02	
Other	0	0.00	1	0.10	1	0.09	
Total	124	100	956	100	1080	100	
No. of children							
1	66	53.23	369	38.60	435	40.28	$\chi^2 =$
2	35	28.23	373	39.02	408	37.78	12.674,

3	14	11.29	146	15.27	160	14.81	χ^2_{cal}
4	6	4.84	50	5.23	56	5.19	(0.08) <
5	2	1.61	11	1.15	13	1.20	χ^2_{tab}
6	0	0.00	4	0.42	4	0.37	(0.11)
7	1	0.81	2	0.21	3	0.28	
8	0	0.00	1	0.10	1	0.09	
Total	124	100	956	100	1080	100	
Place of delivery							
Home	9	7.26	92	9.62	101	9.35	$\chi^2 =$
Hospital	115	92.74	864	90.38	979	90.65	0.724,
Total	124	100	956	100	1080	100	χ^2_{cal}
							(0.395)
							< χ^2_{tab}
							11.6)
Person conducting delivery							
Dai	2	22.22	14	15.22	16	15.84	$\chi^2 =$
Doctor	0	0.00	3	3.26	3	2.97	12.92,
Relative	3	33.33	48	52.17	51	50.50	χ^2_{cal}
Trained Dai	4	44.44	25	27.17	29	28.71	(0.044)
Other	0	0.00	2	2.17	2	1.98	< χ^2_{tab}
Total	9	100	92	100	101	100	1.72)
Institution of delivery							
P.H.C.	11	9.57	155	17.94	166	16.96	$\chi^2 =$
Private Hospital	59	51.30	310	35.88	369	37.69	12.92,
R.H.C	13	11.30	121	14.00	134	13.69	χ^2_{cal}
Sub/Dist Hospital	28	24.35	239	27.66	267	27.27	(0.044)
Sub Center	3	2.61	25	2.89	28	2.86	< χ^2_{tab}
Other	1	0.87	14	1.62	15	1.53	(1.72)
Total	115	100	864	100	979	100	
Type of delivery							
Normal	66	53.23	844	88.28	910	84.26	$\chi^2 =$
cesarean	58	46.77	112	11.72	170	15.74	101.72,
Total	124	100	956	100	1080	100	χ^2_{cal}
							(0.00) <
							χ^2_{tab}
							(19.52)

5.2.4 Practice of Supplementary feeding & socio-demographic characters

It was found that the practice of supplementary feeding had significant association with her age, education, occupation, number of previous children and person conducting delivery at home.

But, it had no significant association with her rural/urban background, tribal & non-tribal background, economic status (income), religion, caste, place (home/hospital) of delivery, institute of delivery and her type of delivery (normal or caesarean).

Table 5.2.4 Practice of Supplementary feeding & socio-demographic characters

	Yes	%	No	%	Total	%	
Age							
15-19	21	2.55	0	0	21	2.51	$\chi^2 =$
20-29	677	82.16	12	85.71	689	82.22	49.936,
30-39	125	15.17	2	14.29	127	15.16	χ^2_{cal}
40-49	1	0.12	0	0.00	1	0.12	(0.929)
Total	824	100	14	100	838	100	$> \chi^2_{tab}$ (0.01)
Place							
Urban	340	41.26	6	42.86	346	41.29	$\chi^2 =$
Rural	484	58.74	8	57.14	492	58.71	12.97,
Total	824	100	14	100	838	100	χ^2_{cal} (0.002) $< \chi^2_{tab}$ (5.38)
Area							
Non Tribal	679	82.40	12	85.71	691	82.46	$\chi^2 =$
Tribal	145	17.60	2	14.29	147	17.54	1.66,
Total	824	100	14	100	838	100	χ^2_{cal} (0.435) $< \chi^2_{tab}$ (2.57)
Income							
≤1000	18	2.18	1	7.14	19	2.27	$\chi^2 =$
1001-3000	305	37.01	2	14.29	307	36.63	13.2,
3001-5000	306	37.14	5	35.71	311	37.11	χ^2_{cal}
5001-7000	145	17.60	3	21.43	148	17.66	(0.105)
≥7001	50	6.07	3	21.43	53	6.32	$< \chi^2_{tab}$
Total	824	100	14	100	838	100	(0.30)
Education							
Non Educated	104	12.62	0	0.00	104	12.41	$\chi^2 =$ 14.826, χ^2_{cal} (0.139) $> \chi^2_{tab}$ (0.05)
Primary	85	10.32	1	7.14	86	10.26	
Secondary	424	51.46	8	57.14	432	51.55	
Higher	174	21.12	3	21.43	177	21.12	
Secondary							
Graduate/P.	33	4.00	2	14.29	35	4.18	
Graduate							
Other	4	0.49	0	0.00	4	0.48	
Total	824	100	14	100	838	100	
Religion							
Hindu	641	77.79	9	64.29	650	77.57	$\chi^2 =$ 24.089, χ^2_{cal} (0.02) $< \chi^2_{tab}$ (0.03)
Bauddha	111	13.47	2	14.29	113	13.48	
Muslim	59	7.16	2	14.29	61	7.28	
Christian	2	0.24	0	0.00	2	0.24	
Jain	3	0.36	0	0.00	3	0.36	
Sikh	3	0.36	1	7.14	4	0.48	
Other	5	0.61	0	0.00	5	0.60	
Total	824	100	14	100	838	100	

Caste							
General	354	42.96	8	57.14	362	43.20	$\chi^2 =$
OBC	89	10.80	3	21.43	92	10.98	12.215,
SC	178	21.60	1	7.14	179	21.36	χ^2_{cal}
ST	59	7.16	0	0.00	59	7.04	(0.142)
Other	144	17.48	2	14.29	146	17.42	$< \chi^2_{tab}$
Total	824	100	14	100	838	100	(1.00)
Occupation							
Farming	46	5.58	1	7.14	47	5.61	
HouseWife	686	83.25	10	71.43	696	83.05	$\chi^2 =$
Majur	70	8.50	2	14.29	72	8.59	7.53,
Self Employed	8	0.97	0	0.00	8	0.95	χ^2_{cal}
Service(Govt)	4	0.49	0	0.00	4	0.48	(0.821
Service(Pvt)	9	1.09	1	7.14	10	1.19	$> \chi^2_{tab}$
Other	1	0.12	0	0.00	1	0.12	(0.01)
Total	824	100	14	100	838	100	
No. of children							
1	347	42.11	10	71.43	357	42.60	
2	308	37.38	3	21.43	311	37.11	$\chi^2 =$
3	113	13.71	0	0.00	113	13.48	20.209,
4	38	4.61	1	7.14	39	4.65	χ^2_{cal}
5	12	1.46	0	0.00	12	1.43	(0.124
6	3	0.36	0	0.00	3	0.36	$> \chi^2_{tab}$
7	2	0.24	0	0.00	2	0.24	(0.01)
8	1	0.12	0	0.00	1	0.12	
Total	824	100	14	100	838	100	
Place of delivery							
Home	70	8.50	0	0.00	70	8.35	$\chi^2 =$
Hospital	754	91.50	14	100	768	91.65	5.57,
Total	824	100	14	100	838	100	χ^2_{cal}
							(0.062)
							$< \chi^2_{tab}$
							(1.31)
Person conducting delivery							
Dai	12	17.14	0	0.00	12	17.14	$\chi^2 =$
Doctor	1	1.43	0	0.00	1	1.43	8.718,
Relative	35	50.00	0	0.00	35	50.00	χ^2_{cal}
Trained Dai	21	30.00	0	0.00	21	30.00	(0.559)
Other	1	1.43	0	0.00	1	1.43	$> \chi^2_{tab}$
Total	70	100	0	0.00	70	100	(0.03)
Institution of delivery							
P.H.C.	123	16.31	2	14.29	125	16.28	
Private Hospital	293	38.86	9	64.29	302	39.32	$\chi^2 =$
R.H.C	107	14.19	2	14.29	109	14.19	23.174,
Sub/Dist.	196	25.99	1	7.14	197	25.65	χ^2_{cal}
Hospital							(0.026)
Sub Center	20	2.65	0	0.00	20	2.60	$< \chi^2_{tab}$
other	15	1.99	0	0.00	15	1.95	(0.19)
Total	754	100	14	100	768	100	
Type of delivery							

Normal	695	84.34	13	92.86	708	84.49	$\chi^2 =$
Cesarean	129	15.66	1	7.14	130	15.51	0.898,
Total	824	100	14	100	838	100	χ^2_{cal}
							(0.638)
							$< \chi^2_{\text{tab}}$
							(2.2)

Chapter 6

ROLE OF HEALTH CARE PROVIDERS, COMMUNITY & PROFESSIONAL BODIES IN PROMOTING BREASTFEEDING PRACTICES

6.1 Role of Health Care Providers

One-to-one interviews were conducted through a structured Schedule to Assess the Knowledge and Practices of nursing staff involved in Maternity & Paediatric Care in hospitals / health Centres of the target area in promotion of early initiation of breastfeeding among mothers. The educational qualification of the nursing staff enrolled in the study was ANM and GNM. Some nursing staff were having diploma in nursing. The experience of the staff was from minimum 2 years to maximum 32 years in either maternity or paediatrics at Primary health center, rural hospital, civil hospital as well as tertiary care teaching hospital. Around 50 % nursing staff revealed that their hospital/health facility was recognized as Baby Friendly Hospital, however 37.5 % said that their hospital was not recognized as a baby friendly hospital. As many as 12.5 % respondents said that they were not aware about the concept of baby friendly hospital initiative.

Breastfeeding guidelines and best practices for breast feeding adopted in the hospital/health center

When asked about any set best practices/guidelines to follow for breast feeding at their hospital, 62.5 % respondents revealed that, they had the set practices to be followed at their health facility for the breast feeding, however 25 % respondents told that there were no written guidelines for the breastfeeding in their hospital but they were following the guidelines orally. 12.5 % respondents said that, there were no such set guidelines at their hospital for the breast feeding. Out of those who said that they had the set guidelines for breast feeding, advice to mother on exclusive breast feeding for 6 months was more commonly followed practice by the hospitals followed by early initiation of the breast feeding. However, no hospital in present study had the practice to advice the mother for water supplement, formula feed, supplementary feed (animal milk) under special circumstances like mother died, mother serious/baby serious in NICU where breast milk cannot be taken etc.)

During present study an attempt was made to find out the practices during labour and immediately after birth that were followed in the hospitals/health care facility in order to help mother and baby to start breastfeeding well. It was revealed that, the most followed practice was placing the baby in skin to skin contact with the mother immediately following birth. Breast crawl and counselling and facilitating mother for first feed were also among the most commonly followed practices in the hospitals. Very few hospitals were also trying to create the awareness about the importance of colostrum and breast feeding within 1 hour of delivery as well as making the mother comfortable during labour pain. It was also reported in present study that, some PHC's were not conducting the delivery; they use to refer the patient to the other health facility. All nursing staff was of the opinion that, their hospital follows the policy stringently.

Most common way of promoting all good breast feeding practices to mother was verbal communication between the doctor/nursing staff followed by health education and pamphlets. Few health facilities used to demonstrate the practices to the mothers as well as distribute the flip charts. Some PHC's used to communicate these practices through ASHA's.

Only 50 % hospitals had organized training program for the nurses on the breast feeding practices during last three years.

Assessment of knowledge, practice and support provided for healthy breast feeding in the hospitals/health centers.

The knowledge about time of initiation of breast feeding after delivery was assessed and according to 75 % respondents, breast feeding should be initiated within 30 minutes of the delivery and only 25 % respondents revealed that first 60 minutes was the right time to initiate the breast feeding. All the respondents took special efforts for early initiation of breast feeding after delivery in their health facility. These efforts or proactive steps included, helping the mother to position the baby correctly for breastfeeding (100 %), help to have a skin to skin contact (75 %) and facilitate the mother to hand express (50 %) if required. One health facility, which was tertiary level teaching hospital, had established the Human Milk Bank facility which was a proactive step by the teaching hospital. However, two health facilities revealed that,

sometimes patients did not listen to their advice which was one reason for not encouraging mothers for early initiation of breastfeeding.

All the respondents revealed that, they advocate colostrum feeding to babies. When asked about the reasons for promoting the practice for giving colostrum to baby, most of the respondents reflected that, colostrum improves the immunity of the baby. According to some respondents, colostrum also facilitates the early contact of mother with the baby, helps preventing jaundice as well as promotes the production of mature milk. According to some respondents it was also easy to digest, so perfect food for baby, helps for placenta removal as well as stops bleeding of the mother after delivery. According to one respondent, superstitions act as a barrier in promotion of the colostrum to the baby.

An attempt was made to identify the knowledge level of staff nurse regarding benefits of early breastfeeding for baby as well as mother. According to most of the respondents, early breast feeding helps to develop the immunity in the child and prevents the child from getting any infection. According to few respondents, early breastfeeding also helps in the bonding between mother and child, helps to removal of placenta; it provides all vitamins to the baby, helps to develop a sucking reflex to the baby, and help in passing first stool.

According to the respondents, early initiation of breastfeeding also helps the mother and the more important benefits the mother in bonding between herself and child, repositioning of uterus and prevents PPH after delivery. According to some respondents it also helps for removal of placenta after delivery.

All respondents felt that the exclusive breast feeding should be continued up to six months age. Most of the respondent's felt that, exclusive breastfeeding was important because it increases the immunity of the child which helps to prevent the infection. Other reasons for exclusive breastfeeding includes, breast milk helps for the development of the child, provides complete nutrition, prevents jaundice helps for bonding between child and mother etc. Exclusive breastfeeding also gives benefits to the mother. Most of the respondents felt that, exclusive breastfeeding helps for

repositioning the uterus and it also acts as a contraceptive. It also helps for the bonding as well as available all time which saves money.

Respondents were asked to suggest two best ways to assist a mother who had a caesarean, which will help initiation of breastfeeding. Most of the respondents revealed that, helping the mother for the first breastfeed by providing physical assistance was the best way to initiate the breastfeeding early. However, some respondents felt that, keeping the baby on chest, giving the demo of breastfeeding as well as counselling of the relatives would help to initiate the breastfeeding within time. Other ways suggested by the respondents were, expressed feeding, breast crawl, kangaroo & football technique as well as skin to skin contact.

The correct position of baby while breastfeeding according to the respondents is complete Insertion of nipple in mouth of baby, holding the baby parallel to breast and giving support with hands to the baby.

The risk of breast milk substitute was one of the important aspects of breastfeeding practices. The respondents were asked to give two difficulties or risks that can result from the use of breast milk substitute in order to assess their knowledge. Most of the respondents revealed that, with breast milk substitute , there were more chances of baby getting infection. Few respondents felt that the breast milk substitutes were not hygienic, Difficult to digest, Lowers the immunity, they become barrier for bonding as well as develop sucking reflex as well as reduces weight.

There are situations when mother need to express the milk and feed the child. The knowledge of the respondents was assessed for recommending the mother to learn hand express. Most of the respondents revealed that, they recommend the mother to learn hand express when the mother was working women or the baby was unable to suck. The other situations were, cracked nipples, flat nipples, big size nipples, if mother had undergone a major surgery/caesarean etc. In case the baby was low birth weight, they also recommend the mother to learn hand express.

Cup feeding was preferred over other means of feeding because most of the respondents felt that it was more hygienic. Few respondents also felt that cup feeding

prevents the air going into the mouth of the child. Other respondents said that, it was easy to clean, easy to drink, clean, costless and easily available.

The nurses should also have knowledge about the need of breast examination. The difficulties which suggest the need of breast examination which were revealed by most of the respondents are Cracks in nipples and flat nipples. Other reasons reflecting the need of breast examination were knots, puss, retracted nipple and pain in breast etc.

Lactating mothers if need some help regarding breastfeeding, ASHA and ANM are the most important source in the community according to the respondents. Some also feels that AWW will also provide information about breast feeding to the lactating women in the community. Very few respondents revealed that, LHV and some private organization will also be able to act as a source of information for lactating women.

85 % respondents told that, they won't advice the lactating women to stop the breastfeeding even if they are on medication. However, only 15 % told that, they will suggest the mother to stop the breastfeeding if they are on medication.

For the mothers who tested HIV positive, ICTC will help in counseling of infant feeding according to 85 % respondents; however 15 % feels that ANM and hospitals will counsel the HIV positive mothers regarding the infant feeding.

50 % respondents revealed that, they will counsel the mothers to continue the breastfeeding even if they are HIV positive. However, 25 % respondents told that they will counsel the mothers to stop breastfeeding if she is HIV positive. 12.5 % revealed that, they will counsel the mothers to make use of the human milk bank facility.

The antenatal practice that is helpful to the breastfeeding as per the maximum respondents is the diet of mother. Other practices which will help to the breastfeeding during antenatal period are counseling, demonstration on right breastfeeding, breast examination, regular ANC checkup, health education, avoid addiction, breast care,

massage of breast and nipple care. The antenatal practices those are harmful to the breast feeding according to respondents are diseased mother, addictions to mother, long working hours, mother not taking adequate diet, mothers with low weight, mother not taking calcium tablets and low weight of the mother.

According to all the respondents antenatal breast examination is important in order to rule out cracks in nipples, knots in breast, flat nipple as well as to avoid feeding problem.

The practices which will help the mother to initiate the breastfeeding according to most of the respondents are early mother-baby contact, facilitating the first feed and counseling on benefits of early initiation to women before labor. According to few respondents emotional support during labor will also help the women to initiate the breastfeeding soon after the delivery of birth. The most common practices which will hinder the early mother and baby contact according to most of the respondents are pain medication that sedate mother or baby and separating mother and baby after delivery. Few respondents also feels that, if mother is unable to handle the baby independently and if foods and fluids are withheld during early labor may also hinder the early mother and baby contact. Lack of support to mother, PPH, HIV positive mother, low birth weight, sick mother, addictions, unconscious mother are also few reasons which affects early mother and baby contact.

For working lactating mothers, most of the respondents would suggest the expressed milk & refrigerated milk to the child for providing maximum advantage of breastfeeding. Few respondents also feel that expressed milk can also be kept in the water and then given to the child.

The respondents were asked about the duration at which the breast milk can be kept at room temperature or in refrigerator. Very few respondents told that, the breast milk can be kept in refrigerator up to the period of 8 hrs. Most of the respondents told that, the breast milk can also be kept at atmospheric temperature but the time duration was different for each respondent. 50 % respondents told that breast milk can be kept at room temp. for maximum two hours, however other respondents told that, it can be kept at room temperature for up to 6hrs, 12 hrs, 24 hrs and 30 hrs.

In case of the special advice by the respondents to the mother who had a premature baby, most of the respondents told that, they will advise to feed the expressed milk to the baby. Very few told that they will advise to keep baby in contact to the mother (Skin-Skin) to develop sucking reflex.

The mother who has twins or triplets, the advice from most of the respondents will be alternate feeding, however some respondents also suggest to use football technique or express feeding.

As many as 75 % of mothers opined that breastfeeding should be continued for a period of 12 months, and about 12.5 % opined that it should be continued for 24 months.

37.5 % respondents feel that there are some contraindications of the breastfeeding, which are severe birth asphyxia, convulsion, TB to mother or mother with cancer.

No respondents reflected that, they will advocate any food restriction to the lactating mother. 100 % respondents revealed that, lactating mother should be given all type of food without any restriction.

Cleaning of the breast before each feed is the most common advice the respondents will give to the lactating mothers regarding care of breast. Other advice by the respondents to the lactating mothers for breast care includes, Nipple care, Breast Exam, Clean after each feed, Check for knots, Massage of breast, Express some milk before each feed etc.

All the respondents were aware about the correct position of the baby while breast feeding. Most of them revealed that, seating position and strait baby on the arm is the correct position. Unexpectedly, two respondents told that, sleeping position is the correct position of breast feeding. All the respondents were aware about the importance of burping.

Only 50 % respondents were aware about the baby friendly hospital initiative, according to them essential components of baby friendly hospitals are early initiation of breastfeeding, exclusive and correct position of the baby while breast feeding.

Only 37.5 % respondents have undergone the training on breastfeeding practices out of which one training was conducted by Nestle and two training were conducted by District Training Centers of the respective districts. 75 % respondents feel that, there is a need for special training for nurses in ideal breastfeeding practices.

6.2 Role of ANMs & Community members

The Focus group discussions (FGD) were conducted in order to assess the knowledge, attitude and cultural practices among community health workers regarding breast feeding. There were three groups for the focus group discussion, Group-1 consisting of ASHA, AWW and TBA, Group-2 consisting ANM at SC level and Group-3 consisting of Mothers and Mother in laws.

Participants from all three groups were well aware about the concept of early breastfeeding. Most of them feels that, breast feeding within 30 minutes of birth is the early initiation of breastfeeding, however, few respondents also feels that if the breast feeding is started within 1 hour of birth, that is also early initiation of breastfeeding. Some respondents feel that, feeding the colostrum to the baby is the actual concept of early initiation of breastfeeding. Hence it is revealed that, ASHA's and ANM have good knowledge of concept of early breastfeeding.

According to the participants, importance of early breastfeeding is the bonding between mother and child, helps for placenta removal, it act as a first immunization, it gives relief from labor pain, helps in passing stool of baby, helps in production of milk, gives warmth to the baby, prevents knot development in the breast, develop sucking reflex, helps in repositioning of uterus as well as prevents dysentery. ANM and ASHAs also are having good knowledge about the importance of early breast feeding.

Participants from all three groups were aware about the concept of exclusive breastfeeding, according to them exclusive breastfeeding means giving only breast

milk to the baby for first six months. The benefits of breastfeeding according to the ASHA's and ANM's are, it act as a contraceptive, contains all vitamins, also contains water, increases immunity, prevents child from getting infection, secrets milk producing harmones, available all time, no price, breast milk has proper temperature, etc.

ANM's have more idea about the disadvantages of formula feeding than ASHA's. According to ANM's, the formula feed is difficult to digest, results into hard stool, chances of infection, affects the bonding of mother and child, expensive, time consuming, not enough to child etc. But ASHA's only know that, the formula feed increases the chances of infection and various diseases as well as affects the growth and result in to under nutrition. The mothers and mother in laws were also not aware about all the disadvantages of the formula feed.

According to ANM's the breast related complications during breast feeding are, cracks in nipples, knots in breast, puss development, flat nipple and breast cancer. However, according to ASHA's the breast related complications during breastfeeding are, crack in nipples, retracted nipples, knots in breast, pain in breast etc. Mothers and mother in laws also had good knowledge about the breast related complications.

Most of the ANM's and ASHA's from both the groups have revealed that, total duration of each feed should be as per the demand of child or until child leaves the nipple. Some respondents also revealed that, duration of each feed should be 15-20 minutes or 8-10 times per day.

According to all the respondents weaning should be started after six months and the weaning food should include liquid as well as dal, rice, banana, potato, vegetable juice, egg, fruit juice etc.

The important point for discussion was the contraception during breastfeeding and all the respondents knows that, breast feeding acts as a contraception, the other methods of contraception were condom, copper-T, safe period, withdrawal etc. But, it is important here to notice that no group has told oral pill as contraceptive during breastfeeding.

There are misconceptions about the breastfeeding during the special situations like TB, Hepatitis, HIV. One group of ASHA and the mother and mother in laws told that during certain situations mother need to stop breast feeding and consult the doctor. However other groups told that there is no need to stop breastfeeding.

According to all groups, maternal nutrition during the breast feeding should be taken care. Nothing should be avoided during the breast feeding. The complete diet should be provided to the mother.

Some cultural practices are still prevalent in the tribal area according to the ANM, mother reduces diet during the ANC period, fish are avoided by mother and only rice and rawa liquid is given to mothers. However, according to ASHA's few mother doesn't give colostrum to the child, mother are given food without salt and only liquid food are given to the mother and mother are not allowed to go outside the home after delivery.

The focus group discussion with group 1 and group 2 was satisfactory in all aspect i.e. overall response of members of FGD, overall level of knowledge of participants, overall assessment regarding correct attitude of workers towards breast feeding practices and overall assessment regarding practices of health workers towards ideal breast feeding practices. However, focus group discussion with group 3, i.e. mothers and mother in laws was moderate satisfactory.

6.3 Role and involvement of Professional bodies in breastfeeding promotion.

An attempt was made to identify the role and involvement of the health care authorities and professional bodies in promoting the breastfeeding practices. The respondents in this section include Civil Surgeon, Medical Superintendent of Rural Hospital, Medical Officer of Primary Health Centre, Head of the Paediatrics/Obstetrics dept. Of Matron/Maternity ward incharge nurse from teaching hospital as well as Head/Office bearer of professional bodies like IMA, FOGSI, IPA etc.

6.3.1) Institute level workshop/training

The government authorities and private professional bodies are expected to undertake the training related to the breastfeeding at their organization. According to most of the respondents (70 %), they had organised the training for breastfeeding promotion but they could not generate any able evidence in support of the training conducted by them. Out of those, who conducted the training, only 33 % had the documentary evidence. 30 % government authorities had not organised any training related to the breastfeeding promotion.

Out of all private professional bodies only 40 % had organised the training for breastfeeding promotion, but no one of them had generated any evidence in support of the same.

6.3.2) Workshop/Training programme at community level

54 % government authorities had organised the training or workshop at community level to promote the breastfeeding practices, however remaining had not tried to promote the breastfeeding practices at community level.

Only 33 % of the private professional bodies are involved in the promotion of breastfeeding at community level. But the research team could not get any documentary evidence.

6.3.3) Deputation of doctor or nursing staff for training on updates

In present investigation, it was found that, most of the authorities (76 %) are deputing their staff involving nurses for the training related to the breastfeeding. Most of these

training are conducted by District Training Centres of the respective districts. It was also revealed by the respondents that, the training was not exclusively for breastfeeding, but breastfeeding was one component of the training.

However, with the private professional bodies it was not clear, whether they are deputing their staff to the training. 50 % of them told that they have deputed some staff for the training but, details and documents were not available to confirm the deputation.

6.3.4) Ensuring positive breast feeding practices in hospital

Almost all, government professionals interviewed are ensuring positive breast feeding practices in hospital by one or more methods like personal contact with patient during regular ward rounds, observing the work of doctors or nurses. Even the private professionals are also ensuring the same with the above methods.

6.3.5) Celebration of breast feeding week in hospital or community

69 % of the respondents from government health facility have mentioned that, they celebrate the breastfeeding week every year. However, 33 % private bodies celebrate the breastfeeding week every year. Even with this data we can not assure the activity, because no one of them could show the documentary proof for the same.

6.3.6) Contribution towards developing IEC material

All governmental professionals are displaying IEC material received from higher authorities or through NRHM. No one is creating IEC material at their institutional level. Even, the private professionals are also not taking any interest in the development of the IEC material for the promotion of the Breast feeding practices.

6.3.7) Efforts towards public campaign like radio talk/ news paper article etc.

Involvement of the government and private health professionals in the campaigning of the breastfeeding practices through newspaper/radio talk was assessed. This was found very rare in the government health professionals (30%), however 50% of the private professional bodies have actively participated in the radio talk or news paper articles for campaigning the breastfeeding practices.

6.3.8) Work undertaken towards promoting concept of Baby Friendly Hospital Initiative

The baby friendly hospital initiative is not popular in the government health facilities. Only 23 % government health facilities have some compliance to BFHI by UNICEF, but they also did not show any certification awarded by the UNICEF without which it stands invalid. Same situation was observed with the private bodies, where only 16 % respondents have revealed that they are complying with BFHI of UNICEF but, they also could not generate the documents.

6.3.9) Work undertaken to implement IMS Act

No government health facility was aware about the Infant Milk Substitute Act. Hence, there were not attempt to implement the act as a whole. With the private bodies only 50 % were aware about the IMS Act, and tried to implement the same in their health facilities. This seems that, IMS Act needs to make more popular among the government health professionals as compare to the private health professionals.

6.3.10) Policy towards discouraging breast milk substitute

No government as well as private bodies have any written policy to discourage the breast milk substitute. However, all of them revealed that they had verbal instructions to their staff as well as delivered women about not encouraging the breast milk substitute. Verbal communication is the only method adopted by the health professional to discourage the breast milk substitute.

6.3.11) Cultural beliefs and practices observed regarding early breast feeding and exclusive breast feeding in hospital or community

46 % respondents from the government health facility had observed some the cultural misbelieves in the community regarding the breastfeeding practices. The cultural practices observed by the respondents are giving glucose water, honey, ghee, avoidance of colostrums, “Chatan”, and “Balkadu”, “Janmaguti”, “BalKadu”, and honey. One had observed belief like colostrums is not good and good milk comes after two days.

The private health professional also had the same opinion on the cultural practices. The special observation from one respondents was that, some mother are less motivated to the breastfeeding.

6.3.12) Satisfaction of efforts towards promoting breast feeding, if not areas of improvement

With less involvement and any special proactive efforts, most of the governmental professionals (76%) are satisfied with their efforts towards promoting breast feeding. However, 83 % of the private professionals are satisfied with the work which, they are doing for promotion of breast feeding. This seems interesting as there are no special efforts seen during present investigation by private as well as government health professionals. These needs to be reviewed and all health professionals needs to be given special attentions towards recent development and practices in the field of breastfeeding.

6.3.13) Challenges in breast feeding promotion

Basic challenges as revealed by the governmental professionals absence of basic infrastructure, training of staff on breast feeding, no empowerment of women and nuclear families, early initiation becomes difficult in case of home delivery, difficulty in motivating mothers especially working mothers etc. The private professional also faces some challenges which are like motivation of mothers for breast feeding is difficult, oppose from old people, difficulty in convincing to Muslim population, inadequacy of mother's milk, irregular post natal checkups etc.

6.3.14) Future plans for promotion of breast feeding

The future plans of government professionals are to organize workshop on breast feeding, to give health education, to organize video film, poster, IEC material for community. involvement of ASHA, LHV, aganwadi workers in breast feeding programme and sustaining that activity, awareness in adolescent girls, women leader camp for breast feeding promotion, BFHI UNICEF certification, to increase the frequency of health education regarding breast feeding, to introduce written policy on breast feeding etc.

The future plans of private professionals are, creation of separate feeding room in hospitals, to give training to staff nurse and mothers on breast feeding, to reach to the community, celebration of breast feeding week, talks at community level, lectures on breast feeding in CME programmes.

6.3.15) Idea/Suggestions to promote breast feeding

Good ideas/suggestions have come out from the present interview with the health professionals which includes creation of milk bank, use of celebrities to give information on breast feeding, emotion appeal to people showing relation between breast milk and health of baby, participation of women organizations in promotion, targeting adolescent girls, IEC implementation in OPD, milk bank for working mothers, propaganda in rural area, use of role play, video show on breast feeding in wards, more concentration on ANC, repeated health education, IEC material in local language to nurses, strengthen grass root level workers, promotion through media, strengthening of health worker and medical officer, training and awareness of DHO/CS on breast feeding, organization of training of ASHA, ANM, anganwadi workers at taluka level with increased frequency.

Chapter 7

Summary of Results

7.1 Socio-economic, demographic characteristics of Breastfeeding Women

Majority of women (83%) were in the age group of 20-29 years followed by 14% in 30-39 years. Over 81.5% women got married between 18-24 years, while 16% women got married at age below 18 years. Nearly 62% and 18% respondents were residing in rural and tribal areas respectively. Over three fourths of women's monthly family income was less than Rs. 5000 (38% in Rs 1001-3000, 37% in Rs. 3001-5000). Nearly 53% women were educated up to X Std and 4% were graduates or post graduates. Only 13% women were illiterate. Majority women belong to Hindu religion (77%), followed by Buddhism (14%), Islam (8%). Over 41% women belonged to General Category in terms of Caste, 21% scheduled caste, 11.5% Other Backward Caste and 7% scheduled tribe. Over 83% women were housewives, 15% were agricultural labour/farmers, 1.5% were in service, and 1% were self-employed.

7.2 Maternal details of the breastfeeding women

The mean number of living children was 1.92 per women of which 54% were female child and 46% were male children. Although there was a higher percentage of female children in total living children for the women, the trend is reverse (F: 46.8; M: 53.1) when it comes to the youngest child (Reference Child for Survey). The most frequent age of the youngest child of the respondent women was "between 6 months to 1 year" - (31.94%) followed by "1 year to 18 months" - (26.57%). More than 80% respondents had their youngest child below 18 months of age. More than 90% of the respondent women delivered their last baby at institution/health facility. More than two thirds of home deliveries were conducted by relatives, neighbours, untrained dais. Less than one third home deliveries were conducted by trained dais (28.71%), doctors (2.97%). Over 38% institutional deliveries occurred in private hospitals, followed by 27% in district/sub-district hospitals, 14% RH, 17% PHC, and 3% in SC. Over 84% women had normal delivery.

7.3 Breastfeeding – Knowledge & Practices

The survey has revealed that the practice of breastfeeding is near universal (99.72%) in the State of Maharashtra. It is also quite encouraging to note that nearly 80% of the women have reported to have initiated breastfeeding within one hour after delivery (74% within 30 minutes & 6% 30 minutes to 1 hour). The main reason as reported by the respondent women (37.67%) for late initiation of breast feeding was caesarean delivery, followed (35.27%) by mother's illness. As many as 87% women have revealed that they have exclusively breastfed their babies during the first six months. As many as 96% women had reported that they fed the Colostrum to their babies. The benefits of colostrum feeding according to 59% women were that "it provides immunity to the child", 16% women was that "it gives vitamin A and C". Majority women (78%) acquired knowledge about benefits of colostrum feeding from doctors and nurses, followed by their mother/mother in-laws (14%), and 6% from ASHA/AWW. Of the 3.5% women who did not give colostrum to their babies, 34% could not give any specific reason for their action, 29% said their sickness prevented them, 12% said that the attending doctor/nurse advised them to do so, 7% attributed cultural or religious reasons. Only 11.23% women gave pre-lactal feed to their last-born child. The most common pre-lactal feed given was animal/powder milk (43%), honey (32%), Janmagutti (12%), joggary/sugar water (10%). The most common reason attributed by the women who gave the pre-lactal feed to the baby was on the advice of doctor/nurse in 42% cases and on the advice of mother/mother in law in 36% cases. Over 40% women breastfed in response to the baby's hunger signal (cry), 39% for every two hours, 11% whenever the baby woke up from sleep. Nearly 61% women breastfed their baby for 5-10 minutes, 16% fed till the baby is satisfied and 12% fed for less than 5 minutes each time. More than 56% women breast fed their baby for "more than 1.5 years" followed by 24% - "up to 1 year", and 14% "for 6 months". Over 84% women said that they clean the breast before every feed, either with cloth (43%), during bath (33%), with water (22%).

A number of cultural practices had been followed in the districts surveyed in the belief of increasing the output of breast milk. The most preferable food was vegetable seeds like *Methi* (35.83%), Dink ladu (21.49%), Mixture of coconut, dalda and dry fruits (15.76%), Shatawari (4.6%). Various types of food substances were avoided

during breast feeding in majority of the (92.53%) respondents. The common food substances avoided were fruits (Papaya, Custard apple), sour food items (26.94%), cold food (19.27%), Brinjal, Pumpkin, astringent food (14.86%).

Over 97% women were opined that initiation early breast feeding was good for the baby, because it gives baby vitamins (39%), immunity (33%), easy to digest (17%). Nearly 89% were of the view that exclusive breast feeding was good for the baby, because it helps in adequate growth (64%), meets vitamin needs (22%) of the baby and protects child from diarrhoea (9%). Majority of the respondents (55.04%) were unaware of the benefits of exclusive breast feeding to the mother. Over 64% respondents thought that stoppage of breast feeding was not necessary when mother falls sick. Overall 38 percent did not feed their babies while sick and 20 percent did breastfed their babies even when they were sick.

7.4 Supplementary feeding – Knowledge & Practices

Over three fourths of women said that their babies were weaned after 6 months of age. From those women who started weaning their babies before six months of age, over 45% did this during 3-4 months age, and 36% during 4-5 months age. Around 9% women weaned their babies before 3 months age. Animal/powder milk was the commonest (47%) supplementary food item used when weaning was before six month of age. Tea/coffee and honey were also occasionally used (5.88%). Majority of women (45.45%) opted for weaning before six months of age as they thought that baby was not getting adequate milk through breast feeding. As per the perception of the mother, inability of the baby to digest breast milk (9.09%) and need of extra fluid in addition to breast feed was few additional reasons for early weaning among respondents

Most of the respondent women thought that the supplementary food did not increase the chances of child becoming sick (62.41%). Dal water (32.56%) was the preferred choice of food, followed by rice water (30.09%) and Khichadi (20.73%). White part of egg was favoured by 3.97% and banana by 4.15%). However biscuits were also used as supplementary food by 2% of the respondents. Majority of the respondents thought

that supplementation of calcium to mother during breast feeding was necessary (56.94%).

7.5 Association between knowledge on breastfeeding and socio-demographic characters

Knowledge about **early initiation of breastfeeding** of the women was found to have significant association with her age, religion, occupation, no. of previous deliveries (children), type of institution (RH/PHC/SC etc) where she delivered. But, it had no significant association with her rural or urban background, tribal or non-tribal background, economic status (income), educational status, caste, place (home/hospital) of delivery, type of birth attendant at the time home of delivery, and her type of delivery (normal or caesarean).

Knowledge about **exclusive breastfeeding** of the women was found to have significant association with her age, religion, no. of previous deliveries (children). But, it had no significant association with her rural, urban background, tribal & non-tribal background, economic status (income), occupation, educational status, caste, place (home/hospital) of delivery, type of birth attendant at the time home of delivery, type of institution (RH/PHC/SC etc) where she delivered and her type of delivery (normal or caesarean).

Knowledge of women about the role of **supplementary feeding** in the health of child was found significantly associated with her age and no. of previous deliveries (children). But, it had no significant association with her rural, urban background, tribal & non-tribal background, economic status (income), religion, occupation, educational status, caste, place (home/hospital) of delivery, type of birth attendant at the time home of delivery, type of institution (RH/PHC/SC etc) where she delivered and her type of delivery (normal or caesarean).

7.6 Association between breastfeeding practices and socio-economic, demographic Characters

Time of **initiation of breastfeeding** by the women found significant association with her age, age at marriage, tribal & non-tribal background, economic status (income), educational status, religion, caste, occupation, no. of previous deliveries (children),

place (home/hospital) of delivery, and type of birth attendant at the time of delivery. But, it has no significant association with her rural, urban background, type of institution (RH/PHC/SC etc) where she delivered, and her delivery status (normal or caesarean).

It was found that the practice of **Colostrums' feeding** by the mother has a significant association with her age, educational status, religion, occupation, no. of previous children and person conducting home delivery. But, it has no significant association with her rural/urban background, tribal & non-tribal background, economic status (income), caste, place (home/hospital) of delivery, institute of delivery and her type of delivery (normal or caesarean).

7.7 Association between practices of pre-lactal feeding and socio-economic, demographic Characters

It was found that the practice of Pre-lactal feeding by the mother has a significant association with her religion and occupation. But, it has no significant association with her age, status, rural/urban background, tribal & non-tribal background, educational status, economic status (income), caste, no. of previous children, place (home/hospital) of delivery, person conducting home delivery, institute of delivery and her type of delivery (normal or caesarean).

7.8 Association between practice of Supplementary feeding & socio-demographic characters

It was found that the practice of supplementary feeding had significant association with her age, education, occupation, number of previous children and person conducting delivery at home. But, it had no significant association with her rural/urban background, tribal & non-tribal background, economic status (income), religion, caste, place (home/hospital) of delivery, institute of delivery and her type of delivery (normal or caesarean).

7.9 Role of Health Care Providers & Professional Bodies in Promotion of Breastfeeding

Around 50 % nursing staff interviewed at government hospital/health facility said that their facility was recognized as Baby Friendly Hospital and 37.5 % said that it was not recognized. The remaining 12.5 % were not aware of the concept of baby friendly hospital initiative. As many as 62.5 % nursing staff said that their health facility has some set practices to be followed with regard to breast feeding, and 25% staff told that there were no such written guidelines but they follow oral instructions. However, 12.5 % respondents said there were no any oral or written guidelines at their hospital for breastfeeding.

Very few hospitals were making efforts to create the awareness about the importance of colostrum, breast feeding within 1 hour of delivery as well as making the mother comfortable during labour pain. However those hospitals which are following proper breastfeeding practices, breast crawl, counselling and facilitating mother for first feed were among the most commonly followed practices for promoting early initiation of breastfeeding. These efforts or proactive steps included, helping the mother to position the baby correctly for breastfeeding (100 %), help to have a skin to skin contact (75 %) and facilitate the mother to hand express (50 %) if required. One health facility, which was tertiary level teaching hospital, had established the Human Milk Bank facility which was a proactive step by the teaching hospital. However, two health facilities revealed that, sometimes patients did not listen to their advice which was one reason for not encouraging mothers for early initiation of breastfeeding.

Only 50 % hospitals had organized training program for the nurses on the breast feeding practices during last three years. 85% nurses told that, they won't advice the lactating women to stop the breastfeeding even if they are on medication. However, only 15 % told that, they will suggest the mother to stop the breastfeeding if they are on medication. 50 % nurses revealed that, they will counsel the mothers to continue breastfeeding even if they are HIV positive. However, 25 % told that they will counsel mothers to stop breastfeeding if she is HIV positive. 12.5 % said that they will counsel the mothers to make use of the human milk bank facility.

Nearly 70 % government health facilities claimed that they had organised training/workshops for staff on the subject but only 33% could show some documentary evidence to this effect. Nearly 54 % government authorities, 33% private professional bodies had claimed that they organised training/workshop at community level on the subject but could not provide any documentary evidence to this effect.

Out of all private professional bodies like FOGSI, IMA etc only 40 % had claimed that they organised training on the subject for health care providers, but no one could show any documentary evidence in support of their claim.

Chapter 8

RECOMMENDATIONS

Following are the major recommendations of the study group

1. Though the overall facts and figures with regard to breast feeding practices followed in the State are better compared to national average, the group felt that there is still scope for improvement in various key aspects.
2. There must be well planned vigorous breastfeeding promotional drive on Mission mode addressed to all stake-holders – government, semi-government, private & NGO health care providers (doctors, nurses & administrators), community health workers, community members (with special focus on ANC/PNC & elderly women, adolescent girls) to overcome the general complacency that has been observed.
3. Accreditation of all hospitals (government/semi-government/private/ corporate / NGO) which are providing mother & child care, as a Baby Friendly Hospital from State government should be made mandatory just like registration of USG machines. Dedicated government officials should regularly visit these hospitals to review the situation and continue accreditation.
4. Professional Bodies like IMA, FOGSI, IPA should double their efforts to organize special training programmes, dedicated sessions in general conferences, CMEs for all government and private doctors & nurses on the subject.
5. Antenatal clinics, postnatal wards, Immunization/vaccination/child clinics of different health facilities should provide dedicated staff for promotion of breast feeding practices.
6. Nursing Schools Faculty and Students should take proactive steps at hospitals and community to propagate the importance of breast feeding practices.
7. All concerned institutes (hospitals/training centres) should organize breastfeeding promotional activities regularly like celebration of breastfeeding week, Healthy Baby/ Mother Competition etc
8. Capacity building of Peripheral health workers of PHC, Sub centres, ICDS & NRHM workers (AWW, ASHA), Mahila Mandals/SHGs, with proper training & educational material/ kits on the subject.

9. Execute strict IEC activities (Kala pathak, Bhajan, Kirtan, Street Plays etc) & FGDs for bringing positive changes on socio-cultural-traditional practices which are detrimental to ideal breastfeeding through the trained Peripheral health workers.
10. Government should take help of mass media, celebrities for propagation of positive messages regarding breast feeding.
11. Government should ensure strict implementation of available laws like IMS Act, Labour norms/laws for working women like maternity leave with full pay for six months, provision of dedicated space for breast feeding and baby crèche at work places etc.
12. Distribution of calcium tablets free of cost to pregnant and lactating mothers so as to improve the quality of breast milk and maintain the health of nursing mothers.

References

1. Black RE, Morris SS, Jennifer B. Where and why are 10 million children dying every year? *Lancet* 2003; 361: 2226-2234.
2. WHO/UNICEF Global Strategy for Infant and Young Child Feeding, World Health Organization (WHO), 2002. Available at: http://www.who.int/child-adolescent-health/NUTRITION/global_strategy.htm. Accessed on September 14 2009.
3. World Health Organization. The World Health Report 2005: Make every mother and child count, WHO, Geneva, 2005. Available at: <http://www.who.int/whr/2005/en/index.html>. Accessed on 27 August 2009.
4. Progress for Children, UNICEF report card on nutrition. 2006. Available at: <http://www.unicef.org/progressforchildren/2006n4/>. Accessed on 27 March 2008.
5. National Family Health Survey - 3. International Institute for Population Sciences. Available at: http://www.nfhsindia.org/nfhs3_national_report.html
6. Lahariya C, Paul VK. Epidemiology of 1.95 million annual child deaths in India: analysis for informed decision making. *Indian J Pediatr* 2010;
7. Shrimpton R, Victora CG, de Onis M, Costa Lima R, Blössner M, Oectroph D, *et al*. Worldwide timing of growth faltering: Implications for nutritional interventions. *Pediatrics* 2001; 107 (5): 75.
8. International Institute of Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey (NFHS - 3), 2005-06: India: Mumbai: 7. Black RE, Allen LH, Bhutta ZA, Caulfield LE, de
9. Onis M, Ezzati M, *et al* , for the Maternal and Child Undernutrition Study Group. Maternal and child undernutrition: global and regional exposures and health consequences. *Lancet* 2008; 371(9608): 243-260.
10. Edmond KM, Kirkwood BR, Amenga-Etego S, Owusu-Agyei S, Hurt LS. Effect of early infant feeding practices on infection-specific neonatal mortality: an investigation of the causal links with observational data from rural Ghana. *Am J Clin Nutr* 2007; 86: 1126-1131.
11. Vyas Shaili, Sharma Parul, Kandpal S D, Semwal Jayanti, Srivastava Anurag, Nautiyal Vipul. A community based study on breastfeeding practices in a rural area of Uttarakhand. *National Journal of Community Medicine* 2012; 3 (2):283-287.

12. Yadavannavar M C and Patil S S. socio cultural factors affecting breast feeding practices and decisions in rural women. International Journal of Plant, Animal and Environmental Sciences 2011; 1 (2):46-50.