

# **A Study on VHND in Bellary District of Karnataka**

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## Contents

1.1 Child health .....	8
1.2 Maternal health .....	10
1.3 Functions of VHND .....	10
1.4 Findings of the studies conducted elsewhere on VHND.....	11
1.5 Rationale of the study .....	12
1.6 Objectives: .....	12
1.7 Methodology:.....	12
1.7.1 Study Design and Sample Size.....	12
1.7.2 Data collection .....	13
1.7.3 Study tools .....	14
1.7.4 Data analysis .....	15
1.7.5 Knowledge Index.....	15
1.7.6 Infrastructure Index .....	16
1.8 Limitation of the study.....	16
1.9 Organization of the report .....	16
Chapter 2:.....	18
Socioeconomic and Demographic Profile of the Study District .....	18
2.1 Key health and service delivery indicators .....	19
2.2 Mortality and Fertility .....	19
2.3 Service Utilization of Maternal and Child Health.....	20
Chapter 3:.....	22
Level of Knowledge of Key Stake Holders and Availability of Infrastructure.....	22
3.1 Level of Knowledge of ANM.....	22
3.1.1 Socio-demographic & work profile of interviewed ANM .....	22
3.1.2 Knowledge on antenatal care .....	22
3.1.3 Delivery Care .....	24
3.1.4 Child Care .....	25
3.1.5 Child Immunization .....	27
3.1.5.1 Birth doses .....	27
3.1.5.2 Regular doses .....	27
3.1.5.3 Booster doses.....	27

3.1.6 Knowledge on nutrition .....	28
3.2 Socio-demographic Characteristics of Anganwadi Worker .....	28
3.3 Knowledge of AWW .....	29
3.3.1 Knowledge on child growth monitoring .....	29
3.3.2 Knowledge on Danger Signs of Health of Children .....	31
3.3.3 Knowledge on Social Evils .....	31
3.3.4 Knowledge on personal hygiene of children.....	33
3.3.5 Knowledge on service available to adolescent girls at VHND.....	35
3.3.6 Knowledge Index.....	37
3.4 Infrastructure .....	38
3.4.1 Availability of drugs.....	39
3.4.2 Availability of Equipments .....	39
3.4.3 Availability of Counselling Materials.....	40
3.4.4 Infrastructure Index .....	41
3.5 Participation and cooperation of Panchayat Raj institution.....	42
3.6 Opinion of AWW on Cooperation of other department for conducting VHND .....	42
Chapter 4: Utilization of Service .....	44
4.1 Background characteristics .....	44
4.1.1 Socio-economic and demographic characteristics of respondent.....	44
4.1.2 Household characteristics .....	45
Figure 4.2: Household characteristics of respondents .....	45
4.3 Service Utilization .....	46
4.3.1 Timing of Pregnancy registration.....	46
4.3.2 Time of antenatal care .....	46
4.3.3 Tests during Pregnancy .....	47
4.3.4 Iron & folic acid tablet and TT injection.....	48
4.3.5 Other services received from VHND .....	49
4.3.6 Child Immunization .....	50
4.3.7 Counselling.....	51
4.3.8 Issues covered in the counselling sessions .....	53
Chapter 5:.....	55
Summary, conclusion and recommendations .....	<b>Error! Bookmark not defined.</b>

5.1 Discussion.....	58
5.2 Conclusion:.....	60
5.3 Recommendation.....	60
Reference .....	61

## List of Tables

Table 1.1: Sample coverage .....	13
Table 2.1: Geographical details.....	18
Table 2.2: Socio-demographic indicators of Bellary district .....	18
Table 2.3: Mortality & fertility indicators of Bellary district, 2015 .....	20
Table 2.4: RCH & FP indicators as per DLHS-4 (2012-13) of Bellary district and Karnataka .....	20
Table: 3.1: Background Characteristics of Anganwadi Worker .....	29
Table 3.2: Knowledge of AWW on child growth monitoring by socio-demographic & job characteristics	30
Table 3.3: Knowledge of AWW on danger signs of health of children by socio-demographic & job characteristics .....	32
Table 3.4: Knowledge of AWW on social evils by socio-demographic & job characteristics.....	33
Table 3.5: Knowledge of AWW on advice be given to parents of AWC children on personal hygiene by socio-demographic & job characteristics.....	34
Table 3.6: Knowledge of AWW on service available to adolescent girls in AWC by socio-demographic & job characteristics .....	36
Table 3.7: Level of Knowledge by socio-demographic and job characteristics .....	37
Table 3.8: Available infrastructure in AWCs .....	38
Table 3.9: Availability of drugs and Supply in last VHND .....	39
Table 3.10: Availability of equipment & supply in the last VHND .....	40
Table 3.11: Availability of counselling materials in the last VHND .....	41
Table 3.12: Infrastructure Index .....	41
Table 3.13: Type of PRI representative present in the last VHND .....	42
Table 4.1: ANC received by trimester and source .....	47
Table 4.2: Type test done and source of test during pregnancy .....	47
Table 4.3: IFA and TT injection received by respondents and source .....	48
Table 4.4: Percentage of mothers received various services from VHND during last one year .....	49
Table 4.5: Children immunization by source .....	51
Table 4.6: Percent of mother ever attended counselling ever since the pregnancy registration by socio-economic characteristics .....	52
Table 4.7: Counselling received on various issues in VHND* .....	54

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## ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Care
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
ARI	Acute Respiratory Infection
AWC	Anganwadi Centre
AWW	Anganwadi Worker
BCG	Bacillus Calmette Guerin
BP	Blood Pressure
BPL	Below Poverty Line
DPT	Diphtheria Pertussis Tetanus
FP	Family Planning
GDM	Gestational Diabetics Millets
HIV	Human Immune Deficiency Virus
HSC	Health Sub-centre
IEC	Information Education and Communication
IFA	Iron Folic Acid
IMR	Infant Mortality Rate
IUD	Intra Uterine Device
JE	Japanese Encephalitis
JSY	Janani Suraksha Yojana
MoHFW	Ministry of Health and Family Welfare
MMR	Maternal Mortality Rate
NHM	National Health mission
OP	Oral Pills
PHC	Primary Health Centre
PRI	Panchayat Raj Institution
PNC	Post Natal Care
PW	Pregnant Woman
RSBY	Rashtriya Swastya Bima Yojana
RSoC	Rapid Survey of Children
SC	Scheduled Caste
SD	Standard Deviation
SDG	Sustainable Development Goals
ST	Scheduled Tribe
SDW	Safe Drinking Water
TB	Tuberculosis
TT	Tetanus Toxoid
UNICEF	United Nation International children's Fund
VHND	Village Health Nutrition Day

## **Chapter 1**

### **Introduction**

The government of India has been launching health programs to improve the health condition of the rural community particularly mother and child health right from the 1950s. Mother and child health remains high priority area of health programmes of India as we have failed to reach the desired goals, in spite of the remarkable progress made in the health of mother and child. Village Health and Nutrition Days (VHND) is one such crucial initiative under the National Health Mission (NHM) which intends to improve access to maternal & child health and nutrition services in the rural areas. VHND is required to provide a bunch of health and nutrition services and counselling to the community on a fixed day, in a fixed place. As per the VHND guideline, it needs to be organized on Wednesday at AWC in villages/urban slums. It is a joint activity of Health Department and Women and Child Development Department for planning, implementing and monitoring the programme. ANM, ASHA and AWW are the key stakeholders at ground level to conduct VHND with the support of Panchayat Raj Institutions.

#### **1.1 Child health**

The following statistics depicts the progress we have made in the domain of mother and child health. Recent surveys and estimates have shown that under 5 mortality rate in India has been decreased from 118 deaths per 1000 live birth in 1990 to 47 deaths per 1000 live birth in 2013. The IMR was 31 per 1000 live birth and it is much higher in rural India than the urban India (34 against 24, RGI, 2014). According to NFHS-4, IMR and under five mortality rates in Karnataka are 28 and 32 respectively (MOHFW, 2015). Every year more than 2 million children die in India. Out of this, the share of neonate and infant deaths are high. Major causes of neonatal mortality in the country are: low birth weight, asphyxia, infection and hypothermia; whereas among infants and children infection like pneumonia, diarrhoea, measles, malaria and nutrition diseases and malnutrition are the predominant causes (Venkatachalam J, 2014).

According to the latest international estimate that covers the period 2000-07, 15 per cent of all new-borns are born with low birth weight which is caused by preterm birth or intrauterine growth restriction is an underlying factor in 60-80 per cent of neonatal deaths. Low birth weight babies are more commonly found among the socio-economically backward groups. Among the



schedule caste children the low birth weight is 39.9 per cent, 38.8 per cent and 38.5 percent in NFHS 1, NFHS 2, and NFHS 3 respectively (Mukesh, 2014). Low birth weight babies are the results of mothers' low nutritional status, short birth spacing, infection, poor antenatal care, stress and over work during pregnancy (WHO, 2006).

Malnutrition in children is a serious health problem as it is one of the important factors for childhood morbidity in India. It is a sad thing that our country has the highest number of protein deficient malnourished children in the world which is visible in the form of decreased weight for age or height for age or weight for height. Global prevalence of Stunting and underweight in children below five years is 30 per cent and 17.8 per cent respectively. In India, 38 per cent of children below 5 years are stunted, 36 per cent are underweight and 21 percent are wasted. The corresponding rates in Karnataka are: stunted 36.2 percent wasted 26.1 percent and underweight 35.2 percent. Prevalence of anaemia is 60.9 percent in the state (MoHFW, 2015-16) Anjali Radkar (2017) analysed the NFHS 3 data and found some interesting findings related differentials of under nutrition among children. Prevalence of under-nutrition is high among rural children compared to its urban counterparts, higher among SC & ST children than children belonged other social groups. It is noticed that health status and demographic features of mother also matters a lot in determining the nutritional level of children. For instance, prevalence of stunting and underweight is more common whose mother is suffering from moderate to severe anaemia or underweight, mother received incomplete antenatal care during pregnancy, age of mother is less than 20 years or more than 35 years at the time of delivery. The burden of death of children due poor diet related illness in Indian subcontinent is 3000 children per day ([http: India food hungry](http://India food hungry)). Malnutrition during first 3 years of life and low birth weight has immediate and far reaching effect on the life of the victims. It not only stunts children's physical growth, retards cognitive development, reduces immunity to fight against infection immediately but also retards the proper eye development and increase the risk of heart disease, diabetes, obesity and high blood pressure when the child grows up. Study conducted in Karnataka established that physical and cognitive performance of well-nourished children is better than performance of their undernourished counterpart (Kumar, 2014). It is a vicious circle that malnutrition facilitates to get infection and infection contributes to malnutrition. Children who suffer from diarrhoea are nearly two times more malnourished than that of children without diarrhoea. Similar kind of malnutrition has been noticed in the children who repeated the episodes of acute respiratory

infection (ARI) (Agarwal, 2014). Sustainable Development Goals (SDG) set by United Nations desires end all kinds of under nutrition by 2030.

## **1.2 Maternal health**

Recent statistics reveals that significant decrease has been witnessed in maternal mortality rates. MMR decreased to considerable extent in India including Karnataka over the years. According to the UNICEF, India accounts for almost 15 percent of global maternal mortality burden with close to 45,000 deaths in 2015. As shown in the NFHS-4 India report, health service utilization by pregnant mothers has been increased over a period of time; 70 percent of mothers received 4 times ANC, 88 percent mothers received TT injection during pregnancy and 94 percent of mothers delivered in hospitals in Karnataka.

## **1.3 Functions of VHND**

The VHND is supposed to perform mainly four type of jobs to the community, namely, service to mother and children, counselling on health and nutrition, tracing of individuals who need special attention and data collection on vital events. Specific job functions under the mother and child services are registration of pregnant women for antenatal care (ANC), vaccination to all children below 1 year including Vitamin- A, tracking of dropout pregnant women and children for vaccination and ANC service, weighing of all children below 6 years, distribution of tuberculosis drugs to the patients, supply of condom, oral contraceptive pills and emergency contraceptive pills to all eligible couple as per their choice and referrals are to be made for other contraceptive services, delivery of supplementary nutrition to underweight children & lactating mothers.

Following counselling to be provided to the beneficiaries: danger signs during pregnancy, Importance of institutional delivery, Importance of seeking postnatal care (PNC), registration and counselling on Janani Suraksha Yojana (JSY), nutrition, exclusive breastfeeding, weaning and complementary feeding, care during diarrhoea and acute respiratory infection (ARI), prevention of malaria, TB and other communicable diseases, HIV/AIDS, safe drinking water(SDW), personal and environmental hygiene, education of children, dangers of sex selection, legal age of marriage, disease outbreak, disaster management and Rashtriya Swasthya Bima Yojana.

In addition to counselling and service delivery, it is also expected to do identification of disability among children, malnourished children, and severe anaemia cases etc. The audit and report of mother and child deaths and the outbreak of disease etc. are also the responsibilities which fall under the purview of VHND. In this study, we mainly have focused on issues pertaining to maternal and child health, counselling, infrastructure and skill assessment of key stakeholders.

#### **1.4 Findings of the studies conducted elsewhere on VHND**

Studies have been conducted on VHND to assess its performance in other parts of the country. Here, we have given findings of a few such studies. A community study on awareness and utilization of VHND conducted by Baruva et. al. (2015) in Karup district of Assam found that response from the community for VHND is good as it recorded 73 percent of mothers' attendance the meeting. Of the attended, 76 percent of mothers had availed the ANC services and 77 percent of children had been weighed. However, only 48 percent of the weighted children had their weight plotted in the growth chart. Less than 50 percent of beneficiaries had participated in counselling on health and nutrition.

Another study conducted in three district of Uttarakhand through observation technique has found that BP and weight of pregnant women measured only in 46 percent and 54 percent of VHNDs respectively. Child immunization session was conducted in all the sites whereas, growth monitoring was done only in 7 sites and supplementary nutrition was given only in 5 site of 24 observed VHNDs. The study team also noticed inadequate supply of some essential equipment such as examination table, haemoglobin meter, adult weighing machine etc. (Saxena V, et. al. 2017).

Yet another study conducted in Haridwar district of Uttarakhand come to the conclusion that awareness and cooperation of members of VHNSC were very poor. VHND provided limited services to the pregnant mothers and lactating women (V. D. Semwal et. al. 2016).

Kumar (2014) noticed that performance and knowledge of AWW on health services to be provided in the VHNDs was not up to the mark. The study was conducted in 5 taluks of Tumkur district, Karnataka State.

The above literature review has thrown light on level of implementation of the programme, gaps in knowledge level of stake holders, extent of participation of beneficiaries in the programme, supply of logistics. All studies pointed out both positive and negative aspect of implementation of the programme.

## 1.5 Rationale of the study

India has made a remarkable progress in the health conditions of mother and children which are reflected in the reduction of MMR and IMR. Though we have made improvements in the health conditions of mothers and children, still we have to march a long distance to reach the Sustainable Development Goals. In achieving this progress the VHND contribution is important as they are providing MCH service at the door steps of the target population. In this connection, the quality of functioning of VHND needs to be assessed for further improvements in the implementation of the programme. Findings of the study would help in identifying the gaps in functioning of the VHND & will help to take corrective measures.

## 1.6 Objectives:

- To assess the levels of skill of frontline workers to provide full range of services;
- To assess the availability of equipment and supplies to conduct the VHND;
- To assess the extent of utilization of VHNDs by the beneficiaries.

## 1.7 Methodology:

### 1.7.1 Study Design and Sample Size

The present study was taken up in Bellary district and Bellary taluk. The district and the taluk were selected randomly. Ten villages were selected out of 97 using probability proportional to population size (PPS) sampling method.

**Selection of Anganwadi Centre:** All Anganwadi centres (AWC) were selected and covered if the selected village has 5 or less than 5 centres. In large villages, where more than 10 AWC are functioning, 10 AWC were randomly selected. Altogether, 50 AWCs were selected and covered.

**Selection & coverage of beneficiaries:** List of all mothers who delivered in January – December 2016 was obtained from the selected AWC. In each selected centre, 7 mothers were randomly selected and interviewed available mothers at the time of our visit for assessing the service utilization of VHND. Altogether, 280 mothers were interviewed from the listed 782 beneficiaries of the selected 10 villages. Besides, 12 Axillary Mid-Wife (ANM) of the selected village and 50 AWW of the selected Anganwadi centres were also interviewed to assess their level of knowledge. Information on available infrastructure to conduct the VHND is also gathered from them (Table 1.1).

**Table 1.1: Sample coverage**

<b>Village Name</b>	<b>No. of ANM</b>	<b>No. of AWCs &amp; AWW covered</b>	<b>No. of beneficiaries covered</b>
Genikihal	1	5	24
Kurugodu	2	10	59
Kudathini	2	10	41
Chanahal	1	4	24
Yarringaligi	1	5	28
Moka	1	5	30
Byradevanahalli	1	2	13
Belagal	1	5	34
Amarapura	1	1	7
Kammarchedu	1	3	20
<b>Total</b>	<b>12</b>	<b>50</b>	<b>280</b>

### **1.7.2 Data collection**

Five trained interviewers of the centre, 3 males and 2 females interviewed the selected mother. Two day training including field practice was organized to make the field investigators more conversant with the questionnaire and become perfect in the data collection process. Doubts and queries expressed by the field investigators during and after the field training were informally clarified. Principal investigator monitored the entire fieldwork and interviewed ANMs of the selected villages. The field work was carried out from December 6<sup>th</sup> to 15<sup>th</sup>, 2017.

### 1.7.3 Study tools

Three semi-structured schedules were constructed to collect information from the AWW, ANM and VHND beneficiaries. Before finalizing the schedule, it was pre-tested with around 10 mothers from non-sampled area. It was shared with the faculty members of the centre. After making the relevant modification based on pre-test experience and comments by the faculty members of the centre, the revised schedule was prepared and was used to gather information from the study subjects.

**Anganwadi worker schedule:** The schedule has two main parts namely, background information and skill assessment section. Background information section has following question: current age, number of years of schooling, current marital status, religion and caste, duration of service and training details. Second part of the schedule has questions on following areas: growth monitoring of children, common danger signs of among children, personal hygiene, social evils, bad effects of child marriage on individuals, effect of female foeticide, transmission and prevention of HIV/AIDS, service available to adolescent girls in AWC etc.

ANM Schedule also has been divided in to background characteristics and skill assessment section. Information on current age of respondent, number of years of schooling, religion and caste, duration of service and training details are collected in the first part of the schedule. Skill assessment questions such as ANC registration, minimum ANC check-up, tests during ANC, anaemia and severe anaemia, tetanus oxide injection, other health care during pregnancy, diet during pregnancy and after delivery, rest during pregnancy, danger signs of pregnancy, cleanliness during delivery, place of delivery, nutrition, new-born care, baby feeding schedule, child immunization, childhood diarrhoea, drinking water storage, method of cooking etc. are included in the second part of the schedule.

**Beneficiary Schedule:** This schedule consists of two main parts namely, background information and service utilization. Information on current age of respondent, education of the beneficiary and spouse, occupation of the beneficiary and spouse, religion, caste, household income and information on housing characteristics, drinking water, cooking fuel, toilet facility etc. were collated under first section. Data pertaining to service utilization of VHND such as ANC registration, antenatal care, number of IFA tablet received, TT injection received, contraception, child weight, nutrition supplementation for mother and child, child immunization and counselling on various issues were gathered in the second part of the beneficiary schedule.

**VHND Checklist:** The checklist was used to collect following information: essential equipments, drugs and supplies, IEC materials for counselling, availability of water, baby toilet, soap in washing area, electricity etc.

#### 1.7.4 Data analysis

The preliminary task after the completion of fieldwork and before the data entry is editing of the interviewed schedule. All the filled in questionnaires were thoroughly edited by the Principal Investigator. Data was entered using Statistical Package for Social Sciences (SPSS) version 20. Each AWW schedule and the beneficiary schedules were given numbers. Univariate and bivariate techniques of data analysis were used based on the suitability of the technique in a particular analysis. Chi-square tests have been applied to assess the association between variables. Two indices were constructed, one for assessing the overall knowledge level of AWW and another for gaging the available infrastructure at aggregate level.

#### 1.7.5 Knowledge Index

The knowledge index was constructed using knowledge indicators related to nutrition, hygiene, social evils, available services to adolescent girls in VHND, effect of female foeticide, and HIV/AIDS. For the correct answer score 1 is assigned else 0. Maximum score an individual can obtain is 63 and the minimum score one can get is 0. The score obtained by each individual is summated and mean (34.98) & SD (6.85) were calculated. By adding mean & SD, we got one value (41.83) and by subtracting SD from the mean, we got another value (28.13). Individuals who scored equal to or more than the value got from the addition of the mean & the SD, i. e., 41.83 are considered as “excellent” and individuals who scored equal to or less than the value got from the subtracting the SD from the mean value i. e., 28.1 are considered as “poor”. Individuals who scored between 41.83 & 28.1 are considered as “Good”.

Categories of Knowledge index:

Low - 0 -28

Medium - 29-41

High: - 42-63

Total number of cases 50

### 1.7.6 Infrastructure Index

Similar method was applied to construct VHND infrastructure index. The index has been constructed using indicators related to infrastructure, drugs, equipments and counselling materials. For correct answer score 1 is assigned else 0. Maximum score a VHND can obtain is 42 and the minimum score is 0. The VHND which scored equal to or more than the value got from the addition of the mean & the SD, i. e., 35.45 are considered as “excellent” and facility which scored equal to or less than the value got from the subtracting the SD from the mean i. e., 27.99 are considered as “poor”. The VHNDs which scored between 35.45 & 27.99 are considered as “Good”.

Categories of Infrastructure Index:

Low - 0 -27

Medium – 28-34

High: - 35-42

Total number of facilities: 50

### 1.8 Limitation of the study

Functions of VHND are many, but we focused only on maternal and child health area. The time gap between the survey and service utilization from the VHND is 11 months. Therefore, there could be some under reporting of service received due to recall lapse.

### 1.9 Organization of the report

The report is organized in following 5 chapters.

Chapter one “*Introduction*” discusses in brief the maternal and child health condition, rationale of the study, objectives, methodology, study tools, limitation of the study and organization of the report.

Chapter two, titled, “*Socioeconomic and Demographic Profile of the Study District*” provides information on of socio-political and demographic characteristics of the district, available health facilities.

Chapter three, titled, “*Knowledge level of key stake holders and availability of Infrastructure*” tells about availability of infrastructure, drugs, equipments etc. in VHND. It tried to assess the level of knowledge of the AWW and the ANM relating to VHND.



Chapter four, titled, “*Utilization of Service*” assess the extent of utilization of VHND services by the beneficiaries on ANC, child immunization, supplementary nutrition and counselling.

Chapter five, titled, “*Summary and Conclusion and policy suggestions*” brief the study findings and provide policy suggestions.

## Chapter 2

### Socioeconomic and Demographic Profile of the Study District

Bellary district is located in Eastern side of Karnataka state and borders Raichur district on the North, Koppal district on the West, Chitradurga & Davangere in the South and Anantapur district and Kurnool districts of Telangana state on the East. The geographical area of the district is 8,461 square kilometres. The district comprises of 7 *tahshils* and 522 inhabited villages. According to 2011 Census, total population of the district is 25,32,383. Proportion of male and female population is almost same (50 percent). The share of child population (0-6 years) to the total population is 14 percent. A little more than 62 per cent of the district population resides in rural areas. The district has a population density of 300 inhabitants per sq kilometres. Its population growth rate during the decade 2001-2011 was 21.00 per cent. The district has a sex ratio of 954 females for every 1000 males. Only two-thirds of population is literate. The districts social groupings indicate a little more than one-fifth of the total population which belonged to Scheduled Caste (SC) and corresponding proportion for Scheduled Tribes (ST) communities is 18 percent (Table 2.1 & Table 2.2).

**Table 2.1: Geographical details**

Indicators	Bellary
No. of Taluk	7
No. of Villages	522
No. of Gram Panchayat	189
Area (Sq.Kms)	8,461

Source: Census 2011

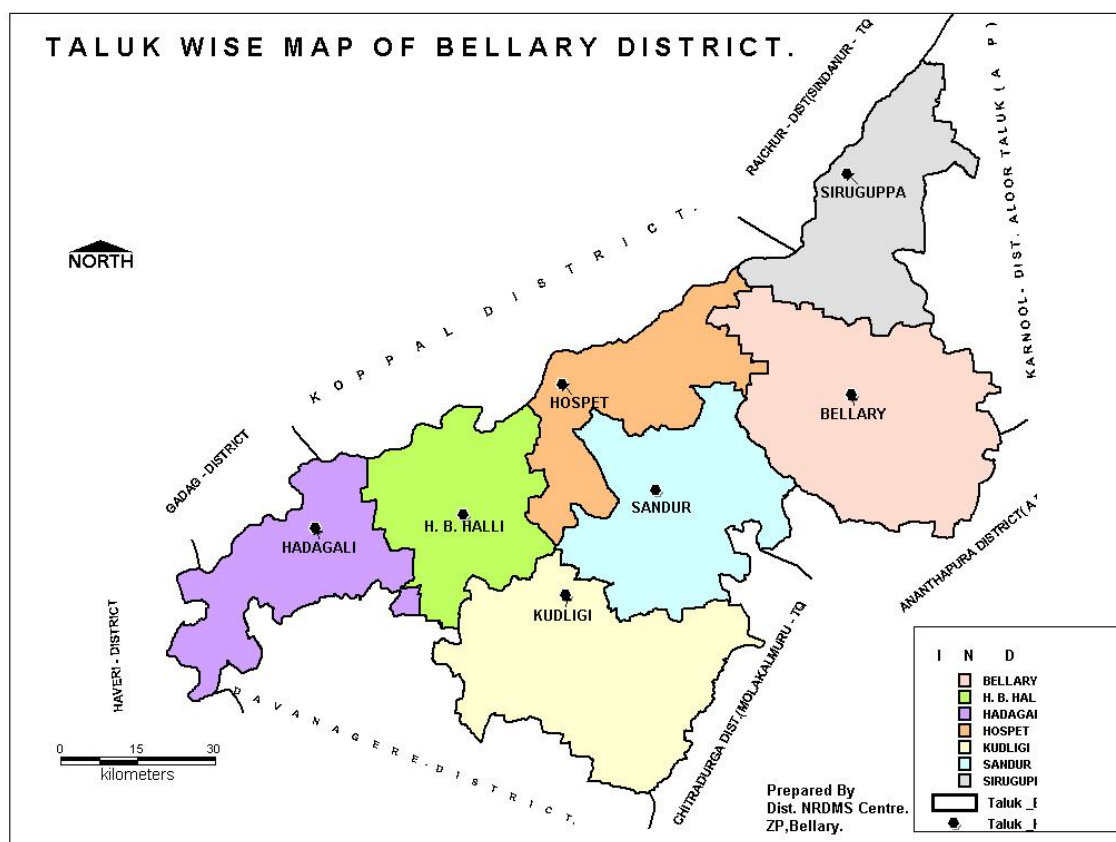
**Table 2.2: Socio-demographic indicators of Bellary district**

Indicators	Percent	Indicators	Percent
Population (2011 census)	25,32,383	Literacy rate (%)	67.4
Male	50.6	Male (%)	76.6
Female	49.4	Female (%)	58.1
Percentage decadal growth rate	21.0	Rural population (%)	60.5
Sex ratio (Females per 1000 Males)	978	SC Population (%)	20.4
Child sex ratio (Females per 1000 males)	954	ST Population (%)	10.2
Density of population	300	Source: Census 2011	

## 2.1 Key health and service delivery indicators

The key health and service delivery indicators show general health condition of the population and how effectively health programmes have been implemented in the region. A few key health and service delivery indicators are briefly discussed below.

Health infrastructure: The Bellary district has 293 health sub-centres, 74 Primary Health Centres (PHC), 11 Community Health Centres, 9 hospitals consists of 31-50 beds and 1 district hospital and one medical college hospital.



## 2.2 Mortality and Fertility

All the fertility and the mortality indicators except total fertility rate (TFR) are lower in the district than that of the state. The TFR of Bellary district is 2.38 against 1.8 in the state (Table 2.3).

**Table 2.3: Mortality & fertility indicators of Bellary district, 2015**

Indicators	Bellary	Karnataka
IMR	9	24
MMR	90	133
CDR	6.3	6.7
CBR	16.1	17.6
TFR	2.4	1.8

Source: SRS 2015, <http://www.blograja.com/infant-mortality-rate-and-maternal-mortality-rate-in-india-2015>

## 2.3 Service Utilization of Maternal and Child Health

Table 2.4 shows maternal and child care service utilization according to District Level Household Survey-4 (DLHS 4) in Bellary district and in Karnataka. The level of utilization of ANC is good both in Bellary district as well as in the state. However, comparing the district rates with the state reveals utilization of antenatal care (ANC) services in Bellary district is lower compared to state average for 3 indicators of the four.

**Table 2.4: RCH & FP indicators as per DLHS-4 (2012-13) of Bellary district and Karnataka**

Indicator	DLHS-4	
Antenatal Care (%)	Bellary	Karnataka
Pregnant women who had ANC in 1st trimester	80.1	82.2
Pregnant women who had 3 or more ANC visit	72.7	86.3
Pregnant women who had at least one TT injection	85.7	91.5
Mothers who consumed 100 or more IFA tablets	21.0	47.3
Delivery Care (%)		
Institutional delivery	81.2	89.0
Delivery at home conducted by skilled health personnel (Out of total deliveries)	6.5	3.2
Mothers who received PNC within 48hours of institutional delivery	90.1	92.4
Mothers who received PNC within 2 weeks of institutional delivery	92.3	93.8
Delivery by C-section at government health institutions	5.9	7.7
Delivery by C-section at private health institutions	11.7	14.5
Child Immunization (Children 12-23 months) (%)		
Children received BCG vaccine	95.8	97.2
Children received 3 doses of DPT vaccine	77.3	88.2
Children received 3 doses of Polio	88.7	89.6
Children received measles vaccine	90.1	89.6
Full immunization	71.1	77.6
Current use of Family Planning Methods (%)		
Any method	58.8	63.0
Any modern method	58.5	61.9
Pill	0.5	0.8
IUD	0.7	1.4
Condom	0.5	1.5

Coverage of delivery care services such as institutional delivery, postnatal care within 48 hours of delivery and PNC care within 2 weeks of institutional delivery are high both in the district and in the state, but rates for the state as a whole is slightly higher when compared to the district rates.

Overall, child immunization coverage is good. BCG coverage is almost universal both in Bellary district and in Karnataka. Coverage of 3 doses of DPT vaccine is relatively less compared to the coverage of Polio 3. Similarly, fully immunized children are also less, 71 and 78 percent for Bellary and Karnataka state respectively. It is noticed that immunization coverage rate in Bellary district is slightly lesser than the state rates for all the immunization indicators. However, current user of any family planning method and any modern method is less than 60 percent in Bellary district whereas it is little more than 60 percent in the state. Spacing method user is significantly low in the district as well as in the state. The gap between the state rates and district rates is marginal. It is true for all the indicators (Table 2.4).

## **Chapter 3**

### **Level of Knowledge of Key Stake Holders and Availability of Infrastructure**

A good knowledge is a prerequisite for effective functioning. The individuals who conduct the programme must have thorough knowledge on each and every component of the programme. In this chapter, we have tried to assess the knowledge level of the Anganwadi worker and ANM who are the pillars of the VHND. We tried to assess their job knowledge they are supposed to have in the VHND.

#### **3.1 Level of Knowledge of ANM**

As we mentioned earlier, we contacted all ANMs of the selected villages to assess their level of knowledge on various issues related to the VHND activities through a structured schedule. We have not provided any table as interviewed ANMs were a few (12).

##### **3.1.1 Socio-demographic & work profile of interviewed ANM**

Overwhelming majority of respondents belonged to Hindu religion, general caste, currently married and who have completed more than eleven years of service. With respect to age and education of the ANMs, 7 out of 12 have crossed age 40 years and 6 were studied more than years. It is surprising to know that none of them have received formal training on VHND.

##### **3.1.2 Knowledge on antenatal care**

Antenatal care is an important part of safe motherhood and child birth. It is the systematic supervision of women during pregnancy. It is intended to preserve well-being of the mother and her developing baby through periodic screening, monitoring and providing necessary treatment in order to prevent/treat medical or obstetric problems during pregnancy (UN, 2008). In order to provide timely antenatal care services to the pregnant women (PW) maternal and child health programme (MCH) emphasizes for registration of pregnancies at its early stage. One of the duties of the health functionaries is to register pregnancies at an early stage to provide recommended antenatal care. All the study participants are aware of it. Minimum number of ANC check up during pregnancy recommended by UNICEF and WHO are 4, at least one check-

up in each trimester and the last one is after 36<sup>th</sup> week of pregnancy. Nine to 12 respondents have given correct response to the question on minimum number ANC visit to be done and timing of the visit respectively. The ANMs are supposed to conduct specific tests and to provide some care to the expectant mothers in the VHND. Height & weight measurements, blood pressure & sugar test, urine examination of PW etc. are mandatory test and examinations the ANMs should perform to pregnant women. The knowledge on all the tests among ANMs is less. Height measurement, blood test, urine examinations, stomach and breast examination are reported by a few respondents (1 to 6 ANMs only). However, weight measurement and BP tests were reported by 8 and 9 ANMs respectively. Anaemia is a common problem during pregnancy. It may cause severe bleeding after delivery and it may also lead to heart failure or even death. A pregnant woman needs 6 times more iron than a non-pregnant woman. Therefore, the ANMs should provide IFA table to all PW according to the PW's anaemic level to prevent gestational anemia. The knowledge among the health workers on IFA tablet and its dosage is high. Tetanus toxoid injection should be given to the PW to prevent tetanus both in mother and child. Two doses of TT injection should be given to the PW who has become pregnant for the first time and time gap between two consecutive pregnancies is more than 3 years. Only one TT booster dose will be given if the space between two consecutive pregnancies is below 3 years. Majority of ANMs (9) reported that two doses of TT should be given to the PW. Only half of the interviewed respondents reported on TT booster dose. To assess the level of BP and gestational diabetes mellitus (GDM) ANMs should conduct BP and sugar tests to PW. We asked the questions to the respondents on minimum test readings for considering BP (<140/90mmHg) and GDM (>140 mg/dl). Only 6 ANM have replied correctly for minimum test readings for considering BP. The corresponding number for GDM is 9. Every month a PW should gain minimum one kilogram of weight. This fact is moderately known to them (7 ANMs).

Apart from these services, ANMs should counsel the PW on care during pregnancy. The pregnant women require almost 285 additional calories per day. They should take extra food and all sorts of food like fruits, green leafy vegetables, eggs, fish, mutton etc. in order to prevent themselves and their growing foetus from becoming undernourished. In addition to dietary supplement, pregnant women are also recommended to avoid onerous work and to take enough rest during day time. Level of awareness on these issues among ANM is less except the need to consume all sorts of food.

During pregnancy, some women develop complications and these complications are dangerous if not treated in time. The ANMs should have knowledge of these signs of pregnancy complications to avert the pregnancy loss or damage. We tried to assess the ANM's knowledge on the danger signs of pregnancy such as bleeding during pregnancy, high BP, swelling of hands and feet, giddiness, movement less foetus, excessive vomiting, vaginal discharge, sudden increase in weight, severe anaemic women, PW having malaria, jaundice, and HIV/AIDS and teenage pregnancy etc. The majority of ANM could not report the danger signs of pregnancy except 'swelling of legs and feet'.

### 3.1.3 Delivery Care

Hospital is the safe place for delivery where medical attention can be given if necessary. The institution where three specialists (gynaecologist, paediatrician and anaesthetist) are available and blood transfusion facility and new-born stabilization unit are available in the hospital for conducting complicated delivery. Usually, these facilities are available at CHC and above level hospitals. Normal delivery can be conducted at any health facility where safe birth attendant (SBA) is available (Sub-centre or PHC). We enquired with the respondents about the type of hospital do they suggest to the women with high risk pregnancy and women with normal pregnancy. All the ANMs have given appropriate reply to this question. Further we asked them to tell about what type of cleanliness one should follow during delivery. Clean place, clean hand, sterilized equipments and sterilized thread for tie umbilical cord are the five cleanliness norm one should follow during delivery. It is surprise to know that none of the respondent mentioned all the five points. Clean hand and clean equipment were reported by 8 and 9 study participants and remaining points were reported by 5-6 respondents only. Mother's milk is the complete food to neonates for the first six months as it has all nutrients which is required for the development of the baby. Level of immunity in babies develops by colostrum feeding. Besides, bondage between mother and baby will develop well by breast feeding the babies. It also helps to keep space between two births. When we requested the ANMs to mention the importance of breast feeding, majority of ANMs failed mention all the important points. The baby's immunity will increase is reported by 10 of the 12 respondents, but many could not inform the other benefits of breast feeding. Lactating mother require an additional 500 calories per day. The extra requirement of calories cannot be obtained unless the woman takes extra food by consuming nutritious food



(fruits, vegetables, fish egg, mutton etc.). Besides, they should drink more water, should consume the food given in the angawadi, should not reject any food, and should not consume the foodstuff which has more oil. In this background, we enquired the study participants about the kinds of food the lactating mother and pregnant women should consume. Nobody mentioned to consume food distributed in the anganwadi centres and to drink plenty of water. Only two ANMs mentioned that the PW and lactating mothers should not reject any food and avoid consumption of too oily food and fried food items. Almost all ANMs mentioned that nutritious food should be consumed mentioned.

### 3.1.4 Child Care

Neonates are very fragile and susceptible to many kinds of infection leading to illness. Improper care may lead to death of the baby. Therefore, they need to be treated with extra care right from the birth. It is one of the responsibilities of the health workers to inform the expectant mothers about the baby care which begins soon after birth. Such cares are cleanliness, feeding practice, and child immunization etc. The new born baby has to be cleaned with clean cotton and umbilical cord should be cut with sterilized tool to avoid tetanus. Then the baby should be wrapped with clean cotton and put on the mother's chest to avoid death due to hypothermia. New born baby should be breast fed as early as possible, but not later than one hour. The knowledge among the interviewed health worker with regard to this has been moderate - three to seven respondents reported these cares. New-born death is very high during 24 hours of birth, first week and first 28 days. Therefore, it should be examined by the medical person for assessing the health condition and congenital defects etc. According to the norm, new-borns should be checked within 24 hours of birth and three times in the first week of birth. Almost all ANMs have knowledge on first day check-up and have poor knowledge on the subsequent check-ups of neonates.

The common health problems among neonates are low birth weight, not able to suck breast, breathing problem, blue tongue, jaundice, blood in stools etc. The awareness on common health problem of new-borns is known by a few respondents only. None of them were able to tell all the problems. Each listed problems are reported by one to three respondents only.

The babies' weight is an indication of its level of health more particularly nutritional level. The normal weight of the new-born is 2500 grams at the time of birth and the baby which is weighing less than benchmark weight is considered as low birth weight baby. The survival chances of such babies are less. Hence, new-borns should be weighed on the day of birth. The knowledge on low birth weight baby and timing of new-borns to be weighed is known to all the study participants.

According to UNICEF, mother milk alone is enough to meet the nutritional needs of the baby for its growth and development during the first 6 months of life. Almost all are aware of exclusive breast feeding for first six months. The infants stomach is small and needs to be refilled frequently- sometimes more often than every two hours in the early days and weeks of life. Normally, a healthy baby requires breastfeeding about 8-10 times in 24 hours during first 6 months. Majority of the respondents have correct knowledge about this aspect. The child should be breastfed at least for 2 years. This fact is known to almost all the respondents.

Mother milk alone is not enough to meet the nutritional requirement of growing baby after 6 months. They need external semi-liquid food, smashed fruits, fruit juice, backed vegetables etc. at 7<sup>th</sup> month and solid food should be introduced to children at 9 month. The ANMs have good knowledge on when to start weaning and what types of things should be given to the baby, but a very few are aware of when to introduce solid food to infants. Besides, they do not have a correct knowledge on the feeding schedule of baby of 6-9 months and 9-12 months old.

Some mothers, soon after delivery compliant that “no milk or insufficient milk” to the new born baby. Scientifically, all mothers yield sufficient milk to their new-borns. The problem is that many do not know the method of getting it in enough quantity. Hence, they introduce external milk such cow milk, milk of other woman etc. The mothers who feel no milk or less milk should follow certain procedure for easy secretion of milk from the breast. Such procedures are - “put the baby to the breast quite often”, “squeeze the breast in-between two feedings or squeeze the breast just before putting the baby to the breast” and “mother should drink enough quantity of water and other fluids. Majority of mother are not aware of these procedures. Only one to four ANMs reported having knowledge of these procedures.

### **3.1.5 Child Immunization**

Immunization provided at the right age, gives nearly complete protection from the most common and serious childhood diseases. Till nine months from births but not later than one year, a child needs to receive following vaccines –Tuberculosis (BCG), Diphtheria, Pertussis, Tetanus, Polio, Hepatitis B, Japanese Encephalitis, rubella and measles. In this section, we tried to assess the level of knowledge of respondents on child immunizations (birth doses, regular doses, booster doses and vitamin A supplementation).

#### **3.1.5.1 Birth doses**

BCG is a vaccine against childhood tuberculosis. It can be given at birth or within 4 weeks. Single dose is enough to protect the child from tuberculosis. Polio drops provide immunity to the child against the polio virus. Hepatitis B is a virus that affects the liver. It transmits from contaminated water and from mother to child at birth or soon after birth. Children with Hepatitis B are more likely to develop liver disease or cancer in later life. A dose of HB and polio vaccine should be given as soon as possible (< 24 hours) after birth. All the respondents have awareness on birth doses.

#### **3.1.5.2 Regular doses**

Under regular immunization, children get protection against six childhood diseases such as Diphtheria, Pertussis, Tetanus (DPT), Polio, Hepatitis B and measles. Three doses of Polio and Pentavalent should be given to infants starting first dose at 1 ½ months and subsequent doses at 2 ½ and 3 ½ months. Besides, Vitamin A supplementation should be given to children along with measles at 9<sup>th</sup> month. Vitamin A gives protection against blindness, infection and helps in maintaining normal body functions, especially body immunity (Gosh, Shanti, 1997). Awareness on regular immunizations is universal.

#### **3.1.5.3 Booster doses**

The booster doses of DPT, Polio and Hepatitis B are given to 18 months old children. All the respondents have very good knowledge on all child immunization (birth doses, regular doses and booster doses) and immunization schedule.

### 3.1.6 Knowledge on nutrition

Vitamin and minerals such as vitamin, A, B, C, D, iron and calcium etc. are essential nutrients required for the human body to maintain good health and growth. Deficiency of such vital elements causes illness in the body. These nutrients are available in the fruits, vegetables, pulses and grains. The knowledge on the sources of these vital nutrients among the health workers is moderate, 3 to 7 persons have knowledge on various sources. On the other hand, awareness on types of signs or illness the human body will exhibit during the deficiency is fairly good for Vitamin A, B and Calcium; 8 to 11 ANMs out of 12 interviewed answered correctly. Almost no one is aware of the types of health problem would develop due the shortage of vitamin C.

Food should be cooked in such a way that loss of nutrients should be less. Therefore, grains, pulses and vegetables should be prepared in a closed container; starch should not be drained out when baking rice and vegetable should be cut in large pieces. Not more than 6 ANMs are aware of the right way of preserving nutrients at the time of cooking food.

In short, ANMs have fairly good knowledge on 13 knowledge indicators and it is rather low for 20 knowledge items. Usually, they have good knowledge on the services indicators for which they are providing services to the beneficiaries quite frequently and vice versa.

### 3.2 Socio-demographic Characteristics of Anganwadi Worker

The level of knowledge and work performance of AWW vary according to their socio-economic, demographic and job characteristics. Therefore, an understanding of these background features assumes importance. Table 3.1 shows the socioeconomic and demographic characteristics of the interviewed Anganwadi workers. The mean age of the respondent is 37.3 years and majority of respondents belonged to the age group 40 years or less (64 percent). With respect to marital status of the study population, 68 percent are ever - married. Little more than half of the interviewed AWW have attended school for 10 years or less. Overwhelming respondents are followers of Hindu religion and a simple majority are belong to other caste group. Regarding the duration of service, a half of the AWWs have been serving as Anganwadi teacher for more than 10 years. Average duration of service is 14.5 years.

**Table: 3.1: Background Characteristics of Anganwadi Worker**

<b>Characteristics</b>	<b>Percent</b>	<b>N</b>	<b>Characteristics</b>	<b>Percent</b>	<b>N</b>	<b>Characteristics</b>	<b>Percent</b>	<b>N</b>
<b>Age</b>			<b>Schooling</b>			<b>Caste</b>		
40 year & below	64.00	32	10 years or below	52.00	26	SC & ST	24.00	12
More than 40 years	36.00	18	Above 10 years	48.00	24	OBC	32.00	16
<b>Mean age 37.3 years</b>			<b>Religion</b>			Other	44.00	22
<b>Marital Status</b>			Hindu	98.00	49	<b>Years of work experience</b>		
Never married	32.00	16	Other	2.00	1	10 years or below	50.00	25
Ever married	68.00	34				Above 10 years	50.00	25

### 3.3 Knowledge of AWW

The role and responsibilities of AWW in VHND are – registration of pregnant women(PW) for antenatal care(ANC), tracking of dropped out PW for ANC services, distribution of supplementary nutrition to underweight children and PW, growth monitoring of below 6 years children, identification of grade III and grade IV and counsel on nutrition, social evils, personal hygiene etc. We have tried to assess the knowledge of AWW on these areas. Awareness of the AWW is assessed by asking question on these issues without probing the listed response categories. The findings of the knowledge assessment are briefly discussed in the following paragraphs.

#### 3.3.1 Knowledge on child growth monitoring

One of the responsibilities of the AWW in VHND is to monitor the growth of children below 6 years. It is done through the weighing of the target children every month for the children 6 months to 35 months and once in two months for 36 to 59 months old children and record the measurements in the growth monitoring register. The pages of the register consist of two colors – blue and pink. The weight measurement of boys should be recorded in blue pages and the girls in the pink. Each page has three tracks colour differently – green, yellow and orange indicating the child's nutritional level. Children plotted under the green track are considered as child's growth

is normal, whereas, children plotted under the yellow and the orange tracks indicate that the growth is slow and severely slow respectively. The AWW should know these points otherwise, it is quite possible that they can commit mistake while plotting the child in the growth chart.

Table 3.2 shows knowledge of AWW on child growth monitoring by socio-economic and job characteristics. Ninety-two to 98 percent of workers are aware that green, yellow and orange tracks indicate level of growth of children as normal, danger and very danger respectively. The data point that 6 to 8 percent of the respondents do not have correct knowledge on orange and yellow tracks. Therefore, it is quite possible that such workers commit mistake in plotting the child's weight. Differential in knowledge level with background characteristics exists but marginal. Overall, knowledge of these three indicators is relatively high among respondent who are young, completed 11 or more number of years of schooling and belonged to OBC group. Year of service makes almost no difference.

**Table 3.2: Knowledge of AWW on child growth monitoring by socio-demographic & job characteristics**

Characteristics	Awareness			N
	Green track indicates normal growth	yellow track indicates moderate malnutrition	Red track indicates severe malnutrition	
<b>Age</b>				
40 year & below	100.0	90.6	96.9	32
More than 40 years	94.4	94.4	94.4	18
<b>P value &lt;.05</b>	0.178	0.633	0.674	
<b>Years of schooling</b>				
10 years or below	96.2	88.5	96.2	26
Above 10 years	100.0	95.8	95.8	24
<b>P value &lt;.05</b>	0.332	0.377	0.954	
<b>Caste</b>				
SC & ST	100.00	91.67	100.00	12
OBC	100.00	100.00	100.00	16
Other	95.45	86.36	90.91	22
<b>P value &lt;.05</b>	0.522	0.310	0.266	
<b>Years of experience</b>				
10 years or below	100.00	88.00	96.00	25
Above 10 years	96.00	96.00	96.00	25
<b>P value &lt;.05</b>	0.312	0.297	1.000	
<b>Total</b>	<b>98.0</b>	<b>92.0</b>	<b>94.0</b>	<b>50</b>

### 3.3.2 Knowledge on Danger Signs of Health of Children

Some signs appear on the child's body when the child is suffering from malnourishment. Such danger signs are growth retardation, swelling of hands and legs, hair falling, decolonization of skin, marasmus and kwashiorkor, anaemia, night blindness, and frequent fever. All these symptoms are self-explanatory except Marasmus and Kwashiorkor. The Marasmus is caused by severe deficiency of both protein and calories. Its symptoms are growth retardation, muscle wasting, impaired immunity, vomiting, delayed wound healing, and stomach shrinkage. On the other hand, Kwashiorkor is caused by severe protein deficiency, oedema, bulging of abdomen, inability to grow and gain weight are its symptoms.

Table 3.3 shows knowledge of AWW on the danger signs of health of children. Overall, level of knowledge is not high among the study population. Out of 8 indicators, awareness is more than 70 per cent only in two indicators namely, 'Growth Retardation' and 'Variation in weight', whereas, awareness on 'Night blindness', 'Infestation' and 'Marasmus and Kwashiorkor' were considerably low (10 to 20 per cent). It indicates that respondents' knowledge is not in uniform level and wide variation exists in respect of different knowledge indicators. Further, large variation among different population sub groups has been observed. Percentage difference between high and low knowledge varies from a low of 2 percent to a high of 50 percent. It has also been noticed that definite pattern is not emerging in the differentials in knowledge. Overall, awareness is relatively high among the AWW whose age is more than 40 years, years of schooling is 10 years or below, belonged to weaker section of the community, and have less number of years of service. This finding suggests that knowledge is not influenced by selected background variables. Chi-square results indicate that association between years of schooling and knowledge on anaemia are significant. The caste and awareness on 'frequent fever' also have the similar association.

### 3.3.3 Knowledge on Social Evils

Many deep rooted social evils are there in the society. Common social evils are dowry, child marriage, *Devadasi* system (religious prostitution), female foeticide, sex work and illegal trafficking of women and children etc. These social evils are disgraceful to modern society and

harmful to well-being of women, adolescent and children. It is one of the responsibilities of the VHND to address the harmful practice through an effective counselling to the target population and to make them empowered.

**Table 3.3: Knowledge of AWW on danger signs of health of children by socio-demographic & job characteristics**

Characteristics	Knowledge								N
Age	Growth retardation	Swelling of hands, legs & stomach, hair falling etc.	Variation in weight	Marasmus and kwashiorkor	Infestation	Anaemia	Night blindness	Frequent fever	
40 year & below	65.63	56.25	71.88	15.63	18.75	40.63	9.38	46.88	32
More than 40 years	77.78	61.11	72.22	27.78	5.56	50.00	11.11	61.11	18
<b>P value &lt;.05</b>	0.368	0.738	0.979	0.302	0.197	0.522	0.844	0.333	
<b>Years of schooling</b>									
10 years or less	73.08	50.00	73.08	19.23	15.38	30.77	11.54	53.85	26
Above 10 years	66.67	66.67	70.83	20.83	12.50	58.33	8.33	50.00	24
<b>P value &lt;.05</b>	0.621	0.233	0.860	0.887	0.769	<b>0.050</b>	0.706	0.786	
<b>Caste</b>									
SC & ST	58.33	66.67	50.00	8.33	16.67	41.67	16.67	25.00	12
OBC	81.25	56.25	81.25	18.75	12.50	50.00	12.50	75.00	16
Other	68.18	54.55	77.27	27.27	13.64	40.91	4.55	50.00	22
<b>P value &lt;.05</b>	0.411	0.780	0.145	0.414	0.950	0.841	0.489	<b>0.031</b>	
<b>Duration of service</b>									
10 years or below	68.00	64.00	76.00	24.00	16.00	48.00	8.00	44.00	25
Above 10 years	72.00	52.00	68.00	16.00	12.00	40.00	12.00	60.00	25
<b>P value &lt;.05</b>	0.758	0.390	0.529	0.480	0.684	0.569	0.637	0.258	
<b>Total</b>	<b>70.0</b>	<b>58.0</b>	<b>72.0</b>	<b>20.0</b>	<b>14.0</b>	<b>44.0</b>	<b>10.0</b>	<b>52.0</b>	<b>50</b>

We requested the interviewed Anganwadi workers to name the social evils which they are supposed to address in the VHND. Knowledge of Anganwadi workers on social evils is given in table 3.4. Overall, awareness of the respondent on social evils is low. Social evil “dowry” and “child marriage” are reported by 62 and 68 percent of the study participants respectively, whereas, knowledge on other evils such as ‘devadasi system’, ‘female foeticide’, ‘sex work’ and ‘illegal trafficking of women and children’ are strikingly low 12 - 24 percent. Wide variation in



the level of awareness among different socio-economic groups is observed. It varies from no difference to 25 percent difference among the different population segments. There is no definite pattern as such is found in knowledge variations among different groups, however, it is relatively high among AWW who are young, more educated, belonged to SC & ST groups and work experience is 10 years or less.

**Table 3.4: Knowledge of AWW on social evils by socio-demographic & job characteristics**

Characteristics	Dowry	Child marriage	Devadasi system	Female infanticide	Sex work	Illegal trafficking of women & children	N
<b>Age</b>							
40 year & below	62.50	75.00	12.50	15.63	6.25	25.00	32
More than 40 years	61.11	55.56	22.22	11.11	22.22	22.22	18
<b>P value &lt;.05</b>	<b>0.923</b>	0.157	0.368	0.659	0.095	0.825	
<b>Years of schooling</b>							
10 years or below	53.85	65.38	15.38	7.69	7.69	26.92	26
Above 10 years	70.83	70.83	16.67	20.83	16.67	20.83	24
<b>P value &lt;.05</b>	0.216	0.680	0.902	0.181	0.329	0.614	
<b>Caste</b>							
SC & ST	75.00	66.67	16.67	8.33	25.00	25.00	12
OBC	68.75	62.50	6.25	25.00	0.00	25.00	16
Other	50.00	72.73	22.73	9.09	13.64	22.73	22
<b>P value &lt;.05</b>	0.284	0.795	0.391	0.306	0.125	0.983	
<b>Years of experience</b>							
10 years or below	64.00	72.00	12.00	20.00	8.00	24.00	25
Above 10 years	60.00	64.00	20.00	8.00	16.00	24.00	25
<b>P value &lt;.05</b>	0.771	0.544	0.440	0.221	0.384	1.000	
<b>Total</b>	<b>62.00</b>	<b>68.00</b>	<b>16.00</b>	<b>14.00</b>	<b>12.00</b>	<b>24.00</b>	<b>50</b>

### 3.3.4 Knowledge on personal hygiene of children

Personal hygiene plays a vital role in preventing illness particularly communicable diseases. Keeping personal hygiene is also a matter of decency. Hygiene behaviour should be developed among young children so that it becomes a part of their life when they grow up. Children learn many basic manners of life from the family members particularly from the mother. Basic hygiene practices like brushing teeth, bathing with soap, hand washing with soap before taking meals and after using toilet and Clean sleeping room & bed sheets etc. are the basic

hygiene practices the mother or family members should teach their children. Sometimes mothers do not have adequate and scientific information on these simple hygiene norms. Such individuals need some sort of orientation on these issues. The VHNDs is expected fill up this gap among mothers through counselling.

Table 3.5 shows knowledge of AWW on type of advices to be given to mothers on children's personal hygiene. The table shows that knowledge of AWW varies a lot, only one-fifth of respondents know that 'sleeping room and bed sheet should be clean' and another 32 percent know that 'washing hands after using toilet' should be counselled to mothers, but on the other hand 94 percent and 74 percent of respondents are aware that information on "bath with soap" and 'brushing teeth daily' should be given to the beneficiaries respectively. The data indicates that respondents are providing information with mothers on all the components of personal hygiene equally. Looking at the socio-economic differentials in knowledge level, it differs very much for all the indicators except 'bath with soap' where differences are marginal among the different socioeconomic groups. Further, it is noticed that knowledge is relatively high among more educated and aged AWWs. With respect to knowledge level of different caste groups of the study population, SC and ST and OBC have better knowledge as compared to other caste groups. Significant variation in the awareness is noticed in years of service completed and washing hand with soap before taking food and hand washing after using toilet. No or marginal difference has been observed for the rest of the indicators.

**Table 3.5: Knowledge of AWW on advice be given to parents of AWC children on personal hygiene by socio-demographic & job characteristics**

Characteristics	Type of advice					N
	Brushing teeth daily	Bathing with Soap daily	Hand washing with soap before taking food	Hand washing after using toilet	Clean sleeping room & clean bed and bed sheets	
<b>Age</b>						
40 year & below	68.75	93.75	71.88	31.25	25.00	32
More than 40 years	83.33	94.44	55.56	33.33	11.11	18
<b>P value &lt;.05</b>	0.259	0.921	0.242	0.880	0.239	
<b>Years of schooling</b>						

10years or below	80.77	92.31	65.38	30.77	23.08	26
Above 10 years	66.67	95.83	66.67	33.33	16.67	24
<b>P value &lt;.05</b>	0.256	0.600	0.924	0.846	0.571	
<b>Caste</b>						
SC & ST	75.00	91.67	91.67	33.33	16.67	12
OBC	75.00	93.75	62.50	25.00	37.50	16
Other	72.73	95.45	54.55	36.36	9.09	22
<b>P value &lt;.05</b>	0.984	0.905	0.086	0.755	0.092	
<b>Years of experience</b>						
10 years or below	72.00	92.00	72.00	44.00	20.00	25
Above 10 years	76.00	96.00	60.00	20.00	20.00	25
<b>P value &lt;.05</b>	0.747	0.552	0.370	0.069	1.000	
<b>Total</b>	<b>74.00</b>	<b>94.00</b>	<b>66.00</b>	<b>32.00</b>	<b>20.00</b>	<b>50</b>

### 3.3.5 Knowledge on service available to adolescent girls at VHND

VHND is an ideal platform to make the adolescent girls to become a healthy prospective mother and a responsible member of the household as well as the community. To empower them, essential training in the form of counselling on different topic is organized at VHND every month. Knowledge on following issues are being provided at the VHND – health and nutrition education, guidance on conservation of family, child care and family maintenance, reproductive and sexual health education, life skill education and public services, skill development training etc. In addition to these, distribution of supplementary nutrition, iron and folic acid (IFA) tablets, health check-up of adolescent girls and distribution of sanitary pads (*shuchi* pad) are also part of the VHND programme.

Table 3.6 presents knowledge of AWW on the services available to adolescent girls in VHND. Overall, level of knowledge of the respondents is not uniform. It is as high as 96 percent for three indicators namely distribution of ‘supplementary nutrition’, ‘IFA tablets’ and ‘Sanitary pads’. In contrast, knowledge on four indicators namely, ‘child care and family maintenance’, ‘reproductive and sexual health education’, ‘life skill education and public services’, ‘skill development training’ are awfully low, only 10 to 20 percent of the AWW reported these are the service available for the adolescents. It suggests that these issues are hardly counselled in the VHNDs. Further, ‘health check-up of adolescents’ and ‘health and nutrition education for

adolescent' are reported by 58 and 62 percent of respondents respectively. Regarding knowledge differentials among the different social and economic groups of the study population, almost no

**Table 3.6: Knowledge of AWW on service available to adolescent girls in AWC by socio-demographic & job characteristics**

	Knowledge on service available to adolescent girls at AWC									
Characteristics	Supply of take home ration	Distribution of IFA tablets	Health check-up & service	Education on health & nutrition	Child care and house management	Education on reproductive and sexual health	Life skill education & general services	Skill development training	Distribution of <i>suchi</i> -pads	N
<b>Age</b>										
40 year & below	96.88	96.88	50.00	56.25	6.25	12.50	18.75	9.38	96.88	32
More than 40 years	94.44	94.44	72.22	72.22	16.67	16.67	22.22	33.33	94.44	18
P value <.05	0.674	0.674	0.126	0.264	0.239	0.684	0.768	<b>0.034</b>	0.674	
<b>Years of schooling</b>										
10 years or below	100.0	96.15	57.69	65.38	3.85	15.38	15.38	26.92	92.31	26
Above 10 years	91.67	95.83	58.33	58.33	16.67	12.50	25.00	8.33	100.00	24
P value <.05	0.133	0.954	0.963	0.608	0.131	0.769	0.396	0.087	0.166	
<b>Caste</b>										
SC & ST	100.0	91.67	41.67	50.00	25.00	8.33	8.33	0.00	91.67	12
OBC	100.0	100.00	62.50	62.50	0.00	18.75	6.25	6.25	100.00	16
Other	90.91	95.45	63.64	68.18	9.09	13.64	36.36	36.36	95.45	22
P value <.05	0.266	0.530	0.420	0.579	0.091	0.733	<b>0.037</b>	<b>0.010</b>	0.530	
<b>Years of experience</b>										
10 years or below	100.0	100.00	44.00	48.00	12.00	8.00	24.00	8.00	100.00	25
Above 10 years	92.00	92.00	72.00	76.00	8.00	20.00	16.00	28.00	92.00	25
P value <.05	0.149	0.149	<b>0.045</b>	<b>0.041</b>	0.637	0.221	0.480	0.066	0.149	
<b>Total</b>	<b>96.0</b>	<b>96.0</b>	<b>58.0</b>	<b>62.0</b>	<b>10.0</b>	<b>14.0</b>	<b>20.0</b>	<b>18.0</b>	<b>96.0</b>	<b>50</b>

difference has been noticed with respect to the indicators which are well known to them (supplementary nutrition, IFA and sanitary pads), moderate to large variation is observed with the rest of the service indicators. Further it is noticed that knowledge is rather high among the

respondents who are senior in age, formal schooling is 10 years or less, belonged to other caste group and junior in service. It is also noticed from the table that no definite pattern is emerging in difference in knowledge level among population groups. Chi-square analysis indicates that respondent's age, caste and knowledge on skill development training have significant association. Besides, association between caste and knowledge on life skill counselling is also significant.

### 3.3.6 Knowledge Index

As mentioned earlier, to get an overall picture of knowledge level of the study population, we constructed a knowledge index using 63 knowledge indicators. The procedure followed in building the index is mentioned elsewhere. Knowledge index by socio-economic and job characteristics is presented in table 3.7. Overall, level of awareness among the study population is good, 70 percent of the respondents fall under the 'good' category (score: 29- 41; maximum score is 63). The proportion of AWW belonged to 'excellent' and 'poor' groups are more or less same (14 percent and 16 percent). Further, it has been observed that knowledge variation among the different population groups does not vary much with respect to excellent group and poor group. However, significant variation is noticed among the population sub-groups for the 'good' category. The awareness level is relatively high among the Anganwadi workers whose age is 40 years or less, attended school 10 years or less, belonged to SC & ST group and respondents having experience more than 10 years. The table suggests that socio-economic characteristics are not a matter in determining the knowledge level of the study population.

**Table 3.7: Level of Knowledge by socio-demographic and job characteristics**

<b>Socio-demographic and job characteristics</b>	<b>Level of Knowledge</b>			
	<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>N</b>
<b>Age</b>				
Below 40 years	9.38	75.00	15.63	32
Above 40 years	22.22	61.11	16.67	18
<b>Marital Status</b>				
Never married	12.50	81.25	6.25	16
Ever married	14.71	64.71	20.59	34

<b>Years of schooling</b>				
10 years or below	11.54	76.92	11.54	26
Above 10 years	16.67	62.50	20.83	24
<b>Caste</b>				
SC & ST	8.33	83.33	8.33	12
OBC	18.75	62.50	18.75	16
Other	13.64	68.18	18.18	22
<b>Years of experience</b>				
10 years or below	16.00	68.00	16.00	25
Above 10 years	12.00	72.00	16.00	25
<b>P value &lt;.05</b>	0.431	0.528	0.816	
<b>Total</b>	<b>14.00</b>	<b>70.00</b>	<b>16.00</b>	<b>50</b>

### 3.4 Infrastructure

For quality implementation of any programme infrastructure and supplies are essential requirements. To assess the available infrastructures for conducting VHND, we collected information under four heads - physical infrastructure, equipments, supplies and drugs.

**Building:** Majority of anganwadi centre (AWC) are functioning in a government building which are constructed according to the standard norm. The building norms changed time and again, hence size and structure varies. It has been noticed that some Anganwadi are operating in a rented buildings which lacks certain facilities like toilets, kitchen, storerooms etc. The AWC running in rented buildings is common in large size villages. It is also found that AWC is located in one side of the village and its area of operation exists at another side. Drinking water and container for water storage is available in all the visited AWCs. The child friendly toilet and soap in washing area are found less (20 & 40 of AWC). Majority of the AWC were kept clean. With respect to electricity connection to the building, only half of the centres have this facility (Table 3.8).

**Table 3.8: Available infrastructure in AWCs**

<b>Type of Infrastructure</b>	<b>Percent</b>	<b>Type of Infrastructure</b>	<b>Percent</b>
Electricity connection	50.00	Clean AWC	92.00
Drinking water	100.00	Weighing scale (Adult)	90.00
Water container	100.00	Weighing scale (child)	84.00

Child friendly toilet facility	20.00	Examination table	0.00
Soap in hand washing area	40.00	Bed screen	0.00

N=50

### 3.4.1 Availability of drugs

As we discussed earlier, the VHND is the service providing point for pregnant women, lactating mothers, children and adolescents. To provide various services like antenatal care, child immunization, family planning following drugs and supplies are required: IFA tablets, ORS packets, TT injection, Cotrimoxazole tablet, anti-helminthic drug, chloroquine, paracetamol, vaccines, spacing methods like condoms, oral contraceptive pills, emergency contraceptive pill etc. Table 3.9 shows availability of drugs in the last VHND. The table reveals that almost all drugs required for the VHND were available in all the visited centres. However, supply of tablet Cotrimoxazole, anti-TB drug and emergency Contraceptive pills were available only in 40 to 50 percent of the centres.

**Table 3.9: Availability of drugs and Supply in last VHND**

Drugs & supply	Percent	Drugs & supply	Percent
IFA tablets	96.00	Paracetamol	98.00
IFA syrup	82.00	BCG vaccine	94.00
ORS Packets	98.00	Pentavalent vaccine	98.00
TT Injection	99.00	Polio	98.00
Cotrimoxazole	50.00	Vitamin A solution	72.00
Anti-helminthic drug	72.00	Condoms	86.00
Chloroquine	90.00	OCPs	98.00
Anti-TB drugs	42.00	ECPs	40.00

N=50

### 3.4.2 Availability of Equipments

Apart from above mentioned drugs, equipment and supplies such as hemoglobin meter, urine examination kit, gloves, slides, stethoscope, BP measuring instrument, height measuring

tape, foetus scope, vaccine carrier, AD syringes, MCH cards etc. are required in VHND. Table 3.10 presents availability of equipment in the surveyed facilities in the last VHND. It is observed from the table that majority of the centres were having most of the equipment which was required for providing services, 94 to 98 percent of the centres were having the hemoglobinometer, slides, stethoscope etc. However, availability of MCH cards have been found only in 58 percent of the centres. There is no proper supply of MCH cards from the government. Wherever the card is not available, the ANMs are not issuing the same to the pregnant mothers. It is important to note that no AWC had stock of supplementary nutrition for the last two month. Examination table and bed screen are the important infrastructure which are used in antenatal check-ups are not found in any of the centres. When we asked the respondent how they manage the ANC without the table and bed screen, some AWW replied that pregnant women are asked to lay down on floor for such examination; others reported that PW are sent to sub-centres which has the required facility.

**Table 3.10: Availability of equipment & supply in the last VHND**

<b>Equipment</b>	<b>Percent</b>	<b>Equipment</b>	<b>Percent</b>
Hemoglobin meters	98.00	Measuring tape	94.00
Urine examination kit	88.00	Foetuscope	86.00
Gloves	66.00	Vaccine carrier with ice packs	98.00
Slides	98.00	AD syringes	98.00
Stethoscope	98.00	MCH cards	58.00
Blood pressure instrument	98.00	THR	0.0

**N-50**

### **3.4.3 Availability of Counselling Materials**

Counselling is one the important activities of VHND. The ANM and AWW counsel the beneficiaries on a wide range of issues related to ANC, PNC, child care, immunization, nutrition, family planning, social evils, personnel hygiene etc. for which they require education materials in the form of flipchart, books posters etc. so that they can counsel the target population more effectively. Table 3.11 presents proportion of AWC possessing various counselling tools. Availability of IEC materials in the visited AWC is moderate. It ranges from 12 percent to 80



percent. Counselling materials on nutrition (80 percent), ANC (72 percent), child immunization (68 percent), PNC (66 percent), childhood diseases (64 percent) are available in majority of the centres; whereas, materials on family planning and communicable diseases are available in less proportion of the centres. Quality of the counselling might not be that effective since counselling tools are not available on many issues and in many Anganwadi.

**Table 3.11: Availability of counselling materials in the last VHND**

Material	Percent	Material	Percent	Material	Percent
ANC	72.00	Nutrition	80.00	Family planning	12.00
PNC	66.00	Childhood disease	64.00	N=50	
Immunization	68.00	Communicable disease	36.00		

### 3.4.4 Infrastructure Index

In order to get an aggregate picture of the available infrastructure, drug supply, equipments etc. we constructed an infrastructure index using 42 items from the checklist. The method which we followed to construct the knowledge index is followed here also. If the equipment/drugs etc. was available in the last VHND, score one was assigned, otherwise zero was given. The maximum score a facility can obtain is 42 and minimum score is zero. Mean and standard deviations of the summated scores is 35.45 and 27.99 respectively. The facilities are categorized in to three groups on the basis of the score obtained as “Excellent” (score range: 36-42), “Good” (score range: 28-35) and “Poor” (score range: 1-27). Table 3.12 presents level of infrastructure at aggregate level. According to the table, 72 per cent of the VHNDs fall under “good” category and another 20 are come under “excellent” category. The emerging important point from the table is that majority of the VHNDs was well equipped to conduct the programme.

**Table 3.12: Infrastructure Index**

Level	Percent	Number
Excellent	20.0	10
Good	72.0	36
Poor	8.0	4

### 3.5 Participation and cooperation of Panchayat Raj institution

The government has realized that to make success of any community or individual level programmes involvement of Panchayat Raj Institution (PRI) is important. Accordingly, PRIs are involved in all health programmes including VHND. They have dual roles in the programmes; they should support the programmes for the success and they should monitor the activities for quality implementation. With a view to understanding the level participation of the PRIs in the VHNDs, we asked the AWW to state how many PRIs were present in the last VHND. The participation of PRIs in the previous VHND is very limited. Three-fifths of the respondents reported that the Gram Panchayat member was present in the last meeting. The corresponding proportion for the Self-help group member and School Teacher are 40 and 38 percent respectively. The GP president and secretary and NGO members attended very few VHND meetings. It is very clear from the Table 3.13 that PRI involvement in the programme is poor.

**Table 3.13: Type of PRI representative present in the last VHND**

Type of representatives	Percent
Gram Panchayat President	6
Gram Panchayat Secretary	3
Gram Panchayat Member	60
NGO Member	2
SHG Member	40
School Teacher	38

### 3.6 Opinion of AWW on Cooperation of other department for conducting VHND

As we know, the VHND programme should be organized jointly by the health department, women and child development department and Panchayat Raj. The health department and women & child development department are the programme implementing agency, whereas the PRIs are facilitating and monitoring group. The cooperation and coordination among all the three departments should be good for effective implementation of the activity. To know the views of the AWW on cooperation of member of other two groups, we sought their opinion on cooperation and coordination in organizing the VHND. Majority (60 percent) of the respondent viewed that ANMs cooperation is good and remaining 40 percent

expressed different view –. “ANMs have good knowledge; it is better if they attend all the VHNDs. It would help in answering the questions the beneficiaries’ ask”. “They are not attending all the meetings”. “The PRIs and ANMs are not giving good support to conduct the meeting”. The fact is that ANM cannot attend all the VHNDs organised in her area as two three VHNDs organized on the same day. It is reported that ASHAs regularly attended the meeting provide support in counselling (Table not given).

To summarize, ANMs have fairly good knowledge on 13 indicators of the total 33 knowledge indicators and AWWs have high knowledge on 9 indicators out of 24 indicators used for assessing their knowledge level. Usually, they have good knowledge on the services which they are providing to the beneficiaries quite frequently and vice versa. The knowledge level is relatively high among Anganwadi worker who are young, less educated, SC & ST and senior in service. No issue with respect to drugs and supply, infrastructure facility, availability of equipments, counselling materials etc. in the last VHND. However, PRI presence in the last VHND and their support and cooperation was poor. Similarly, cooperation and coordination among stake holders is rather poor.

## **Chapter 4**

### **Utilization of Service**

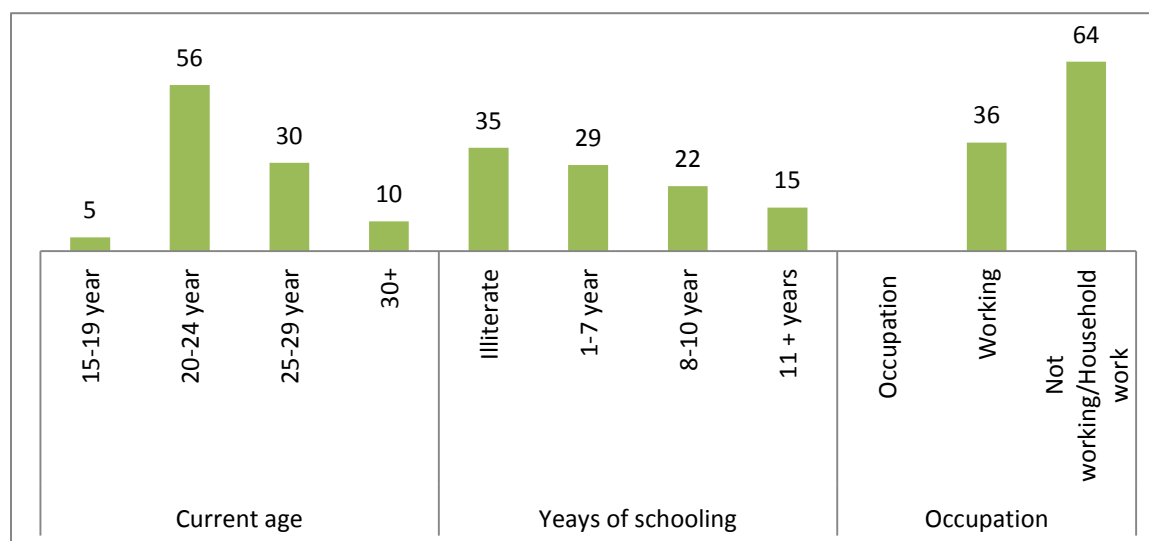
The fundamental purpose of the VHND is to provide ANC, PNC, child immunization, dietary supplementation to mothers, children and adolescent girls, growth monitoring and referral of young children and counselling services etc. at the door steps of the beneficiaries. To assess the performance of VHNDs, we contacted and gathered information from the mothers who delivered in 2016. The information was collected on almost all the services the VHND is expected to deliver to mother and children.

#### **4.1 Background characteristics**

##### **4.1.1 Socio-economic and demographic characteristics of respondent**

The utilization of any service differ according individual and household characteristics. Therefore it is important to understand the background characteristics of the interviewed respondents. Figure 4.1 shows socio-economic and demographic features of the mothers. Majority of respondents belonged to 20-24 age group (56 percent). The median age indicates that the study population is quite young (23.5 years). The young mothers are represented more in the study because recently delivered mothers were considered for survey. With respect to the education of interviewed mothers is concerned, quite good proportions (35 per cent) of mothers are illiterate and close to 15 percent have attended school 11 or more years. The mean year of schooling is 5.5 years. It has been observed that almost two-thirds of respondents are not engaged in any work except household work.

**Figure 4.1: Socio-economic and demographic characteristic of respondent**

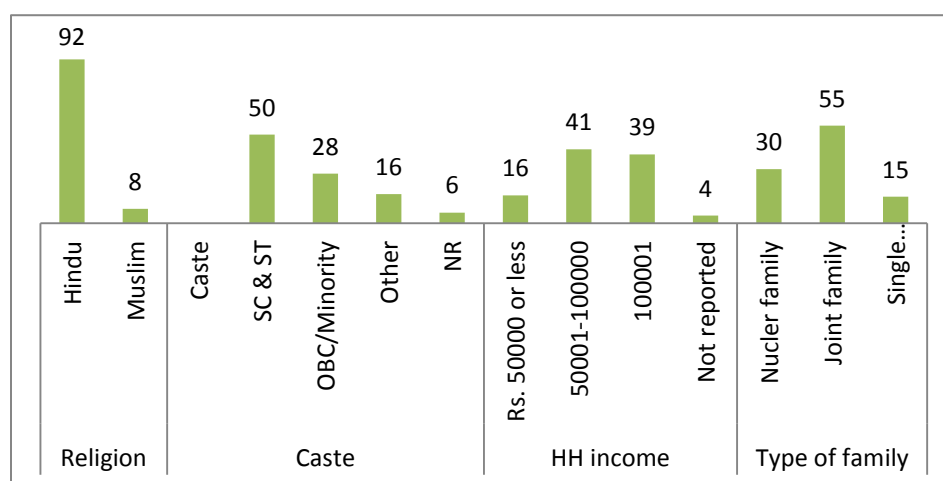


N=280

#### 4.1.2 Household characteristics

Household characteristic of the study population is presented in Figure 4.2. A great majority of respondents are Hindu and half of the total interviewed women belonged to scheduled caste (SC) and scheduled tribe (ST) group. Regarding annual household income of the respondents' household, forty-one percent belonged to Rs 50001- 100000 income group. The mean annual household income is 123305.60 rupees. Coming to the type of family, majority of respondents belonged to joint family.

**Figure 4.2: Household characteristics of respondents**

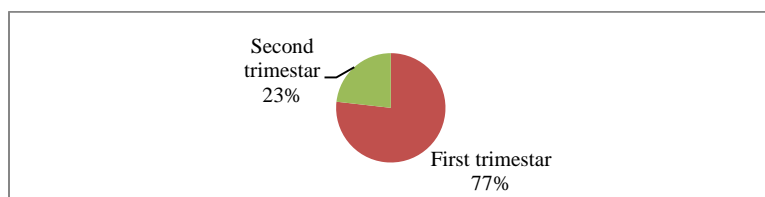


## 4.3 Service Utilization

### 4.3.1 Timing of Pregnancy registration

In order to provide timely ANC services, the ANM/AWW should register all the pregnant women of their area in the first trimester itself. Figure 4.1 shows that all the interviewed mothers were registered in the VHND. Figure shows that little more than three-fourths of women were registered in the first three months of pregnancy. It indicates that registration in the first trimester is not universal and still a considerable proportion of women were remained unregistered in the first trimester (23 percent). Our study finding is consistent with NFHS 4 results; where 71 percent of pregnant mothers in Bellary district registered in the first trimester (MoHFW 2016).

**Figure 4.3: Timing of pregnancy registration**



### 4.3.2 Time of antenatal care

As per the WHO guideline, a pregnant woman should be examined by the health personnel at least once in each trimester and a test after 36<sup>th</sup> week of pregnancy. Table 4.1 shows proportion of women received ANC as per norm and source of tests. It is noticed that close to 75 percent of mothers have received ANC check-up as per the norm. The results of NFHS-4 of Bellary district is close to the present study finding (76 percent of pregnant women availed 4 times ANC). Despite the good coverage of ANC check-up, only 11 percent of beneficiaries received ANC from the VHND and the rest of the respondents got it from other sources mainly from the government hospitals. The poor coverage of ANC from the VHND because majority of mothers themselves preferred government hospital as it has more qualified health personnel and more facilities available there.

**Table 4.1: ANC received by trimester and source**

No. of times ANC done	Source of ANC		
	VHND	Other	Total
ANC received as per norm	77.42	74.30	74.64
ANC received but not as per norm	22.58	25.70	25.36
<b>Total</b>	<b>100.00</b> <b>(31), (11%)</b>	<b>100.00</b> <b>(249), (90%)</b>	<b>100.00</b> <b>(280), 100.00)</b>
<b>P&lt;.05</b>			0.706

### 4.3.3 Tests during Pregnancy

As we mentioned earlier, a pregnant women should undergo series of health check-ups like height, weight, BP, sugar etc. Type of tests by source is presented in Table 4.2. Majority of tests have been done to the respondent during last pregnancy except breast examination and height measurement. These two examinations were not done to 42 to 50 percent of the mothers. It has been noticed that the VHND is not emerging as a main source of tests during pregnancy as proportion of mothers availed the service do not cross 26 percent. The fact is that tests are conducted in the VHND, but mothers are not availing the benefit. Majority of mothers relied on the government facilities for the tests.

**Table 4.2: Type test done and source of test during pregnancy**

Test	%	Test	%	Test	%
<b>Height</b>		<b>Urine test</b>		<b>Breast</b>	
VHND	18.21	VHND	13.57	VHND	3.93
Other	40.00	Other	75.00	Other	46.07
Not done	41.79	Not done	11.43	Not done	50.00
<b>Blood</b>		<b>Abdomen</b>		N=280	
VHND	18.93	VHND	13.21		
Other	75.36	Other	70.36		
Not done	5.71	Not done	16.43		

#### 4.3.4 Iron & folic acid tablet and TT injection

Consumption of IFA tablets during pregnancy is essential as it helps the mother to keep good iron level in the blood. To prevent anaemia among pregnant women and adolescent girls iron supplementation is given in the form of tablets in VHND. Table 4.3 shows percent of women received IFA and TT injection by source. Almost all respondents received TT injection and majority of them received from the VHND (57 percent). According to NFHS 4, 78 percent of pregnant mothers received TT in Bellary district. With respect to IFA tablets, 93 percent of mothers have received IFA tablets and only 20 percent of them availed from the VHND. Six percent of women not at all received it. Anaemia is a serious health issue among women particularly among the pregnant women as severe anaemia causing death. In India, leading cause of maternal death is severe anaemia. Thus, some sort of motivation is required to the mothers who are rejecting to take the IFA tablet in order to prevent anaemia which is causing maternal and neonatal mortality. It is observed that those who have received IFA, most of them got it from the other source. The utilization of the VHND service by the beneficiary is not high, only one-fifth of the pregnant mothers collected IFA from the said source. Further, it is noticed that receiving IFA tablets and TT injection during pregnancy and source are significantly associated.

**Table 4.3: IFA and TT injection received by respondents and source**

IFA/TT	Percent	P<.001
<b>IFA tablet</b>		
VHND	20.36	<b>0.000</b>
Other	73.21	
Not received	6.43	
<b>TT injection</b>		
VHND	57.14	<b>0.000</b>
Other	42.14	
Not received	0.71	
<b>Total</b>	<b>100.00</b>	



### 4.3.5 Other services received from VHND

As we explained earlier, The VHND is the main source of many other women and child health services apart from antenatal services. Such services include weighing of baby, supply of supplementary nutrition, distribution of IFA tablets to the needy patients, distribution of deworming tablets and supply of spacing methods to the potential couples etc. Table 4.4 shows percentage of mothers who have received various services from the VHND. All the babies aged 6 months to 5 years should be weighed and weight of the baby should be informed to the mothers. Seventy-three percent of respondents reported that their baby has been weighing every month at the VHND, whereas 69 percent of mothers only said weight of the baby has been informing to them. The data indicates that all the eligible children are not weighted and weight of the baby is not informed to respective mothers. The validity of this response should be looked at from three angles: the baby is weighed but mother is not aware the fact because sometimes, other members of the family take the child for weighing, recall lapse of the mother in reporting and other possibility is that baby is not weighed.

**Table 4.4: Percentage of mothers received various services from VHND during last one year**

Type of service	Percent	Type of service	Percent
Baby weighed every month	73.2	IFA syrup/tablet	36.8
Informed baby's weight	69.3	Anti-helminthic tablet	53.9
Take home ration	94.6	Oral pill	3.9
Supplementary food to child	91.8	Condom	0.7
Received ORS packet	43.6	EC pill	0.4

**N=280**

It is noticed that take home ration and supplementary nutrition are received by a great majority of respondents (95 percent and 92 percent). A large gap is noticed in service utilization at national level as only 42 percent of beneficiaries availed this service at aggregate level (Srinivasan, 2017). The table reveals that 5 to 8 percent of respondents have not received these services from the VHND during the last one year. We asked reasons for not receiving these supplies from such mothers. Some reported reasons as mistake from the beneficiary side and some other pointed out lacuna in supply side (VHND). Following are some of the reasons

indicating mistake from beneficiary side: “no time to go”, “no need of ration” “we are moving from one place to another”, “we were not here for long time”. Following few responses tells mistake from VHND side: “they are not calling regularly”, “we went but not given the ration, “we don’t know the reason why they have not giving it”, “short supply of ration” etc.

It is observed from the table that mothers are receiving services other than the services which we discussed above is less. Fifty-four percent of beneficiaries have received deworming tablets, 37 percent received IFA syrup/small tablet for their children and 44 of mothers availed ORS packets. The family planning services obtained by the beneficiaries are very less, in fact, it is less than 4 percent only. These services are need based, i. e., if beneficiaries is in need of these services they can availed it otherwise no.

#### **4.3.6 Child Immunization**

The child immunization is one of the important services the VHND is excepted to provide. Table 4.5 shows the proportion of children who received immunization by source. Overall, immunization coverage of zero doses and regular doses among the study children is higher when compared to booster doses. It is also observed that VHND is emerged as a major source of child immunization. Overwhelming majority of children have received polio 0, Hepatitis 0 and BCG vaccinations. It is to be noted that majority of them received it from the other sources because most of the birth took place in hospitals. A small proportion of children (4-6 percent) missed the zero doses. These are the children who born in hospital and discharged before giving the zero doses. ASHA/ANMs are also did not check with the mother.

With respect to regular doses, (polio/Pentavalent 1 to polio/Pentavalent 3) almost all the children got vaccinated. As high as 85 to 87 percent of the children got the vaccinations from the VHND including measles. The coverage of vitamin A is 79 percent. Our survey findings are more or less matching with the NFHS-4 results where 75 percent of 12-23 months old children received Vitamin A dose. One-fifth of the children missed the first dose of vitamin A in the study. This might be because the government is supplying vitamin A to the periphery health institution twice in a year. All children may not be available when the supply reaches the field.

Regarding booster doses, 70 percent of the children have received the vaccination, most of them received from the VHND. The data point out that 30 percent of the children did not get the polio

and Pentavalent booster doses. Possible reason might be that the grassroots level functionaries are

**Table 4.5: Children immunization by source**

<b>Immunization</b>	<b>VHND</b>	<b>Other</b>	<b>Not received</b>	<b>N</b>	<b>P&lt;.05</b>
Polio 0	14.29	82.14	3.57	280	0.000
Hepatitis 0	12.86	81.07	6.07	280	0.000
BCG	17.50	81.79	0.71	280	0.000
Polio 1	85.71	13.93	0.36	280	0.000
Pentavalent 1	86.07	13.57	0.36	280	0.000
Polio 2	86.07	13.21	0.71	280	0.000
Pentavalent 2	86.07	13.21	0.71	280	0.000
Polio 3	87.14	11.07	1.79	280	0.000
Pentavalent 3	86.79	11.07	2.14	280	0.000
Measles	84.95	7.89	7.18	280	0.000
Vitamin A first dose	72.40	6.45	21.19	280	0.000
Polio booster*	62.39	6.84	30.77	117	0.000
Pentavalent booster*	63.25	6.84	29.91	117	0.000
Vitamin second dose*	53.85	5.98	40.17	117	0.000

\* 163 children are not eligible for booster dose

focused more on mobilize children for primary immunization and neglecting the rest of the doses. A significant association has been observed between immunizations and sources. According to Rapid Survey of Children (RSOC) data only 33 percent of the eligible children received the immunization service from the ICDS centres (Srinivasan, 2017).

### **4.3.7 Counselling**

VHND provides service not only on ANC and other services but also give counselling the target population on various issues related to nutrition, health education, family planning, hygiene and social evils etc. The counselling programme is being held every month in Angawadi. In order to know the level of participation of the respondent in counselling sessions, survey collected information on frequency of visit of the respondent in counselling programme.

Information on mothers ever attended the counselling session during last one year is given in Table 4.6. The table shows that close to two-thirds of respondent found to be ever attended the meeting on counselling. Looking at the socio-economic characteristics of the attendees, SC and ST mothers (69 percent), respondents belonged to single parent family (67 percent), illiterates

**Table 4.6: Percent of mother ever attended counselling ever since the pregnancy registration by socio-economic characteristics**

<b>Characteristics</b>	<b>Never attended (n=98)</b>	<b>Attended (n=182)</b>	<b>N</b>	<b>P&lt;.05</b>
<b>Caste</b>				
SC & ST	30.94	69.1	139	0.339
OBC/Minority	37.89	62.1	95	
Other	41.30	58.7	46	
<b>Type of family</b>				
Nuclear family	34.12	65.9	85	0.932
Joint family	35.95	64.1	153	
Single parent/extended family	33.33	66.7	42	
<b>Years of schooling</b>				
Illiterate	31.96	68.0	97	0.731
1-7 years	33.33	66.7	81	
8-10 years	39.34	60.7	61	
11 + years	39.02	61.0	41	
<b>Occupation</b>				
Working	29.41	70.6	102	0.138
Not working/Housewife	38.20	61.8	178	
Total (N=280)	<b>35.00</b>	<b>65.0</b>	<b>280</b>	

(68 percent) and working mothers (71 percent) have shown more interest in attended the counselling sessions. Of course, difference among the different population groups is not high. Those who have ever attended the meetings, majority of them participated in 3 or less number of

meetings indicating poor participation of mothers in the programme. To attract more participants, the counselling session should be more lively, speaker should have good counselling skills, counselling topic should be changed every times, have depth of knowledge on counselling issues, audio-visual devices should be used, not only one person 2-3 persons should be a resource person etc. The RSoC survey findings show that only 6.5 percent of beneficiaries received advice on health and nutrition for the country as whole (Srinivasan, 2017).

It is important to know what kind of mothers never attended the counselling session in the VHND. Close examination of the population characteristics reveals that non-attendees are more among higher caste (41 percent), joint family (36 percent), more educated (39 percent) and housewives (38 percent). The probable reason for missing the meetings might be mother-in-law or elders may not allow to attend, educated mothers may think that counselling is not required as they already well read etc. The VHND stakeholders along with PRIs should convince the population sub-groups which are not attending the counselling sessions.

As per the study conducted by Prof. K Srinivasan using RSoC data, indicates that percentage of eligible population availed services from ICDS centres at national level varies from service to service. Forty-two percent of beneficiaries received supplementary nutrition, whereas immunization has been received by 33 of children only. The services such as health check-up, referral service nutritional and health advice obtained by 11.8 percent, 16.1 percent, 6.5 percent of beneficiaries respectively (Srinivasan K, 2017). Comparing these findings with the current study results reveals that service utilization from the VHND by the target population in the current study is fairly good.

#### **4.3.8 Issues covered in the counselling sessions**

Guideline on what issues should be counselled and on which month is given in the manual which is available with VHND stakeholders. In order to know the issues counselled in the VHNDs during last one year, the survey team collected information from the respondents who reported ever attended the VHND. Table 4.7 presents counselling received on various issues during the last one year in VHND. The table shows that proportion respondents who received counselling on varies issues varies a lot. Some issues were reported by majority of the respondents, while other counselled less. More than 55 percent of mothers reported following

topics were discussed in the VHND: care during pregnancy, institutional delivery, new born care, breastfeeding, immunization and personal hygiene. It is noticed that following 13 topics were least discussed in the VHND meetings: danger signs during pregnancy, preparation for delivery, care during postpartum period, family planning, weight of children, care during delivery, infestation, environmental sanitation, waste disposal, education of girl child, legal age of

**Table 4.7: Counselling received on various issues in VHND\***

<b>Counselling issues</b>	<b>Percent</b>	<b>Counselling issues</b>	<b>Percent</b>
<b>Antenatal care</b>		<b>Postnatal care &amp; family planning</b>	
Care during pregnancy	36.80	Institutional delivery	38.90
Danger signs of pregnancy	17.10	Care during 42 days after delivery	14.60
Preparation for delivery	23.20	Family planning	20.00
<b>New-born &amp; child care</b>		<b>Personal &amp; environmental sanitation</b>	
New-born care	37.90	Personal hygiene	38.60
Importance of mother's milk	41.40	Environmental sanitation	27.50
Immunization	47.90	Construction of HH toilet	24.30
Weight of children	31.80	Disposal of household waste	10.70
Food for undernourished children	28.60	<b>Social issues</b>	
Vitamin/minerals/nutrition	34.60	Education of girl child	20.00
Child care during diarrhoea	25.70	Minimum legal age of marriage	24.30
Infestation	16.40	Act on sex determination test	6.10
		Not attended any counselling	35.00

N=280, \* Multiple response

Marriage and sex determination Act and consequences of foeticide. The proportion ranges from a low of 6 percent to for sex determination to a high 48 percent for child immunization. Further it is noticed that number of subjects discussed less is more than two times high compared the issues discussed more frequently.

To sum up, utilization of VHND by the mother for the ANC is less particularly, for antenatal check-up and for taking IFA tablets. Mothers relayed more on government hospitals for getting these services. Sizable number of mothers have not received IFA tablets during last

pregnancy. However, VHND is a major source of mother and child immunization for sizable proportion of beneficiaries. Majority of interviewed mothers received ANC as per norm. All the stipulated examinations during pregnancy are not received by all mothers. A good response is found for dietary supplementation. Majority of babies were weighed but not all mothers were informed about the weight of the baby. A few respondents utilized VHND for getting family planning services. One-third of mothers never attended counselling sessions in VHND and those who attended the meeting majority of them participated three or less times. Respondents belonged to high castes, more educated and housewives found to be least interested in attending counselling sessions in VHND. Many counselling topics were not counselled in VHND during the last one year.

## Chapter 5

### Summary, conclusion and recommendations

Village Health and Nutrition Day programme has been introduced by the NHM to improve accessibility of essential maternal, new born and child health, adolescent health and nutritional services at the door steps of the rural community and urban slums. The basic aims of the study is to assess the skill of the key stake holders to provide services, availability of infrastructure for delivering quality services and utilization of services by the target population particularly, mother and children. Two-hundred mothers and 50 AWW and 12 ANMs were interviewed from 10 villages of the Bellary taluk. Villages were selected using PPS method. Pre-tested, semi-structured schedule was used to collect information from the mothers and AWWs. A checklist was utilized for gathering information on the infrastructure facilities available in the last VHND.

Mean age of AWW is 37.3 years, majority of AWW are currently married, completed 10 years of schooling, and more than 10 years of service. With respect to ANMs background characteristics, majority are aged more than 40 years, currently married, belonged to Hindu religion and completed more than 11 years of service.

Coming to the knowledge level of Anganwadi workers, they have a very good knowledge in growth monitoring, growth retardation and variation in weight as danger sign, dowry and child marriage as social evils, personal hygiene of children, and distribution of supplementary nutrition, IFA tablets and sanitary pads are the services available to the adolescent girls in VHND. On the other hand they have low awareness on the following issues – marasmus & Kwashiorkor, infestation, night blindness are the danger signs of children, *Devadasi* system, female infanticide, sex work and illegal trafficking of women and children are the social evils, hand washing after using toilet and clean sleeping room and bed sheet are the hygiene norms to be informed to parents, skill development training, life skill education and public services, reproductive and sexual health, child care and home management are the counselling services



available to adolescent girls in VHND. Overall, knowledge level is relatively high among the Anganwadi workers who are young, less educated, SC & ST and senior in service. According to knowledge index 70 percent of AWWs come under good category and 14 falls under the excellent group.

ANMs have fairly good knowledge in the following areas: ANC registration, timings of ANC check-up, institutional delivery, hygiene during delivery, timing of first check-up of new-born, normal weight of new-born, when to weigh new-born, exclusive breastfeeding, minimum years of breast feeding, child immunization schedule, causes & management of diarrhoea, method of purification of drinking water and storage, JSY incentive amount. On the other hand awareness is relatively low on following topics: height measurement, urine examination, abdomen check-up, breast examination during ANC, rest during pregnancy, food norms during pregnancy & PPA period, working norms, danger signs of pregnancy, importance of breastfeeding, new born baby care, common health problem of new-born, What measure should mother take if breast milk is not sufficient/no breast milk, baby feeding schedule after 6 months, at 9 months and at 12 months, type of health problem of deficiency of vitamin B, C, D, iron , calcium, vitamin and minerals rich food, right way cooking, eligibility criteria for JSY (except BPL card).

Good infrastructure in terms building, drinking water facility, toilet facility, drugs supply, equipments and counselling materials, etc. are essential for delivering quality services. According to index, 72 per cent of the VHNDs fall under “good” category and another 20 come under “excellent’ category. It indicates that majority of the VHNDs are well equipped to conduct the programme.

The background characteristics of the beneficiaries indicate that study population is young in age, less educated, not working, Hindus and hail from joint family.

Utilization of VHND by the mother for ANC is less particularly, for antenatal check-up and for taking IFA tablets. Mothers relied more on government hospitals for getting these services. Sizable number of mothers have not received IFA tablets in the last pregnancy. However, VHND is a major source of mother and child immunization. Majority of interviewed mothers have not been received ANC as per norm. All the stipulated examinations during

pregnancy are not received by all mothers. A good response is found for dietary supplementation. Majority of babies were weighed but not all mothers were informed about the weight of the baby. A few respondents utilized VHND for getting family planning services. One-third of mothers never attended counselling sessions in VHND and those who attended the meeting majority of them participated three or less times. Respondents belonged to high castes, more educated and housewives are found to be least interested in attending the counselling sessions. Many counselling topics were not counselled in VHND during the last one year.

## 5.1 Discussion

VHND is a good programme for delivering the mother and child health services at the door steps of the target population. Earlier, some mothers and children were not availing the service due to inaccessibility of the service delivery points. VHND is a right solution to all of them. Although almost all scheduled services are ensured to the beneficiaries yet there is a difference in the way VHND is being organised. The guideline mandates that all services, particularly mother and child services should be given under one roof, but at the ground level it is being organised in a different fashion. Two-three nearby AWCs together conduct the VHND. Only counselling is given on that day. Other services are provided on different days – For example immunization is given on immunization day, ANC is provided on ANC clinic day, supplementary nutrition is given whenever the AWC gets the supply, growth monitoring is done when AWW gets time. Since the essential service components of the VHND are disintegrated, the stake holders are not able to participate in all the activities since activities are scheduled on different days. In this way, the very purpose of VHND is defeated. But it is also true that it not possible to provide all the service in a day as many constraints exists like lack of sufficient space, difficulty in delivering multiple services in the limited time along with updating of service registers for the given services etc. Thus, some sort of restructuring of the VHND is required.

Neither ANMs nor Anganwadi workers have received training on VHND so far. Health and ICDS supervisors informally told the grassroots level workers on VHND at one or two times during their visit. Therefore, the stake holders do not have a systematic knowledge on conducting the meeting.

VHND is a joint work of three departments and necessary cooperation and coordination among them must be good to make the programme successful. There is no big issue as such

exists among the stakeholders, but it is felt that there is a scope for improving their cooperation and coordination in conducting the programme. Participation of PRI in the programme is more required. ANM is not able to attend the counselling session as she has other engagement. All the stakeholders' presence is essential in conducting the programmes.

Overall, the level of knowledge of Anganwadi workers and ANMs seems to be good, whereas in certain areas their knowledge is significantly low. The knowledge gap exists high among the more educated, and the workers who belong to OBC or other caste groups. Manuals are given to them from the Woman and Child Health Department on counselling issues despite their knowledge is low in some areas pointing out that they are infrequently referring the given materials. They have to enhance their knowledge level for delivering the quality services to the beneficiaries.

Coming to the utilization of services from the VHND, mothers are showing mixed response to the programme. Their response is good for child immunization, supplementary nutrition, weighing of children and counselling as most of them have received the services from VHND. However, utilization of service is less with respect to antenatal check-up and TT immunizations. Most of the respondents have got those services from hospitals. Although majority of mothers ever attended the counselling on health and nutrition, yet substantial number of beneficiaries have attended a few sessions only. Besides, sizable number of beneficiaries never attended such meetings. Such mothers are more among the educated, joint family, higher caste and housewife. Reported reasons for not participating in the counselling are: "no time", "Not interested", "they are not telling new things, telling the same matter again and again". This reason may be true because VHND organisers lack communication skill and knowledge also as they did not get the formal training on effective counselling, how to sustain the interest of the listener etc. The mother and child services are available in hospitals but not counselling. Therefore, mother should utilize such facilities from the VHND for gaining more knowledge and for practicing the same in day to day life. The key stakeholders of VHND lack sufficient counselling materials too. Counselling skills should be improved among the AWW and ANM and required counselling materials should be supplied. Apart from utilization of service from the VHND, it is noticed that quite a good number of beneficiaries have not received some essential

services from any source. Nearly one-fourth of mothers have not registered in the first trimester. Twenty-five percent of mothers have not received ANC as per the norm; either they missed the check-up in the first trimester or not availed check-up after 36<sup>th</sup> week of pregnancy. The proportion of children missed the Vitamin A first and second doses are 21 and 40 percent respectively. Around 30 percent of eligible children have not taken booster doses. These statistics indicate that ANM/ASHA or AWW are not properly monitoring or tracking the various services due for the beneficiaries. This is the hard core group whom the frontline workers should put more effort to bring them under the service network for improving the health condition of mother and children.

## **5.2 Conclusion:**

VHND is a good programme in reaching out the mother, child and adolescent health services to the beneficiaries. The programme has succeeded in achieving its aim to some extent. Still, there is a lot of scope for improving the quality of service particularly counselling service. Some segments of the target population are not showing interest in attending the counselling session on health and nutrition. Effort should be made to bring them under the fold of VHND. It is true that the programme seems to be rather neglected by the higher level officials of the concerned departments. To make this programme more successful, higher level officials and PRI support is needed along with the cooperation from the beneficiaries.

## **5.3 Recommendation**

- VHND should be conducted on the day of distribution of supplementary nutrition.
- Training should be given to the stakeholders on components VHND.
- VHND should be monitored by the senior staff of health department and women and child development department.
- PRI's help should be sought to mobilize mothers for VHND.
- IEC materials on childhood diseases, communicable diseases and family planning etc. should be given from the concerned department.
- This programme should be restructured in such a way that all the stakeholders could be able to attend the VHND programmes.

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