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**"EVALUATION OF SERVICES PROVIDED UNDER INTEGRATED  
CHILD DEVELOPMENT SERVICES SCHEME IN THREE URBAN  
HEALTH CENTRES OF BELGAUM DISTRICT"**

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**Endorsement by the HOD, Principal/Head of the  
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**“EVALUATION OF SERVICES PROVIDED UNDER  
INTEGRATED CHILD DEVELOPMENT SERVICES  
SCHEME IN THREE URBAN HEALTH CENTRES OF  
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## **LIST OF ABBREVIATIONS USED**

ANM	: Auxiliary Nurse-Midwife
ASHA	: Accredited Social Health Activist
AWC	: Anganwadi Centre
AWH	: Anganwadi Helper
AWW	: Anganwadi Worker
BPL	: Below Poverty Line
HW (F)	: Health Worker (Female)
ICDS	: Integrated Child Development Services
IFA	: Iron and Folic Acid
NHE	: Nutritional and Health Education
NIPCCD	: National Institute of Public Co-operation and Child Development
NPNL	: Non-Pregnant Non-Lactating
NRHM	: National Rural Health Mission
NUHM	: National Urban Health Mission
ORS	: Oral Rehydration Solution
PHC	: Primary Health Centre
PSE	: Pre-School Education
SN	: Supplementary Nutrition
THR	: Take Home Ration
UHC	: Urban Health Centre
USHA	: Urban Social Health Activist

## **ABSTRACT**

### **Background and Objectives**

Integrated Child Development Services (ICDS) was introduced with the aim of improving the nutritional and health status of children in the age group of 0-6 years and enhancing the capabilities of mother to look after the normal health and nutritional needs of the child. Delivery of services under ICDS scheme is managed in an integrated manner through Anganwadi centres (AWC), which acts as a focal point for the nutritional, health and educational delivery of services for mothers and children. Previous studies indicate that the overall impact of ICDS on maternal and child health appears to be limited, which may be due to poor implementation of the scheme. While most Anganwadis function merely as point of distribution of supplementary nutrition with poor emphasis on other services, the quality of food as well as the regularity of its supply is poor in many places. This study was conducted to evaluate the services rendered by AWC in the urban areas and to identify the gaps and thereby suggest appropriate rectifications.

### **Methodology**

A Community based Cross Sectional Study was undertaken over a period of one year, in 76 AWCs under three Urban Health Centres, Ashok Nagar, Ram Nagar and Rukmini Nagar, which are field practice areas of J. N. Medical College, Belgaum. *Twelve* beneficiaries were chosen from each AWC, which included *two* children aged between 7 months to 3 years, *two* children aged between 3 to 6 years, *two* Adolescent girls, *two* Pregnant women, *two* Lactating mothers and *two* non-pregnant non-lactating (NPNL) women in the reproductive age group (15-45 years). A Field

Survey Questionnaire designed by Right to Food Campaign was used after making modification to suite our study.

## **Results**

The mean ( $\pm$  SD) age of children aged 7 months to 3 years was  $24.92 \pm 5.64$  months, and that of children aged 3 to 6 years was  $4.35 \pm 1.06$  years. Among adolescent girls, 46.05% were in middle adolescence and 52.63% were in late adolescence; the mean age ( $\pm$  SD) was  $16.71 \pm 1.59$  years. The mean ages ( $\pm$ SD) of the pregnant and lactating women were  $22.05 \pm 2.36$  years and  $21.71 \pm 2.47$  years respectively. Among the NPNL Women, the mean age ( $\pm$  SD) was  $32.47 \pm 5.06$  years.

Nearly three-fourths of children in age group 7 months to 3 years never attended AWC, while 60.53% of the children aged between 3 to 6 years attended the AWC regularly. More than half the children aged 7 months to 6 years were taken to the AWC by the Anganwadi Helper (AWH). Nearly 60% of the mothers said that Anganwadi Worker (AWW) or AWH motivated them to enrol the child at the AWC. Majority (95%) of the mothers said that the AWC opened regularly. Over three-fourths (78.29%) of the respondents found the timings of the AWC functioning to be convenient.

All the mothers of children below 6 years were aware of the Supplementary Nutrition Services at the AWC. Nearly three-fourth of the children aged 7 months to 3 years received Take Home Ration (THR). Similarly, 90% of the children aged 3 to 6 years received cooked meals at the AWC. All the adolescent girls, pregnant and lactating women were receiving THR. Nearly 60% of the respondents said that food was provided very regularly at the AWC. Regarding the quantity and quality of food supplied, 84.87% felt that it was adequate and satisfactory.

About 65% of the children were weighed regularly and immunisation coverage was over 80%. The AWW had a role to play in getting 92.45% of the children immunised, the most often cited role being organising the vaccination session. Majority (83.88%) had received advice from AWW on use of Oral Rehydration Solution (ORS) during diarrhoea; about 40% approached the AWW to procure the same. While 46.71% of children aged 7 months to 3 years were de-wormed, in the age group 3 to 6 years it was 65.79%; about 36% had received advice from AWW on de-worming.

Among the adolescent girls, 27.63% had been weighed, 52.63% had undergone health check-up and 49.34% were referred / helped to obtain medical treatment by the AWW at least once in the preceding six months. Among the girls aged above 16 years in our study, 78.75% were immunised against Tetanus and Albendazole tablets were reportedly consumed by 55.93%. All the girls in our study agreed that first pregnancy should ideally be after 18 years of age and 58.55% considered ideal birth interval to be 2 years. In our study 17.76% of the adolescent girls were involved in income generating activities; 62.96% of them were motivated by the AWW for the same.

Nearly all of the lactating women (99.34%) and 88.82% of the pregnant women had received at least four antenatal check-ups during pregnancy; 85.53% had received at least one health check-up by the health staff from the UHC at the AWC, 85.53% received adequate doses of Tetanus Toxoid and 86.85% said they received IFA tablets regularly. About 30% had not fed their child colostrum, and 50% felt weaning needs to be started before completion of 6 months. Over 92% had received advice from AWW regarding breast feeding practices. Majority (88.16%) of the lactating mothers were advised by the AWW regarding immunisation.

The AWW made house-visits to 31.58% of the children, 30.92% of the adolescent girls, 63.82% of pregnant women and 33.55% of lactating women. In the study, 70.74% had attended Nutritional and Health Education (NHE) sessions, 80.51% of them said it caused some change in practices. Awareness amongst mothers regarding Pre-School Education (PSE) was 95.38%; as many as 92.74% of the parents of children attending PSE found it beneficial. In the study, 85.86% of the respondents said the AWW's motivation to work was high, 75.55% said the AWW was kind and 60.63% felt that ICDS was very important.

### **Conclusion**

The awareness regarding the various services was good. Almost all the mothers were availing Supplementary Nutrition services and majority were satisfied with the same. A considerable number of the beneficiaries were sharing the food that was provided. House visits by the AWW were poor except during pregnancy. The NHE was utilised by only two-thirds of the beneficiaries. Services related to antenatal and postnatal care were utilised by over 90% of the beneficiaries. Most of beneficiaries opined that the motivation of the AWW was high and that she was kind. Around two-thirds considered ICDS as very important for the respective group of beneficiaries.

**Keywords:** Integrated Child Development Services, Anganwadi, Urban, Utilisation

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## **INTRODUCTION**

Children are the future and valuable human resource of a country. The National Policy for Children<sup>1</sup> formulated by Government of India in 1974 described children as “supremely important assets”. Children under six years of age make up a 13.1% of the total population of 1.21 billion of our country.<sup>2</sup> This makes India home to the largest number of children in the world.<sup>3</sup> As citizens of tomorrow, it becomes imperative to ensure their proper health care as well as adequate nutrition.

Early childhood, especially the first six years, constitutes the most crucial period in life, when the foundations are laid for cognitive, social, language, physical and motor development.<sup>4</sup> Nutritional status of the child plays a significant role in the morbidity and mortality, which makes adequate nutrition a vital component of child health. Furthermore, the health of the child is greatly affected by the health and nutritional status of the mother during the ante-natal and immediate post-natal period. This calls for an integrated approach of care for children starting from the womb.

The National Policy for Children<sup>1</sup> declared that the state should provide adequate services to children through the period of growth, to ensure their full physical, mental and social development. In accordance with the policy, the Integrated Child Development Services (ICDS) scheme was introduced by the Government of India on 2<sup>nd</sup> October 1975, aimed at improving the nutritional and health status of children in the age group of 0-6 years and enhancing the capabilities of mother to look after the normal health and nutritional needs of the child. The scheme, that was started with 33 community development blocks in 1975, has grown over the years into one of the largest integrated family and community welfare schemes in the world, with 7076 projects covering 10.32 crore beneficiaries.<sup>5</sup> The Adolescent Girls Scheme was added into ICDS in order to break the inter-generational life-

cycle of nutritional and gender disadvantage.<sup>6</sup> Thus, as a comprehensive and integrated approach, ICDS caters children below 6 years of age, adolescent girls, pregnant women and nursing mothers, along with all women in the reproductive age group (15-45 years).

The main objectives of the scheme include reducing infant and maternal mortality by improving the nutritional and health status of children and mothers and enhancing the mother's capability to look after the child; laying the foundation for psychological, physical, and social development of children; and improving nutritional status of girl children in particular. The services available to the beneficiaries under this scheme include Supplementary Nutrition (SN), Immunisation, Health check-up and Referral, Pre-School Education (PSE), Growth Monitoring, Nutrition and Health Education (NHE), De-worming, Literary and vocational skill development. The gender promotion of the girl child by trying to bring her at par with the male child is a key component of the scheme.

Delivery of services under ICDS scheme is managed in an integrated manner through Anganwadi centres (AWC), which acts as a focal point for the nutritional, health and educational delivery of services for mothers and children. Today, there are an estimated 1.053 million AWC employing 1.8 million workers and helpers across the country. In the state of Karnataka, 60046 Anganwadis and 3331 mini Anganwadis in 185 ICDS projects are functioning, covering 175 talukas and ten urban areas.<sup>7</sup> The AWC is a focal point for the nutritional, health and educational delivery of services for mothers and children. The Anganwadi Worker (AWW) is the grass-root level functionary responsible for the delivery of services at the AWC level. Three of the six services namely Immunisation, Health Check-up and Referral Services are delivered through public health infrastructure under the Ministry of Health and Family Welfare.

The overall impact of ICDS on maternal and child health appears to be limited, which may be due to poor implementation of the scheme.<sup>8</sup> While most Anganwadis function merely as point of distribution of supplementary nutrition with poor emphasis on other services, the quality of food as well as the regularity of its supply is poor in many places.<sup>8</sup>

With the introduction of National Rural Health Mission (NRHM) in 2005, the ICDS project beneficiaries in the rural areas get additional support from the Accredited Social Health Activists (ASHA). ASHAs are meant to serve as a key link between the healthcare system and rural populations.<sup>9</sup> ASHA mobilizes the community and facilitates them in accessing health and its related services available at AWC and the Primary Health Centre (PHC). An urban counterpart for the ASHA worker, known as Urban Social Health Activist (USHA), was proposed under the National Urban Health Mission (NUHM). However, due to the delay in the implementation of NUHM, the AWW in urban areas continue to bear the burden of providing these services by themselves. Hence it is essential to focus more on the functioning of the AWC in urban areas to ensure that the services reach the beneficiaries.

This study was conducted to evaluate the services rendered by AWC in the urban areas and to identify the gaps and thereby suggest appropriate rectifications.

**OBJECTIVE**

- To evaluate the services provided under ICDS at Anganwadis under three Urban Health Centres of Belgaum district from the beneficiary perspective.

## **REVIEW OF LITERATURE**

The ICDS scheme provides an integrated package of health, nutrition and education services targeted to children aged below 6 years, pregnant and nursing women and in some blocks, adolescent girls. The programme aims to cover economically or socially marginalised sections of women and children as primary beneficiaries.

A number of nationwide evaluation studies on the implementation of ICDS Scheme have been conducted in the past viz. Evaluation of ICDS by Programme Evaluation Organisation of the Planning Commission in 1982, National Evaluation of ICDS Scheme conducted by National Institute of Public Cooperation and Child Development (NIPCCD) in 1992, Evaluation Results of Annual Survey during 1975-1995 published by Central Technical Committee on Integrated Mother and Child Development on completion of 20 years of ICDS, Nationwide Evaluation of ICDS by National Council of Applied Economic Research 1998-99 and “Three Decades of ICDS – An Appraisal” by NIPCCD in 2005-06. However, majority of these large-scale studies focused on the infrastructure and implementation, and less on the satisfaction level of the beneficiaries.

In a study conducted to assess the utilisation of ICDS scheme and beneficiaries’ satisfaction in Gulbarga district, it was found that utilization of ICDS scheme was high in pregnant women (90.83%) and beneficiary satisfaction was high (81.11%) among 15-45 years women. Majority (90.83%) of expectant mothers were undergoing health check-up and 94.23% pregnant women were receiving supplementary nutrition, whereas 80.7% mothers were receiving Iron and Folic acid tablets. Non-formal preschool education was being imparted to 620 (91.58%) of children, and 934 (70.33%) children were receiving supplementary nutrition. Health education was being imparted to 43.5% women. The

coverage of supplementary nutrition was adequate in all eligible beneficiaries. More than 50% beneficiaries were being delivered, health-check-up services.<sup>10</sup>

Davey et al assessed the perceptions regarding the Quality of Services in Urban ICDS Blocks in Delhi by exit interview of the beneficiaries at the AWCs. A total of 200 beneficiaries were included from 20 AWCs over a period of one and half month. Only 5% women had come to know about the AWCs through AWWs, indicating their poor approachability in the community. Regarding home visits, 89% of the respondents mentioned that AWW had visited them in the last one year. Reasons for visit included polio vaccination (69%), immunization services (51.7%), health education (11.8%), nutrition services (11.2%) and pre-school education (1.1%). Pre-school education was the neglected component of the service delivered from AWC, as the respondents mentioned it as the least common reason. Regarding utilization of services for the children, all the mothers mentioned that they received supplementary nutrition from the AWCs, 56.6% mothers said growth monitoring was done in last 6 months and 15.9 % had utilized services for immunization purposes from the AWCs. With regards to services for pregnant and lactating women, 94.5 % of them were utilizing the services mainly for the supplementary nutrition. Only 23.6% women said that they were given NHE and 5.5% utilised AWCs for immunization services. None of pregnant and lactating women had ever received iron and folic acid tablets from the AWCs in last one year or had ever been provided antenatal or postnatal care. Over half (52.5%) respondents were dissatisfied with the services provided from the AWC for one or more reason; the most common reasons being poor accessibility and inadequate space available at the AWC (68.6%), followed by poor quality of distributed food (66.7%) and irregular pre-school education (57.1%) from AWCs.<sup>11</sup>

In another study conducted in Lucknow to assess the perception of beneficiaries regarding services under ICDS for children, Pandey et al found that about one third (33.8%)

of the respondents perceived that the primary purpose of enrolment of their children at AWCs was learning, 46.5% said it was to take food and about one fifth (19.6%) of the respondents stated that they got their children enrolled because there were none at home to take care of them. More than half (63.8%) of the respondents viewed that their children received cooked food item as one full glass measure (80 grams) per day. More than one third (41.5%) of the respondents viewed that their children received food items at AWC 6 days in a week. About half (53.9%) said that their children consumed food items at the AWCs, while 21.9% said that they brought all the food items home. Around 45% of the respondents viewed that the food items given to the children were not good in taste and 33.3% were of the view that it was not properly cooked. More than one third (41.5%) of the respondents said that their children shared the food items brought at home. Majority (81.9%) of the respondents viewed that there were advantages of having AWC in the village; the main benefits being additional nutrition (52.6%), learning (23.5%), immunisation (12.1%) and that the child became healthy (11.9%).<sup>12</sup>

The study by Biswas et al done in two districts of West Bengal showed that as per the opinion of mothers, 73% AWCs opened regularly, behaviour of the AWWs was friendly (71.6%) and 63% mothers opined that ICDS was beneficial to their children. Overall, 84.2% mothers were aware of any ICDS services and of them, 78.3% were aware about supplementary nutrition. Most of the mothers were of the opinion that supplementary nutrition was of adequate quantity (88%) and of acceptable quality (72.7%). Major reasons for non acceptability of supplementary food were improper cooking (45.9%) and poor quality material (44.7%). Although advising mothers on child feeding practices and discussing the growth chart are very important activities of AWW, majority of the mothers were deprived of these services. Overall, less than half of the mothers (41.6%) believed that PSE could benefit

their child. Only few mothers knew about growth monitoring and PSE. Approximately two third mothers mentioned about beneficial effects of AWCs on children.<sup>13</sup>

An evaluative study of ICDS done at Jorhat, Assam revealed that formal sessions of NHE were conducted only in 26.67% AWCs. About 75% beneficiaries expressed their dissatisfaction about the irregularity of NHE programme; 65.33% mentioned that teaching was poor and 64% expressed the opinion that the content and timing of classes were unsatisfactory. Of the pregnant women, only 54.25% had received vaccination against Tetanus. All the beneficiaries were aware of the health services provided and about 60% were satisfied with the same. All the children were weighed in the AWC, but only 46.67% were interpreted on the growth trends. All the beneficiaries were aware of the supplementary nutrition provide by the AWW, but all of them were dissatisfied with the poor quality, irregular supply, insufficient quantity of the food. Only 26.67% beneficiaries were aware of referral services. Similarly all the beneficiaries were aware of the PSE component, but only 26.67% of them were satisfied with PSE being imparted at AWCs.<sup>14</sup>

An analysis of the mother's reactions in terms of their awareness, perception, attitude and acceptance of the ICDS services conducted in Rohtak, Haryana revealed that among mothers of children aged 3-6 years, distribution of supplementary food was considered useful by all the respondents. Majority (94%) of mothers immunised their children; health check up of 87.5% children was done, and 91% of the mothers knew that weight was recorded regularly. With respect to ante-natal services, 24.5% felt the necessity of regular check-up was to know the place of delivery, while 90% wanted to know the well-being of the baby.<sup>15</sup>

Vaid et al, in their survey on "Nutritional Status of ICDS and Non-ICDS Children" Jammu City, in 2005 revealed that the median age of mothers was 27years in both the groups, educational status in ICDS group was mostly primary schooling where as Non-ICDS group

were illiterate. In the ICDS group, 93% of the mothers had enrolled their children in age group of 1-3 years to AWC, all the mothers knew about the supplementary food provided in the AWC, 73% mothers knew the nutritional status of their children by the AWW, all AWW did regular growth monitoring for the children, and 87% mothers told that their children received supplementary food from the AWC. About two thirds of mothers had positive attitude regarding AWC and observed some changes in their children after enrolling in AWC.<sup>16</sup>

A study done in Chiri, Haryana showed that while 62% of the women were currently utilizing the ICDS Programme, 23.7% had never used ICDS services. The services most commonly availed were supplementary nutrition (97.3%), tetanus toxoid prophylaxis (89.3%), and iron and folic acid prophylaxis (87.1%). Nearly 90 % of the women who availed supplementary nutrition took the food home to share with family members. The major reasons for not using ICDS services included not having time (53.5%) and working outside the household for long hours (50%). About 15% were never approached by an AWW and were therefore not aware of ICDS services.<sup>17</sup>

Evaluation of ICDS in Orissa done in 2006 showed that that supplementary feeding was usually given for 25 days in a month and was considered adequate by over 96% of the mothers of beneficiary children. Majority (92%) mothers mentioned that the quality of food was good. Around 26.32% children aged 9-12 months had received complete immunization. Nearly 73% mothers of beneficiary children had received treatment/ health services from AWWs. Over 99% mothers of beneficiary children aged 3-6 years mentioned that they were sending their children for preschool education (PSE). Among pre-school children, the proportion of female children (53%) was more than that of the males (47%). It was found that eight out of every ten lactating mothers mentioned that they did not receive any IFA tablets from the AWCs. Most (93%) of the pregnant women mentioned that they had received at

least one antenatal check-up, but only 22% of the pregnant women received three health checkups. Around 76% of the pregnant women mentioned that they received supplementary food. The Take Home Ration (THR) was usually shared with other members of the family (49%) and children (29%). About 90% pregnant women received IFA tablets supplied mostly by AWWs (75%), followed by Auxillary Nurse Midwives (ANMs) (14%). About 99% of the Adolescent girls mentioned that vocational training was hardly addressed by AWWs. About 70% girls were familiar with the symptoms of anaemia. Nearly 96% AWWs provided NHE to target groups.<sup>18</sup>

A cross sectional study on the evaluation of ICDS in 2005 carried out in four blocks in Haryana gave results as follows: 64.4% were children of 3-6years, 35.6% were pregnant and lactating women and there were no adolescent beneficiaries from the sampled districts. Only 8.1% members of household received health education, 4.76 % availed referral services and 83% of the families received supplementary nutrition. About 77% told that the Supplementary feeds were good; in Gurgoan beneficiaries said that the quality of the food was poor. Maximum awareness on immunisation was found in Fatehbad and Gurgoan. The delivery of 93.63% beneficiaries was attended by the ANM or trained dai. AWW provided medicines during pregnancy to 36.8% of the women.<sup>19</sup>

A Community based Monitoring system study conducted in 2007 at Dehradun, Uttarkhand showed that the respondents were generally satisfied with the distribution of the supplementary nutrition. Awareness was poor regarding the need for enrolment of the pregnant women at the AWC to get supplementary food. Pregnant women had not registered themselves with the AWW in almost 33% of villages. Whilst beneficiaries were reportedly getting IFA tablets, consumption of IFA was very poor. Awareness regarding need for vaccination against tetanus vaccination in adolescent girls was effectively absent in one

village of Chamba block. In 40% of villages, colostrum was not being fed to the newborn and 50% of the children were exclusively breastfed for 6 months.<sup>20</sup>

Vyas et al revealed that majority of under-three children (89.2%) were enrolled in the AWCs whereas only 29.20 % went to AWCs to avail the combined benefits of vaccination, supplementary nutrition, health check-ups followed by Immunization services (23.2%). All services were utilized by only 18.4% of children and 17.2% respondents did not avail any kind of child care services. While nearly 63% children in the age group 0-3 years were attending the AWC to receive Supplementary Nutrition, only 22% of children were availing it regularly. The achievements under Supplementary Nutrition Programme was 61.4% for pregnant women of whom 52.44% were receiving it regularly, and was found to be quite high (94.2%) for enrolled nursing mothers.<sup>21</sup>

“Evaluation of ICDS” in four districts of Himachal Pradesh came out with the following results: about two-thirds (68%) of the beneficiaries mentioned that the quality of the supplementary food was good, 31% told it was satisfactory. Among pregnant women, all were provided with IFA tablets and 40% of the respondents said that health check up was organized monthly once.<sup>22</sup>

The study on utilisation of ICDS scheme in Latur district, Maharashtra revealed that utilisation of supplementary nutrition was more in urban area (48.03%) than rural area (37.7%) with significant statistical difference. Non formal preschool education service utilization was more in urban area; immunization, health checkup service, vitamin A prophylaxis and IFA supplementation was more in rural area.<sup>23</sup>

Arora et al conducted an evaluative study of non-formal pre-school educational services provided at Anganwadi Centres in Urban slums of Jammu City which found that parents preferred to send their male children to AWC, as they believed that males were the

future bread earners so they should be given more nutrition and education. About 60% children were enrolled in Anganwadi centre at the age of 1 or 2 years, as parents viewed that early years of life are important for child's development. All the children spent 3-4 hours per day at the Anganwadi as per the timings of AWC. It was observed that no child left the AWC before the stipulated time. Parents felt happy when their children spent full time at the Anganwadi centre as they admitted, since due to poverty and lack of resources they were unable to meet the required needs of the children but in Anganwadi these needs were met to some extent. Most of the parents were satisfied with the non-formal education provided at the Anganwadi centre but a few weren't, as they felt that Anganwadi worker laid more emphasis on nutrition.<sup>24</sup>

A study conducted in 2001 by Josi and Anita of Bal Niketan Sangh showed that among urban mothers, the awareness regarding nutritional need of growing children was 87.5%, while rural and tribal mothers generally lacked the same. About 90% urban mothers started breastfeeding within 6 hours of delivery in comparison to other groups of mothers. Similarly 87.5% of the mothers from urban areas were aware of the nutritional requirements of children with diarrhoea; this was 71.2% and 70% among mothers in rural and tribal areas respectively. Awareness of mothers regarding vaccination was found to be 82.5% in urban areas as compared to 86.6% in rural areas and 76.2% in tribal areas. Awareness regarding birth spacing was 71.3% urban mothers, much higher than tribal and rural mothers.<sup>25</sup>

The study by Prasanna Kumari et al done in Thiruvananthapuram indicated that when scored for their knowledge, attitude and adoption of improved practices in health and nutrition, majority of the beneficiaries came in the medium range. The mean score for knowledge was 5.61 out of a maximum of 10, for attitude was 66.48 out of a maximum of 80 and the mean adoption score was 24 out of a maximum of 32. This indicated the need for enhancing knowledge about health and nutrition among beneficiaries by strengthening HNE

component. While religion was found to be a significant factor associated with their knowledge, attitude and practice, no significant association was seen with marital status.

The study on “Nutritional health and pre-school education status of children covered under ICDS scheme” Orissa in 2003, revealed that with regards to PSE: 147 rural, 144 tribal and 164 urban children were observed (455 children). PSE activities were found to be better in tribal areas, the rote memory in counting was found to be: 47.62%, 41.67% and 49.39% for rural, tribal and urban sample. For counting up to five objects, tribal children performed better (54.94%), followed by urban (55.60%) and rural sample (55.10%).<sup>27</sup>

## **METHODOLOGY**

**STUDY SETTING:** The study was undertaken in 76 AWCs under three Urban Health Centres (UHC), Ashok Nagar, Ram Nagar and Rukmini Nagar, which are field practice areas of J. N. Medical College, Belgaum. These centres cater to a population of 102215. The sex ratio is 976 females per 1000 males. The under-six population is 11019, which is 10.8% of the total population. Grouping by religion, around 63.6% are Hindus, 36.2% are Muslims, 0.1% Sikh and 0.1% Christian. About 46% of the population live in slum areas.

**STUDY DESIGN:** A Community based Cross Sectional Study.

**STUDY PERIOD:** The study was conducted over a period of 1 year, from 1<sup>st</sup> January to 31<sup>st</sup> December 2013.

**STUDY SAMPLE:** *Twelve* beneficiaries were chosen from each AWC, which included *two* children aged between 7 months to 3 years, *two* children aged between 3 to 6 years, *two* Adolescent girls, *two* Pregnant women, *two* Lactating mothers and *two* non-pregnant non-lactating women in the reproductive age group (15-45 years). Hence there were a total of 912 participants in the study.

**SAMPLING TECHNIQUE:** Two participants in each category were selected from each Anganwadi randomly from the list of beneficiaries available at each centre. Each AWC selects two Adolescent girls for a period of 6 months to provide services; from each AWC, the two girls who were beneficiaries in the preceding six months were taken for the study. Non-pregnant Non-lactating women in the reproductive age group were chosen by random selection from the electoral list.

**STUDY TOOL:** A Field Survey Questionnaire designed by Right to Food Campaign<sup>28</sup> was used after making modification to suite our study. The modified questionnaire was piloted in the study area before using the same for the study.

**DATA COLLECTION:** Mothers of children aged 7 months to 3 years and 3 to 6 years selected from each AWC were interviewed using the pre-designed pre-tested questionnaire at their homes. Similarly, two pregnant and lactating women each were chosen from the beneficiaries list of each AWC and interviewed at their homes. Each AWC selects two Adolescent Girls for a period of 6 months to provide services. From each AWC, the two girls who were beneficiaries in the preceding six months was taken for the study and were interviewed along with their mothers.

**DATA ANALYSIS:** Data was entered in Excel sheet after coding. SPSS version 16.0 software (Trial version) was used for analysis of the data. Descriptive analysis of the data was done.

**ETHICAL CLEARANCE:** Ethical clearance was obtained from the Institutional Review Board of J. N Medical College. Informed consent was taken from the participants.





Figure-3 View of UHC Ram Nagar



Figure-4 View of UHC Rukmini Nagar

## **DEFINITION OF STUDY VARIABLES**

1. Age : Age was recorded to the nearest completed years, except in case of children where it was recorded to the nearest completed months.
2. Education of the mother
  - a. Illiterate – never attended school
  - b. Primary school – having studied at least until 1<sup>st</sup> standard but not beyond 7<sup>th</sup> standard
  - c. High school – having studied at least until 7<sup>th</sup> standard but not beyond 10<sup>th</sup> standard
  - d. PUC and above – having studies beyond 10<sup>th</sup> standard
3. Type of Family
  - a. Nuclear family: The family consisting of married couple along with their dependent children.
  - b. Joint family: it consists of number of married couples and their children who live in the same household.
  - c. Broken family - is one where the parents have separated or when death has occurred of one or both the parents.

## 4. Socio-economic status:

Per capita income was classified using Modified B G Prasad's classification.<sup>29</sup>

<b>Social class.</b>	<b>Prasad's classification 1961 (per capita income in Rupees/month)</b>	<b>Modified Prasad's classification in study period 2013 (per capita income in Rupees/month)</b>
<b>I</b>	100 and above	5156 and above
<b>II</b>	50 - 99	2577 - 5155
<b>III</b>	30 - 49	1547 - 2576
<b>IV</b>	15 - 29	773 - 1546
<b>V</b>	<15	772 and below

Modification was done with the aid of multiplication factor (MF), which was obtained as below:

$$MF = \frac{\text{Value of consumer price index average for the study period (2013)}}{100} \times 4.93$$

$$= 1046 / 100 \times 4.93 = 51.56$$

As our study period was from 1<sup>st</sup> January to 31<sup>st</sup> December 2013, the mean consumer price index for the period was considered. Average consumer price index for year 2013 was 1046.

## 5. Immunisation status

- a. Fully immunised: a child who has all the vaccines under National Immunisation Schedule according to his/her age, i.e. BCG, 3 doses each of

DPT, OPV and Hepatitis B vaccine, along with Measles vaccine if the child has crossed 12 months of age and DPT booster if the child has crossed 24 months of age.

- b. Partially immunised: a child who has received at least one of the vaccines listed under National Immunization Schedule, but not all the vaccines for his/her age.
- c. Non-immunised: a child who has received none of the vaccines under National Immunization Schedule since birth.

## **RESULTS**

The results are analysed under the following headings.

- I. Children aged 7 months to 6 years
- II. Adolescent girls
- III. Pregnant Women (in third trimester) and Lactating Women (6 weeks after delivery)
- IV. Non-Pregnant Non-lactating women aged between 15 to 45 years

## I. CHILDREN AGED 7 MONTHS TO 6 YEARS

Table No. 1: Socio Demographic Profile of children aged 7 months to 6 years

<b>Socio Demographic Profile of Children</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>Age (in months)</b>		
7 – 12	3 (1.97)	
13 – 24	69 (45.40)	
25 – 36	80 (52.63)	
37 – 48		41 (26.97)
49 – 60		44 (28.95)
61 – 72		67 (44.08)
<b>Sex</b>		
Male	78 (51.32)	81 (53.29)
Female	74 (48.68)	71 (46.71)
<b>Religion</b>		
Hindu	80 (52.63)	86 (56.58)
Muslim	71 (46.71)	65 (42.76)
Sikh	1 (0.66)	1 (0.66)
<b>Type of family</b>		
Nuclear	77 (50.66)	88 (57.89)
Joint	71 (46.71)	62 (40.79)
Broken	4 (2.93)	2 (1.32)
<b>Socioeconomic status</b>		
Class I	3 (1.97)	2 (1.32)
Class II	18 (11.84)	11 (7.24)
Class III	56 (36.84)	67 (44.08)
Class IV	59 (38.82)	59 (38.82)
Class V	16 (10.53)	13 (8.55)
<b>Type of Ration card</b>		
Below Poverty Line	91 (59.87)	95 (62.50)
Above Poverty Line	35 (23.03)	30 (19.74)
Do not have	26 (17.10)	27 (17.75)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Of the 152 children aged 7 months to 3 years, whose parents participated in the study, three (1.97%) were aged between 7 to 12 months, 69 (45.40%) between 13 to 24 months and the remaining 80 (52.63%) were in the age group of 25 to 36 months. The mean ( $\pm$  SD) age of the children aged 7 months to 3 years was  $24.92 \pm 5.64$  months. Out of the 152 children aged 3 to 6 years, 41 (26.97%) were aged between 3 to 4 years, 44 (28.95%) between 4 to 5 years, and 67 (44.08%) were in the age group of 5-6 years. The mean age ( $\pm$  SD) of the children

aged 3 to 6 years was  $4.35 \pm 1.06$  years. Males constituted 159 (52.30%) of the children. Grouping by religion, 166 (54.60%) children were Hindus, 136 (44.74%) were Muslims and two children (0.66%) belonged to the Sikh religion. Based on type of family, 165 (54.28%) belonged to Nuclear family, 133 (43.75%) to Joint family, and 6 (1.97%) children were from broken family. As per Modified B.G. Prasad Classification, 5 (1.64%) children were from families of Socioeconomic class I, 29 (9.54%) from Class II, 125 (41.12%) from Class III; 118 (38.82%) and 29 (9.54%) belonged to Classes IV and V respectively. Nearly 60% of the 304 respondents possessed Below Poverty Line (BPL) ration cards.

Table No. 2: Socio Demographic Profile of mothers of children aged 7 months to 6 years

<b>Socio-demographic Profile of mothers</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>Age (in years)</b>		
< 20	28 (18.42)	25 (16.45)
20 – 25	95 (62.50)	100 (61.84)
> 26	29 (19.08)	27 (34.21)
<b>Literacy status</b>		
Illiterate	7 (4.60)	5 (3.29)
Primary	51 (33.55)	46 (30.26)
High school	73 (48.03)	81 (53.29)
PUC and above	21 (13.82)	20 (13.16)
<b>Occupation</b>		
House wife	132 (86.864)	128 (84.21)
Self employed	14 (9.21)	16 (10.53)
Employed	6 (3.95)	8 (5.26)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Among the respondents, 53 (17.43%) were mothers aged less than 20 years, 195 (64.14%) were aged 20 – 25 years, while 56 (18.42%) were aged above 26 years. The mean age ( $\pm$  SD) of the mothers of children aged 7 months to 3 years was  $22.14 \pm 2.74$  years. The mean ( $\pm$  SD) age of the mothers of children aged 3 – 6 years was  $22.09 \pm 2.60$  years. The mothers' literacy rate in our study was 96.05% and majority (85.53%) were housewives.

**Involvement of Mothers in Social Groups:** Involvement of Mothers of children aged between 7 months and 3 years in Social Groups was minimal, with 16 (10.53%) of the

mothers being members of Mahila Mandals, while 8 (5.26%) being involved in activities of Self Help Groups. Similar finding was noted among mothers of children aged 3 – 6 years; 16 (10.53%) in the Mahila Mandals and 11 (7.24%) involved with some self-help group.

**Awareness regarding enrolment of child:** Awareness of mothers regarding enrolment of their children to AWC was 100%.

Table No. 3: Distribution of Children aged 7 months to 6 years according to Regularity in attending the AWC

<b>Regularity of Children in attending the AWC</b>	<b>7 months – 3 years</b>	<b>3 – 6 months</b>
Never	113 (74.34)	22 (14.47)
Rarely	20 (13.16)	
Occasionally	19 (12.50)	38 (25.00)
Regularly		92 (60.53)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>
<b>Who accompanies the child to the AWC</b>	<b>(n=19)</b>	<b>(n=130)</b>
AWH	11 (57.89)	77 (59.23)
Mother	6 (31.58)	32 (24.62)
Sibling	2 (10.53)	13 (10.00)
Relative/neighbour	1 (5.26)	8 (6.15)

Nearly three-fourths (74.34%) of children in age group 7 months to 3 years never attended AWC, 20 (13.16%) attended rarely, and 19 (12.50%) children attended AWC occasionally. The most common reason for the child not attending the AWC was that he/she was too young. Amongst the children aged between 3 to 6 years, 92 (60.53%) of the children attended the AWC regularly, 38 (25.00%) attended the AWC occasionally, and 42 (14.47%) of child never attended the AWC. The most common reason given for not attending was that the child was attending a private Nursery instead. Some (31.82%) of the mothers said the child was not willing to go while 3 (13.63%) said they did not send the child to the AWC as they were not satisfied with the services rendered at the AWC. More than half the children aged 7 months to 6 years were taken to the AWC by the Anganwadi Helper (AWH).

Table No. 4: Distribution of Children according to Motivator for Enrolment at the AWC

<b>Motivator for Enrolment at AWC</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
AWW/AWH	99 (65.13)	79 (51.97)
Self	29 (19.08)	52 (34.21)
UHC Health worker	18 (11.84)	8 (5.26)
Relative / neighbour	6 (3.95)	7 (4.61)
Mahila Mandal		6 (3.95)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

When asked who motivated them to enrol the child at the AWC, 178 (58.57%) of the mothers replied that it was the AWW or AWH and 81 (26.64%) got their children enrolled by their own motivation.

**Payment for Enrolment of Child to AWC:** None of the mothers said that they had to pay the AWW or any other functionary to get their child enrolled at the AWC.

Table No. 5: Distribution of Mothers According to Knowledge regarding Number of ICDS Services

<b>Knowledge regarding Number of ICDS Services</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
6		2 (1.32)
5	1 (0.66)	41 (26.97)
4	78 (51.32)	93 (61.18)
3	67 (44.08)	16 (10.53)
2	6 (3.95)	
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Of the 152 respondents, only one mother could list out all the 5 services provided to children less than 3 years of age at the AWC. Most mothers (51.32%) could list out 4 of the services, 67 (44.08%) were aware of at least 3 services provided at the AWC. Further, 6 (3.95%) could name only two of the services. The services that were known to most of the mothers were Supplementary Nutrition, Immunization, Growth monitoring and Health Check-ups.

When enquired regarding the range of services available to the children aged 3 to 6 years at the AWC, only 2 (1.32%) of the mothers knew of all the six services, 41 (26.97%) mothers mentioned at least 5, 93 (61.18%) could list out 4, while 16 (10.53%) knew of only 3 of the 6 services. All the mothers knew about Supplementary Nutrition, PSE and Immunisation.

Graph 1 (Table No. 5): Distribution of Mothers According to Knowledge regarding Number of ICDS Services

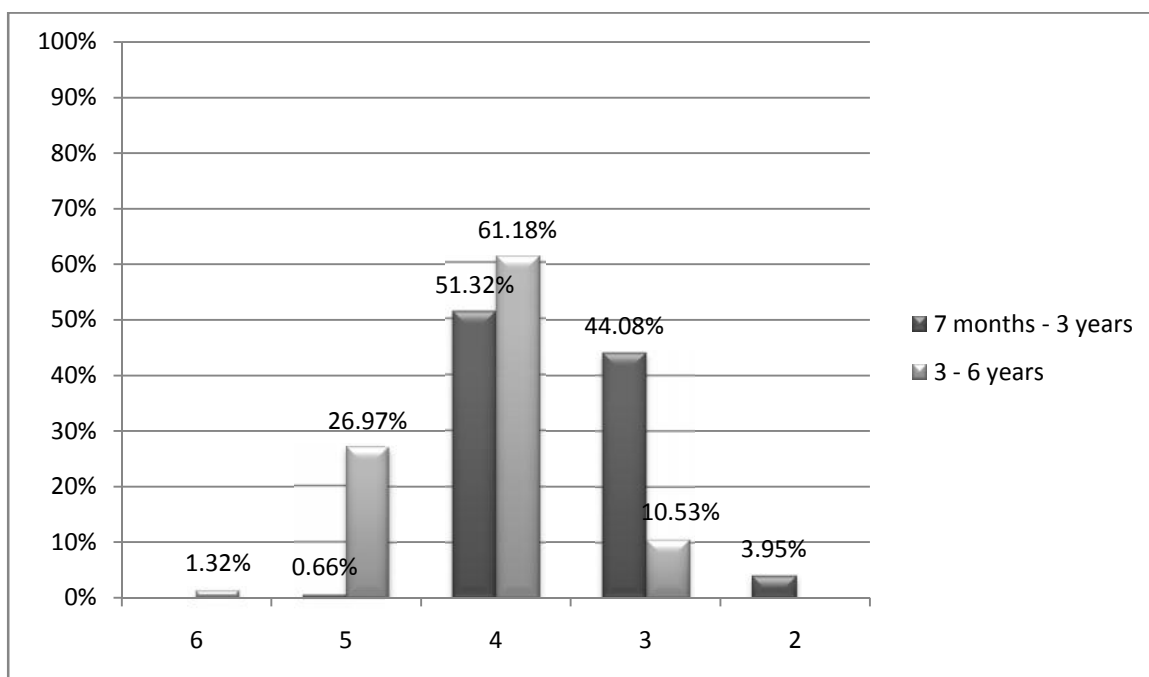


Table No. 6: Distribution of Mothers According to Working Schedule of AWC

<b>Working Schedule of AWC</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>Regularity of opening</b>		
Rarely closed	86 (56.58)	89 (58.55)
Opens regularly	60 (39.47)	56 (36.84)
Not regular	1 (0.66)	5 (3.29)
Unable to observe	5 (3.29)	2 (1.32)
<b>Reasons for closure</b>		
AWW/AWH given other duty	39 (25.66)	49 (32.24)
AWH absent	35 (23.03)	37 (24.34)
AWW absent	3 (1.97)	3 (1.97)
No food	2 (1.32)	
Cannot say	74 (48.03)	63 (41.45)
<b>Timings convenient for the mother</b>		
Yes	120 (78.95)	118 (77.63)
No	23 (15.13)	23 (15.13)
Cannot say	9 (5.92)	11 (7.24)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

According to the mothers of children aged 7 months to 3 years, the AWC is open for an average of 21.5 days per month with a range of 18 to 25 days, and on each such working day the AWC functions for an average of 6 hours with a range of 4 to 7 hours. Similarly, for mothers of children aged 3 - 6 years, the AWC is open for an average of 21.6 days per month with a range of 18 to 25 days, and on each such working day the AWC functions for an average of 5.35 hours with a range of 4 to 7 hours.

Of the 304 respondents 175 (57.57%) opined that the AWC was rarely ever closed on working days, 166 (38.16%) said that the AWC opens regularly, while 6 (1.97%) of the mothers were of the opinion that the AWC did not open regularly. While nearly half the mothers (45.07%) could not mention any particular reason why the AWC would remain closed on a working day, 88 (28.95%) said that the AWC remained closed when the AWW and AWH were given additional jobs such as conducting House-to-house surveys or activities such as Pulse Polio Immunisation. Two (0.66%) of the respondents said that the AWC was

closed at least on some occasions due to lack of food. Over three-fourths (78.29%) of the respondents found the timings of the AWC functioning to be convenient.

**Delivery of Supplementary Nutrition Feeds:** All the respondents were aware of supplementary nutrition services provided by the AWC.

Table No. 7: Distribution of Children According to Provision of Supplementary Nutrition

<b>Supplementary Nutrition</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>Kind of food given</b>		
Take home dry rations	115 (75.66)	15 (10.27)
Cooked meal	37 (24.34)	131 (89.73)
<b>Regularity of food</b>		
Very regular	99 (65.13)	83 (56.85)
Quite regular	50 (32.89)	61 (41.78)
Irregular	3 (1.97)	2 (1.37)
<b>Quantity of food</b>		
Adequate	130 (85.53)	128 (87.67)
Inadequate	22 (14.47)	18 (12.33)
<b>Quality satisfaction</b>		
Satisfied	130 (85.53)	118 (80.82)
Not satisfied	22 (14.47)	17 (11.64)
Cannot say		11 (7.53)
<b>Total</b>	<b>152 (100)</b>	<b>146* (100)</b>

\*6 of the children in this age group did not receive supplementary nutrition

Of the 152 children aged 7 months to 3 years, 37 (24.34%) received cooked meal at the AWC, while 115 (75.66%) received Take Home Rations (THR). Of the 146 who received the supplementary feeds, 131 (89.73%) received cooked meal at the AWC and while 15 (10.27%) THR. Nearly 60% of the respondents said that food was provided very regularly at the AWC. However, 111 (36.51%) said the service was quite regular, while 5 (1.64%) opined that the service was in fact irregular. Regarding the quantity of food supplied, 258 (84.87%) felt that it was adequate. The same number of respondents said that the quality of the food provided was satisfactory.

Graph 2 (Table No. 7): Distribution of Children According to Provision of Supplementary Nutrition

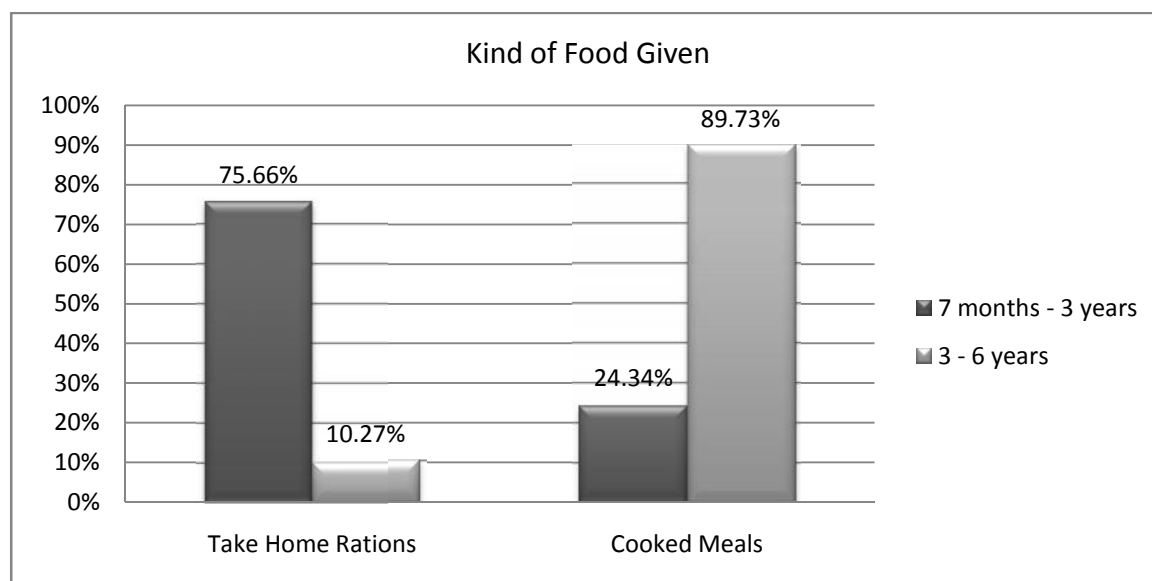


Table No. 8: Distribution of Children According to Where Food is Eaten

Where food is eaten	7 months – 3 years	3 – 6 years
Brings home	115 (75.66)	15 (10.27)
Fed at AWC	16 (10.53)	131 (89.73)
Sometimes AWC, sometimes home	21 (13.82)	
<b>Total</b>	<b>152 (100)</b>	<b>146 (100)</b>

Of the 152 children aged 7 months to 3 years, about three-fourths (75.66%) consumed the THR at home, 16 (10.53%) consumed the food at the AWC while 21 (13.82%) consumed the food at the AWC on some days and brought the same home on other days. Of the 136 children who brought the food home, 48 (35.29%) were found to share the Supplementary feed provided for the child. Of them, 21 (43.75%) shared it with their siblings, 25 (52.08%) with parents and 2 (1.31%) parents said that they served this food to guests or relatives. Of the 146 children aged 3 to 6 years, 15 (10.27%) brought the food home. Among them, mothers of 7 (46.67%) children admitted that the food was shared. This included 2 (28.27%) respondents who gave the food to the child's siblings and 5 (71.43%) parents who consumed part of the food themselves. The most common reason stated for sharing the food was that the child for whom it was intended did not like the food.

Table No. 9: Distribution of Children According to Growth Monitoring Services

<b>Growth Monitoring Services</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>Child weighed regularly</b>		
Yes	83 (54.60)	116 (76.32)
No	67 (44.08)	17 (11.18)
Don't know	2 (1.32)	19 (12.50)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>
<b>If yes, how regular</b>	<b>(n=83)</b>	<b>(n=116)</b>
Every month	11 (13.25)	76 (65.52)
Every 2 months	32 (38.56)	35 (30.17)
Every 3 months	29 (34.94)	1 (0.86)
Roughly 6 months	7 (8.43)	
Don't know	4 (4.82)	4 (3.45)

A total of 83 (54.60%) of the respondents said that their child aged between 7 months to 3 years was weighed on a regular basis. Of these, 11 (13.25%) said the children were weighed every month, 61 (73.49%) said the child was weighed every 2 to 3 months, while 7 said the child was weighed once in 6 months. Mothers of 116 (76.32%) said that their children who were aged 3 to 6 years, were weighed regularly at the AWC. Of them, 76 (65.52%) said the children were weighed once a month, 35 (30.17%) said once in two months, 1 (0.86%) said once in three months. Nearly two-third (65.79%) of the respondents whose children were aged 7 months to 3 years said that the weight of the child was never discussed with them, whereas, 112 (73.68%) of the respondents whose children were in the age group 3 to 6 years said that weight of the child was discussed with them.

Graph 3 (Table No. 9): Distribution of Children According to Growth Monitoring Services

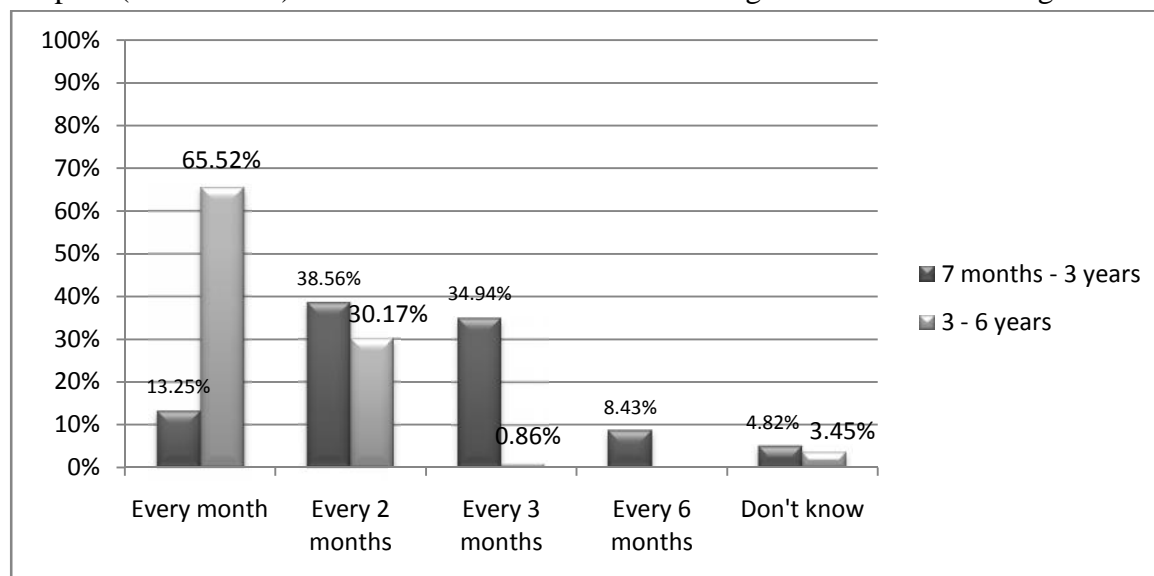


Table No. 10: Distribution of Children According to Immunisation Services

Immunisation Services	7 months – 3 years	3 – 6 years
<b>Immunisation status</b>		
Fully immunised	129 (84.87)	119 (78.29)
Partially immunised	21 (13.82)	25 (16.45)
Non immunised	2 (1.32)	8 (5.26)
<b>Reasons for partial immunisation</b>	<b>(n = 21)</b>	<b>(n = 25)</b>
Child not well	7 (33.33)	9 (36.00)
Child out of station	5 (23.81)	7 (28.00)
Refusal to take more than one injection	5 (23.81)	4 (16.00)
Not aware of service at right time	2 (9.52)	3 (12.00)
Inconvenient timings	1 (4.76)	1 (4.00)
Opposition from relatives	1 (4.76)	1 (4.00)
<b>Role of AWW in immunisation</b>		
Organised vaccination session	57 (37.50)	74 (48.88)
Informed dates	53 (34.87)	45 (29.61)
Motivated mother	20 (13.16)	14 (9.21)
Takes child to UHC/AWC	13 (8.55)	5 (3.29)
None	9 (5.92)	14 (9.21)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

It was found that of the 152 children aged 7 months to 3 years, 129 (84.87%) were fully immunised for their age, 21 (13.82%) were partially immunised, while 2 (1.32%) children had not received a single dose of vaccine since birth. Of the 152 children aged 3 to 6 years,

119 (78.29%) children were fully immunised for their age, 25 children (16.45%) were partially immunised, and 8 (5.26%) children had not received a single dose of vaccine since birth. In both the groups, 118 parents (77.63%) had retained the immunisation card. The common reasons given for partial immunisation included child not being well (34.78%), being out of station (26.09%), and refusal to take more than one injection at a time (19.57%). Two of the respondents said that they found the timings inconvenient while another two mothers said that they did not immunise their children further because of the opposition from their relatives. The AWW had some role to play in the immunisation, the most often cited roles being organising the vaccination session (43.09%) and informing the dates of the sessions (32.24%). When asked for the reason for non immunisation, 4 (40.00%) of the mothers answered that the child was ill, while 3 (30.00%) of the mothers said they were not aware of the need for immunisation. Further, one (10.00%) of mothers was reportedly advised against immunisation by a homeopathic practitioner, another mother said that the parents were advised against the same by a religious leader. There was one mother who faced opposition from her family members.

Graph 4 (Table No. 10): Distribution of Children According to Immunisation Services

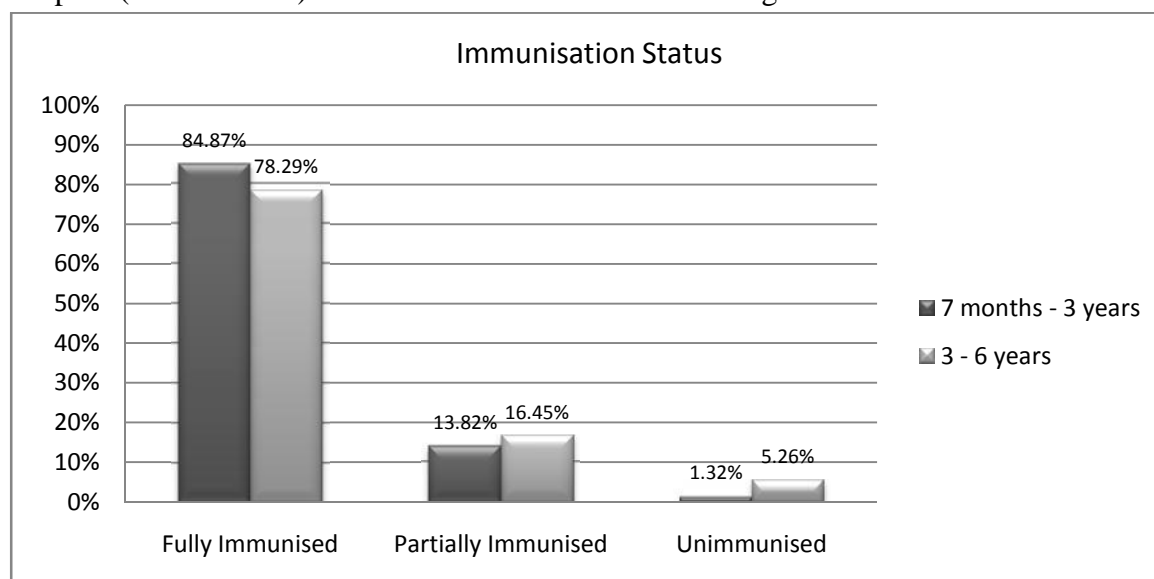


Table No.11: Distribution of Children According to Referral services

Referral services	7 months – 3 years	3 – 6 months
<b>AWW referred/helped to obtain treatment</b>		
Yes	84 (55.26)	92 (60.53)
No	68 (44.74)	60 (39.47)
<b>Reasons for not referring/helping</b>	<b>(n=68)</b>	<b>(n=60)</b>
Need did not rise	40 (58.82)	35 (58.33)
AWW not approachable	17 (25.00)	10 (16.67)
Going to UHC easier	9 (13.24)	8 (13.33)
Went to private doctor	2 (2.94)	7 (11.67)

Of the 304 children, 176 (57.89%) were referred/helped to obtain medical treatment by the AWW at least once in the preceding 6 months. The reasons for the remaining 128 children not being referred / helped by the AWW included the need not arising (58.59%); AWW not being approachable (21.09%), approaching the UHC directly being easier (13.28%) and opting to consult a private clinic (7.03%).

Table No. 12: Distribution of Children According to House-Visit by the AWW

House Visit by AWW	7 months – 3 years	3 – 6 years
Yes	51 (33.55)	45 (29.61)
No	101 (66.45)	107 (70.39)
<b>Purpose of visit</b>	<b>(n=51)</b>	<b>(n=45)</b>
SNF	23 (45.10)	17 (37.78)
Immunisation	18 (35.29)	17 (37.78)
Birth spacing	7 (13.73)	4 (8.89)
Growth monitoring	3 (5.88)	7 (15.55)

The AWW had not visited nearly two-thirds of the respondents at any point of time to give any type of counselling or advice. Of the 51 (33.55%) respondents whose children were aged 7 months to 3 years whom the AWW visited, the main purpose of the last visit was to advise regarding importance of Supplementary Nutritional Feed (45.10%), Immunisation (35.29%), birth spacing methods (13.73%) and growth monitoring (5.88%). Of the 45 respondents whose children were aged 3 to 6 years whom the AWW visited, the main purpose of the last

visit was to advise regarding importance of Supplementary Nutritional Feed (37.78%), Immunisation (37.78%), growth monitoring (15.55%) and birth spacing methods (8.89%).

Table No. 13: Distribution of Children According to Health check-up Services

<b>Health check-up Services</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>Whether days are fixed for health check-up</b>		
Yes	14 (9.21)	36 (23.68)
No	127 (83.55)	110 (72.37)
Not aware	11 (7.24)	6 (3.95)
<b>If no, whether informed in advance</b>	<b>(n=138)</b>	<b>(n=116)</b>
Yes, always	35 (25.36)	33 (28.45)
No	59 (42.75)	45 (38.79)
Yes, Sometimes	44 (31.88)	38 (32.76)
<b>Child undergone health check-up in past 6 months</b>		
Yes	89 (58.55)	88 (57.89)
No	50 (32.89)	48 (31.58)
Don't know	13 (8.55)	16 (10.53)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

With regards to health check-ups held at the AWC, majority of the respondents said that there were no days fixed, or were not aware of the same. Of them, 68 (26.77%) said that the dates were informed in advance always, 82 (32.28%) said that they were informed in advance sometimes, while 104 (40.94%) said that they were not informed regarding the dates of health check-up. Of the 304 respondents, 177 (58.22%) said that their children had undergone health check-up at the AWC, 98 (32.24%) said their children was not seen by any doctor or health staff and 29 (9.54%) said that they were not aware if any health check-up had taken place when the child was at the AWC.

Graph 5 (Table No. 13): Distribution of Children According to Health check-up Services

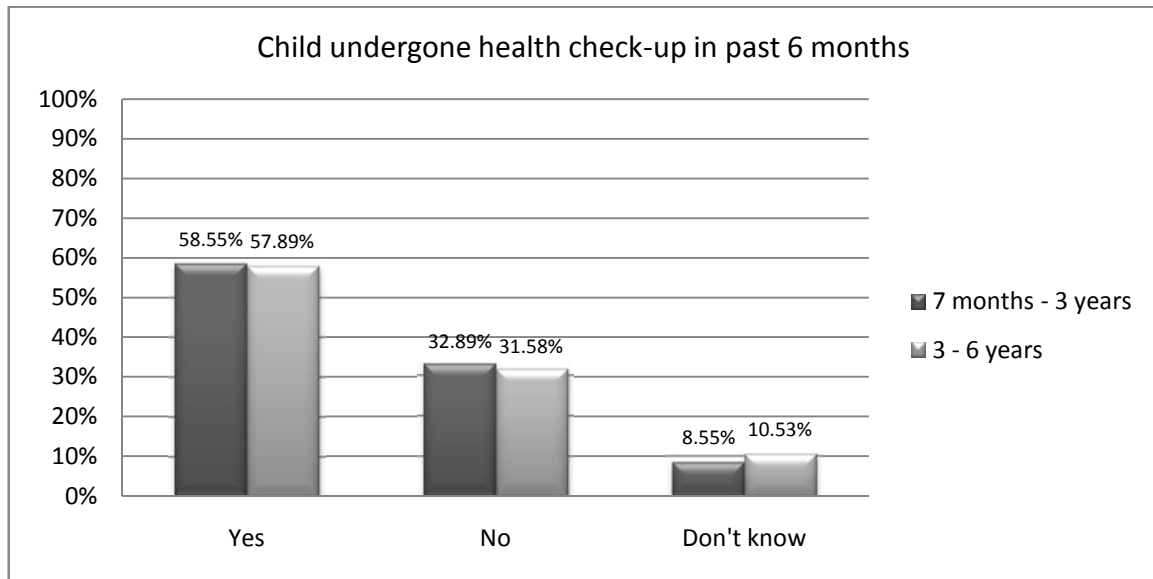


Table No. 14: Distribution of mothers of Children According to Nutritional and Health Education Services

<b>Nutritional and Health Education Services</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>NHE conducted in the past 6 months</b>		
Yes	142 (93.42)	144 (94.74)
No	3 (1.97)	2 (1.32)
Don't know	7 (4.61)	6 (3.95)
<b>If yes, attended</b>	<b>(n=142)</b>	<b>(n=144)</b>
Yes	87 (61.27)	97 (67.36)
No	55 (38.73)	47 (32.64)
<b>Reasons for Not attending</b>	<b>(n=65)</b>	<b>(n=55)</b>
Not aware of the sessions	10 (15.38)	8 (14.55)
Unsuitable timings	35 (53.85)	31 (56.36)
Not interested	16 (24.62)	9 (16.36)
Lack of time	3 (4.61)	6 (10.91)
Useless	1 (1.54)	1 (1.82)
<b>No. of sessions attended in the past 6 months</b>		
None	65 (42.76)	55 (36.18)
1	18 (11.84)	19 (12.50)
2	30 (19.74)	32 (21.05)
3	24 (15.79)	31 (20.39)
4	15 (9.87)	15 (9.87)
<b>NHE causing any change in practices</b>	<b>(n= 87)</b>	<b>(n = 97)</b>
Yes	69 (79.31)	81 (83.51)
No	4 (4.60)	4 (4.12)
Can't say	14 (16.09)	12 (12.37)

Of the 304 respondents, more than 90% were aware of the NHE activities conducted at the AWC in the past 6 months. Of them, 184 (64.34%) had attended one or the other session. About 48.35% had attended more than one session of NHE activities. The reasons given for not attending the NHE sessions included timings not being convenient (55.00%), not being interested (20.83%), lack of time (7.50%) and perceived as useless (1.67%). The most common topics discussed for both the groups were Family Planning, Immunisation, Infant feeding, Hygiene and Sanitation and Child care. Of the 184 who had attended at least one session of NHE, 150 (81.52%) felt that it resulted in some change in their practices.

Graph 6 (Table No. 14): Distribution of mothers of Children According to Nutritional and Health Education Services

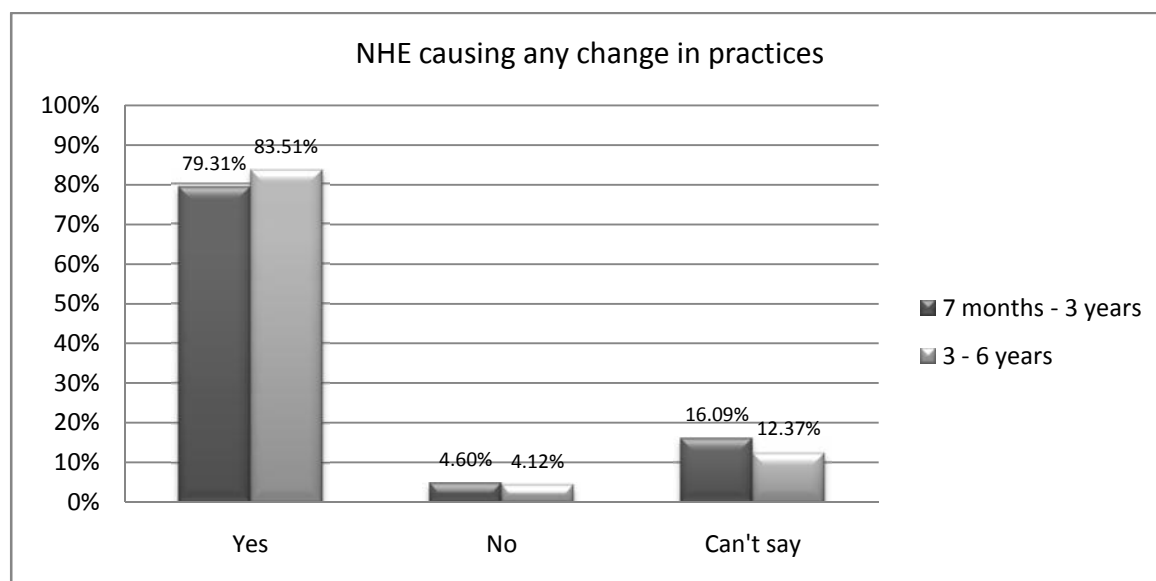


Table No. 15: Distribution of Children aged 3 to 6 years According to Pre School Education Services

Pre School Education Services	Number	Percentage
<b>Knowledge Regarding Playing and Learning activity at AWC (n=130)</b>		
Yes	124	95.38
No	6	4.62
<b>Whether learning activity is Beneficial to the child (n=124)</b>		
Yes	115	92.74
Can't say	9	7.26
<b>How playing activity helps (n=115)</b>		
Learns prior to entering primary school	55	47.83
Habit of going to school	43	37.39
Develop social skills	15	13.04
Develop communication	2	1.74

Among the parents of the 130 children who attended AWW, 124 (95.38%) said that there was regular playing and learning activities at the AWC. Amongst them, 115 (92.74%) respondents felt that such activities were beneficial. When enquired about how they found such activities beneficial, 55 (47.83%) of the respondents said it helps the child to learn something before entering primary school, 43 (37.39%) said it helps to develop the habit of

going to school, 15 (13.04%) said it helps the child to develop social skills while 2 (1.74%) were of the opinion that it helps the child to develop communication skills.

Table No. 16: Distribution of Children According to Assistance during illness

Assistance during illness	7 months – 3 years	3 – 6 years
<b>Any illness in last 2 weeks</b>		
Yes	55 (36.18)	47 (30.92)
No	97 (63.82)	105 (69.08)
<b>If yes, whether help of AWW sought</b>	<b>(n=55)</b>	<b>(n=47)</b>
Yes	25 (45.45)	20 (42.55)
No	30 (54.55)	27 (57.45)
<b>Advice given by AWW</b>	<b>(n=25)</b>	<b>(n=20)</b>
Gave medicines	9 (36.00)	11 (55.00)
Referred to the UHC	9 (36.00)	4 (20.00)
Gave advice	4 (16.00)	4 (20.00)
Accompanied to UHC	3 (12.00)	1 (5.00)
<b>Reasons for not seeking advice</b>	<b>(n=30)</b>	<b>(n=27)</b>
Going to UHC easier	18 (60.00)	16 (59.26)
Went to private doctor	8 (26.67)	6 (22.22)
AWW not approachable	2 (6.67)	3 (11.11)
Need did not rise	2 (6.67)	2 (7.41)

Of the 304 children, 102 (33.55%) had at least one episode of illness in the past 2 weeks. Of them, the parents of 45 (44.12%) sought the help of the AWW. The AWW referred 13 (28.89%) of these children to the UHC, 4 (8.89%) were accompanied by the AWW, 20 (44.44%) were given medicines and 8 (17.78%) were given advice. Parents of 57 (55.89%) children who fell ill did not approach the AWW for help because they felt going to the UHC was easier (59.65%) or because they opted to consult a private doctor (24.56%).

Table No. 17: Distribution of children according to Management of Diarrhoea

<b>Management of Diarrhoea</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>Intake of fluids / food</b>		
Reduce the intake of food	64 (42.11)	63 (41.45)
Increase the intake of fluids	47 (30.92)	51 (33.55)
Continue with normal food and fluids	23 (15.13)	24 (15.79)
Reduce the intake of fluids	18 (11.84)	14 (9.21)
<b>Procurement of ORS from</b>		
AWC	63 (41.45)	54 (35.53)
Drug store	46 (30.26)	48 (31.58)
UHC	26 (17.11)	37 (24.34)
Give home-made “ORS”	17 (11.18)	13 (8.55)
<b>Advice given by the AWW</b>		
Yes	130 (85.53)	125 (82.24)
No	22 (14.47)	27 (17.76)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

In the event of diarrhoea, 127 (41.78%) of the respondents said that they would reduce the food intake of the child, 47 (15.46%) said they would continue with normal fluids and food, while 32 (10.53%) parents said they would reduce the intake of fluids. As for procurement of ORS 117 (38.49%) approached the AWW, 63 (20.72%) approached the UHC, while 94 (30.92%) opted to procure the same form the drug store. Only 30 (9.87%) mentioned about giving home-made ORS. Majority (83.88%) of the respondents said they had received advice from the AWW regarding the management of diarrhoea.

Table No. 18: Distribution of Children Aged 7 months to 6 years According to De-worming

<b>Variable</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>De-worming in 6 months</b>		
Yes	71 (46.71)	100 (65.79)
No	81 (53.29)	50 (32.89)
Can't remember		2 (1.32)
<b>Aware of need for de-worming</b>		
Yes	48 (31.58)	81 (53.29)
No	104 (68.42)	71 (46.71)
<b>AWW advice on de-worming</b>		
Yes	40 (26.32)	72 (47.37)
No	112 (73.68)	80 (52.36)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Of the 152 children aged 7 months to 3 years, 71 (46.71%) of the children were de-wormed in the past 6 months. Regarding the need for regular de-worming, 48 (31.58%) of the mothers were aware of it. Only 40 (26.32%) had received advice from the AWW regarding de-worming. Among the 152 children of age group 3 – 6 years, 100 (65.79%) of the children were de-wormed in the past 6 months. Regarding the need for regular de-worming, 81 (53.29%) of the mothers were aware of it. Less than half the mothers, (47.37%) had received advice from the AWW regarding de-worming.

Table No. 19: Distribution of Mothers According to Perception Regarding AWW and ICDS

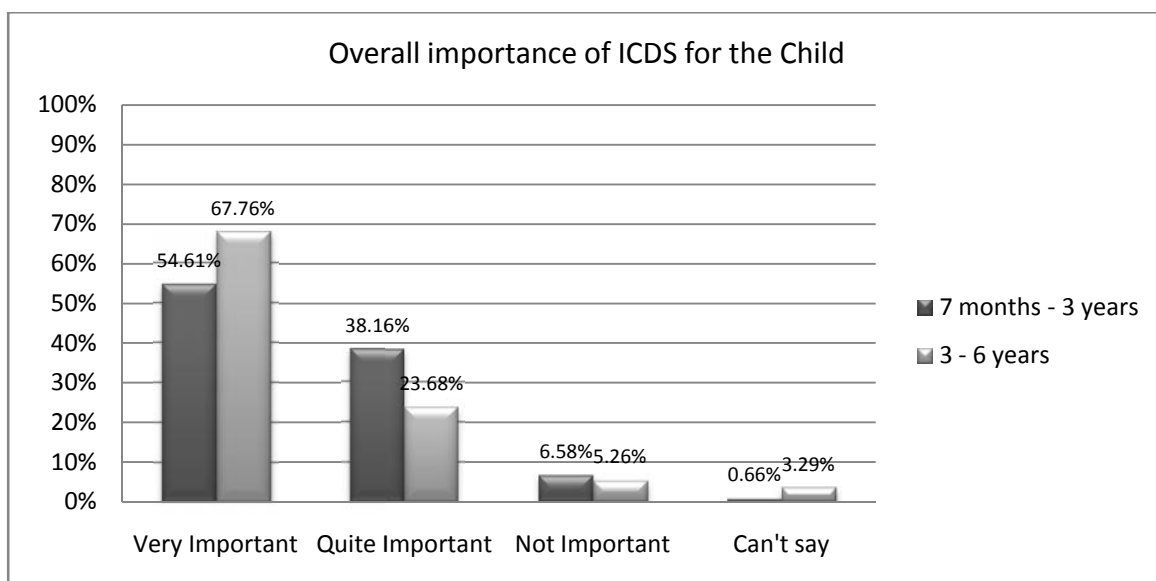
<b>Perception Regarding AWW and ICDS</b>	<b>7 months – 3 years</b>	<b>3 – 6 years</b>
<b>Motivation of AWW for work</b>		
High	137 (90.13)	139 (91.45)
Indifferent	14 (9.21)	10 (6.58)
Unable to observe	1 (0.66)	3 (1.97)
<b>Attitude of AWW to children</b>		
Kind	130 (85.53)	124 (81.58)
Indifferent	20 (13.16)	17 (11.18)
Harsh		2 (1.32)
Unable to observe	2 (1.32)	9 (5.92)
<b>Most Useful ICDS service</b>		
SNF	86 (56.58)	96 (63.16)
PSE		45 (29.61)
Immunisation	39 (25.66)	8 (5.26)
Health Check-up	27 (17.76)	2 (1.32)
Growth monitoring		1 (0.66)
<b>Overall importance of ICDS for child</b>		
Very important	83 (54.61)	103 (67.76)
Quite important	58 (38.16)	36 (23.68)
Not important	10 (6.58)	8 (5.26)
Cannot say	1 (0.66)	5 (3.29)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Of the 304 respondents, 276 (90.79%) felt that their AWW had high motivation, 24 mentioned (7.89%) that the AWW was indifferent and 4 (1.32%) respondents said they were unable to observe. Regarding the attitude of the AWW to the children, 254 (85.53%) mothers felt the AWWs were kind to the children, 37 (12.17%) said the AWW was indifferent, 2 (0.66%) said the AWW was harsh and 11 (3.62%) of the mothers said they could not observe.

When the mothers of children aged 7 months to 3 years were asked which of the services they found most important, more than half (56.58%) answered Supplementary Nutrition feeds, followed by Immunisation (25.66%) and Health check-up (17.76%). No one listed growth monitoring or referral as the useful service. When the mothers of children aged 3 – 6 years were asked the same question, nearly two-thirds (63.16%) said Supplementary Nutrition feeds, followed by Pre-school Education (29.61%) and Immunisation (5.26%). Two (1.32%)

respondents mentioned that growth monitoring was the most important services, while one (0.66%) said that Health Check-up is the most important service. No one listed referral as the useful service. With regards to the overall importance of ICDS for children, 186 (61.18%) respondents said ICDS was very important for the child, 94 (30.92%) graded the same as quite important while 18 (5.92%) were of the opinion that ICDS was of no importance to the child.

Graph 7 (Table No. 19): Distribution of Mothers According to Perception Regarding AWW and ICDS



## II. ADOLESCENT GIRLS

Table No. 20: Socio-demographic Profile of Adolescent Girls

Socio- demographic Profile	Number	Percentage
<b>Age (in years)</b>		
10 – 13	2	1.32
14 – 16	70	46.05
17 – 19	80	52.63
<b>Currently studying</b>		
Yes	113	74.34
No	39	25.66
<b>Religion</b>		
Hindu	86	56.58
Muslim	65	42.76
Christian	1	0.66
<b>Type of family</b>		
Nuclear	71	46.71
Joint	78	51.32
Broken/Problem	3	1.97
<b>Socioeconomic status</b>		
I	2	1.32
II	16	10.53
III	55	36.18
IV	64	42.11
V	15	9.87
<b>Type of Ration card</b>		
Below Poverty Line	90	59.21
Above Poverty Line	43	28.29
Do not have	19	12.50
<b>Total</b>	<b>152</b>	<b>100</b>

Among 152 adolescent girls studied, 2 (1.32%) were in their early adolescence, 70 (46.05%) in middle adolescence and 80 (52.63%) were in late adolescence. The mean age ( $\pm$  SD) of the Adolescent girls in this study was  $16.71 \pm 1.59$  years. All the girls had attended school at least for a few years, 39 (25.66%) were not currently studying. With regards to religion, 86 (56.58%) were Hindus, 65 (42.76%) were Muslims and one (0.66%) of the girls was Christian. Nearly half the girls (46.71%) belonged to Nuclear family while 78 (51.32%) were from joint family, and 3 (1.97%) were from broken family. According to Modified B. G.

Prasad Classification, 2 (1.32%) belonged to Class I, 16 (10.53%) to Class II, 55 (36.18%) to Class III, 64 (42.11%) to Class IV and 15 (9.87%) to Class V. About 60.00% of the families possessed Below Poverty Line ration cards.

Table No. 21: Socio Demographic Profile of Mothers of Adolescent Girls

<b>Socio Demographic Profile of Mothers</b>	<b>Number</b>	<b>Percentage</b>
<b>Literacy status</b>		
Illiterate	11	7.24
Primary	69	45.39
High school	58	38.16
PUC and above	14	9.21
<b>Occupation</b>		
House wife	127	83.55
Self Employed	23	15.13
Employed	2	1.32
<b>Total</b>	<b>152</b>	<b>100</b>

Amongst the 152 mothers, 11 (7.24%) were illiterate, 69 (45.39%) had studied up to primary school, 58 (38.16%) up to high school and 14 (9.21%) had studied up to Pre-University level or higher. Majority (83.55%) of the mothers were housewives.

Table No. 22: Distribution of Mothers According to Motivator for Enrolment

<b>Motivator for Enrolment at AWC</b>	<b>Number</b>	<b>Percentage</b>
AWW/AWH	116	76.32
UHC	17	11.18
Mahila mandal	11	7.24
Self	7	4.61
Relative/ neighbour	1	0.66
<b>Total</b>	<b>152</b>	<b>100</b>

When asked who motivated them to enrol the girl at the AWC, 116 (76.32%) of the mothers replied that it was the AWW or AWH, 17 (11.18%) said Health Worker (F) from the UHC and 7 (4.61%) got their children enrolled by their own motivation.

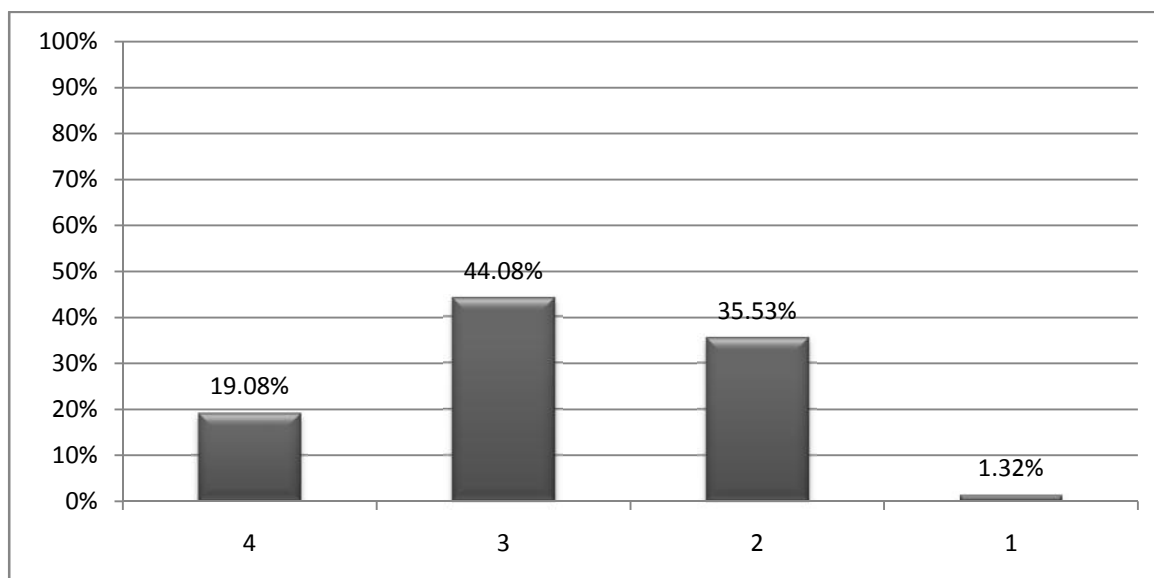
**Payment for Enrolment of Adolescent Girl to AWC:** None of the mothers said that they had to pay the AWW or any other functionary to get their child enrolled at the AWC.

Table No. 23: Distribution of Mothers According to Knowledge regarding Number of ICDS Services

Knowledge of mothers regarding Number of ICDS Services	Number	Percentage
4	29	19.08
3	67	44.08
2	54	35.53
1	2	1.32
<b>Total</b>	<b>152</b>	<b>100</b>

Of the 152 respondents, none were aware of all the five services provided to Adolescent girls. Most mothers 67 (44.08%) could list out three of the services, 54 (35.53%) were aware of at least two services provided at the AWC. The three services that were known to most of the mothers were Supplementary Nutrition, Immunisation and Health Check-ups. Nearly 20% of the mothers knew about Growth monitoring and None of them knew about referral services.

Graph 8 (Table No. 23): Distribution of Mothers According to Knowledge regarding Number of ICDS Services



**Timings convenient for the Adolescent Girl:** Of 152 mother of adolescent girls, 101 (66.45%) said that the timing of the AWC was convenient for the Adolescent Girl, 23 (15.13%) said it was not convenient, and 28 (18.42%) said they were not sure.

Table No. 24: Distribution of Mothers According to Provision of Supplementary Nutrition Service

<b>Supplementary Nutrition Service</b>	<b>Number</b>	<b>Percentage</b>
<b>Regularity of food supply</b>		
Very regular	98	64.47
Not regular	54	35.53
<b>Whether shared</b>		
Yes	60	39.47
No	92	60.53
<b>Shared with (n=60)</b>		
Siblings	30	50.00
Parents	15	25.00
Others	15	25.00
<b>Quality satisfaction</b>		
Yes	104	68.42
No	21	13.82
Cannot say	27	17.76
<b>Total</b>	<b>152</b>	<b>100</b>

All the Adolescent Girls were given THR. About two-thirds (64.47%) of the respondents said that the provision of food was regular. There were 60 (39.47%) girls who said they shared the provided food. Of them, 30 (50.00%) shared the food with their younger siblings, 15 (25.00%) shared it with their parents and the remaining (25.00%) shared the same with others like guests. Nearly 70% of the respondents were satisfied with the quality of food provided at the AWC.

Table No. 25: Distribution of Adolescent Girls According to Growth Monitoring Service

<b>Growth Monitoring Service</b>	<b>Number</b>	<b>Percentage</b>
<b>Whether weighed in the past 6 months</b>		
Yes	42	27.63
No	110	72.37
<b>Total</b>	<b>152</b>	<b>100</b>
<b>Regularity of weighing (n=42)</b>		
Every month	8	19.05
Every 2 months	8	19.05
Every 3 months	14	33.33
Roughly 6 months	12	28.57

Of the 152 girls, only 42 (27.63%) girls were weighed in the preceding six months. Of them, 8 (19.05%) were weighed monthly, 8 (19.05%) every alternate month, and 14 (33.33%) said once in 3 months.

Table No. 26: Distribution of Adolescent girls aged 17 – 19 years According to Immunisation against Tetanus

<b>Immunisation Against Tetanus at 16 years</b>	<b>Number</b>	<b>Percentage</b>
Yes	63	78.75
No	17	21.25
<b>Total</b>	<b>80</b>	<b>100</b>
<b>Whether AWW played any role (n=63)</b>		
Yes	41	65.08
No	13	20.63
Cannot say	9	14.29

Of the 80 girls in the study who were aged 17 years or above, 63 (78.75%) had received booster dose of Tetanus Toxoid at 16 years. Of them, 41 (65.08%) said that the AWW played a role in motivating them to get themselves immunised.

Graph 9 (Table No. 26): Distribution of Adolescent girls aged 17 – 19 years According to Immunisation against Tetanus

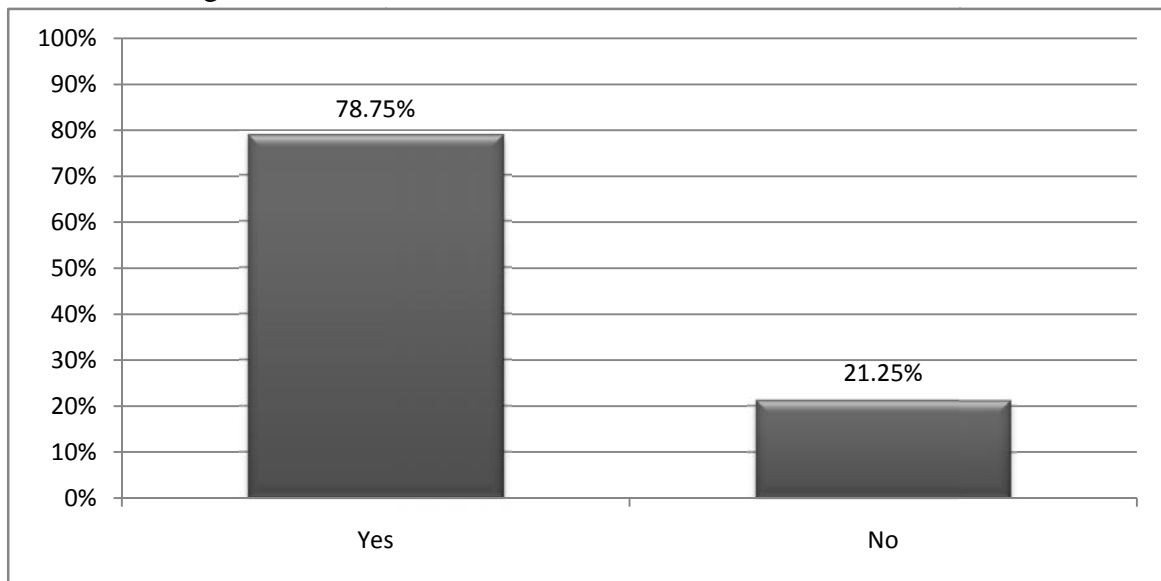


Table No. 27: Distribution of Adolescent Girls According to Health check-up and Referral services

<b>Health check-up and Referral services</b>	<b>Number</b>	<b>Percentage</b>
<b>Whether the girls underwent Health check up in past 6 months</b>		
Yes	80	52.63
No	72	47.37
<b>AWW referred/helped to obtain treatment</b>		
Yes	75	49.34
No	77	50.66
<b>Reasons for not referring/helping (n=77)</b>		
Need did not rise	36	46.75
AWW not approachable	13	16.88
Going to UHC easier	17	22.08
Went to private doctor	11	12.29

Of the 152 girls, 80 (52.63%) said that they had undergone health check-up in the preceding six months. About half (49.34%) were referred/helped to obtain medical treatment by the AWW at least once in the preceding 6 months. The reasons for not being referred / helped by the AWW included the need not arising (46.75%), AWW not being approachable (16.88%), approaching the UHC directly being easier (22.08%) and opting to consult a private clinic (12.29%).

Table No. 28: Distribution of Adolescent Girls According to House-Visit by the AWW

<b>House Visit by AWW</b>	<b>Number</b>	<b>Percentage</b>
Yes	47	30.92
No	105	69.08
<b>Purpose of Visit (n=47)</b>		
Menstrual hygiene	18	38.30
IFA	18	38.30
Nutrition	11	23.40

The AWW had made house-visits to only 47 (30.92%) of the adolescents for any kind of advice. The purpose of visits included to advise regarding menstrual hygiene (38.30%), consumption of Iron and Folic Acid tablets (38.30%) and Nutrition (23.40%).

Table No. 29: Distribution of Adolescent Girls According to De-worming

Variable	Number	Percentage
<b>De-worming past 6 months</b>		
Yes	85	55.93
No	55	36.18
Can't remember	12	7.89
<b>Awareness of need for regular de-worming</b>		
Yes	74	48.68
No	78	51.32
<b>Advice given by AWW on de-worming</b>		
Yes	66	43.42
No	86	56.58
<b>Total</b>	<b>152</b>	<b>100</b>

Of the 152 adolescent girls in the study, 85 (55.93%) had been given Albendazole for de-worming. About half (48.68%) were aware of the need for regular de-worming. Even lesser number (43.42%) said they received advice from the AWW regarding the need for regular de-worming.

Graph 10 (Table No. 29): Distribution of Adolescent Girls According to De-worming

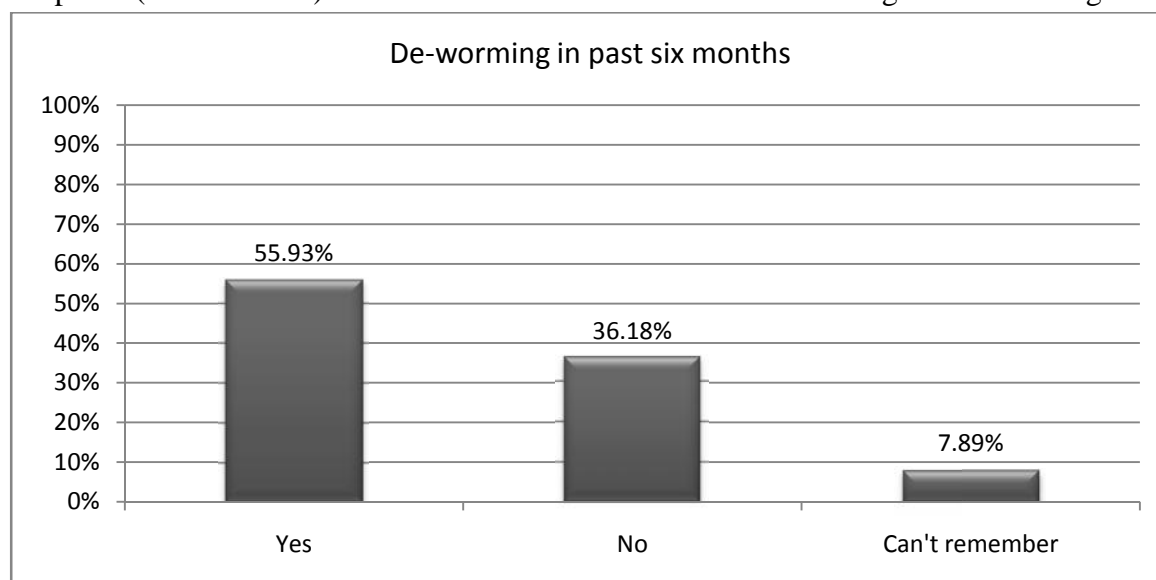


Table No. 30: Distribution of Adolescent Girls According to Nutritional and Health Education Services

<b>Nutritional and Health Education Services</b>	<b>Number</b>	<b>Percentage</b>
<b>NHE in past 6 months</b>		
Yes	141	92.76
No	7	4.61
Don't know	4	2.63
<b>If yes, attended (n=141)</b>		
Yes	108	76.60
No	33	23.40
<b>Reasons for Not attending (n=44)</b>		
Not aware of the sessions	11	20.00
Unsuitable timings	20	45.45
Not interested	9	20.45
Lack of time	3	6.83
Useless	1	2.27
<b>No. of sessions attended in the past 6 months (n=108)</b>		
1	11	10.18
2	50	46.30
3	29	26.85
4	18	16.67
<b>NHE causing any change in practices (n=108)</b>		
Yes	84	77.78
No	6	5.56
Can't say	18	16.67

Of the 152 adolescent girls, 141 (92.76%) were aware of the NHE activities conducted at the AWC in the past 6 months. Of them, 108 (76.60%) had attended one or the other session. About 89.82% had attended more than one session of NHE activities. The reasons given for not attending the NHE sessions included timings not being convenient (45.45%), not being interested (20.45%), lack of time (6.83%) and perceived as useless (2.27%). Among those who had attended the sessions, 88 (57.89%) said that menstrual hygiene was discussed. Other topics commonly discussed were Balanced Diet (34.21%), Pregnancy and contraception (32.34%), HIV and Reproductive Tract Infections (30.92%) and Life skills (17.11%). Of the

108 who had attended at least one session of NHE, 84 (77.78%) felt that it resulted in some change in their practices.

### **Distribution of Adolescent Girls according to their knowledge regarding HIV/AIDS:**

Out of 152 adolescent girls, 72 (66.06%) knew that the disease was caused by a virus, 70 (64.22%) were aware of the at least two modes of transmission and 95 (87.16%) knew at least two of the preventive measures. Only 34 (22.37%) said that the AWW had conducted inter-personal communication with them regarding this topic.

Table No. 31: Distribution of Adolescent Girls According to Knowledge regarding Pregnancy and Contraception

<b>Knowledge regarding Pregnancy and Contraception</b>	<b>Number</b>	<b>Percentage</b>
<b>Ideal age for 1<sup>st</sup> pregnancy (in years)</b>		
18-19	77	50.66
20-21	73	48.03
>21	2	1.31
<b>Ideal birth interval (in years)</b>		
2	89	58.55
3	60	39.47
>3	3	1.97
<b>Knowledge on number of spacing methods</b>		
None	5	3.29
1	23	15.13
2	43	28.29
3	81	53.29
<b>Source of information</b>		
AWW	44	28.95
School teacher	58	38.16
Peers	33	21.71
Media	17	11.18
<b>Total</b>	<b>152</b>	<b>100</b>

When asked what the ideal age for the first pregnancy, all the participants said that it should be above 18 years; about half (50.66%) said 18 – 19 years and 73 (48.03%) said 20 – 21

years. Regarding the ideal birth interval, 89 (58.55%) were of the opinion it should be 2 years, 60 (39.47%) said 3 years and three (1.97%) of the girls said it should be more than 3 years. With respect to their knowledge regarding the various spacing methods, 23 (15.13%) knew about one method, 43 (28.29%) two methods and 81 (53.29%) knew three methods. The common spacing methods known to the adolescent girls were Oral Contraceptive Pills (95.39%), Intra uterine devices (76.32%) and condoms (59.87%). As for the source of information, 44 (28.95%) of the girls said they received information regarding contraceptives and pregnancy from the AWW, 58 (38.16%) said from their school teachers, 33 (21.71%) from their peers and 17 (11.18%) from the media.

Graph 11 (Table No. 31): Distribution of Adolescent Girls According to Knowledge regarding Pregnancy and Contraception

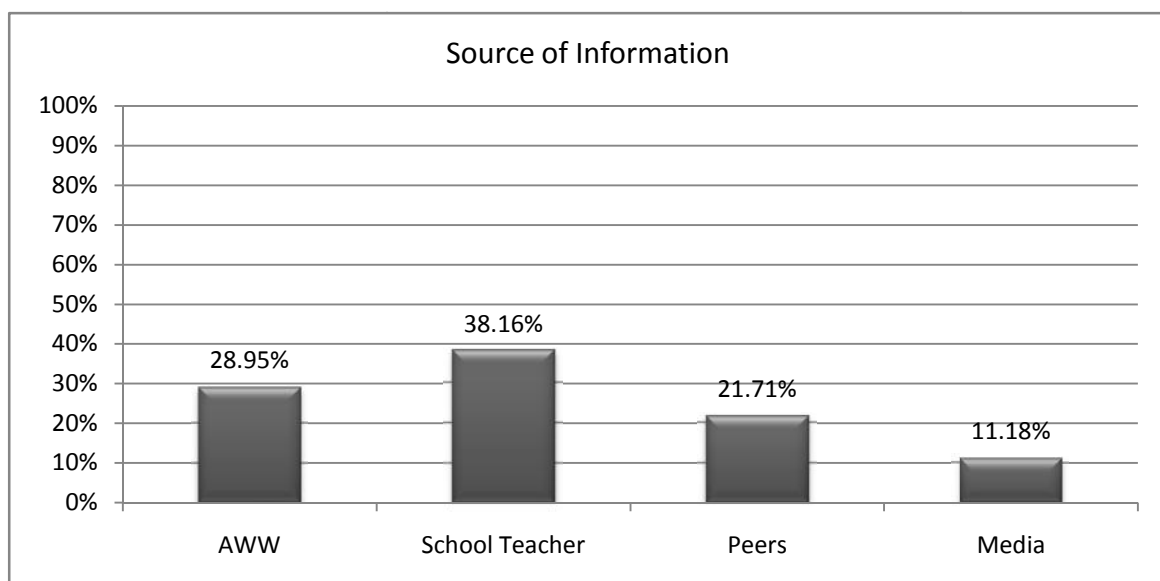


Table No. 32: Distribution of Adolescent Girls According to Involvement in Income Generating Activities

<b>Involvement in Income Generating Activities</b>	<b>Number</b>	<b>Percentage</b>
Yes	27	17.76
No	125	82.24
<b>Motivation from AWW (n=27)</b>		
Yes	17	62.96
No	10	37.04
<b>Help from AWW for skill development (n=27)</b>		
Yes	11	40.74
No	16	59.26

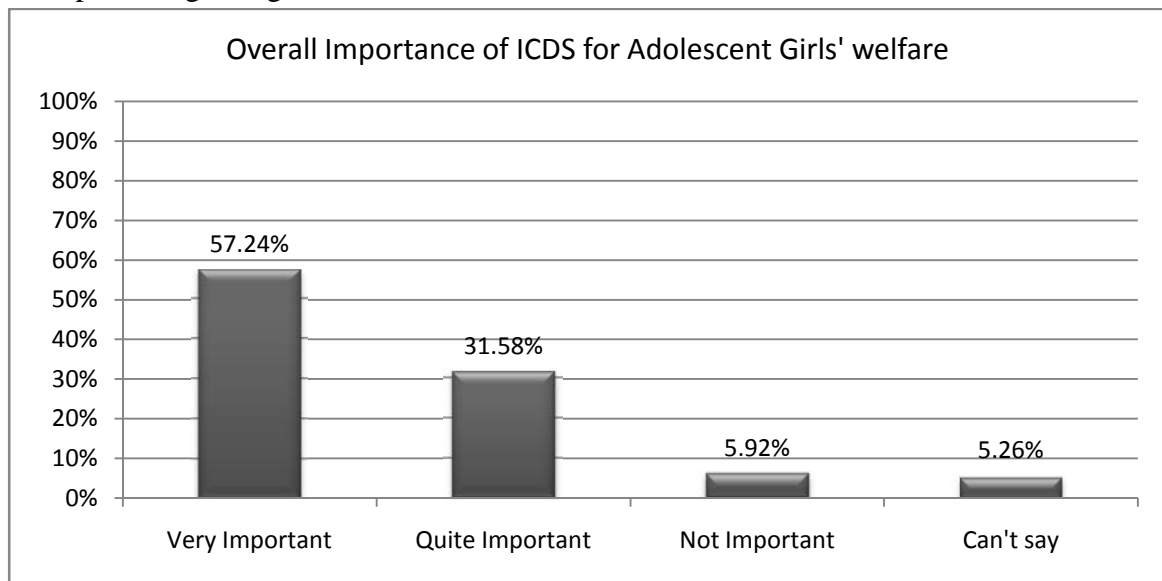
Of the 152 adolescent girls, there were 27 (17.76%) who were involved in income generating activities. Of them, 17 (62.96%) said that the AWW motivated them for this. Further, 11 (40.74%) received help from the AWW in skill development for the same.

Table No. 33: Distribution of Mothers of Adolescent Girls According to Perception Regarding AWW and ICDS

<b>Perception Regarding AWW and ICDS</b>	<b>Number</b>	<b>Percentage</b>
<b>Motivation of AWW for work</b>		
High	112	73.68
Indifferent	24	15.79
Low	1	0.66
Unable to observe	15	9.87
<b>Attitude of AWW to Adolescent girls</b>		
Kind	101	66.45
Indifferent	22	14.47
Unable to observe	29	19.08
<b>Most Useful service</b>		
SNF	92	60.53
NHE	29	19.08
Immunisation	20	13.16
Life skills	7	4.61
Health Check-up	4	2.63
<b>Overall importance of ICDS for girls' welfare</b>		
Very important	87	57.24
Quite important	48	31.58
Not important	9	5.92
Cannot say	8	5.26

Among the 152 mothers, 112 (73.68%) felt that their AWW had high motivation and 24 (15.79%) mentioned that the AWW was indifferent. Regarding the attitude of the AWW to the girls, 101 (66.45%) mother felt the AWWs were kind, 22 (14.47%) said the AWW was indifferent, while 29 (19.08%) said they could not observe. When asked which of the services they found most important, more than 60% answered Supplementary Nutrition feeds, followed by Nutrition and Health Education (19.08%), Immunisation (13.16%), Life Skills Education (4.61%) and Health check-up (2.63%). With regards to the overall importance of ICDS for girls, 87 (57.24%) respondents said ICDS was very important, 48 (31.58%) graded the same as quite important while 9 (5.92%) were of the opinion that ICDS was of no importance to the adolescent girl.

Graph 12 (Table No. 33): Distribution of Mothers of Adolescent Girls According to Perception Regarding AWW and ICDS



### III. PREGNANT AND LACTATING WOMAN

Table No. 34: Socio Demographic Profile of Pregnant and Lactating Women

<b>Socio Demographic Profile</b>	<b>Pregnant Women</b>	<b>Lactating Women</b>
<b>Age (in years)</b>		
< 20	24 (15.79)	30 (19.74)
20 – 25	98 (64.47)	103 (67.76)
26 – 30	30 (19.74)	19 (12.50)
<b>Religion</b>		
Hindu	89 (58.55)	87 (57.24)
Muslim	61 (40.13)	65 (42.76)
Sikh	1 (0.66)	
Christian	1 (0.66)	
<b>Literacy status</b>		
Illiterate	4 (2.63)	5 (3.29)
Primary	34 (22.37)	46 (30.26)
High school	89 (58.55)	81 (53.29)
PUC and above	25 (16.45)	20 (13.16)
<b>Occupation</b>		
House wife	128 (84.21)	132 (86.84)
Self employed	17 (11.18)	14 (9.21)
Employed	7 (4.61)	6 (3.95)
<b>Type of family</b>		
Nuclear	81 (53.29)	79 (51.97)
Joint	71 (46.71)	73 (48.03)
<b>Socioeconomic status</b>		
I	4 (2.63)	3 (1.97)
II	16 (10.53)	12 (7.89)
III	56 (36.84)	64 (42.11)
IV	58 (38.16)	60 (39.47)
V	18 (11.84)	13 (8.55)
<b>Type of Ration card</b>		
Below Poverty Line	94 (61.84)	95 (62.50)
Above Poverty Line	34 (22.37)	30 (19.74)
Not received	24 (15.79)	27 (17.76)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Of the 304 women interviewed, 54 (17.76%) were aged less than 20 years, 201 (66.12%) were aged between 20 – 25 years; the remaining 49 (16.12%) were aged above 25 years. The mean ages ( $\pm$  SD) of the pregnant and lactating women were  $22.05 \pm 2.36$  years and  $21.71 \pm 2.47$  years respectively. Based on religion, 176 (57.90%) were Hindus, 126 (41.45%)

Muslims, and one (0.33%) Sikh and Christian each. Nine (2.96%) of the respondents were illiterate, 80 (26.32%) had studied till primary school, 170 (55.92%) were educated till high school and 45 (14.80%) had studied Pre-University level or above. Majority (85.53%) of the respondents were housewives. Of the 304 women, 160 (52.63%) lived in nuclear family and 144 (47.37%) in joint family. According to Modified B. G. Prasad Classification of Socio-Economic Status, 7 (2.30%) of the women belonged to Class I, 28 (9.21%) to Class II, 120 (39.47%) to Class III, 118 (38.82%) to Class IV and 31 (10.20%) belonged to Class V. Over 60% of the respondents possessed Below Poverty Line ration card.

**Involvement in Social Groups:** Of the 304 women, 30 (9.87%) were members of the Mahila Mandal and 23 (7.57%) were involved in some Self-Help Group.

**Awareness regarding enrolment:** All the women interviewed were aware of enrolment at the AWC.

Table No. 35: Distribution of Participants According to Enrolment at AWC during Pregnancy

Enrolment at AWC during Pregnancy	Pregnant Women	Lactating Women
<b>Duration of pregnancy at the time of enrolment (in months)</b>		
3	39 (25.66)	32 (21.05)
4	79 (51.97)	77 (50.66)
5	25 (16.45)	33 (21.71)
6	9 (5.92)	10 (6.58)
<b>Motivator for enrolment</b>		
AWW/AWH	90 (59.21)	80 (52.63)
Health Worker (Female)	35 (23.03)	51 (33.55)
Own	14 (9.21)	15 (9.87)
Relative/ neighbour	10 (6.58)	4 (2.63)
Mahila mandal	3 (1.97)	2 (1.32)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Less than one-fourth (23.36%) of the pregnant women got enrolled at 3<sup>rd</sup> month of pregnancy, 156 (51.32%) at 4<sup>th</sup> month, 58 (19.08%) at 5<sup>th</sup> month and 19 (6.25%) got enrolled

at AWC as late as 6<sup>th</sup> month. Over half the women got enrolled by the motivation of the AWW or the AWH, 86 (28.29%) were motivated by the Health Worker (Female) and 29 (9.54%) got enrolled by self motivation.

**Knowledge regarding Number of ICDS Services and convenience of AWC timing:**

Majority (93.42%) of the respondents were aware of the all three services provided under ICDS for pregnant and lactating women. Of the 304 women, 235 (77.30%) said that the timings was convenient, while 60 (19.74%) said they found the timings inconvenient and 9 (2.96%) said they were not sure.

Table No. 36: Distribution of Participants According to Provision of Supplementary Nutrition Services

<b>Supplementary Nutrition Services</b>	<b>Pregnant Women</b>	<b>Lactating Women</b>
<b>Regularity of food</b>		
Very regular	101 (66.45)	99 (65.13)
Not very regular	51 (33.55)	53 (34.87)
<b>Sharing of Food</b>		
Yes	31 (20.39)	41 (26.97)
No	121 (79.61)	111 (73.03)
<b>If yes, Shared with</b>	<b>(n=31)</b>	<b>(n=41)</b>
Children	20 (64.52)	33 (80.49)
Others	11 (35.48)	8 (19.51)
<b>Quality of Food</b>		
Satisfied	132 (86.84)	136 (89.47)
Not satisfied	20 (13.16)	14 (9.21)
Cannot say		2 (1.32)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

All the 304 women interviewed were receiving THR from the AWC. About two-thirds (65.79%) of the respondents said that the provision of food was regular. There were 72 (23.68%) women who said they shared the provided food. Of them, 53 (73.11%) said they shared the food with their children while the remaining (26.39%) shared the same with others like guests. Majority (88.16%) of the respondents were satisfied with the quality of feeds provided at the AWC.

Graph 13 (Table No. 36): Distribution of Participants According to Provision of Supplementary Nutrition Services

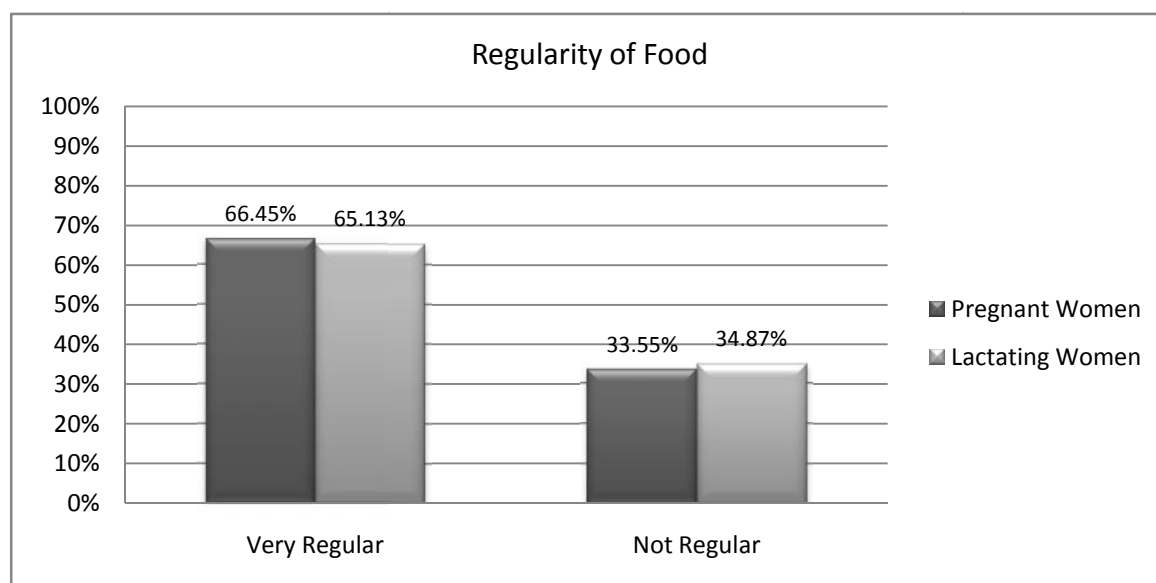


Table No. 37: Distribution of Participants according to House visits by AWW and Health Worker (Female)

House visit	Pregnant Women	Lactating Women
<b>By AWW</b>		
Yes	95 (63.82)	51 (33.55)
No	55 (36.18)	101 (66.45)
<b>By Health Worker (Female)</b>		
Yes	122 (73.68)	58 (38.16)
No	30 (26.32)	94 (61.84)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Nearly two thirds (63.82%) of the pregnant women were visited by the AWW at their houses for some type of advice. However, only one-third (33.55%) of the lactating women were visited by the AWW at any point in the six weeks following delivery. The purpose of such visits included advice on birth spacing, supplementary nutrition feeds and Infant feeding practices. The AWW had arranged for the Health Worker (Female) from the UHC to visit 122 (73.68%) and 58 (38.16%) of the pregnant and lactating women at their houses at least once respectively.

Table No. 38: Distribution of Participants According to Ante-natal Health Check-up

Ante-natal Health Check-up	Pregnant Women	Lactating Women
<b>No of Antenatal health check-ups</b>		
3	17 (11.18)	1 (0.66)
4	72 (47.37)	7 (4.61)
5	62 (40.79)	47 (30.92)
6	1 (0.66)	97 (63.81)
<b>One AN Health Check-up done by HW (F) at AWC</b>		
Yes	132 (86.84)	128 (84.21)
No	20 (13.16)	24 (15.79)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Among pregnant women, 17 (11.18%) had received three ante natal check-ups, nearly half of them (47.37%) had received four antenatal check-ups and 63 (41.45%) had received more than 4 health check-ups at the time of being interviewed. Of the 152 lactating women, there was one (0.66%) who had received three Ante-natal health check-up during her pregnancy, 7 (4.61%) had received at least four Antenatal health check-up, and 144 (94.74%) had received more than four ante-natal check-ups. Majority (85.53%) had received at least one health check-up by the health staff from the UHC at the AWC.

Graph 14 (Table No. 38): Distribution of Participants According to Ante-natal Health Check-up

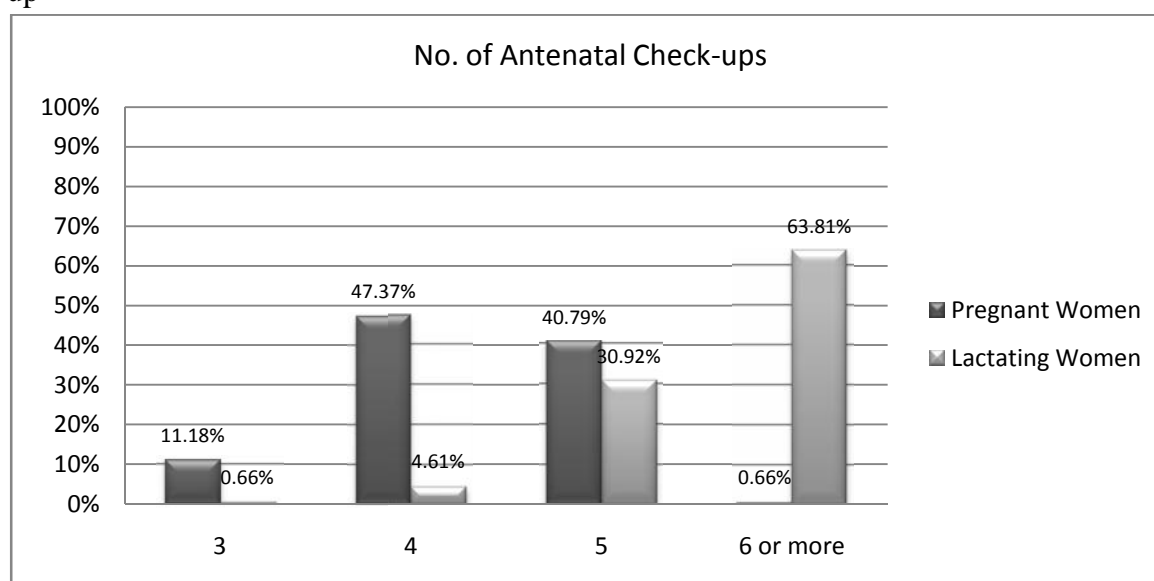


Table No. 39: Distribution of Participants According to Immunisation against Tetanus during Pregnancy

Immunisation against Tetanus during Pregnancy	Pregnant Women	Lactating Women
Yes	147 (96.71)	149 (98.03)
No	5 (3.29)	3 (1.97)
<b>If no, reason</b>	<b>(n=5)</b>	<b>(n=3)</b>
Inconvenient timing	3 (60.00)	1 (33.33)
Service not available	1 (20.00)	1 (33.33)
Resistance from family	1 (20.00)	1 (33.33)
<b>No of TT doses</b>	<b>(n=147)</b>	<b>(n=149)</b>
2 / Booster	134 (91.16)	126 (82.89)
1	13 (8.84)	23 (15.13)
<b>Motivation by AWW</b>		
Yes	124 (81.58)	115 (75.66)
No	28 (18.42)	37 (24.34)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Among the 304 women, 8 (2.63%) had not received any dose of Tetanus Toxoid Immunisation. The reasons given for not getting immunised included inconvenient timings of the immunisation sessions, service not being available and resistance from the family members. Of the 296 (97.37%) who received Immunisation, majority (87.84%) had received adequate number of doses. As many 239 (78.62%) said that the AWW had a role in motivating them to take the Tetanus Toxoid injections during pregnancy.

Graph 15 (Table No. 39): Distribution of Participants According to Immunisation against Tetanus during Pregnancy

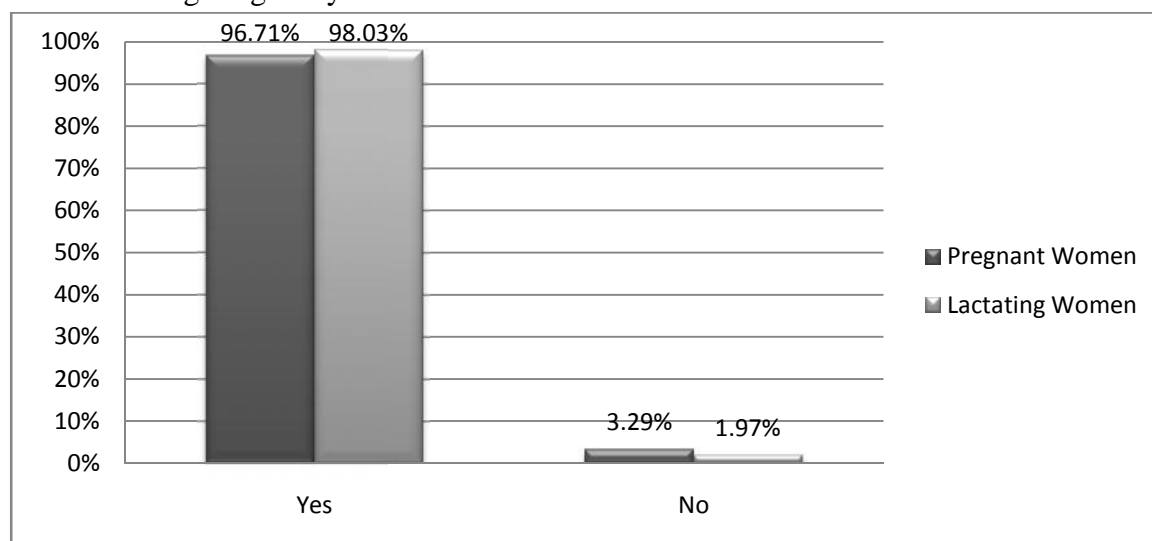


Table No 40: Distribution of Participants According to Provision of Iron and Folic Acid Tablets during Pregnancy

Provision of Iron and Folic Acid Tablets during Pregnancy	Pregnant Women	Lactating Women
<b>IFA Tablet Provider</b>		
HW (F)	66 (43.42)	61 (40.13)
MO of UHC	39 (25.66)	48 (31.58)
AWW	27 (17.76)	16 (10.53)
Other Doctor	17 (11.18)	21(13.82)
AWH	3 (1.97)	6 (3.95)
<b>Regularity of providing IFA tablets</b>		
Regular	125 (82.24)	139 (91.45)
Not regular	27 (17.76)	13 (8.55)
<b>Whether consumed all tablets</b>		
Yes	129 (84.87)	124 (81.58)
No	23 (15.13)	28 (18.42)
<b>Reasons for non consumption</b>	<b>(n=23)</b>	<b>(n=28)</b>
Side effects	16 (69.57)	24 (85.71)
Lost	4 (17.39)	4 (14.28)
Advised by someone not to take	3 (13.04)	-

All the 304 respondents had received Iron and Folic Acid (IFA) tablets during pregnancy. Over two-thirds of the women received the IFA tablets from UHC, of which 127 (41.78%) received the same from the HW (F) herself; 43 (14.15%) received the tablets from the AWW and 9 (2.96%) from the AWH. Majority (86.85%) of the women said that they received the IFA tablets regularly, and 83.23% of them consumed 100 tablets.

Graph 16 (Table No 40): Distribution of Participants According to Provision of Iron and Folic Acid Tablets during Pregnancy

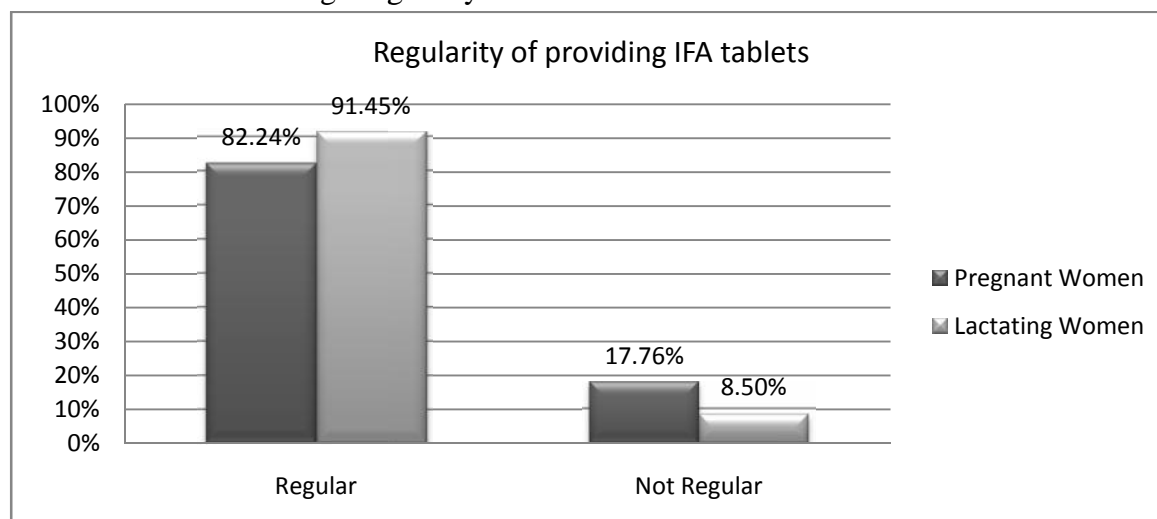


Table No 41: Distribution of Participants According to Complications during Pregnancy

Complications during pregnancy	Pregnant Women	Lactating Women
Yes	19 (12.50)	24 (15.79)
No	133 (87.50)	128 (84.21)
<b>Whether approached AWW for help</b>	<b>(n=19)</b>	<b>(n=24)</b>
Yes	9 (47.37)	9 (37.50)
No	10 (52.63)	15 (62.50)

Of the 304 women, 43 (14.15%) had some type of complication during their pregnancy. Among them, 18 (41.86%) approached the AWW for help, while the remaining 25 (58.14%) went to the hospital directly.

Table No. 42: Distribution of Participants According to Place of Delivery

Variable	Pregnant Women	Lactating Women
<b>Informed by AWW regarding institutional delivery</b>		
Yes	95 (62.50)	108 (71.05)
No	57 (37.50)	44 (28.95)
<b>Expected Place of delivery</b>		
Home	1 (0.66)	
Institutional	151 (99.34)	
<b>Actual Place of Delivery</b>		
Home (planned)		2 (1.32)
Home (incidental/emergency)		2 (1.32)
Institutional		148 (97.46)

Of the 304 women, 203 (66.78%) said that the AWW informed them regarding the importance and benefits of institutional delivery. Among the pregnant women, all except one were planning to get their baby delivered at a hospital. The reason given by this woman for opting against delivery at hospital was opposition from her family members. The AWW had not informed her regarding any precautions to be taken for delivery at home. Among the lactating mothers, four (2.64%) had delivered their child at home. Of them two mothers said they had planned to have their delivery at home, the reason given for this being the insistence of the family members.

Table No. 43: Distribution of Lactating Women According to Infant Feeding practices

<b>Infant Feeding practices</b>	<b>Number</b>	<b>Percentage</b>
<b>Colostrum</b>		
Given	106	69.74
Discarded	46	30.26
<b>At what age would you start Supplementary feed</b>		
3 <sup>rd</sup> month	4	2.63
4 <sup>th</sup> month	58	38.16
5 <sup>th</sup> month	14	9.21
6 <sup>th</sup> month	73	48.03
After 6 <sup>th</sup> month	3	1.97
<b>Total</b>	<b>152</b>	<b>100</b>

Of the 152 lactating women, 46 (30.26%) admitted that they did not feed their child with colostrum. Half the respondents (50.00%) were of the opinion that weaning has to be started earlier than 6 months, while 3 (1.97%) said that the same may be delayed up to 7 or 8 months.

Table No. 44: Distribution of Participants According to AWW's Advice on Infant Feeding Practices during Antenatal Period

<b>Advice given by AWW</b>		<b>Pregnant Women</b>	<b>Lactating Women</b>
Yes		144 (94.74)	136 (89.47)
No		8 (5.26)	16 (10.53)
<b>Whether sensitised regarding</b>			
Nipple Hygiene	Yes	24 (15.79)	50 (32.89)
	No	128 (84.21)	102 (67.11)
Birth Spacing	Yes	96 (63.16)	117 (76.97)
	No	56 (36.84)	35 (23.03)
Ideal birth interval	Yes	84 (55.26)	104 (68.42)
	No	68 (44.74)	48 (31.58)
Use of boiled water	Yes	73 (48.03)	82 (53.95)
	No	79 (51.97)	70 (46.05)
Iodised salt	Yes	68 (44.74)	81 (53.29)
	No	84 (55.26)	71 (46.71)
<b>Total</b>		<b>152 (100)</b>	<b>152 (100)</b>

Majority of the women (92.11%) were advised by the AWW regarding breast feeding practices. Specific advices they received were regarding exclusive breastfeeding (97.14%),

early initiation of breast feeding (70.71%), correct posture for breast feeding (50.36%) and pre-lacteal feeds (73.57%). Out of 304 women studied, the AWWs had sensitised 74 (24.34%) women regarding Nipple hygiene, 213 (70.06%) for birth spacing, 188 (70.06%) for ideal birth interval, 155 (50.99%) for use of boiled water for drinking and 149 (49.02%) for consumption of iodised salt.

Table No. 45: Distribution of Lactating Mothers According to Advice on Child care

<b>Advice on Child care</b>	<b>Number</b>	<b>Percentage</b>
<b>About Immunization</b>		
Yes	134	88.16
No	18	11.84
<b>About use of ORS in diarrhoea</b>		
Yes	109	71.71
No	43	28.29
<b>About growth monitoring</b>		
Yes	73	48.03
No	79	51.97
<b>Total</b>	<b>152</b>	<b>100</b>

Majority of the lactating mothers (88.16%) were advised by the AWW regarding immunisation, nearly three-fourths (71.71%) were advised on use of Oral Rehydration Solution in case of diarrhoea and less than half (48.03%) of the mothers were advised regarding growth monitoring.

Table No. 46: Distribution of Participants According to Nutritional and Health Education Services

<b>Nutrition and Health Education Services</b>	<b>Pregnant Women</b>	<b>Lactating Women</b>
<b>NHE conducted in the past 6 months</b>		
Yes	145 (95.39)	144 (94.74)
No	5 (3.29)	4 (2.63)
Don't know	2 (1.32)	4 (2.63)
<b>If yes, attended</b>	<b>(n=145)</b>	<b>(n=144)</b>
Yes	109 (75.17)	105 (72.92)
No	36 (24.83)	39 (27.08)
<b>Reasons for Not attending</b>	<b>(n=36)</b>	<b>(n=39)</b>
Unsuitable timings	21 (58.33)	22 (56.41)
Lack of time	9 (25.00)	9 (23.08)
Not interested	6 (16.67)	8 (20.51)
<b>No. of sessions attended in the past 6 months</b>	<b>(n=109)</b>	<b>(n=105)</b>
1	9 (8.26)	9 (8.57)
2	40 (36.70)	36 (34.29)
3	42 (38.53)	41 (39.05)
4	18 (16.51)	19 (18.09)
<b>NHE causing any change in practices</b>	<b>(n=109)</b>	<b>(n=105)</b>
Yes	94 (86.24)	84 (80.00)
No	3 (2.75)	2 (1.90)
Can't say	12 (11.01)	19 (18.10)

Of the 304 respondents, 289 (95.07%) were aware of the NHE activities being conducted at the AWC in the past 6 months. Of them, 214 (74.05%) had attended at least one in the past 6 months. The reasons given for not attending the NHE sessions included timings not being convenient (57.33%), not being interested (24.00%) and lack of time (18.67%). About three-fourths (74.30%) had attended two to three sessions of NHE activities. The most common topic discussed were Family Planning (62.15%), Immunisation (50.47%), Infant feeding (73.83%), Hygiene and Sanitation (40.19%) and Child care (46.73%). Of the 214 who had attended at least one session of NHE, 178 (83.18%) felt that it resulted in some change in their practices, 5 (2.34%) said that it caused no change, while 31 (14.49%) respondents were not sure.

Graph 17 (Table No. 46): Distribution of Participants According to Nutritional and Health Education Services

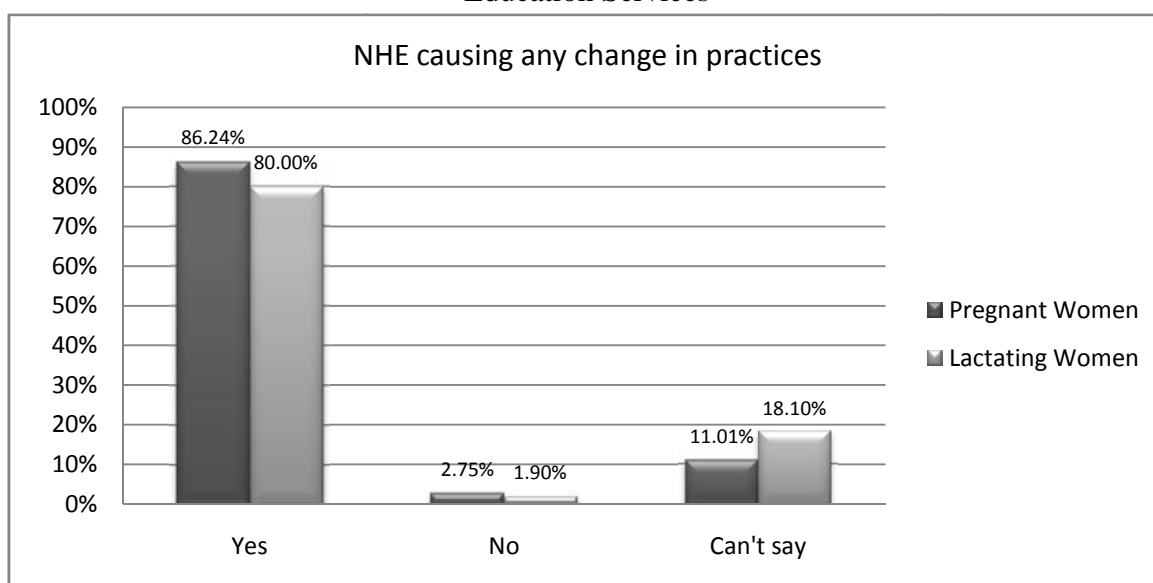
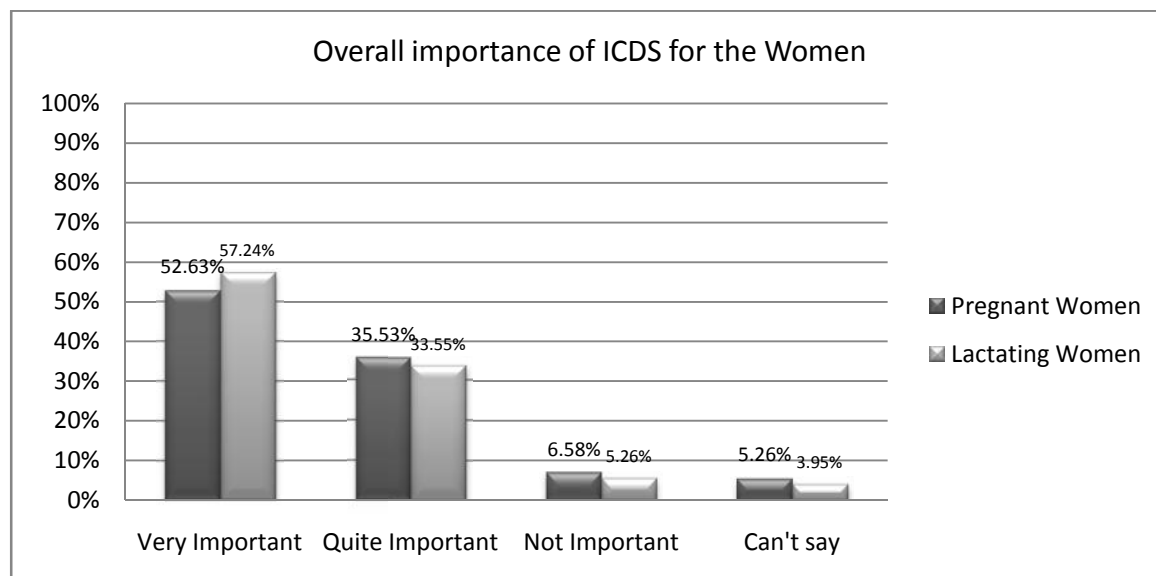


Table No. 47: Distribution of Respondents According to Perception Regarding AWW and ICDS

Perception Regarding AWW and ICDS	Pregnant Women	Lactating Women
<b>Motivation of AWW for work</b>		
High	139 (91.45)	142 (93.42)
Indifferent	12 (7.89)	10 (6.58)
Low	1 (0.66)	0
<b>Attitude of AWW to women</b>		
Kind	119 (78.29)	120 (78.95)
Indifferent	18 (11.84)	19 (12.50)
Harsh	2 (1.32)	2 (1.32)
Unable to observe	13 (8.55)	11 (7.24)
<b>Most Useful service</b>		
SNF	94 (61.84)	126 (82.89)
Health Check-up	49 (32.24)	12 (7.89)
NHE	9 (5.92)	14 (9.21)
<b>Overall importance of ICDS for women</b>		
Very important	80 (52.63)	87 (57.24)
Quite important	54 (35.53)	51 (33.55)
Not important	10 (6.58)	8 (5.26)
Cannot say	8 (5.26)	6 (3.95)
<b>Total</b>	<b>152 (100)</b>	<b>152 (100)</b>

Of the 304 respondents, 281 (92.43%) felt that their AWW had high motivation, 22 (7.23%) mentioned that the AWW were indifferent, while 1 (0.33%) respondent said she was unable to observe. Regarding the attitude of the AWW to the beneficiaries, 239 (78.62%) women felt the AWWs were kind to them, 37 (12.17%) said the AWW were indifferent, while 4 (1.32%) said they were harsh. When asked which of the services they found most important, more than half the Pregnant women (61.84%) answered Supplementary Nutrition feeds, followed by health check-up (32.24%) and Nutrition and Health Education (5.92%). When the same question was asked to the lactating mothers, majority of the respondents (82.89%) answered Supplementary Nutrition feeds, followed by Nutrition and Health Education (9.21%) and Health Check-up (7.89%). Regarding the overall importance of ICDS for pregnant and lactating women, 167 (54.93%) respondents said ICDS was very important for women, 105 (34.54%) graded the same as quite important while 18 (5.92%) were of the opinion that ICDS was of no importance to them.

Graph 18 (Table No. 47): Distribution of Respondents According to Perception Regarding AWW and ICDS



#### IV. NON PREGNANT NONLACTATING WOMEN

Table No. 48: Socio Demographic Profile of Non-Pregnant Non-lactating Women

<b>Socio Demographic Profile</b>	<b>Number</b>	<b>Percentage</b>
<b>Age (in years)</b>		
20 – 25	7	4.61
26 – 30	49	32.24
31 – 35	41	26.97
36 – 40	38	25.00
41 – 45	17	11.18
<b>Religion</b>		
Hindu	80	52.63
Muslim	63	41.45
Christian	5	3.29
Sikh	4	2.63
<b>Literacy Status</b>		
Illiterate	6	3.95
Primary	45	29.61
High school	79	51.97
PUC and above	22	14.47
<b>Occupation</b>		
House wife	132	86.64
Self employed	12	7.89
Employed	8	5.26
<b>Type of family</b>		
Nuclear	85	55.92
Joint	67	44.08
<b>Socioeconomic status</b>		
I	3	1.97
II	19	12.50
III	56	36.84
IV	62	40.79
V	12	7.89
<b>Type of Ration card</b>		
Below Poverty Line	84	55.26
Above Poverty Line	45	29.67
Do not have	23	15.13
<b>Total</b>	<b>152</b>	<b>100</b>

Of the 152 participants in this category, 7 (4.61%) were in the age group 20-25 years, 49 (32.24%) in 26-30 years, 41 (26.97%) in 31-35 years, 38 (25.00%) in 36-40 years and 17 (11.18%) were in the age group 40-45 years. The mean age ( $\pm$  SD) of the participants was

32.47 ± 5.06 years. Six of the respondents (3.95%) were illiterate, 45 (29.61%) had studied till Primary school, 79 (51.97%) till high school while 22 (14.47%) had studied up to Pre-university or beyond. Majority (86.64%) of the participants were housewives. Grouping by religion, 80 (52.63%) of the respondents were Hindus, 63 (41.45%) were Muslims, 5 (3.29%) were Christians and 4 (2.63%) were Sikhs. More than half of the respondents (55.92%) lived in Nuclear family while 67 (44.08%) were in joint family. According to Modified B. G. Prasad Classification of Socio-economic status, 3 (1.97%) belonged to Class I, 19 (12.50%) to Class II, 56 (36.84%) to Class III, 62 (40.79%) to Class IV and 12 (7.89%) to Class V. More than half (55.26%) of the respondents had Below Poverty Line ration card.

**Involvement in Social Groups:** Of the 152 women, 18 (11.84%) of the women interviewed were members of the Mahila Mandal and 39 (74.34%) were involved in some Self-Help Group.

Table No. 49: Distribution of Non-Pregnant Non-Lactating Women According to Nutritional and Health Education Service

<b>Nutrition and Health Education Service</b>	<b>Number</b>	<b>Percentage</b>
<b>NHE in past 6 months</b>		
Yes	111	73.03
No	15	9.87
Don't know	26	17.11
<b>If yes, attended (n=111)</b>		
Yes	79	71.17
No	32	28.83
<b>Reasons for Not attending (n=32)</b>		
Lack of time	15	46.88
Unsuitable timings	8	25.00
Not interested	7	21.87
Useless	2	6.25
<b>No. of sessions attended in the past 6 months (n=79)</b>		
1	11	13.92
2	26	32.91
3	29	36.71
4	13	16.46
<b>NHE causing any change in practices (n=79)</b>		
Yes	59	73.68
No	7	8.86
Can't say	13	16.46

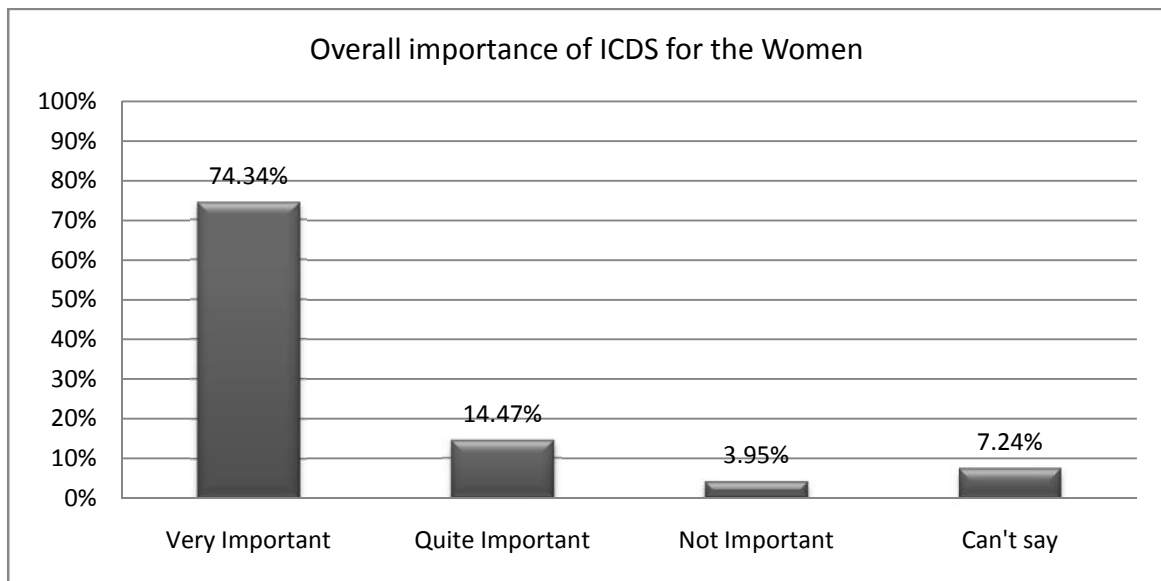
Of the 152 respondents, 111 (73.03%) were aware of the NHE activities conducted at the AWC in the past 6 months. Of them, 79 (71.17%) had attended at least one session in the past 6 months. The reasons given for not attending the NHE sessions included timings not being convenient (25.00%), not being interested (21.87%) and lack of time (46.88%). Two (6.25%) of the respondents said the sessions were useless. About 69.62% had attended two to three sessions of NHE activities. The most common topic discussed were Family Planning (38.82%), Balanced Diet (32.24%) and Hygiene and Sanitation (34.21%). Of the 79 who had attended at least one session of NHE, 59 (73.68%) felt that it resulted in some change in their practices, 7 (8.86%) said that it caused no change, while 13 (16.46%) respondents were not sure.

Table No. 50: Distribution of Participants According to Perception Regarding AWW and ICDS

<b>Perception Regarding AWW and ICDS</b>	<b>Number</b>	<b>Percentage</b>
<b>Motivation of AWW for work</b>		
High	114	75.00
Indifferent	16	10.53
Unable to observe	22	14.48
<b>Attitude of AWW to women</b>		
Kind	95	62.50
Indifferent	5	3.29
Harsh	1	0.66
Unable to observe	51	33.55
<b>Overall importance of ICDS for women</b>		
Very important	113	74.34
Quite important	22	14.47
Not important	6	3.95
Cannot say	11	7.24
<b>Total</b>	<b>152</b>	<b>100</b>

Of the 152 respondents, 114 (75.00%) felt that their AWW had high motivation, 16 (10.53%) mentioned that the AWW was indifferent, while 22 (14.48%) respondents said they was unable to observe. Regarding the attitude of the AWW to them, 95 (62.50%) women felt the AWWs were kind, 5 (3.29%) said the AWWs were indifferent, while one (0.66%) said she was harsh; about one-third (33.55%) said they were not able to observe. Regarding the overall importance of ICDS for them, 113 (74.34%) respondents said ICDS was very important, 22 (14.47%) graded the same as quite important while 6 (3.95%) were of the opinion that ICDS was of no importance to them. Eleven (7.24%) of the respondents said they were not sure.

Graph 19 (Table No. 50): Distribution of Participants According to Perception Regarding AWW and ICDS



## **DISCUSSION**

The present study was undertaken in the areas catered by 76 Anganwadis which come under three Urban Health Centres that are urban field practice areas of Community Medicine Department, J.N. Medical College, Belgaum. The study population consisted of 912 beneficiaries who included mothers of children aged 7 months to 6 years, adolescent girls, pregnant and lactating women and non-pregnant non-lactating women in the reproductive age group.

### **Table No 1 and 2: Socio-demographic Profile of Children and Mothers**

In the present study, 152 children aged 7 months to 3 years participated were included; their mean ( $\pm$  SD) age was  $24.92 \pm 5.64$  months. Similarly, there were 152 children aged 3 to 6 years and their mean age ( $\pm$  SD) was  $4.35 \pm 1.06$  years. Males constituted 159 (52.30%) of the children. As per 2011 Census,<sup>2</sup> males constitute 51.65% of the under-six population of Belgaum city. Among the families, 166 (54.60%) were Hindus. 54.28% belonged to Nuclear family and 41.12%, 38.82% and 9.54% belonged to Classes III, IV and V respectively as per Modified B.G. Prasad Classification. Nearly 60% of the 304 respondents possessed BPL ration cards. The mothers' literacy rate in our study was 96.05%, which is higher than the female literacy rate of Belgaum city which is 86.41% as per 2011 census.<sup>2</sup> Majority (85.53%) were housewives according to employment.

### **Table No 3 and 4: Regularity of attending and Motivator for enrolment at AWC**

Nearly three-fourths of children in age group 7 months to 3 years never attended AWC, while 92 (60.53%) of the children aged between 3 to 6 years attended the AWC regularly. The most common reason for the child not attending the AWC was that he/she was too young. Amongst those of the right age to attend the common reason for not attending was that the

child was attending a private nursery/play school. The common reason given in a study conducted in Udipi was the distance; another study in Chennai gave the common reason as the attitude of the AWW.<sup>30,31</sup> More than half the children aged 7 months to 6 years were taken to the AWC by the AWH. A study in Daringbadi, Bhubaneswar found that parents suggested it would be easier for the child to attend the AWC if the helper would accompany him/her.<sup>32</sup> Nearly 60% of the mothers said that AWW or AWH motivated them to enrol the child at the AWC.

### **Tables 5 and 6: Knowledge regarding services and working schedule of AWC**

While very few mothers knew about referral services provided at the AWC, around 55% of the mothers could list out four services for the corresponding age groups. The services that were known to most of the mothers were Supplementary Nutrition, Immunisation, Growth monitoring and Health Check-ups. A study in West Bengal showed awareness level of 84%; in a study in Chennai it was about 47.3%.<sup>13,31</sup> The AWC is open for an average of 21.5 days per month, and on each such working day the AWC functions for an average of 6 hours. About 95% of the mothers said the AWC opened regularly, compared to 73.6% in West Bengal and 94% in Daringbadi, Orissa.<sup>13,32</sup> About 28.95% said that the AWC remained closed when the AWW and AWH were given additional jobs such as conducting House-to-house surveys or activities such as Pulse Polio Immunisation. Over three-fourths (78.29%) of the respondents found the timings of the AWC functioning to be convenient.

### **Table No 7 and 8: Supplementary Nutrition**

All the mothers were aware of the Supplementary Nutrition Services at the AWC. This is similar to the result of the study at Jammu & Kashmir (100%) and Assam (100%).<sup>14,16</sup> Nearly

three-fourth of the children aged 7 months to 3 years received THR. Similarly, nearly 90% of the children aged 3 to 6 years received cooked meals at the AWW. This corresponds to the number of children who attend the AWC regularly. Nearly 60% of the respondents said that food was provided very regularly at the AWC. Regarding the quantity and quality of food supplied, 84.87% felt that it was adequate and satisfactory. In a study in Patna, Bihar, it was 82% were satisfied with quality and 71% with the quantity; in a study in Gurgaon the satisfaction level for quality was 77%.<sup>33,34</sup> Among the children who brought their food home, 35.29% shared the food with others. In a study conducted in Lucknow, 53.9% of the children consumed the food at the AWC and 20.3% found the quality satisfactory.<sup>12</sup>

#### **Table No. 9: Growth Monitoring Services**

About 65% of the children were weighed regularly, as compared to 92% in Orissa and 98% in Haryana.<sup>17,32</sup> In our study, 7.24% of the children aged 7 months to 3 years and 50% of the children aged 3 to 6 years were reportedly weighed every month. Also, 69.74% of the parents whose children were weighed regularly said the weight of the child was discussed with them, in contrast with a study in West Bengal where the growth chart was discussed with 12.5% of the parents.<sup>13</sup>

#### **Table No. 10: Immunisation Services**

Immunisation coverage was over 80% in our study as compared to the state's coverage of 78%.<sup>2</sup> A study in AWCs across Haryana showed 82% children were fully immunised; the coverage was 20% among registered children in Raipur.<sup>19,35</sup> The AWW had a role to play in getting 92.45% of the children immunised, the most often cited role being organising the vaccination session. The reason most often given for non immunisation of the child was that the child not being well.

**Tables No. 11,13,16-18: Health Services and Advice**

In the study, 57.89% of the children were referred to a hospital by the AWW. Similarly, 58.22% of the children had undergone health check-up. About 45% of the mothers of children who had some illness approached the AWW for help or advice. Five (8.78%) said the AWW was not approachable. Majority (83.88%) had received advice from AWW on use of ORS during diarrhoea; about 40% approached the AWW to procure the same. While 46.71% of children aged 7 months to 3 years were de-wormed, in the age group 3 to 6 years, it was 65.79%. This variation may be due to the fact that children under 12 months of age are usually not de-wormed. About 36% had received advice from AWW on de-worming.

**Table No. 12, 28, and 37: House visits by AWW**

The AWW made house-visits to 31.58% of the children, 30.92% of the adolescent girls, 63.82% of pregnant women and 33.55% of lactating women. The purpose of visit to children was most often to talk about nutrition and immunisation; menstrual hygiene for adolescent girls and birth spacing and infant feeding practices for pregnant and lactating women. In a study in Delhi, the AWW had visited 89% of the participants, the reasons being immunisation, health education services and nutrition services.<sup>11</sup>

**Table 14, 30, 46, 49: Nutritional and Health Education Services**

In the study, 70.74% had attended NHE sessions, 80.51% of them said it caused some change in practices; among those who attended NHE sessions, 81.37% said it changed their practices. The study in Gulbarga showed that only 43.50% had attended NHE sessions.<sup>10</sup>

**Table 15: Pre-School Education Services**

Awareness amongst mothers regarding PSE was 95.38%; in a study in Assam it was found to be 100%.<sup>14</sup> As many as 92.74% of the parents of children attending Pre-school education found it beneficial, as compared to 99% in Orissa and 97% in Jammu, while in a study in West Bengal only 41.6% found it to be beneficial.<sup>13,18,24</sup>

**Table 19, 33, 47, 50: Perception regarding AWW and ICDS**

In our study, 85.86% of the respondents said the AWW's motivation to work was high, 75.55% said the AWW was kind and 60.63% felt that ICDS was very important. In a study in Lucknow, 81.9% of the respondents found AWC services to be beneficial; in a study conducted in Orissa 33% of the respondents said the services were satisfactory.<sup>12,18</sup>

**Table 20 and 21: Socio-demographic Profile of Adolescent Girls and Mothers**

In our study, 46.05% girls were in middle adolescence and 52.63% were in late adolescence; the mean age ( $\pm$  SD) was  $16.71 \pm 1.59$  years. All the girls had attended school at least for a few years, 39 (25.66%) were not currently studying. In a study conducted among ICDS beneficiaries in Mumbai, 88% of the girls were still studying.<sup>36</sup> Among the girls, 56.58% were Hindus and 46.71% belonged to nuclear family. According to Modified B. G. Prasad Classification, 36.18%, 42.11% and 9.87% belonged to Classes III, IV and V respectively. Amongst the mothers, 92.76% were literates and 83.55% were housewives.

**Table No 22 and 23: Motivator for enrolment, Knowledge regarding services**

In our study, 76.32% of the mothers were motivated by the AWW or AWH to get the children enrolled at the AWC. All the mothers were aware of the enrolment of their adolescent daughters; this was in sharp contrast with studies in Uttarakhand where there was no awareness regarding the enrolment.<sup>20</sup> The three services that were known to most of the

mothers were Supplementary Nutrition, Immunisation and Health Check-ups. The timing of the AWC was convenient for 66.45% of the Adolescent girl.

**Table 24: Supplementary Nutrition Programme**

All the girls were receiving THR. This is in contrast with studies in Patna, where the Adolescent girls were provided with cooked meals at the AWC.<sup>33</sup> In our study, 68.42% of the beneficiaries were satisfied with food provided as compared to 85.48% in a study in Mumbai.<sup>36</sup>

**Table 25-27, 29: Growth Monitoring, Health Check-up and Referral Services, Immunisation services, De-worming**

In our study, 27.63% of the girls had been weighed, 52.63% had undergone health check-up and 49.34% were referred / helped to obtain medical treatment by the AWW at least once in the preceding six months. Among the adolescent girls of aged above 16 years in our study, 78.75% were immunised against Tetanus, as compared to a study in Haryana where the coverage was 44.3%.<sup>19</sup> Albendazole tablets were reportedly consumed by 55.93% of the girls in our study.

**Table No 31: Knowledge regarding pregnancy and contraception**

All the girls in our study agreed that first pregnancy should ideally be after 18 years of age and 58.55% considered ideal birth interval to be 2 years. The common spacing methods known to them were Oral Contraceptive Pills (95.39%), Intra uterine devices (76.32%) and condoms (59.87%). As for the source of information, 28.95% of the girls received information regarding the same from the AWW. The main sources of information in a study done in Delhi were peers and media.<sup>37</sup>

**Table No 32: Involvement in Income Generating Activities**

In our study 17.76% of the adolescent girls were involved in income generating activities; 62.96% of them were motivated by the AWW for the same. A study conducted in Nashik found that 78.7% of the adolescent girls interviewed were trained for income generating activities and given life-skills education.<sup>38</sup>

**Table No 34: Socio Demographic Profile of Pregnant and Lactating women**

The mean ages ( $\pm$ SD) of the pregnant and lactating women in our study were 22.05 $\pm$ 2.36 years and 21.71 $\pm$ 2.47 years respectively. Among the participants, 57.90% were Hindus, 97.04% literates and 85.53% housewives. Over 60% possessed Below Poverty Line ration cards and 49.02% belonged to Classes IV and V under Modified B G Prasad Classification for socioeconomic status.

**Table No 35: Enrolment during pregnancy**

All the participants were registered at the AWC during their pregnancy, with 71.71% of the participants having enrolled at the AWC before completion of 4 weeks, as compared to a study in Gujarat with 98% of the women getting registered, and Uttaranchal where there was no awareness regarding need for enrolment at AWC during pregnancy.<sup>20,39</sup>

**Table No 36: Supplementary Nutrition Services**

All the women were receiving THR, as compared with 94.5% in Delhi, 94.2% in Gulbarga and 92% in Raipur.<sup>10,11,35</sup> About 65.79% of the respondents said that the provision of food was regular and 88.16% were satisfied with the quality of feeds provided at the AWC. About 90% of the respondents in a study in Gujarat found the quality of food satisfactory.<sup>39</sup>

**Tables No. 38-42: Services related to Antenatal Care**

Nearly all of the lactating women (99.34%) and 88.82% of the pregnant women had received at least four antenatal check-ups during pregnancy; 85.53% had received at least one health check-up by the health staff from the UHC at the AWC, 85.53% received adequate doses of Tetanus Toxoid and 86.85% said they received IFA tablets regularly. In comparison, 90% of the women received Antenatal check-up in Ludhiana, 45% received four or more antenatal visits and 88% received Tetanus Toxoid and 19% received the IFA tablets regularly.<sup>40</sup> In our study, the AWW had informed 66.78% of the women regarding importance of institutional delivery. Among the lactating mothers, 2.64% had non-institutional delivery. In contrast, 78.6% of lactating women in a study in Jaipur had delivered at home.<sup>35</sup>

**Tables No. 43 - 45: Infant feeding practices and child care**

In the study, 30.26% had not fed their child colostrum, and 50% felt weaning needs to be started before completion of 6 months. Over 92% had received advice from AWW regarding breast feeding practices. In comparison, only 20.8% of the mothers in a study in West Bengal had received advice from the AWW regarding infant feeding.<sup>13</sup> Majority of the lactating mothers (88.16%) were advised by the AWW regarding immunisation, 71.71% were advised on use of Oral Rehydration Solution in case of diarrhoea and less than half (48.03%) of the mothers were advised regarding growth monitoring.

**Table No 48: Socio-Demographic Profile of NPNL women**

The mean age ( $\pm$  SD) of participants in this group was  $32.47 \pm 5.06$  years, 96.05% were literates, 55.92% were Hindus, 55.92% were living in nuclear family and 48.68% belonged to classes IV and V as per Modified B G Prasad Classification.

## **CONCLUSION**

The study was conducted among beneficiaries registered at the AWC, except in case of NPNL women. The awareness regarding the various services was good. Almost all the mothers were availing Supplementary Nutrition services and majority were satisfied with the same. A considerable number of the beneficiaries were sharing the food that was provided. House visits by the AWW was poor except during pregnancy. The Nutritional and Health Education service was utilised by only two-thirds of the beneficiaries. With respect to advice on various health issues, majority of the beneficiaries had received advice from the AWW. Services related to antenatal and postnatal care were utilised by over 90% of the beneficiaries. Most of beneficiaries opined that the Motivation of the AWW was high and that she was kind. Around two-thirds considered ICDS as very important for the respective group of beneficiaries.

## **LIMITATIONS**

The limitations of the study were:

- The study was conducted in field practice area of JNMC. Most areas are regularly visited by Post Graduate students and other health staff. This may have influenced the outcome and thereby may not be representative of the population of Belgaum.
- The study was conducted amongst beneficiaries registered at the AWC. If the same was conducted in a randomly selected sample from the population the picture may have been different, given the fact that some of the eligible beneficiaries may not be registered at the AWC.

## **RECOMMENDATIONS**

Based on the findings of our study, the following recommendations are being suggested for the overall improvement of the Scheme:

- Beneficiaries need to be counselled regarding the need to consume the provided food completely rather than sharing.
- Ensure that AWW visits all the beneficiaries at their houses at fixed intervals, preferably once in three months.
- Greater focus needs to be given on Nutritional and Health Education activities to ensure that a greater proportion of beneficiaries attend the sessions.
- Policy change needs to be brought out to make sure that more number of adolescent girls avail the services at the AWC rather than the current trend of just two girls per centre.
- Girls involved in income generating activities need to be identified and the AWW should help in skill development for the same.

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## **SUMMARY**

This study was conducted to evaluate the services provided under ICDS under three Urban Health Centres, Ashok Nagar, Ram Nagar and Rukmini Nagar in Belgaum district. The duration of the study was from 1<sup>st</sup> January to 31<sup>st</sup> December 2013. The study sample consisted of 912 beneficiaries from 76 AWCs. After obtaining informed consent, the participants were interviewed using pre-designed pre-tested questionnaire.

The mean ( $\pm$  SD) age of children aged 7 months to 3 years was  $24.92 \pm 5.64$  months, and that of children aged 3 to 6 years was  $4.35 \pm 1.06$  years. The mothers' literacy rate in our study was 96.05% and majority (85.53%) were housewives. Among adolescent girls, 46.05% were in middle adolescence and 52.63% were in late adolescence; the mean age ( $\pm$  SD) was  $16.71 \pm 1.59$  years. Amongst the mothers, 92.76% were literates and 83.55% were housewives. The mean ages ( $\pm$ SD) of the pregnant and lactating women in our study were  $22.05 \pm 2.36$  years and  $21.71 \pm 2.47$  years respectively. Among the NPNL Women, the mean age ( $\pm$  SD) was  $32.47 \pm 5.06$  years, 96.05% were literates, 55.92% were Hindus, 55.92% were living in nuclear family and 48.68% belonged to classes IV and V as per Modified B G Prasad Classification.

Nearly three-fourths of children in age group 7 months to 3 years never attended AWC, while 60.53% of the children aged between 3 to 6 years attended the AWC regularly. The most common reason for the child not attending the AWC was that he/she was too young. Amongst those of the right age to attend the common reason for not attending was that the child was attending a private nursery/play school. More than half the children aged 7 months to 6 years were taken to the AWC by the AWH. Nearly 60% of the mothers said that AWW or AWH motivated them to enrol the child at the AWC. While very few mothers knew about referral services provided at the AWC, around 55% of the mothers could list out of four

services for the corresponding age groups. The services that were known to most of the mothers were Supplementary Nutrition, Immunisation, Growth monitoring and Health Check-ups. Majority (95%) of the mothers said the AWC opened regularly. About 30% said that the AWC remained closed when the AWW and AWH were given additional jobs such as conducting House-to-house surveys or activities such as Pulse Polio Immunisation. Over three-fourths (78.29%) of the respondents found the timings of the AWC functioning to be convenient.

All the mothers of children below 6 years were aware of the Supplementary Nutrition Services at the AWC. Nearly three-fourth of the children aged 7 months to 3 years received THR. Similarly, 90% of the children aged 3 to 6 years received cooked meals at the AWW. This corresponds to the number of children who attend the AWC regularly. All the adolescent girls, pregnant and lactating women were receiving THR. Nearly 60% of the respondents said that food was provided very regularly at the AWC. Regarding the quantity and quality of food supplied, 84.87% felt that it was adequate and satisfactory.

About 65% of the children were weighed regularly, and immunisation coverage was over 80%. The AWW had a role to play in getting 92.45% of the children immunised, the most often cited role being organising the vaccination session. The reason most often given for non immunisation of the child was that the child not being well. About 45% of the mothers of children who had some illness approached the AWW for help or advice. Five (8.78%) said the AWW was not approachable. Majority (83.88%) had received advice from AWW on use of ORS during diarrhoea; about 40% approached the AWW to procure the same. While 46.71% of children aged 7 months to 3 years were de-wormed, in the age group 3 to 6 years, it was 65.79%. This variation may be due to the fact that children under 12

months of age are usually not de-wormed. About 36% had received advice from AWW on de-worming.

Among the adolescent girls, 27.63% had been weighed, 52.63% had undergone health check-up and 49.34% were referred / helped to obtain medical treatment by the AWW at least once in the preceding six months. Among the girls of aged above 16 years, 78.75% were immunised against Tetanus and Albendazole tablets were reportedly consumed by 55.93% of the girls. All the girls in our study agreed that first pregnancy should ideally be after 18 years of age and 58.55% considered ideal birth interval to be 2 years. The common spacing methods known to them were Oral Contraceptive Pills (95.39%), Intra uterine devices (76.32%) and condoms (59.87%). As for the source of information, 28.95% of the girls received information regarding the same from the AWW. In our study 17.76% of the adolescent girls were involved in income generating activities; 62.96% of them were motivated by the AWW for the same.

Nearly all of the lactating women (99.34%) and 88.82% of the pregnant women had received at least four antenatal check-ups during pregnancy; 85.53% had received at least one health check-up by the health staff from the UHC at the AWC, 85.53% received adequate doses of Tetanus Toxoid and 86.85% said they received IFA tablets regularly. About 30% had not fed their child colostrum, and 50% felt weaning needs to be started before completion of 6 months. Over 92% had received advice from AWW regarding breast feeding practices. Majority of the lactating mothers (88.16%) were advised by the AWW regarding immunisation, 71.71% were advised on use of ORS in case of diarrhoea and less than half (48.03%) of the mothers were advised regarding growth monitoring.

The AWW made house-visits to 31.58% of the children, 30.92% of the adolescent girls, 63.82% of pregnant women and 33.55% of lactating women. The purpose of visit to

children was most often to talk about nutrition and immunisation, menstrual hygiene for adolescent girls, and birth spacing and infant feeding practices for pregnant and lactating women. In the study, 70.74% had attended NHE sessions, 80.51% of them said it caused some change in practices. Awareness amongst mothers regarding PSE was 95.38%; as many as 92.74% of the parents of children attending Pre-school education found it beneficial. In the study, 85.86% of the respondents said the AWW's motivation to work was high, 75.55% said the AWW was kind and 60.63% felt that ICDS was very important.

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