



## A Study on Knowledge and Attitude of Anganwadi Workers Regarding Infant and Young Child Feeding Practices in a Rural Area

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### Abstract

**Objectives:** (1) To study Knowledge & Attitude of Anganwadi Workers (AWWs) regarding Infant and young child feeding (IYCF) practices. (2) To assess Knowledge of AWWs with respect to Infant & Young Child feeding practices including breast feeding. (3) To assess their Attitude regarding Infant, Young Child feeding practices including breast feeding. (4) To suggest suitable recommendations based on study.

**Study Design:** This was a community based cross sectional study in which Study Population consisted of AWWs working in rural area. A self administered Questionnaire was used for data collection.

**Materials and Methods:** A total 123 AWWs working at anganwadis were included in this study. Data collection was done at Primary health centre (PHC) during monthly meetings. As the data was qualitative in nature, proportions and frequencies were computed. The knowledge and attitude was determined to be either adequate, inadequate or don't know or inadequate answers.

**Results:** Knowledge and attitude of AWWs regarding initiation of breast feeding (BF) after normal delivery was adequate in 117 (95.12%) and inadequate in 6 (4.88%). This percentage decreased to 44 (35.77%) having adequate knowledge about breast feeding after Caesarian section. 91 (73.98%) AWWs were found to have adequate knowledge about exclusive breast feeding while 66 (53.65%) AWWs knew about colostrum and its advantages interestingly knowledge about advantages of breast feeding (BF) was adequate in 62 (50.41%) AWWs. The knowledge about Frequency of BF in 24 hours, Inclusion in Exclusive BF, Longest duration to continue BF, 4 points of good attachment by baby during BF, 4 points of baby's good position during BF, 4 points of mother's position during BF and Advice to mother regarding bottle feeding was adequate in 122 (99.19%), 4 (3.25%), 106 (86.18%), 64 (52.03%), 22 (17.89%), 9 (7.32%) and 50 (43.09%) respectively.

**Conclusion:** There is significant association between higher education & knowledge about organizations working for IYCF & BF practices. It means AWWs with higher education (Graduates and Post Graduates) had more knowledge about organizations working for IYCF & BF practices than others. Also there was significant association between higher education and knowledge about incentives by Government to mother to promote IYCF & BF practices

**Keywords:** Anganwadi workers, Infant and young child feeding practices (IYCF), Breast feeding

## Introduction

Optimal Infant and Young Child Feeding (IYCF) is presented in the World health organization (WHO)/United Nations International Children's Emergency Fund (UNICEF) Global Strategy for Infant and Young Child Feeding (2003). As a global public health recommendation, infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, to meet their evolving nutritional needs, infants should receive safe and nutritionally adequate complementary foods while breastfeeding continues for up to two years of age or beyond. Exclusive breastfeeding from birth is possible except for a few rare medical conditions as specified by WHO and UNICEF, and virtually every mother can breastfeed. In addition, a growing body of recent evidence underscores the important global recommendation that breastfeeding be initiated within the first hour of birth. IYCF actions are often implemented as part of the priority child survival and development programs of UNICEF and WHO, as well as the plans of many nations. The scientific rationale for this decision is clear, with several decades of scientific documentation on this topic including the several Lancet Series on Child Survival 2003 <sup>[1]</sup>, Nutrition 2008 <sup>[2]</sup>, Newborn Health 2005, Childhood Development 2007 reconfirming the essential role of IYCF as major factor in child survival, growth and development. Why, then, the concern now? With competing priorities, disease-specific interventions, and an interest in technologies, campaigns and products, the health and nutrition impact provided by good infant and young child feeding is often underestimated. Interventions to improve infant and young child feeding need increased attention and commitment if sustainable achievements in child survival, growth and development are to be attained. Successful IYCF interventions rely on behavior and social change implemented at scale, which can only be reached through political commitment, adequate resource allocation, and capacity development and

effective communication. Current investments in nutrition in general and IYCF in particular, are very small given the magnitude of the problem and the potential impact.

## Materials and Methods

This Study was a Community based cross sectional study in which anganwadi workers working in rural areas. A self administered questionnaire was given to each anganwadi worker and based upon the answers of the questionnaire the knowledge and attitude of AWW was determined. Every AWW who gave voluntary consent to participate in this study was included. AWW who had taken leave or, who did not give voluntary consent to participate in the study were excluded. A total 226 Anganwadi workers were included in the study out of this post were vacant, so filled posts were 218. Data collection was done at Primary health centre (PHC) during monthly meetings. Number of AWWs, those had not attended or on leave on the day of monthly meeting were also excluded from study. From remaining 180 AWWs, 123 AWWs (69%) participated in the study. As the data was qualitative in nature, proportions and frequencies were computed. Cross tabulation was also done using Chi-square test. Bar charts and Pie-diagrams have been used to present the data graphically. SPSSv16.0 has been used for statistical analysis.

## Results

The AWWs who participated in this study catered to the population of 1, 67,821. Total 0-6 year population was 17,581; total pregnant women were 1538 and total lactating mothers were 1589. Total 123 AWWs were included in the study; of them all AWWs (100 %) were above matriculation 27.65% & 3.25% AWWs were graduate and postgraduate respectively which were locally available well educated manpower. 55(44.71%) AWWs were matriculate. 30 (24.39%) AWWs were HSC passed. 110 AWWs (89.43%) were receiving honorarium in between 4001 & 5000 Rs, 4 AWWs (3.25%) were

receiving Rs 5001 onwards. 9 AWWs were receiving Rs 2000 to 4000 monthly. 3 (2.44%) AWWs were serving more than 1000 population, 28 (22.76%) AWWs were serving for population 801-1000, 28 (22.76%) AWWs were working for 301-600 population. 58 (47.15%) AWWs were serving for 601-800 population. Maximum 101 (82.11%) AWWs were working for ICDS activities utilizing 5 hours per day excluding Sundays and holidays, remaining were working for 4 hours per day. Remaining 22 (17.89%) AWWs were working for 4 hours per day excluding Sundays and holidays.

Majority of AWWs answered as their first learning source for IYCF was Training by 88 (71.54%), then TV 22 (17.89%), parents 7 (5.69%), Radio 3 (2.44%), Newspaper 2 (1.63%), Friends 1 (0.81%) in decreasing order. First knowledge source of IYCF for AWWs, media (both electronic & print) accounts 27 (21.96%) AWWs, so there is need to give focus on media to percolate knowledge regarding IYCF not only for AWWs but also for community. Many of the respondents 106 (86.18%) answered that to take overall knowledge of IYCF, training is the best method. Very few 7 & 1 (5.59% & 0.81%) AWWs thought that TV, TV & training is the best method respectively. 9 (7.32%) AWWs did not give any opinion. In this study all AWWs received basic or induction training along with regular reorientation trainings by ICDS department. AWWs appointed after year 2009, not received IMNCI training which was given by health department and all those appointed before year 2009 received 8 days IMNCI training. Out of 123 AWWs, majority of respondents i.e. 117 (95.12%) AWWs had adequate knowledge i.e. breast feeding should be started by mother within one hour after normal delivery, but only 33.77% AWWs had adequate knowledge i.e. breastfeeding should be started within 4 hours after cesarean section. Out of 123 AWWs, majority of 91 (73.98%) AWWs had adequate knowledge regarding definition of exclusive breast feeding. Out of 123 AWWs studied, 66 (53.65%) AWWs had adequate

knowledge regarding Colostrums and its advantages while 48 (39.03%) AWWs had inadequate knowledge. 9 AWWs did not know Colostrums or its advantages. The 62 AWWs (50.41%) have adequate knowledge regarding advantages of breast feeding, 53 (43.09%) AWWs had inadequate knowledge regarding advantages of breast feeding. 8 AWWs (6.5%) did not answer this question. Adequate knowledge means those mentioned at least 3 advantages for baby and mother separately. The 87 AWWs (70.73%) thought that breast feeding should be given as per demand by the baby. 35 AWWs (28.46%) said that baby should take breast feeding at least for 8 times in 24 hours (day & night). One AWW knew that baby should take at least 6 breast feeds in 24 hours.

Most of the AWWs i.e. 116 (94.31%) did not have the clear concept or clear idea about inclusion / allowable aspects in exclusive breast feeding. Only 4 AWWs had adequate knowledge regarding this aspect. 3 AWWs had no knowledge in this aspect. Most of the respondents, 106 AWWs (86.18%) knew that more than 2 year breast feeding for baby is the longest duration. The 120 AWWs (97.56%) knew that continuation of breast feeding for at least 1 year means breast feeding along with introduction of soft, solid/semisolid at 6 months and its continuation along with breastfeeding. 3 AWWs (2.44%) thought that continuation of breast feeding for 1 year means only breast feeding for 1 year nothing else.

Knowledge regarding four points of good attachment by baby during breast feeding was found adequate but knowledge with respect to the four points about baby's position and mother's position during breast feeding, found poor and very poor respectively. Out of 123 AWWs, most of the AWWs i.e. 113 (91.87%) AWW thought that in summer water should not be given to baby with age less than 6 months. 10 (8.13%) AWW thought that water should be given in summer to baby with age less than 6 months. The attitude of AWWs regarding attitude towards mothers who feed their

baby with bottle; 24 (19.51%) AWWs did not know what advice should be given to mother regarding bottle feeding. 46 (37.4%) & 50 (43.09%) AWWs gave inadequate and adequate advice respectively to such mothers. Out of 123 AWWs 56 (45.53%) AWWs did not know what should be done by working mother with respect to breastfeeding. 24 (19.51%) & 43 (34.96%) AWWs gave wrong and correct advice respectively, in relation to advice to working mother for breast feeding to baby with age less than 6 months.

Out of 123 AWWs under study, 26 (21.14%) AWWs had inadequate knowledge and 97 (76.86%) AWWs had adequate knowledge regarding complimentary feeding. After 6 months breast milk is not sufficient, there is need to introduce and to continue soft solid/semisolid home available nutritious food to baby. The knowledge of AWWs with respect to number of maximum food groups included in minimum dietary diversity; out of 123 AWWs, 31 (25.2%) AWWs did not know the number of food groups included in minimum dietary diversity. 2 (1.63%), 27 (21.95%), 39 (31.71%) and 24 (19.51%) AWWs stated that 3, 4, 7 and 9 food groups included in minimum dietary diversity respectively. Out of 123 AWWs; 31 (25.2%) AWWs did not know that at least how many food groups should be present in minimum dietary diversity. 7 (5.69%), 23 (18.7%), 44 (35.77%) and 18 (14.63%) AWWs mentioned that at least 2, 3, 4 and 5 food groups included in minimum dietary diversity. With respect to the knowledge of AWWs regarding food groups present in minimum dietary diversity; out of 123 AWWs, 62 (50.41%) AWWs did not know the food groups in minimum dietary diversity. 33 (26.83%) AWWs had inadequate knowledge and 28 (22.76%) AWWs had adequate knowledge with respect to food groups in minimum dietary diversity. Out of 123 AWWs, 43 (34.96%) AWWs had inadequate knowledge and 80 (65.04%) AWWs had adequate knowledge regarding frequency of meals per day for child 6- 9months, 9-12 months infant, 1 to 2

years old child. The 4 (3.25%) AWWs did not know the qualities of good complimentary food. 88 (71.55%) and 31 (25.2%) AWWs had inadequate and adequate knowledge regarding qualities of good complimentary food. With respect to the knowledge of AWWs regarding minimum acceptable diet terminology or its definition; 119 (96.75%) AWWs did not know the meaning of Minimum acceptable diet. Only 1 (0.81%) respondent knew the terminology. 3 (2.44%) AWWs answered the wrong. In view of the attitude of AWWs towards advice to mother of sick baby with respect to feeding; 2 (1.63%) AWWs did not know what advice should be given to mother with her sick child age below 2 years. 119 (96.75%) AWWs mentioned the correct advice to such mothers with respect to feeding practice. Out of 123 AWWs, 10 (8.13%) AWWs did not know the food items or foodstuffs, locally & easily available in each mentioned group. 92 (74.8%) AWWs had inadequate knowledge regarding locally available foodstuff or food preparations in each group of Dietary Diversity. Only 21 (17.07%) AWWs know and had adequate knowledge regarding locally and easily available foodstuffs in each group of Dietary Diversity. With respect to the knowledge of AWWs regarding iron rich food and iron fortified food; out of 123 AWWs, 5 (4.07%) AWWs and 30 AWWs (24.39%) AWWs did not know iron rich and iron fortified food respectively. 70 (56.91%) AWWs and 58 (47.15%) AWWs had inadequate knowledge regarding Iron rich and iron fortified food respectively. 48 (39.02%) and 35 (28.45%) AWWs had inadequate knowledge regarding iron rich and iron fortified food respectively. AWWs mentioned the iron rich foods like Jaggery & peanuts laddu, Rajgira laddu, Spinach, Fenugreek, sprouts, dates, beet, green leafy vegetables, and soybean. Iron fortified foods mentioned by AWWs were THR, cooking of baby food in iron pot or utensils, iron fortified chikki supplied by ICDS. With respect to knowledge of AWWs regarding EBF & continuation of BF as a temporary contraception; out of 123 AWWs,

21(17.07%) AWWs said that EBF & continuation of breast feeding (BF) could not act as temporary contraception but majority of AWWs i.e. 102 (82.92%) knew that EBF & continuation of BF useful as temporary contraception. Attitude of AWWs regarding timely advice for family planning to mother; out of 123 AWWs, 2 (1.63%) AWWs did not know the time to give family planning advice for mother. 53 (43.09%) AWWs said that mother should receive family planning advice after one and half month after delivery, 55 (44.7%) said that advice regarding family planning should be given after first menses. 13 (10.57%) mentioned that it should be given at any time.

Regarding knowledge of AWWs about IMS act 2003 of GOI; out of 123 AWWs 105 (85.37%) AWWs did not know the IMS act 2003 implemented by Government of India. 18 (14.63%) AWWs know the act but anyone of them couldn't explain anything about this act. Regarding the knowledge of AWWs; time period for world breast feeding week celebration; out of 123 AWWs, 10 (8.13%) AWWs did not know the period or dates of world breast feeding week celebration. 9 (7.32%) AWWs mentioned wrong period for the world breast feeding week. 104(84.55%) AWWs mentioned the correct time period for celebration of world breast feeding week. Attitude of AWWs regarding celebration of world breast feeding week; 37 (30.08%) AWWs did not mention the activities that should be done in this week. 27 (21.95%) AWWs mentioned

inadequately the activities in this week and 59 (47.97%) AWWs mentioned adequately the activities that should be done in this week.

The knowledge of AWWs with respect to NGOs, organizations working for IYCF including breast feeding; was poor. AWWs mentioned the names of various NGOs, organizations working in the field of breast feeding awareness like Sahas, UNICEF,WHO, ICDS, BPNI, Rajmata Jijau Mother and Child Nutrition Mission. Knowledge of AWWs regarding incentives / benefits / concessions to mother by Law, Acts or legislations by Government, to promote IYCF including breast feeding practices, it was found that 92 (74.8%) AWWs did not know about Incentives /benefits / concessions to mother by Law, Acts or legislations by Government to promote IYCF including breast feeding practices. 27 (21.95%) AWWs had inadequate knowledge and only 4 (3.25%) AWWs had adequate knowledge about Incentives / benefits / concessions to mother by Law, Acts or legislations by Government to promote IYCF including breast feeding practices. AWWs mentioned the many of the benefits to nursing mother like Janani Suraksha Yojana (JSY), Maternity leave for 6 months, Hirkani Kaksha, Frequent breaks to feed baby for working mother. There is no significant association between education of AWWs & their knowledge regarding advantages of BF revealed that there was no association between education of AWWs& their knowledge regarding advantages of BF.

**Table 1 :** Association between Education & knowledge regarding advantages of BF

Education	Don't know (%)	Inadequate (%)	Adequate (%)	Total (%)
post grad and graduate	2 (5.26)	11 (28.95)	25 (65.79)	38
SSC & HSC	6 (7.06)	42 (49.41)	37 (43.53)	85
Total	8 (6.50)	53 (43.09)	62 (50.41)	123
<b>Pearson Chi-Square Value = 5.264, df = 2, p value = 0.072</b>				

There was no significant association between duration of service (experience) of AWWs & their knowledge regarding advantages of BF. There is

no significant association between duration of service & knowledge regarding mother's position during BF.

**Table 2 :** Association between duration of service & knowledge regarding advantages of BF

Duration of service	Don't know (%)	Inadequate (%)	Adequate (%)	Total (%)
11 to 20 yrs	3 (05.89)	28 (54.90)	20(39.21)	51
01 to10 yrs	5 (06.95)	25 (34.72)	42 (58.33)	72
Total	8 (06.50)	53 (43.09)	62 (50.41)	123
Pearson Chi-Square Value = 5.038 df = 2 p value =0.081				

There was strong association between higher educational level of AWWs and knowledge regarding mother's position during BF.

**Table 3 :** Association between education and knowledge regarding mother's position during BF

Education	Don't know (%)	Inadequate (%)	Adequate (%)	Total (%)
Post. Grad & Graduate	8 (21.05)	23 (60.53)	7 (18.42)	38 (100)
SSC & HSC	19 (22.35)	64 (75.30)	2 (02.35)	85 (100)
Total	27 (21.95)	87 (70.73%)	9 (07.32)	123 (100)
Pearson Chi-Square Value = 10.096, df = 2, p value = 0.006				

There was no significant association between duration of service & knowledge about organizations working for IYCF & BF practices. There was significant association between higher education & knowledge about organizations

working for IYCF & BF practices. It means AWWs with higher education (Graduates and Post Graduates) had more knowledge about organizations working for IYCF & BF practices than others.

**Table 4:** Association between education & knowledge about organizations working for IYCF & BF practices

Education	Don't know (%)	Inadequate (%)	Adequate (%)	Total (%)
post and grad	15 (39.47)	9 (23.68)	14 (36.85)	38 (100)
sec and high sec	53 (62.35)	18 (21.18)	14 (16.47)	85 (100)
Total	68 (55.28)	27 (21.96)	28 (22.76)	123 (100)
Pearson Chi-Square Value = 7.349,df = 2, p value =0.025				

There was no significant association between duration of service and knowledge about incentives to mother to promote IYCF & BF.

**Table 5:** Association between duration of service and knowledge about incentives to mother to promote IYCF & BF

Education	Don't know (%)	Inadequate (%)	Adequate (%)	Total (%)
Post grad. And graduate	26 (68.42)	8 (21.05)	4 (10.53)	38 (100)
SSC & HSC	66 (77.65)	19 (22.35)	0 (00.00)	85 (100)
Total	92 (74.80)	27 (21.95)	4 (03.25)	123 (100)
Pearson Chi-Square Value = 9.266, df = 2, p value =0.010				

There was significant association between higher education and knowledge about incentives by

Government to mother to promote IYCF & BF practices.

## Discussion

Global IYCF targets, as well as policies and strategies have informed the emphasis that is accorded to IYCF in UNICEF's and other development partner strategies and programs. These include: 1990 Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding. [3] 1990 Convention on the Rights of the Child (Article 24) which states that governments must combat disease and malnutrition, through, inter alia, the provision of adequate nutritious foods and ensure that all sectors of society are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition, including the advantages of breastfeeding. 2000 Millennium Declaration establishing health and development goals and targets (Millennium Development Goals) for 2015. 2002 World Fit for Children which clearly states —to reduce child under nutrition among children less than five years of age by at least one third, with special attention to children under two years of age, and —to protect, promote and support exclusive breastfeeding for six months and continued breastfeeding with safe, appropriate and adequate complementary feeding up to two years of age and beyond. WHO/UNICEF Global Strategy for Infant and Young Child Feeding (2003), adopted by UNICEF's Executive Board and the World Health Assembly. 2005 Innocenti Declaration on Infant and Young Child Feeding which celebrates the 15th Anniversary of the 1990 Declaration, commits urgent actions, and sets concrete targets. Appropriate and adequate complementary feeding up to two years of age and beyond.

Of all proven preventive health and nutrition interventions, IYCF has the single greatest potential impact on child survival. Therefore, reduction of child mortality can be reached only when nutrition in early childhood and IYCF specifically are highly prioritized in national policies and strategies.

The 2003 landmark Lancet Child Survival Series ranked the top 15 preventative child survival interventions for their effectiveness in preventing under-five mortality. Exclusive breastfeeding up to six months of age and breastfeeding up to 12 months was ranked number one, with complementary feeding starting at six months number three. These two interventions alone were estimated to prevent almost one-fifth of under-five mortality in developing countries. The 2008 Lancet Nutrition Series also reinforced the significance of optimal IYCF on child survival. Optimal IYCF, especially exclusive breastfeeding, was estimated to prevent potentially 1.4 million deaths every year among children under five (out of the approximately 10 million annual deaths). According to the Nutrition Series, over one third of under-five mortality is caused by under nutrition, in which poor breastfeeding practices and inadequate complementary feeding play a major role. Growing evidence points to the impact of early initiation of breastfeeding on neonatal mortality. A 2006 study in rural Ghana [4] showed that early initiation within the first hours of birth could prevent 22% of neonatal deaths, and initiation within the first day, 16% of deaths, while a study in Nepal [5] found that approximately 19.1% and 7.7% of all neo-natal deaths could be avoided with universal initiation of breastfeeding within the first hour and first day of life respectively.

Breastfeeding, especially six months of exclusive breastfeeding, has a significant effect in the reduction of mortality from the two biggest contributors to infant deaths: diarrhea and pneumonia, as well as on all-cause mortality. In addition, evidence for the specific survival benefits of continued breastfeeding from 6 to 23 months points to continued protection against illness such as diarrhea and respiratory infection, with similar levels observed for both [6].

Optimal IYCF ensures a child is protected from both under- and over-nutrition and their consequences later in life. An analysis of several studies has shown that breastfeeding may have a

protective effect on the prevalence of obesity and is a cost-effective obesity intervention.

In addition to protecting against obesity, breastfed infants have a lowered risk of several chronic conditions later in life compared to artificially-fed infants, including asthma, diabetes, heart disease, and cardiac risk factors such as hypertension and high cholesterol levels, as well as cancers such as childhood leukemia and breast cancer later in life. The strong relationship between quality of diet and obesity indicates that appropriate complementary feeding with diverse, nutrient rich foods, can be protective against overweight and obesity. For countries undergoing nutrition transition and facing double burden of malnutrition (both under and over-nutrition), optimal IYCF and early intervention are even more critical to ensure that investments are targeting children under two years to avoid risk of becoming both —stunted and obese<sup>[7]</sup>. Use of Media for disseminating knowledge about IYCF practices is one of the proven effective method<sup>[8]</sup>. Amongst many determinants of IYCF activities the knowledge and attitude of anganwadi workers towards IYCF practices is one of the most important factor<sup>[9,10]</sup>.

### Conclusions

There was a significant association between higher educational level of AWWs and knowledge regarding mother's position during BF. Also there was significant association between higher education and knowledge about incentives by Government to mother to promote IYCF & BF practices and higher education & knowledge about organizations working for IYCF & BF practices.

### Recommendations

1. Refresher training courses should be organized for AWWs at regular intervals with proper pre-placement training containing all IYCF including BF practices. This part should be trained by health authority.

2. CDPOs, Supervisors, MOs, LHV & ANM should guide AWWs and help them to recapitulate their knowledge.
3. Research should be conducted from time to time to assess the knowledge of AWWs.
4. In order to reduce the knowledge gap between AWWs and the beneficiaries, AWWs should motivate and create interest in the beneficiaries about the nutrition scheme using effective communication aids.
5. Health functionaries should make regular visits to AWCs to supervise the work of AWWs, solve her problems and guide her regarding BF & IYCF. This would provide repeated on-the-job training to AWWs.
6. Audio-visual aids like films, radio, television, exhibitions and charts should be used to educate AWWs regarding health and nutrition.
7. An incentive or an award should be given to the best AWW or to those who show very good results to improve their work and efficiency. Improvement in the honorarium, job conditions should also be considered.
8. During their training program, AWWs should be made aware of the problems regarding IYCF & BF they may have to face in the community and how to deal with them.
9. The existing training of AWWs needs to be evaluated, updated and revised with respect to IYCF indicators including Breast Feeding with more emphasis on complementary feeding practices
10. In recruitment of AWWs, more preference should be given to higher education.

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