

Assessment of Knowledge and Performance of Anganwadi Workers

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ABSTRACT: Adequate nutrition is a key factor to live an active and healthy life. In spite of its importance as a determinant of health and development, malnutrition is still a neglected area and too little has been done to address its causes and serious social and economic implications. However, recently there has been growing interest in nutrition with stronger political involvement at national and international level leading to significant financial pledges and policy commitments. It is now crucial to turn this momentum into results by ensuring the delivery of pledges and accelerating progress on addressing the challenge of under nutrition.

I. INTRODUCTION

The Anganwadi worker (AWW) is the community based voluntary frontline worker of the ICDS programme. Selected from the community, she assumes a pivotal role due to close and continuous contact with the beneficiaries. They represent the concerns of the state within the community or cluster of households. The output of the ICDS scheme is to a great extent dependant on the profile of the key functionary i.e. the AWW, her qualification, experience, attitude, training etc.(1)

II.OBJECTIVES

Therefore present investigation has been planned and objectives are as follows:-

1. To assess the knowledge of anganwadi workers regarding various maternal and child nutrition aspects.
2. To find out the effect of qualification levels of anganwadi workers on their knowledge.
3. To find out effect of work experience of anganwadi workers on their knowledge.
4. To investigate the integrated child development services practices used by selected anganwadi worker in anganwadi centers.
5. To investigate the availability of resources in the anganwadi centers and problem faced by anganwadi worker during fulfillment of job responsibilities.
6. To find out the knowledge of beneficiaries adolescent girl, pregnant and lactation woman provided by anganwadi workers after counselling in term of health, nutrition and hygiene.

III.METHODOLOGY

The methodology is not only concerned with building knowledge but also deals with the procedures conceptual logical and research by which knowledge is built. In another words, methodology provide basic block on which all the research work stands.

In the present study methodology has been organized under the following heads.

- Locale of the study,
- Sample design and selection of sample,
- Development of the tool,
- Problem faced by anganwadi worker,
- Assessment of knowledge of beneficiary,
- Statistical Analysis (Procedure of data collection, Data analysis) (2)

1. **Locale of the study:** The present study was conducted in Jaipur city. Jaipur District is a district of the state of Rajasthan in Northern India. The city of Jaipur, which is Rajasthan's capital and largest city, is the district headquarters. It is the tenth most populous district in India.
2. **Sample design and sample selection:** In Jaipur there are total 4002 anganwadi centers present in urban area. For selection of anganwadi centers, there are total 13 blocks in Jaipur district, for present study 9 blocks of Jaipur district were selected as they were approachable for the investigation.

Table 1: Blocks wise details of anganwadi centers in Jaipur

S.No	Name of project	Nature of project
1	Sanganer	Rural
2	Sanganer	Urban
3	Jothwada	Rural
4	Jaipur-1	Urban
5	Jaipur-2	Urban
6	Jaipur-3	Urban
7	Jaipur-4	Urban
8	Maijmabad	Rural
9	Dudu	Rural
10	Bassi	Rural
11	Amer	Rural
12	Samber	Rural
13	Chomu	Rural

Source: (Pal, 2012)

3. **Development of the tool:** Separate five tools were developed as per the objective of the study, which are discussed as follows:

3.1 Knowledge assessment of AWW (related to maternal and child nutrition)

Questionnaire was developed in their parts

3.1.1 General information

3.1.2 Specific information

3.1.3 Assessment of knowledge (related to maternal and child nutrition):

Breast feeding: Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. Review of evidence has shown that, on a population basis, exclusive breastfeeding for 6 months is the optimal way of feeding infants. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond (WHO, 2015). The questions relevant to breast feeding practices were framed like knowledge regarding colostrums nutritional value of colostrums, duration in which neonate receive breast milk after birth and exclusive six month breast feeding practice and in any of general disease condition mother breast feed the neonate which is given in (Appendix 1).

Supplementary feeding: The Supplementary Nutrition is one of the six services provided under the Integrated Child Development Services (ICDS) Scheme which is primarily designed to bridge the gap between the Recommended Dietary Allowance (FDA) and the Average Daily Intake (ADI). Supplementary Nutrition is given to the children (6 months to 6 years) and pregnant and lactating mothers under the ICDS Scheme.(3)



The revised feeding and cost norms under Supplementary Nutrition Programme are as under:

Table

Sr. No.	Category	Revised feeding & nutritional norms (per beneficiary per day)		Revised cost norms (per beneficiary per day)
		Calories (K Cal)	Protein (g)	
1.	Children (6-72 months)	500	12-15	Rs.4.00
2.	Severely malnourished children (6-72 months)	800	20-25	Rs.6.00
3.	Pregnant women and Nursing mothers	600	18-20	Rs.5.00

Management of diarrhea- Oral rehydration therapy (ORT) with oral rehydration salt (ORS) solution remains the cornerstone of appropriate case management of diarrheal dehydration and is considered the single most effective strategy to prevent diarrheal deaths in children.

A.DISCUSSION ON QUESTIONNAIRE

- 3.2.1 Supplementary Nutrition
- 3.2.2 Immunization
- 3.2.3 Health check-up
- 3.2.4 Referral services
- 3.2.5 Nutrition and health education
- 3.2.6 Non-formal Preschool education

Supplementary food details and their nutritional value: The details of nutrition value of readymade meal are as follows;

Sr. No.	Category	Revised feeding & nutritional norms (per beneficiary per day)		Revised cost norms (per beneficiary per day)
		Calories (K Cal)	Protein (g)	
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IV.STATISTICAL ANALYSIS (PROCEDURE OF DATA COLLECTION, DATA ANALYSIS)

The data were statistically analyzed as per the objectives of the study. Information about anganwadi worker and beneficiaries were expressed as mean ± S.D. values or percentage.

Qualitative analysis: The total score of knowledge were converted into percentage. This percentage was classified as qualitative classification given by Jain et al, (2011).

Table-1: Qualitative analysis

Percentage (%)	Qualitative classification
1-33%	Low
34-67%	Middle
68-100%	High

Analysis

Mean

$$\text{Mean} = \frac{1}{N} \sum iX_i$$



X = Observation
 N = Number of observation
 I = 1, 2, 3,....., N.

Standard Deviation (SD): SD is the square root of the mean of the squared deviations from the arithmetic mean. It is conventionally represented by Greek letter (σ).

$$SD = \sqrt{\frac{\sum x^2 - (\sum x)^2}{N}}$$

X = Observation
 N = Number of observation

Standard error

$$S.E. = \frac{\sigma}{\sqrt{N}}$$

σ = Standard deviation
 N = Number of observations

Pearson Correlation Coefficient: The Pearson correlation coefficient is a very helpful statistical formula that measures the strength between variables and relationships. In the field of statistics, this formula is often referred to as the Pearson R test. When conducting a statistical test between two variables, it is a good idea to conduct a Pearson correlation coefficient value to determine just how strong that relationship is between those two variables.(4)

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]}}$$

Where:

- N = number of pairs of scores
- $\sum xy$ = sum of the products of paired scores
- $\sum x$ = sum of x scores
- $\sum y$ = sum of y scores
- $\sum x^2$ = sum of squared x scores
- $\sum y^2$ = sum of squared y scores

Table 2: Age and Work experience (Mean and \pm SD) of AWWs

Parameters (years)	Mean \pm SD	Number of Anganwadi Worker
Age	38.27 \pm 2.73	180
Work Experience	12.01 \pm 5.23	180

Table 3: Anganwadi workers age groups and their Percentage (n- 180)

Age (years)	Number of anganwadi worker	Percentage (%)
21-30	38	21.11 %
31-40	66	36.67%
41-50	55	30.55%
51-60	21	11.67%

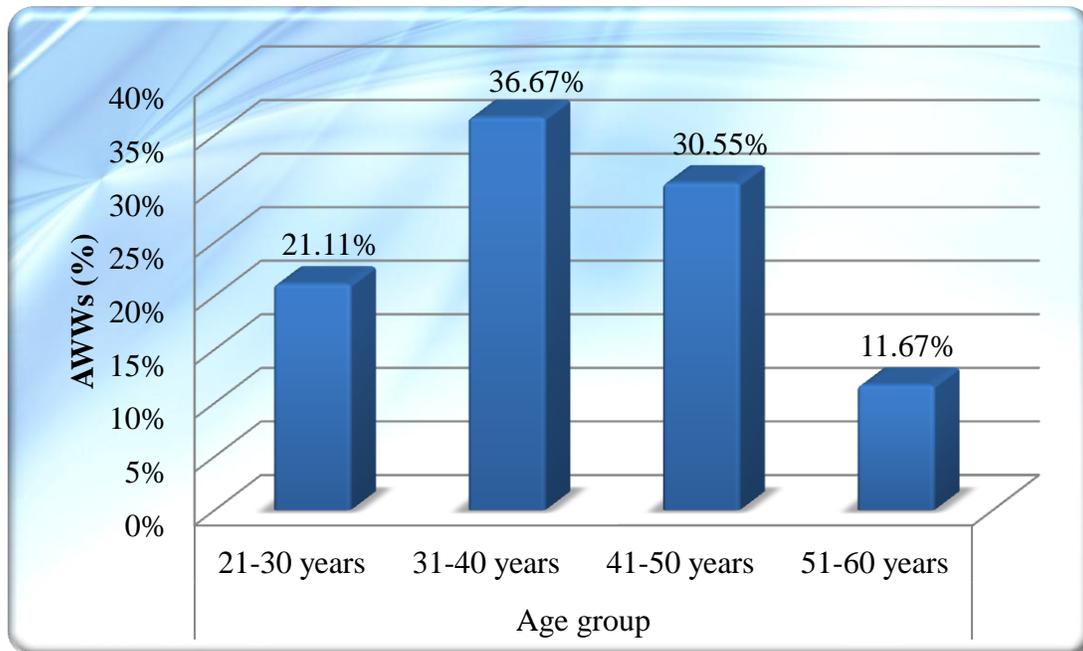


Figure 4: Age status of selected AWWs

Caste of anganwadi workers: The caste is the system of dividing people in a society into different social classes. Table 4 shows that maximum number of anganwadi worker belong to general caste i.e. 41.66 %, OBC workers were 27.78%, SC workers were 16.67%, ST were 8.33% and minority worker were 5.56% among selected total population of anganwadi centers. Results clearly shows that majority (36.67%) of anganwadi workers were come from the 30-40 years age group and mostly belongs to general caste i.e. 41.66 %.

Table 4: Caste of anganwadi workers and their Percentage (n- 180)

Caste	Number of anganwadi worker	Percentage (%)
SC	30	16.67
ST	15	8.33
OBC	50	27.78
General	75	41.66
Minority	10	5.56

The information regarding the key background namely educational status and work experience of the respondent and their distribution is presented in table no 5 and 8.

Table 5: Distribution of anganwadi workers according to their education qualification and their Percentage (n- 180)

Education qualification	Number of AWWs	Percentage (%)
Illiterate	-	-
1-9 class	53	29.44%
10-12 Class	79	43.89%
Graduate	28	15.56%
Post graduate	20	11.11%

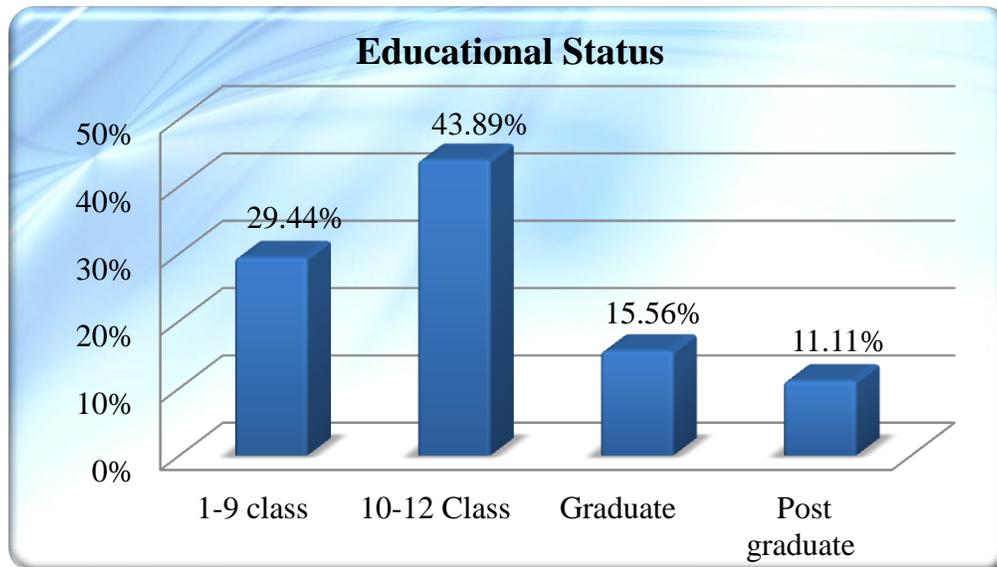


Figure 5: Educational statuses of selected AWWs

4.2 Specific information

Specific information of the subjects (anganwadi workers) like work experiences, population coverage, training experience, locale (Appendix 1) was also collected.

Table 6: Population covered by anganwadi centers and their Percentage (n- 180)

Population (thousand)	Number of AWC	Percentage (%)
500-1000	69	38.33%
1000-1500	73	40.56%
1500-2000	26	14.44%
2000-2500	12	6.67%

Table 7: Anganwadi workers experience and their Percentage (n- 180)

Years	Number of AWWs	Percentage (%)
1-5	41	22.78%
6-10	50	27.78%
11-15	28	15.56%
more than 15 years	61	33.89%



Figure 6: Work experiences of selected AWWs

In present study maximum AWWs were 36.67 % anganwadi workers age group were between 31-40 years and majority AWWs (43.89%) were educated between secondary to higher secondary. These results are close to the given study.

ANGANWADI WORKER’S TRAINING EXPERIENCE

One and half month training was given to all the anganwadi workers after joining of ICDS. At every 2 years interval, 7 to 15 days, refresher training was also provided to workers (Table 8) 28.35% anganwadi workers were having training of 7 days at three or less than three times. 35.32% workers were having 4-5 times training of 7 day. 28.35% anganwadi workers were having training of 15 days three or less than three times while 8% workers having 4-5 times training of 15 day.

An aim of training was to increase the level of knowledge, providing scientific information, develop skills for achievement of ICDS objectives. These training directly affect efficiency of anganwadi workers. In present study it was found that prior information of trainings schedule was not given to anganwai worker however 100% of them received training.(5)

At the time of investigation most of the anganwadi workers (35.32%) were having 7 days training at four to five times during their entire job duration (Table 8).

Table 8: Anganwadi workers training experiences and their Percentage (n- 180)

Training duration (days)	Number of training	Percentage (number of AWWs) (%)
7days	≥3	28.35% (51)
	4-5	35.32% (64)
15 days	≥3	28.35% (51)
	4-5	8.00% (14)

4.3 Assessment of knowledge (related to maternal and child nutrition)

In present study the knowledge of anganwadi workers regarding various aspects of maternal and child nutrition was assessed to find out the proficiency of anganwadi workers for their job profile. For assessment of knowledge a questionnaire was developed. (Appendix 1) and results discussed below:-

Assessment of knowledge regarding breast feeding practices-

Table 9: Response of AWWs regarding breast feeding practices and initiation of breast feeding practices

S.N.	Aspects	Response of AWWs	Number of AWWs	Percentage (%)
1.	Less than 2.5kg weight of new born is known as low birth weight baby	Yes	142	78.89%
		No	38	21.11%
2.	Do you know about colostrums?	Yes	180	100%
		No	0	-
3.	Do you advise nursing mother to feed first milk (colostrums) to their new born	Yes	162	90.00%
		No	18	10.00%
4.	Colostrums is rich in vitamin- A, increased immunity and safe. Do you know this	Yes	151	83.89%
		No	29	16.11%
5.	According to you first feed should be provide within 2 hours of birth	Yes	171	95.00%
		No	9	5.00%
6.	According to you for 6 month only breast feeding should be given	Yes	170	94.44%
		No	10	5.56%
7.	Is 10-12 times frequency of breast feeding in 24 hours (during exclusive breast feeding period)	Yes	103	57.22%
		No	77	42.78%
8.	Any nursing mother facing problem in breast feeding due to illness of either her or new born	Yes	78	43.33%
		No	102	56.67%
9.	If yes, then you refer her to ANM	Yes	36	20.00%
		No	144	80.00%

Table 10: Distribution of AWWs according to their knowledge regarding complementary feeding

S. No	Aspects	Response of AWWs	Number of AWWs	Percentage (%)
1.	According to you complementary feeding to the child should be start after 6 month	Yes	152	84.44%
		No	28	15.56%
2.	According to you a complementary food can be boiled and mashed foods and Fruit & vegetable juices	Yes	125	69.44%
		No	55	30.56%
3.	According to you after 6 month semisolid food (Mashed vegetable, Khichri, Suji ki kheer) can be given to child	Yes	131	72.78%
		No	49	27.22%
4.	According to you 3-4times of complementary feeding should be given in 24 hours in below 1year age	Yes	108	60.00%
		No	72	40.00%
5.	Has you ever show any recipe of complementary food	Yes	90	50.00%
		No	90	50.00%
6.	Have you advice mother for washing hand before cooking and feeding their child	Yes	164	91.11%
		No	16	8.89%

Table 11: Distribution of AWWs according to their knowledge regarding supplementary feeding

S. No.	Aspects	Response of AWWs	Number of AWWs	Percentage (%)
1.	According to you main objectives to provide supplementary feeding at AWCs is decreased low birth weight, saving infants and pre-scholars' from malnutrition and providing nutrition to those children who have become malnourished of some or other reason.	Yes	164	91.11%
		No	16	8.89%
2.	According to you the beneficiaries of supplementary feed is pregnant and lactating women and children of 7 month to 6 years of age	Yes	170	94.44%
		No	10	5.56%
3.	600 Kcal calories provided by supplementary food for pregnant, lactating and adolescent girls	Yes	103	57.22%
		No	77	42.78%
4.	500 Kcal calories provided by supplementary food for children below 3 year	Yes	107	59.44%
		No	73	40.56%
5.	25 day is frequency of supplementary food distribute in a month	Yes	151	83.89%
		No	29	16.11%
6.	Is supplementary food supplied in- sufficient amount at center for distribution	Yes	95	52.78%
		No	85	47.22%
7.	Has you ever show any recipe of supplementary food	Yes	40	22.22%
		No	140	77.78%

Table 12: Distribution of respondents according to their knowledge regarding diarrhoea management

S. No.	Aspects	Response of AWWs	Number of AWWs	Percentage (%)
1.	Concept of diarrhea is dysentery, fever with diarrhea, passing watering stool frequently	Yes	118	65.56%
		No	62	34.44%
2.	Cause of diarrhea is feeding milk with unhygienic bottle or nipple, taking food with dirty hands, eating uncovered and cold food	Yes	152	84.44%
		No	28	15.56%
3.	The mother milk should be given to child during diarrhea	Yes	123	68.33%
		No	57	31.67%
4.	The milk should be given more than normal to child during diarrhea	Yes	133	73.89%
		No	47	26.11%
5.	Management of diarrhoea is to give O.R.S	Yes	161	89.44%
		No	19	10.56%
6.	In O.R.S solution salt and sugar are in equal amount	Yes	117	65.00%
		No	63	35.00%
7.	Source of obtaining O.R.S from anganwadi, ANM and primary health center	Yes	135	75.00%
		No	45	25.00%
8.	One packet of O.R.S added in 1 liter of water	Yes	110	61.11%
		No	70	38.89%
9.	Once prepared O.R.S can be used in 24 hour	Yes	102	56.67%
		No	78	43.33%
10.	While suffering from diarrhea O.R.S and liquid substances food should be increased	Yes	133	73.89%
		No	47	26.11%



For assessment of diarrhoea management related knowledge a questionnaire were asked to 180 AWWs (appendix1) its total scores was 1800.

Table 13: Distribution of AWWs according to their knowledge regarding growth monitoring

S. No	Aspects	Response of AWWs	Number of AWWs	Percentage (%)
1.	Meaning of a growth monitoring is plot the weight of children in growth chart and interpretation of nutritional status and plot the length of children in growth on chart	Yes	120	66.67%
		No	60	33.33%
2.	Knowing exact date of birth , correct weighing and plotting the weight correctly are points should be kept in mind while filling the growth chart	Yes	161	89.44%
		No	19	10.56%
3.	One month is the time interval of weighing a children between one month to 3 years of age	Yes	144	80.00%
		No	36	20.00%
4.	Three month is the time interval of weighing a children between 3-6 years of age	Yes	135	75.00%
		No	45	25.00%
5.	If a child continuously losing his weight for 2 month. Is this child is malnourished	Yes	80	44.44%
		No	100	55.56%
6.	Birth weight less than 2.5 kg, no weight gain continuously for 3 month and previously the child plotted in the red colour grade in growth chart can this child identify at risk	Yes	80	44.44%
		No	100	55.56%

The revised feeding and cost norms under Supplementary Nutrition Programme are as under:

Table 13: Distribution of AWWs according to their knowledge regarding growth monitoring

Sr. No.	Category	Revised feeding & nutritional norms (per beneficiary per day)		Revised cost norms (per beneficiary per day)
		Calories (K Cal)	Protein (g)	
1.	Children (6-72 months)	500	12-15	Rs.4.00
2.	Severely malnourished children (6-72 months)	800	20-25	Rs.6.00
3.	Pregnant women and Nursing mothers	600	18-20	Rs.5.00

V.CONCLUSION

It is now crucial to turn this momentum into results by ensuring the delivery of pledges and accelerating progress on addressing the challenge of under nutrition. An aim of training was to increase the level of knowledge, providing scientific information, develop skills for achievement of ICDS objectives. These training directly affect efficiency of anganwadi workers. In present study it was found that prior information of trainings schedule was not given to anganwai worker however 100% of them received training.(6)

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