

# Profile of Anganwadi workers and their knowledge regarding maternal and child health services in an urban area

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## Abstract

**Background:** An Anganwadi worker (AWW), a lady selected from the local community, is a community-based frontline honorary worker of the Integrated Child Development *Services* program. Their understanding, communication skills, and approach are needed to implement the grand projects of the state and central governments, making them the most vital link in delivering the “health for all” mission.

**Objectives:** The study aims to know about current level of knowledge among AWW regarding essential grassroot level health services provided in Anganwadi with the objectives to assess the level of knowledge among AWWs regarding basic maternal care services as well as basic child care services at Anganwadi level.

**Material and Methods:** This study was a community-based cross-sectional observational study conducted in urban area. Data collection was carried out by preformed, prestructured, and pretested questionnaire by interview method individually. All 344 AWWs were interviewed for knowledge testing. Each AWW was contacted through monthly meetings. Scoring system was used for knowledge testing. The data was analyzed statistically using percentages and  $\chi^2$ -test.

**Results:** Maximum AWWs (43.31%) found to have average knowledge score. Significant association was found between educational status of AWWs and knowledge scores, between years of experience and knowledge scores, and between age of AWWs and knowledge scores.

**Conclusion:** Continuous education in the form of refresher training (in-service) should be on regular basis for updating the knowledge of AWWs.

**KEY WORDS:** Anganwadi worker, profile, knowledge, refresher training

## Introduction

India is home to overpopulation, malnutrition, poverty, unemployment, low literacy levels, and more, with a target to make health care accessible and affordable for everyone. Given the urgency of health care issues, child

mortality, mal nutrition, and so on, our country needs high number of medical and health care professionals to cater to the population that is now running into billions. Faced with acute shortage of skilled professionals, the Government’s Integrated Child Development *Services* (ICDS) scheme is using the local population to help meet its grand goals.<sup>[1]</sup>

An Anganwadi worker (AWW), a lady selected from the local community, is a community-based frontline honorary worker of the ICDS program. She is also an agent of social change, mobilizing community support for better care of young children, girls, and women.<sup>[2]</sup>

With minimum qualification to boot, an AW worker is deemed wise in the ways of the village and in the duties that she performs. Their understanding, communication skills, and approach are needed to implement the

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grand projects of the state and central governments, making them the most vital link in delivering the “health for all” mission.<sup>[1]</sup>

So, this study was conducted to know the efficiency of this vital link, that is, to study their knowledge regarding maternal and child health care at Anganwadi (AW) level and to compare it with required standards and suggest them ideas if any needed for improvement. So, the aim of study was to know about current level of knowledge among AWW regarding essential grassroot level health services provided in Anganwadi with the following objectives:

1. To assess the level of knowledge among AWW regarding basic maternal care services at Anganwadi level.
2. To assess the level of knowledge among AWW regarding basic child care services at Anganwadi level.

## Materials and Methods

This study was carried out in urban Anganwadi area in the city. It was a community-based – cross-sectional observational study. In urban area, which was taken in this study, there were total 344 Anganwadis. One AWW was appointed for one Anganwadi. So, all 344 workers were included in the study. The study period was of 18 months (from 1 January 2012 to 30 June 2013).

Data collection was carried out by preformed, pre-structured, and pretested questionnaire by interview method individually for testing their knowledge about maternal and child health services provided in Anganwadi. So, all 344 were interviewed for knowledge testing. Each AWW was contacted through monthly meetings. Repeated visits were made to interview all the 344 workers. All the interviews in the study were conducted in local language, that is, Marathi.

All 344 Anganwadis were divided in three blocks. Every block has Child Development Project Officer (CDPO) as its head. Written permission was taken from respective CDPO regarding their concerned Anganwadis. Verbal consent of each AWW was taken before the interview, and nature and purpose of study were explained to them.

Scoring system was used for knowledge testing. Knowledge was expected as per her training and guidelines.<sup>[2,3]</sup> One score was given for correct and complete response and zero score for incomplete and/or incorrect response. Total score was out of 20 for knowledge.

## Statistics

The detailed data was entered into the Microsoft Excel sheets, presented in the form of tables and figures, and subsequently analyzed statistically using percentages and  $\chi^2$ -test. For all the statistical tests, a  $p$ -value of  $<0.05$  was considered as statistically significant and  $p$ -value of  $<0.01$  was considered as statistically highly significant.

**Table 1:** Work experience of Anganwadi workers

Work experience as Anganwadi worker	Number of AWW	Percentage
<1 year	11	03.19
1–5 years	90	26.16
6–10 years	118	34.30
11–15 years	35	10.17
16–20 years	22	06.40
21–25 years	9	02.62
26–30 years	22	06.40
31–35 years	37	10.76
Total	344	100

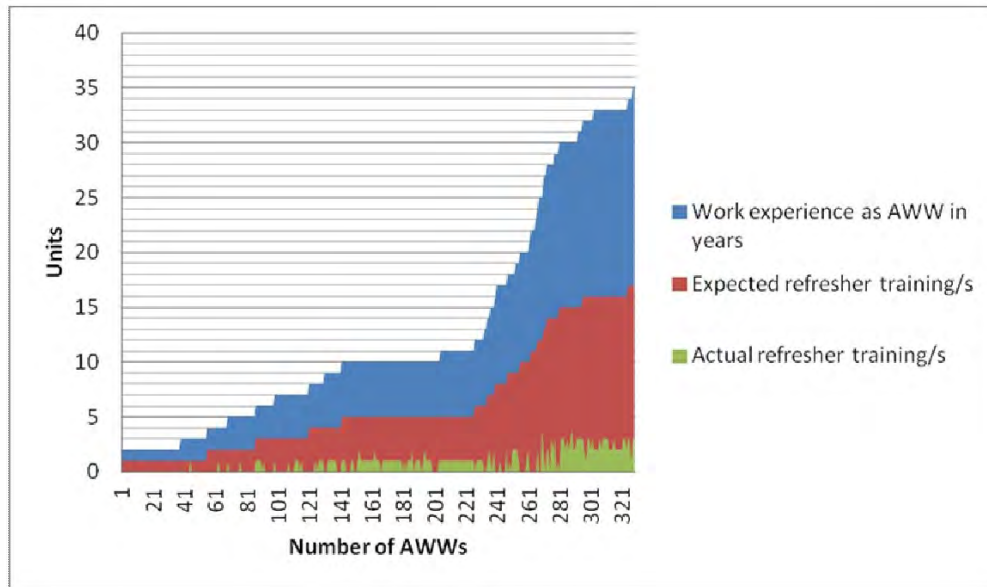
## Results

Age distributions of total 344 AWWs showed that maximum number, that is, 36.92% (127) of workers were in the age group of 30–39 years; 27.62% (95) workers were from 40 to 49 years, 16.57% (57) from 50 to 59 years, 11.05% were from 20 to 29 years, and 7.84% (27) were from 60 and above age group. Almost all (99.71%) workers had completed secondary (standard 10th) education.

Distribution of AWWs according to socioeconomic class<sup>[4]</sup> showed that 36.63% (126) workers were from class V, 28.49% (98) workers from class IV, 25.29% (87) workers from class III, and 9.59% (33) workers were from class II. Out of total 344 workers, 286 (i.e., 83.14%) workers were not living in the same locality as AW (same locality =  $\leq 1$  km) and out of that 12 workers were living at more than 10 km distance.

Regarding work experience, as shown in Table 1, 36.35% (125) AWWs had more than 10 years of experience. In this study, 18.6% (64) did not receive basic training. AWWs who completed 2 years of service were considered eligible for refresher training. Out of that 329 AWWs, only 52.58% (173) AWWs had received at least one refresher training in their service whereas almost half of them, that is, 47.42% had not received refresher training at all. Figure 1 shows relation of work experience with expected and actual refresher trainings. Table 2 depicts knowledge related to some ICDS objectives. Figure 2 and Table 3 show knowledge regarding antenatal and postnatal care. Also, Table 4 shows knowledge regarding services of children.

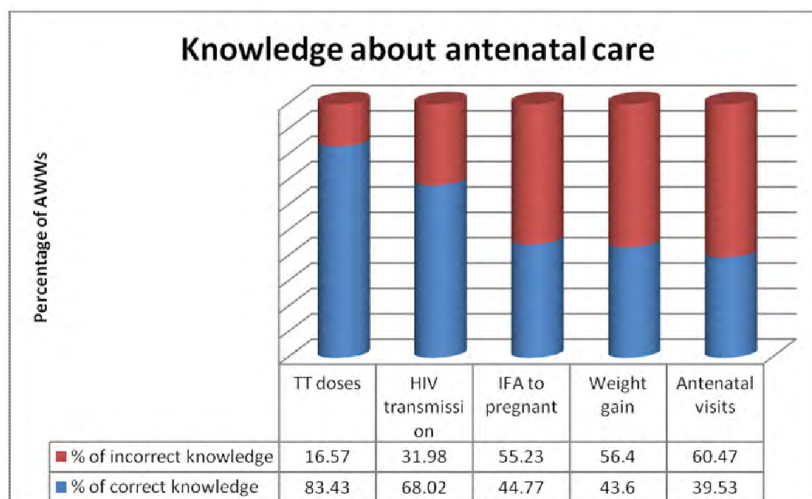
As in Table 5, very good knowledge score is seen among 8.43% (29) AWWs. Maximum AWWs (43.31%) are found to have average knowledge score. Significant association was found between educational status of AWW and knowledge scores. As educational level increased, there was an increase in knowledge scores. Table 6 shows that as years of experience increases, the knowledge score decreases. Significant association was found between years of experience of AWW and knowledge scores. Also it was seen that as in Table 7, as age of AWW increases, the knowledge score decreases. Statistically significant association is found between age of AWW and knowledge scores.



**Figure 1:** Work experience in relation with expected and actual refresher training received.

**Table 2:** Knowledge of Anganwadi workers related to some ICDS objectives

Sr. No.	Domain of knowledge, N = 344	Correct and complete response, number (%)	Incorrect /Incomplete response, number (%)
1.	Population of AW	334 (97.09)	10 (02.91)
2.	Importance of nonformal education	336 (97.67)	08 (02.33)
3.	Six services of ICDS package for 3–6 years	41 (11.92)	303 (88.08)
4.	Low birth weight (LBW)	205 (59.59)	139 (40.41)
5.	Importance of growth chart (growth monitoring)	338 (98.26)	6 (01.74)
6.	Minimum period of spacing between children	304 (88.37)	40 (11.63)
7.	Right age of marriage	298 (86.63)	46 (13.37)
8.	Ideal child norm	314 (91.28)	30 (08.72)



**Figure 2:** Knowledge of Anganwadi workers about antenatal care (N=344).

**Table 3:** Knowledge of Anganwadi workers about postnatal period

Domain of knowledge, N = 344	Correct and complete response, number (%)	Incorrect /Incomplete response, number (%)
Ideally when to start breast-feeding	340 (98.84)	4 (01.16)
Exclusive breast-feeding	293 (85.17)	51 (14.83)
Importance of colostrum feeding	338 (98.26)	6 (01.74)

**Table 4:** Knowledge of Anganwadi workers regarding service of children

Sr. No.	Knowledge, N = 344	Correct and complete Response, number (%)	Incorrect /Incomplete response, number (%)
1.	Grading of malnutrition	303 (88.08)	41 (11.92)
2.	Indian National Immunization Schedule	118 (34.30)	226 (65.70)
3.	Minimum vit A doses	68 (19.77)	276 (80.23)
4.	Common infant morbidities	168 (48.84)	176 (51.16)

**Table 5:** Association between knowledge scores and education

Education	Knowledge scores				Total number (%)
	Very good >18, number (%)	Good 15–17, number (%)	Average 12–14, number (%)	Below average <11, number (%)	
Middle school*	0	0	0	1 (100)	1 (100)
Secondary*	5 (3.07)	50 (30.67)	69 (42.33)	39 (23.93)	163 (100)
Higher secondary	11 (11)	25 (25)	50 (50)	14 (14)	100 (100)
Graduation and above	13 (16.25)	29 (36.25)	30 (37.5)	8 (10)	80 (100)
Total	29 (8.43)	104 (30.23)	149 (43.31)	62 (18.03)	344 (100)

Rows with \* are clubbed for  $\chi^2$ -test.

$\chi^2 = 27.2$ ; DF = 8;  $p < 0.001$ , statistically highly significant

**Table 6:** Association between knowledge scores and years of experience

Completed years of experience	Knowledge scores				Total, number (%)
	Very good, number (%)	Good, number (%)	Average, number (%)	Below average, number (%)	
<1 year*	2 (18.18)	4 (36.37)	3 (27.27)	2 (18.18)	11 (100)
1–5 years*	9 (10)	19 (21.11)	44 (48.89)	18 (20)	90 (100)
6–10 years#	12 (10.17)	48 (40.68)	49 (41.52)	9 (7.63)	118 (100)
11–15 years#	4 (11.43)	16 (45.71)	10 (28.57)	5 (14.29)	35 (100)
16–20 years\$	1 (4.55)	8 (36.36)	10 (45.45)	3 (13.64)	22 (100)
21–25 years\$	0	1 (11.11)	5 (55.56)	3 (33.33)	9 (100)
26–30 years\$	1 (4.55)	4 (18.18)	11 (50)	6 (27.27)	22 (100)
31–35 years\$	0	4 (10.81)	17 (45.95)	16 (43.24)	37 (100)
Total	29 (8.43)	104 (30.23)	149 (43.32)	62 (18.02)	344 (100)

Rows with \*, #, and \$ are clubbed for  $\chi^2$ -test.

$\chi^2 = 50.5$ ; DF = 6;  $p < 0.001$ , statistically highly significant

## Discussion

In this study, maximum workers (64.54%) were from 30 to 49 years of age group. In a study conducted in four states in India, Gopalan<sup>[5]</sup> found maximum AWW (91%) were in 20–40

years age group. Ghoghra *et al.*<sup>[6]</sup> found that maximum (46%) AWWs were in the age group 36–40 years.

Similar to present study, in the studies by Kapil *et al.*<sup>[7]</sup>, Ghoghra *et al.*<sup>[6]</sup>, and Patil *et al.*<sup>[8]</sup>, it was found that maximum workers were matriculate.

Table 7: Association between knowledge scores and age of Anganwadi workers

Age composition of AWWs	Knowledge scores				
	Very good, number (%)	Good, number (%)	Average Number (%)	Below average Number (%)	Total Number (%)
20–29 years*	8 (21.05)	8 (21.05)	14 (36.85)	8 (21.05)	38 (100)
30–39 years *	9 (7.09)	43 (33.86)	61 (48.03)	14 (11.02)	127 (100)
40–49 years	10 (10.53)	36 (37.89)	36 (37.89)	13 (13.69)	95 (100)
50–59 years\$	2 (3.51)	12 (21.05)	25 (43.86)	18 (31.58)	57 (100)
60 years and above\$	0	5 (18.52)	13 (48.15)	9 (33.33)	27 (100)
Total	29 (8.43)	104 (30.23)	149 (43.32)	62 (18.02)	344 (100)

Rows with \*, \$were clubbed for  $\chi^2$ -test.

$\chi^2=33.9$ ; DF= 6;  $p < 0.001$ , statistically highly significant

In the study by Bidarakoppa,<sup>[9]</sup> it was found that in rural ICDS in Karnataka, 83% AWWs families belonged to low socioeconomic status similar to this study. In the present study, maximum AWWs were not living in same area. If the AWW is having residence away from her Anganwadi, she may not be able to make rapport with her AW community. She may not be able to understand local people and their problems and it may affect her work in AW. Similar findings were reported by Kant et al.<sup>[10]</sup> and Bidarakoppa.<sup>[9]</sup>

In this study, 63.65% had work experience of less than 10 years. It may be due to two out of three ICDS blocks were started after 2001. Thakare et al.<sup>[11]</sup> found that majority (82.14%) of AWWs had an experience of more than 10 years.

Biswas et al.<sup>[12]</sup> also found that only 11.8% AWW were exposed to continuing education sessions. Also in the study by Gupta et al.,<sup>[13]</sup> in-service training remained largely neglected similar to the present study.

In this study, 97.09% AWWs gave correct answer to question of population covered under one Anganwadi. Similarly, Kant et al.<sup>[10]</sup> found that 92.71% AWWs knew correctly that an Anganwadi is meant for 1000 population. In the present study, only 11.92% AWWs were able to tell six services for 3–6 years. Similarly, Kant et al.<sup>[10]</sup> found in their study that all the six components of the ICDS package of services were known only to 9.38% AWWs. In the present study, only 59.59% AWWs knew the concept of low birth weight whereas Kapil et al.<sup>[14]</sup> found that 82.3% of multipurpose workers had correct knowledge about the cutoff point of low birth weight child.

When asked about minimum period of spacing between two children, 88.37% workers in this study gave correct response. Among AWWs, 86.63% and 91.28% were able to give correct response to right age of marriage and ideal child norm respectively. It is important that each AWW must know about components such as minimum period of spacing, right age of marriage, and ideal child norm, as she is the first level of contact with the beneficiaries and has rapport with them. Chattopadhyay et al.<sup>[15]</sup> found that 64.7% AWWs knew that a minimum period of 3 years is necessary in between two

childbirths. In the study by Parkash et al.,<sup>[16]</sup> 77.7% AWWs knew correct age of marriage.

In this study, less than 50% AWWs knew important components regarding antenatal care, so it was definitely huge gap in her knowledge. Knowledge on human immunodeficiency virus (HIV) transmission during pregnancy, which is a serious issue now-a-days, was still lacking in large number. Chattopadhyay et al.<sup>[15]</sup> also found that 59% AWWs knew the total number of IFA tablets to be given to a pregnant mother whereas 82.4% AWWs had correct knowledge regarding anti-tetanus immunization in pregnancy, only 41.2% could mention the minimum number of antenatal check-ups.

Though knowledge regarding breast feeding was correct in more than 85% AWWs in the study, still the lacunae was found in concept of exclusive breast feeding, where 14.83% had a wrong idea about this concept. Exclusive breast feeding is very important to prevent various morbidities like diarrhoea and malnutrition in children; hence every AWW must know the concept to motivate each mother about it. Chattopadhyay et al.<sup>[15]</sup> found only 17.6% AWWs knew the age group for exclusive breast-feeding.

Maximum AWWs (43.31%) found to have average knowledge score. In the study by Parkash et al.,<sup>[16]</sup> it was found that the knowledge of nearly 50% AWWs was just average or below average. Significant association was found between educational status of AWW and knowledge scores ( $p < 0.001$ ), between years of experience and knowledge scores ( $p < 0.001$ ), between age of AWW and knowledge scores ( $p < 0.001$ ) in this study and in the study by Ghoghra et al.,<sup>[6]</sup> it was found that there was statistically significant association between educational status and knowledge about aim of IMNCI. Patil et al.<sup>[8]</sup> found that knowledge assessment score of AWW went on increasing as the experience in years was increasing and the difference was statistically significant.

Knowledge can get affected by factors like their age, educational level, effectiveness of training, lack of continuing education, years of experience. Also factors like motivation by supervisors and personal attitude, lack of incentives, etc., may affect the knowledge level.

## Conclusion

This study suggests the need of continuous education of AWWs. Continuous education in the form of refresher training (in-service) should be on regular basis for updating the knowledge of AWWs. Frequent and intensive trainings will definitely improve their knowledge. Basic training should be completed before joining as the AWW.

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