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**Original Research Article**

# A study on knowledge of anganwadi workers about integrated child development services at three urban health centers

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## ABSTRACT

**Background:** Most of the studies have been concentrated on the nutritional and health status of the beneficiaries of ICDS. Less focus has been shifted over to assess the knowledge and awareness among AWW regarding recommended ICDS programmes, who are actually the main resource person.
**Methods:** A cross-sectional study was undertaken among 76 anganwadi workers from all 76 anganwadi's under the three urban health centers. For Anganwadi workers' knowledge assessment, a scoring system was developed. The knowledge assessment score from each A WW was calculated based on the responses to a questionnaire containing 30 questions.
**Results:** 88.16% of anganawadi workers had better knowledge on immunization and supplementary nutrition and only 45.39% of them had knowledge regarding referral services. No relationship was found between the educational\qualification of the worker and her knowledge about different services provided by her (p=0.660).
**Conclusions:** Out of total 18 (23.7%) of AWWs had poor knowledge of health services provided, 20 (26.3%) had average knowledge and 38 (50%) had good knowledge. The knowledge had no relation with experience and their educational qualification. This difference was not found to be statistically significant.

**Keywords:** Anganawadi workers, Knowledge assessment score, Problem

## INTRODUCTION

Some of the major health challenges that the Government of India (GOI) is addressing include the interlinked issues of poor maternal nutrition, low birth weight, and high child morbidity and mortality. Poor infant and young child feeding practices coupled with high rates of infection are the proximate causes of malnutrition in the first two years of life, and malnutrition is an underlying cause for up to 50 percent of all under-five deaths.[1]

So the integrated child development scheme (ICDS) was initiated nearly 35 years ago, in October 1975, in response to the evident problems of persistent hunger and malnutrition especially among children under the age of 6 years. Since then, ICDS has grown to become the world's largest early child development programme which offers a package of health, nutrition and education services to the children below 6 years, pregnant and nursing mothers.[2]

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 her close and continuous contact with the beneficiaries. Her educational level and knowledge of nutrition plays an important role related to her performance in anganawadi centers.[3] The output of ICDS scheme to a great extent depends on the profile of the key

functionary that is anganawadi worker, her qualification, experience, skills, attitude, training etc.[4]

Though government is spending lot of money on ICDS programme, impact is very ineffective. Most of the study concentrated on the nutritional and health status of the beneficiaries of ICDS. Less focus has been shifted over to assess the knowledge and awareness among AWW regarding recommended ICDS programmes, who are actually the main resource person. With this background the present study was planned to assess the knowledge of anganawadi workers and their problems in the urban field practice area of Belagavi.

### *Objectives*

1. To study the sociodemographic profile of Anganwadi workers.
2. To assess the awareness among Anganwadi workers regarding the health and nutritional services of ICDS programs.

## METHODS

### *Study design*

The present study is a cross sectional study

### *Study period*

1st April 2014 to 30 May 2014

### *Study area*

Study was carried out at three urban health centres (Ramnagar, Ashoknagar, Rukmininagar) which come under the field practice area of Department of Community Medicine Jawaharlal Nehru Medical College Belagavi.

### *Study setting*

All the 76 anganwadi workers from all 76 anganwadi's under the three urban health centers of field practice area of Department of Community Medicine Jawaharlal Nehru Medical College Belagavi were chosen for the study.

Informed consent was taken from all the study participants.

### *Study variables*

The profile and knowledge of anganawadi workers was assessed by interviewing anganwadi workers on basis of a pretested predesigned questionnaire. For knowing their profile, basic information about the worker was collected in terms of her name, age, education and experience as an Anganwadi worker.

For Anganwadi workers' knowledge assessment, a scoring system was used.[5] The knowledge assessment score from each A WW was calculated based on the responses to a questionnaire containing 30 questions. The questionnaire was so designed as to contain questions on every aspect of services provided through the Anganwadi centre. It included questions on different aspects of functioning of AWWs like immunization, supplementary nutrition, non-formal preschool education and growth education, health check-up, referral services, nutrition and health education. One mark was given for a correct response, while no mark was given for a wrong response or unanswered question. So the individual knowledge score varied from 0 to 30. Total knowledge score was estimated by adding the individual scores of each response. The knowledge of each AWW was scored out of 30. Workers with score of less than 15 were categorized as having inadequate knowledge, while those with score of 15 and above were labelled as having adequate knowledge.

Records were checked in terms of completeness, the number of registers, whether they were properly maintained till date or not. There were total 12 registers that were maintained by the workers e.g. Survey register, Immunization register, ANC register, Referral register, Dairy cum visit book etc. Those AWWs who had maintained 8 or more registers properly were put in the category of well-maintained records at the time of analysis.

Some of the questions were also asked to the anganawadi workers about the availability of electricity, safe drinking water and sanitary toilets. Feedback was also taken with respect to problems faced by them in implementing the scheme. Informed consent was taken from all study participants.

### *Statistical analysis*

Using SPSS version 19 applying Chi square test.

## RESULTS

Out of 76 anganawadi workers, 33 (43.4%) were in the age group 31- 40 years, 37 (48.7%) anganawadi workers had studied up to secondary school and 34 (44.7%) had experience less than 5 years (Table 1).

88.16% of anganawadi workers had better knowledge on immunization and supplementary nutrition and only 45.39% of them had knowledge regarding referral services (Table 2).

As most of the distribution of variables for knowledge assessment in anganwadi workers was skewed distribution we have used median and quartiles for the same.

<1 quartile (<25): poor knowledge
1-3$^{rd}$ quartile (26-28): average knowledge
>3$^{rd}$ quartile (>28): good knowledge

**Table 1: Socio-demographic characteristics of Anganwadi workers (n=76).**

| | No. | Percentage (%) |
|---|---|---|
| **Age in years** | | |
| 20- 30 | 12 | 15.8 |
| 31 - 40 | 33 | 43.4 |
| 41 - 50 | 20 | 26.3 |
| 51 - 60 | 11 | 14.5 |
| **Education** | | |
| Primary School | 7 | 9.2 |
| Secondary School | 37 | 48.7 |
| Collegiate | 32 | 42.1 |
| **Working Experience in years** | | |
| < 5 years | 34 | 44.7 |
| 5 - 10 years | 26 | 34.2 |
| 11 - 15 years | 5 | 6.5 |
| 16 – 20 years | 6 | 7.8 |
| > 20 years | 5 | 6.5 |

**Table 2: Knowledge of AWWs regarding different aspects of health services provided.**

| No | Type of questions | No. of questions asked | No. of AWWs | Total questions | Correct response | | Incorrect response | |
|---|---|---|---|---|---|---|---|---|
| | | | | | No. | % | No. | % |
| **1.** | Immunization | 8 | 76 | 608 | 536 | 88.16 | 72 | 11.84 |
| **2.** | Supplementary nutrition | 3 | 76 | 228 | 201 | 88.16 | 27 | 11.84 |
| **3.** | Non-formal preschool education and growth monitoring | 6 | 76 | 456 | 383 | 83.99 | 73 | 16.01 |
| **4.** | Prophylaxis against blindness | 6 | 76 | 456 | 404 | 88.60 | 52 | 11.40 |
| **5.** | Referral services | 2 | 76 | 152 | 69 | 45.39 | 83 | 54.60 |
| **6.** | Nutrition & health care | 5 | 76 | 380 | 331 | 87.10 | 49 | 12.89 |
| | Total | 30 | 76 | 2280 | 1924 | 84.38 | 277 | 15.61 |

**Table 3: Knowledge assessment score of anganawadi workers.**

| Knowledge assessment score (out of 30) | No. of anganawadi workers | |
|---|---|---|
| | No. | % |
| **≤25** | 18 | 23.7 |
| **26-28** | 20 | 26.3 |
| **>28** | 38 | 50.0 |
| **Total** | 76 | 100 |

**Table 4: Anganwadi worker's knowledge related to her experience.**

| Experience in years | Knowledge score in quartiles | | | |
|---|---|---|---|---|
| | **<25** | **26-28** | **>28** | **Total** |
| | **No. (%)** | **No. (%)** | **No. (%)** | **No. (%)** |
| **<5 years** | 5 (21.7) | 6(26.1) | 12(52.2) | 23 (30.26) |
| **5-10 years** | 10 (27) | 9 (4.3) | 18 (48.6) | 37 (48.69) |
| **>10 years** | 3 (18.8) | 5 (31.2) | 8 (50) | 16 (21.05) |
| **Total** | 18 (23.68) | 20 (26.31) | 38 (50) | 76 (100) |

Range of score 6-30, Quartile 1- 26, Median=28.5 Quartile 3=75 Mean=26.3 ± 5.44, $X^2$=0.615 df=4 p=0.961.

18 (23.7%) of AWWs had poor knowledge of health services provided, 20 (26.3%) had average knowledge and 38 (50%) had good knowledge (Table 3).

In the present study among 23 AWW with work experience of <5 yrs, 12 (52.2%) of them had good knowledge, among 37 AWW with work experience 5-10

yrs, 18 (48.6%) of them had good knowledge and among 16 AWW with work experience of >10 yrs, 8 (50%) of them had good knowledge. This difference was not found to be statistically significant. (p=0.961) (Table 4).

No relationship was found between the educational or qualification of the worker and her knowledge about different services provided by her (p=0.660) (Table 5).

**Table 5: Anganwadi worker's knowledge score related to her education.**

| Education | Knowledge score in quartiles | | | |
|---|---|---|---|---|
| | <25 | 26-28 | >28 | Total |
| | No. (%) | No. (%) | No. (%) | No. (%) |
| **Primary** | 2 (28.6) | 1(14.3) | 4(57.1) | 7(9.21) |
| **Secondary** | 7 (18.9) | 12 (32.4) | 18 (48.6) | 37 (48.69) |
| **PUC I** | 6 (40.0) | 2 (13.3) | 7 (46.7) | 15 (19.73) |
| **PUC II** | 3 (17.6) | 5 (29.4) | 9 (52.9) | 17(22.37) |
| **Total** | 18(23.68) | 20 (26.31) | 38(50) | 76 (100) |

Fischer exact = 0.660.

## DISCUSSION

Integrated child development services (ICDS) scheme is the largest programme for promotion of maternal and child health and nutrition not only in India, but in the whole world and 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 her close and continuous contact with the beneficiaries.

In the present study out of 76 anganwadi workers, 33 (43.4%) were in the age group 31- 40 years, 37 (48.7%) anganwadi workers had studied up to secondary school and 34 (44.7%) had experience less than 5 years whereas study done in Gulbarga showed that only 20% of them had experience of <5 yrs.[5] A study done in Aurangabad district showed that maximum no. of workers 34 (69.38%) had an experience of more than 10 years.[6]

Tabel 2 shows that 88.16% of anganwadi workers had better knowledge on immunization and supplementary nutrition and only 45.39% of them had knowledge regarding referral services. A study in Gulburga showed that 90% and 86.66% had knowledge on immunization and referral services respectively.[5] Another study done in Aurangabad showed that 77.14%, 71.42% and 67.85% had knowledge on nutrition, referral services and immunization respectively. Among the different services provided by AWW's they have the best knowledge about the supplementary nutrition i.e. 70%, while as 30% know how to provide formal preschool education in a play way manner, immunization and nutrition and health education.[7]

Table 3 – 5 shows that only 50% (>28) had good knowledge. Among AWW with work experience of <5 yrs 52.2% of them had good knowledge (>28) and in workers with work experience of >10 yrs 50% of them had good knowledge which was found to be statistically significant. No relationship was found between the educational or qualification of the worker and her knowledge about different services provided by her (p=0.660).

In a study conducted in Gulburga, Kashmir majority of workers had knowledge about health services where as in a study done in Solapur, 43.3% had average knowledge.[5,7,8] In a study conducted in Haryana it was found that knowledge assessment score went on increasing as the experience in years was increasing.[9]

## CONCLUSION

18 (23.7%) of AWWs had poor knowledge of health services provided, 20 (26.3%) had average knowledge and 38 (50%) had good knowledge**.** The knowledge had no relation with experience and their educational qualification. This difference was not found to be statistically significant. Hence regular training camps should be organized for AWWs to increase their knowledge regarding different aspects especially growth monitoring and supplementary nutrition.

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