

Research Article

# Effectiveness of a Self-Instructional Module on First Aid Knowledge among Anganwadi Workers in Delhi: A Pre-Experimental Study

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## A B S T R A C T

**Background:** Despite the significant advances, child survival remains a critical concern. Minor ailments like diarrhea, common cold, fever, cough, worm infestations, scabies, fall, eye injury, choking are quite common among children. Children go to anganwadi centre every day, and thus, these can be recognized early and treated timely by anganwadi workers.

**Aim:** To assess how well a self-instructional module works on the understanding of the handling of first aid for minor ailments and common injuries in children below six years age as on anganwadi worker in the selected anganwadis of Delhi.

**Methodology:** A pre-experimental research design was applied, with the quantitative research approach. A sample of 100 anganwadi workers were identified using non-probability method of purposive sampling technique. Data was collected via a designed knowledge questionnaire. To define the effectiveness of the intervention, data were processed both in terms of descriptive as well as inferential statistics.

**Result:** The results brought out by the pre-test were that 90 percent of the anganwadi workers had inadequate knowledge whereas 10 percent had adequate knowledge of first aid management. Second, there was 91 percent of the anganwadi workers with adequate understanding and 9 percent with inadequate understanding after intervention. The findings revealed that knowledge showed a significant increase after the intervention (the value of the paired t-test is -26.976,  $p < 0.001$ ) which can verify the effect of the Self-Instructional Module.

**Conclusion:** The results show that the Self-Instructional Module improved the knowledge of anganwadi workers about first aid treatment of common childhood diseases and accidents.

**Keywords:** First aid management, Anganwadi workers, Minor ailments, Common injuries, Under six years children

## Introduction

An anganwadi is a form of a rural mother and child care in India. The Indian government initiated them in 1975 in an attempt to solve the problem of child hunger and malnutrition as part of the Integrated Child Development Services program. In India, the “Anganwadi” translates to “courtyard shelter”.<sup>1</sup> A normal rural child development centre provides various women & child development services including growth and development, managing immunizations, organizing supplementary feeding, and treating minor ailments.<sup>2</sup>

In the developed world, almost 10.5 million children pass away before turning five every year. The first year accounts for a sizable percentage of fatalities. Nearly 70% of these deaths are caused by acute respiratory tract infections, diarrhea, fever, malaria, and common cold and cough.<sup>3</sup>

Children aged 3 to 6 years attend anganwadis for non-formal education. The proportion of children in this age range is roughly 24.9%. It represents critical period of physical development and growth. Early disease detection is carried out within this regulated group.<sup>4</sup> As per the World Health Organization (WHO), the age-specific mortality rate in children below the age of five due to injuries is 73 per 100,000 population while 3,654 years are lost per 100,000 population.<sup>5</sup>

In 2022 alone, approximately 13,400 children died each day from causes that were largely preventable. Despite the advances in medical field, child survival remains an urgent priority. Undernutrition and diarrhea are responsible for over 45% of fatalities among children under five worldwide in 2020.<sup>6</sup>

Minor ailments like diarrhea, common cold, fever, cough, worm infestations, scabies, fall, eye injury, choking are common in children, these can be identified by early and managed timely by anganwadi workers as children go to anganwadi centre every day. resulting in decreased rates of morbidities and mortalities. In order to do so anganwadi workers should have adequate understanding of first aid administration. Therefore, the researcher aims to raise awareness among Anganwadi workers regarding first-aid management for children under six years of age through a self-instructional module.

## Methodology

Between June and December 2024, a study by using a research design that is pre-experimental in selected anganwadis of Delhi was conducted that focused on the knowledge of first aid management among anganwadi workers. Each participant was chosen by non-probability purposive sampling method. Sample comprised of anganwadi workers working in selected anganwadis of Delhi. The sample size for the present study was determined using the Raosoft application and was calculated to be 377. Finally, a total of

100 anganwadi workers were selected due to resource and time constraints, who were working in selected anganwadis of Delhi.

Jamia Hamdard Institutional Ethics Committee formally approved the study and gave the ethical clearance vide number 12/24 (13/11/2024). The purpose of the study was explained to the participants Along with this, participants provided written informed consent for participation in the study. The socio demographic details (age, religion, educational qualification, working experience, any recent training attended related to first aid management of minor ailments and common injuries) and knowledge were collected through a demographic data sheet and 35-questions structured knowledge questionnaire respectively.

The knowledge of anganwadi workers about first aid management was evaluated using a self-structured knowledge questionnaire. With a Cronbach’s Alpha of 0.79, it was found to be a valid tool. The self-structured knowledge questionnaire and self- instructional module were used as study tools. Research setting was anganwadi centre, where as per the availability of anganwadi workers, pretest was administered and self-instructional module was administered. Seven days after the pretest, post-test knowledge questionnaire was administered again.

## Result

The demographic data present in table 1 shows that a majority of the respondents 46(46%) were anganwadi workers between the ages of 39 and 48 years. Regarding religion, 97(97%) of the anganwadi workers were Hindu. In relation to the educational qualification, most of the anganwadi workers 47(47%) had studied upto Higher secondary/ Intermediate/ senior secondary. Regarding working experience, most of the anganwadi workers 35(35%) had working experience of 11-15 years. Regarding any recent training regarding first aid management of minor ailments and common injuries, most of the anganwadi workers 88(88%) had attended such training.

Information in Table 2: indicates that 90(90%) of the anganwadi workers had inadequate knowledge and 10(10%) had adequate knowledge about treating of minor ailments and general injuries through first aid measures.

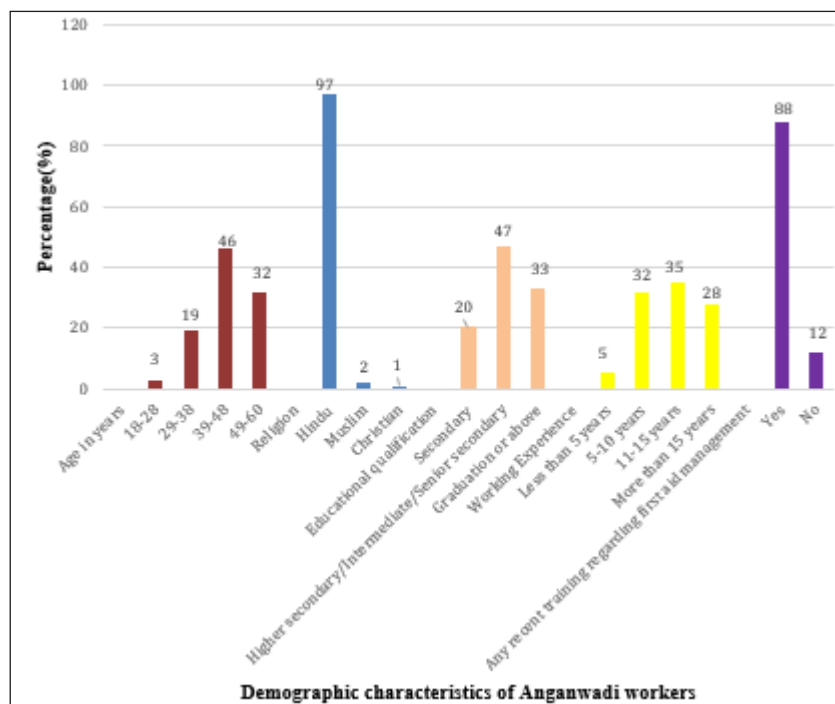
Data showed Table 3 91% of the anganwadi workers possessed adequate understanding of first aid management for common injuries and minor illnesses, while 9 (9%) lacked sufficient knowledge.

Table 4 showed that difference in the average pre-test (23.59 + 2.807) and post-test (30.56 + 2.143) knowledge among anganwadi worker on minor ailments and simple injuries first aid management was significant. It is also stated in table-4 that the self-study first aid management module of minor ailments and first aid management of common injuries is effective (p=0.001) on knowledge among anganwadi workers.

The table 5 data indicates that the knowledge was not significantly associated with management of first aid of minor ailments and common injuries of anganwadi workers with their age, religion, education qualification, working experience etc. and any recent training of first aid management.

**Table I. Frequency and percentage distribution of anganwadi workers in terms of demographic characteristics**  
n = 100

Sr. No.	Population Characteristics	Frequency (f)	Percentage (%)
1)	Age in years		
	18-28	3	3%
	29-38	19	19%
	39-48	46	46%
2)	49-60	32	32%
	Religion		
	Hindu	97	97%
	Muslim	2	2%
3)	Christian	1	1%
	Educational Qualification		
	Secondary	20	20%
	Higher secondary/Intermediate/Senior secondary	47	47%
4)	Graduation or above	33	33%
	Less than 5 years	5	5%
	5- 10 years	32	32%
	11- 15 years	35	35%
5)	>15 years	28	28%
	Any recent training regarding first aid management		
	Yes	88	88%
	No	12	12%



**Figure 1.** A bar graph depicting the percentage distribution of Anganwadi workers by demographic variables

**Table 2. Percentage with frequency analysis of pre-intervention knowledge levels of anganwadi workers**

n = 100

Level of score	Possible Range of Scores	Obtained range of score	Frequency	Percentage (%)
Adequate knowledge ( $\geq 80\%$ )	28 – 35	28-29	10	10.0(%)
Inadequate ( $< 80\%$ )	0 – 27	18-27	90	90.0(%)

**Table 3. Distribution of the knowledge scores post-test of anganwadi workers frequency and percentage**

n = 100

Category (Score)	Possible range of score	Obtained range of score	Frequency	Percentage (%)
Adequate ( $\geq 80\%$ )	28-35	28 – 35	91	91%
Inadequate ( $< 80\%$ )	0-27	25 – 27	9	9%

**Table 4. Average, midpoint, and variability of pre-test and post-test knowledge levels anganwadi workers about first aid management of minor ailments and common injuries**

n = 100

Knowledge score	Mean $\pm$ SD	Median	d.f	t value	P value
Pre-test	23.59 $\pm$ 2.807	23	99	-26.976	* <0.001
Post-test	30.56 $\pm$ 2.143	31			

\*significant at  $p < 0.001$  level of significance**Table 5. Chi square test/ Fisher Exact test to depict an association between pre-test knowledge of first aid management of minor ailments and common injuries among anganwadi workers and their choice of demographic variables**

Demographic Profile		Knowledge Category		Df	P	Interpretation
		Adequate Knowledge	Inadequate Knowledge			
Age	18-28 years	0	3	2.698 (Fisher exact)	.441	
	29-38 years	1	18			
	39-48 years	7	39			
	49-60 years	2	30			
Religion	Hindu	10	87	.344 (Fisher exact)	.842	
	Muslim	0	2			
	Christian	0	1			
General education	Primary/ Secondary	2	18	.281 (Fisher exact)	.869	
	Higher secondary/ Intermediate/ Senior secondary	4	43			
	Graduation	4	29			

Working experience	<5 years	0	5	2.778 (Fisher exact)	.427		
	5-10 years	4	28				
	11-15 years	5	30				
	>15 years	1	27				
Any recent training regarding first aid management	Yes	10	78	1.515	1	.218	Not Significant
	No	0	12				

## Discussion

This study was aimed to determine whether a self-instructional module could be used to enhance the degree of first aid supervision of minor ailments as well as common injuries in children under the age of six years amongst the Anganwadi workers in a sampled number of anganwadis in Delhi.

The majority of the anganwadi workers, according to the current study, 90(90%) demonstrated inadequate knowledge along with 10(10%) had adequate knowledge of first aid management of minor ailments and common injuries and after administration of self-instructional module, it has improved with majority of the anganwadi workers 91(91%) had adequate understanding along with 9(9%) possessed inadequate understanding about the first aid management of minor ailments and common injuries.

In line with this study, a quasi-experimental study carried out by Darshana Hazarika<sup>7</sup> to assess them on their knowledge of first aid management. As per the findings, in the pre-test, 5 (17%) of the experimental group, 22 (73.3%) of anganwadi workers and 3 (10%) among them were those with good, average, and bad knowledge components respectively. Nevertheless, During the post-test, 100 per cent of the 30 members (all of them) showed good knowledge.

The research carried out to ascertain the current study's findings led to the conclusion that 91 percent of workers were possessing good knowledge in the introduction of self-instructional module. No strong correlation was observed with age, religion, education qualification and experience at work and any recent training of first aid management among anganwadi workers.

In agreement with this research study, a cross-sectional study carried out by Fatima Arfa, Amrut RH to assess the sufficiency of first aide knowledge in Anganwadi workers. The authors used 112 targeted Anganwadi workers recruited in an interview and used a self-developed, semi-structured questionnaire. The findings indicated that more than three-

fourth (76.8) had moderate knowledge on first aid and only one-twelfth (12.5) had good knowledge. The educational qualification and the presence of the first aid kit at the center showed significant association with factors of first aid knowledge.<sup>8</sup>

The result of the current analysis reveals that it was unable to find significant relationships among the levels of understanding in first aid care with respect to the selected demographic characteristics such as age, religion, and level of education, experience in the working duration and the recent training on first aid management. These results were similar to the results reported by the study<sup>9</sup> which indicated that the relationship of knowledge level on first aid management with selected population factors like age group, educational level religion professional experience showed no statistical significance ( $p > 0.05$ ). The study revealed a contradictory finding with the present study that there was no meaningful connection between the degree of knowledge along with work experience of workers.

The current research study indicates a difference between pre-test and post-test scores (t value= -26.9 76) at  $p < 0.001$  in case of first aid management of minor ailments and common injuries was significant. This was congruent with the study that was done by Patel K.<sup>10</sup>, which aimed at evaluating knowledge and performance factors of anganwadi workers in Kheda District, Gujarat, in (t value= 11.77) at  $p < 0.05$  indicates meaningful difference in initial and final assessments of the educational interventions undertaken.

## Limitations

Pre experimental design was employed for the current study and control group was not taken. Also, during data collection knowledge of Anganwadi workers was relied upon in the self-reported mode. Due to the small sample size, generalization of the study remains limited. Only a few minor ailments were included in the questionnaire and self-instructional module. Researchers did not observe and assess the practice of first aid management by Anganwadi workers.

## Recommendations

The same study should be done on large sample size so as to improve generalization of the findings. The first state practise of Anganwadi workers may also be assessed by observation or by self- reported mode. The similar study could be done on other categories of community health workers such as ASHAs, Village health guides and ANMs. Comparative studies may also be undertaken to assess the knowledge of Angadwadi workers in rural and urban areas.

## Conclusion

The study found out that before administering the self-instructional module on first aid management, a big percentage of anganwadi workers 90(90%) possessed inadequate knowledge of first aid care but small percentage of 10(10%) showed adequate knowledge on first aid care. Results suggested that self- instructional module on first aid management for Anganwadi workers enhanced their knowledge substantially. Therefore, it can be concluded that self-instructional module was an efficient mode of enhancing knowledge of anganwadi workers and in the practice of community health, many such informative modules may be prepared to teach and enhance the knowledge of various community health workers on different subjects.

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**Conflicts of Interest:** None

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