

Knowledge regarding First Aid Management of Under-Five Children among Anganwadi Workers in a Selected Community of Maharashtra

Priyanka Rajaram Gomale¹, Lingaraju AR², Nageshwar Venkatesh Reddy³

Abstract

Children aged below five are crucial because these groups of children are very active mentally, physically, and in socio-emotional aspects and also it is the basement for the future development of every child. Anganwadi is a group of healthcare providers recognised by the government of India. The Anganwadi worker should have basic knowledge about first aid management for selected accidents of under-five children because they are the first contact people with the community. Hence a quantitative study was conducted to find out the knowledge regarding first aid management for selected accidents of under-five children among Anganwadi workers. A structured knowledge questionnaire was used to collect data from 100 Anganwadi workers. The study findings reveal that 61 percent of them have a good level of knowledge and there is an association between educational qualification, years of experience, and source of information demographic variables of Anganwadi workers and knowledge regarding first aid management for selected accidents of under-five children at $p < 0.05$ level. There is a lot of scope to do this type of study because Anganwadi workers are key members of community health care delivery. Similar to our study, Baskaran conducted a study on selected first aid measures among Anganwadi teachers. The findings of the study indicated that 15 (16.6%) of nurses had poor knowledge, whereas 75 (83.3%) of them had average knowledge. There was a significant association between knowledge and age at $p < 0.05$.

Key words: First aid management, under-five children, Anganwadi workers

For many years accidents in children have posed as the most significant health problem. It is also one of the major causes of death that is preventable. Under-five accidents may lead to serious injury and disability across the world. Currently, injuries among under-fives are very common and they can happen at any time during day-to-day life (Kafle et al, 2018). First Aid involves simple techniques with a scientific background used for life preservation. Mostly it doesn't require any advanced equipment or much medical knowledge. It is often as important as what should be done and what should not be done. First Aid offers immediate assistance to anyone who is injured before health professionals arrive (Wadhvani, 2022).

Worldwide incidence of under-five accidents varies from country to country. Many studies have revealed that the mortality rate globally is 83.7 per 1 lakh per annum. Children 2 to 6 years

of age have the greatest number of accidental injuries as compared to other age groups. Totally, as high as 2,83,000 deaths occurred by falls alone, secondly, 22,000 children died by drowning. Karnataka is one of the states of India where at least 30,000 children die annually due to accidents, poisoning, and drowning. In developing countries, under-five accidents are shown higher than in developed countries (Gaikwad, et al, 2022). The study showed that 80 percent of 1-6 years children attending Anganwadi spent a minimum of 3 to 4 hours per day in the Anganwadi centre.

Objectives

This study aimed:

1. To assess the knowledge regarding first aid management for selected accidents among under-five children among Anganwadi workers, and;
2. To find out the association between knowledge regarding first aid management for selected accidents of under-five children among Anganwadi workers with their selected socio-demographic variables.

The authors are: 1. Clinical Instructor, Dept of Cum health Nsg, Seva Mandal Education Society's College of Nursing, Nashik (MS); 2. Professor, MES College of Nursing, Nashik (MS); 3. Assistant Professor & Head, Department of Mental Health and Psychiatric Nursing, Al Baha University, Saudi Arabia.

Methodology

A descriptive quantitative research design was used for this study. Participants were selected from selected areas of Maharashtra. This study was set in 18 Primary Health Centres (PHCs) in the Ratnagiri district; these PHCs cover 118 Vadis (villages) with 100 Anganwadi workers. Considering the scope of study, using sample size calculation formula) the Anganwadis were selected with a purposive random sampling method.

Sample size estimation was based on the power of the study.

Confidence level (Z)-1.96; the margin of error (E)-0.10; Sample proportion (P) - 30%

$$q=(1-p) = 1- 0.40 = 0.6$$

$$N = Z^2 p q / e^2$$

$$N= (1.96)^2 \times 0.40 \times 0.6/ (0.10)^2$$

$$N= 3.84 \times 0.40 \times 0.6/0.01$$

$$N= 0.9216/0.01$$

$$N = 92.16$$

$$N= 100$$

Tools used: The tool was divided into two parts. Part I consisted of demographic data - age in years, education, years of experience, and source of information. Part II was a structured knowledge questionnaire consisted of 30 questions. For data collection purpose, it was further distributed on foreign body aspiration 4 questions, drowning 4 questions, choking 4 questions, burns 4 questions, minor cuts 3 questions, sprain 3 questions, bruises 3 questions, falls 3 questions, scratches 2 questions. The tool validation was done by 11 nursing experts from all over Maharashtra. The reliability of the tool was calculated by the split-half method and the reliability coefficient of the whole test was then estimated by Spearman's brown prophecy formula; it was found to be 0.78. The knowledge level was arbitrarily divided into three categories based on the Anganwadi worker's scores i.e., Poor knowledge 1-15 (<50%), Average knowledge 16-23 (51%-75%), and Good knowledge 24-30 (>75%). Administrative permission was obtained first from the Ratnagiri district health office, Maharashtra, and from selected primary health centres and Gram Panchayat to collect data from participants before conducting the study. Informed consent was taken from the sample, and confidentiality of data was maintained. The pilot study was carried out among 20 participants, which found the tool feasible and reliable. The institutional ethical committee issued the ethical clearance certificate for the project.

Results

Description of participant's characteristics: In this study, the majority of the participants, 46 (46%) were 23-27 years old, 39 (39%) of them had completed secondary education, 45 (45%) had 3-4 years of experience and 44 (44%) of them got information from In-service education.

Table 1 shows that the mean knowledge score for foreign body aspiration was 2.73, SD=1.13. Similarly, in Drowning, mean score was 2.87, SD=0.93; for Choking it was 3.04, SD=0.83; Burns 3.34, SD=0.80; Minor cuts, 2.38, SD=0.73, Sprain 2.33, SD=0.75; Bruises 2.48, SD=0.78; Falls 2.32, SD=0.77; Scratches 1.71, SD=0.55, and overall knowledge score of 23.2 with SD=3.58.

Table 1: Knowledge scores regarding first aid management for selected accidents of under-five children among Anganwadi workers (N=100)

Aspect	No. of items	Mean	Median	SD	Mode	Range
Foreign body aspiration	4	2.73	3	1.13	4	0-4
Drowning	4	2.87	3	0.93	3	1-4
Choking	4	3.04	3	0.83	3	1-4
Burns	4	3.34	3.5	0.80	4	1-4
Minor cuts	3	2.38	3	0.73	3	1-3
Sprain	3	2.33	2	0.75	3	0-3
Bruises	3	2.48	3	0.78	3	0-3
Falls	3	2.32	2	0.77	3	0-3
Scratches	2	1.71	2	0.55	2	0-2
Overall knowledge	30	23.2	24	3.58	24	10-29

Table 2 shows that 7 (7%) of them had poor knowledge, 32 (32%) had average knowledge, and 61 (61%) had good knowledge of First Aid management.

Table 2: Distribution of participants according to the level of knowledge regarding first aid management for selected accidents of under-five children among Anganwadi workers (N=100)

Level of Knowledge of practices	Frequency	Percentage
Poor 15 (<50%)	7	7
Average 16-23 (51%-75%)	32	32
Good 24-30 (>75%)	61	61
Total	100	100

Table 3 shows that there is an association between educational qualification, years of experience, and source of information demographic variables of Anganwadi workers and knowledge regarding first aid management for selected accidents of under-five children at p<0.05 level.

Table 3: Chi-square value showing the association between the knowledge scores and demographic variables (N=100)

Sl. No.	Demographic variables	Median knowledge score (24)		c ² calculated values	df	Inference
1		≤Median	≥Median			
	Age of Anganwadi workers					
	18-22	12	6	1.03	3	NS
	23-27	29	17			
	28-32	13	4			
	Above 33 years	13	6			
2	Educational qualification					
	Primary education	14	11	5.60	2	S ⁺
	Secondary education	25	14			
	Higher Secondary education	28	8			
3	Years of experience					
	0-2	16	7	5.89	2	S ⁺
	3-4	29	16			
	More than 4	22	10			
4	Source of information					
	Books	18	9	5.65	2	S ⁺
	In-service education	25	19			
	Training Programme	24	5			

Note: NS- Nothing significant, S* - Significant, df- Degree of freedom, $p < 0.05$; at $df=1$, critical value is 3.84, at $df=2$, critical value is 5.59; at $df=3$, critical value is 7.82.

Discussion

Current study results are consistent with those from prior studies. The results of the current research indicate that of Anganwadi workers, 7 (7%) of them had poor knowledge, 32 (32%) of them had average knowledge and 61 (61%) of them had good knowledge. A similar study shows that 15 (16.6%) of Anganwadi teachers had poor knowledge whereas 75 (83.3%) of nurses had average (above 33% to 66%) knowledge regarding selected first aid (Baskaran, 2016). A study found that overall knowledge among Anganwadi workers regarding first aid management for selected accidents of under-five children is a mean of 23.2, median and mode is 24, standard deviation of 3.58, and range is between 10-29. Another study says that knowledge among Anganwadi workers has a mean of 8.85, a median and mode is 9, and a standard deviation of 1.71 (Damor et al, 2022). The current study found that there is an association between educational qualification, years of experience, source of information of Anganwadi workers, and knowledge regarding first aid management for selected accidents of under-five children. Hence hypothesis H1 is accepted. Baskaran (2016) also found that there was a significant association between knowledge and age at $p < 0.05$.

Nursing Implications

In a community, as part of health professionals in a primary health centre, Anganwadi workers have ample opportunities to educate the community people regarding first aid management for selected

accidents of under-five children, especially mothers. In nursing education, nursing students should be equipped with adequate knowledge, skills, and attitudes to fulfill their duties and responsibilities in the nursing field. The findings of the study can be used by nurse educators to educate mothers, and nursing students regarding first-aid management for selected accidents of under-five children. Nursing administrators should make the public aware of first aid management for selected accidents of under-five children among mothers. In-service education and continuing nursing education programmes need to be initiated for nurses to update their knowledge on first aid management for selected accidents of under-five children. The investigator found scarcity in research works by Indian nurses on first aid management for selected accidents of under-five children among Anganwadi workers. Considering scarce studies in this area. The findings in this study can be utilised by nursing researchers for future studies.

Recommendations

Based on the findings of the present study, it is recommended that this type of study may be done in other aspects of health to explore Anganwadi worker's knowledge. We can do this study on multipurpose health workers because they also play a vital role in the maintenance of community health.

Conclusion

The study emphasises the need for continuous education and training programmes specifically

designed for Anganwadi workers. By addressing knowledge deficiencies and utilising their expertise, it is feasible to enhance first aid management procedures for young children, hence improving health outcomes in this vulnerable demographic. Future research should concentrate on creating and executing structured training programmes that can augment the knowledge and skills of these personnel in first aid management for childhood accidents to be enabled to respond to emergencies successfully. These findings corroborate prior research that underscores the essential importance of education in enhancing health-related knowledge and practices among caregivers and health professionals.

References

1. Kafle B, Yadav UN, Marhatta SB. Unintentional injuries among under-five children in Mid-Western Nepal. *Nepal Med Coll J* 2018; 38(1): 46-52. Available from: <https://www.nepjol.info>
2. Wadhvani J. World First Aid Day: What is the Need & Importance of First Aid? Available from: <https://www.medanta.org/patient-education-blog/world-first-aid-day-what-is-the-need-importance-of-first-aid>.
3. Gaikwad SS, Prabhadevi N. A comparative study to assess the knowledge regarding home accidents and its prevention in children among mothers of under-five children in selected urban and rural areas of the city in view to prepare an informational booklet. *Int J Adv Res Ideas Innov Technol* 2022; 8(4): 290-300. Available from: <https://www.ijariit.com/manuscripts/v8i4/V8I4-1269.pdf>
4. Arora S, Bharti S, Mahajan A. Evaluation of non-formal preschool education service provided at Anganwadi centres (Urban Slums of Jammu City). *Journal of Social Sciences* 2021; 12(2): 135-37
5. Kishor J (ed). National Health Programme in India. 7th edn, New Delhi: Century Publication; 2020. pp 348-49
6. Baskaran PMA. A study to assess knowledge and attitude regarding first aid measures among Anganwadi teachers in selected rural community of Bangalore. *Int J Sci Res Sci Technol* 2016; 2(3): Print ISSN: 2395-4601. Available from: https://www.academia.edu/26672923/A_Study_to_Assess_Knowledge_and_Attitude_Regarding_Selected_First_Aid_Measures_among_Anganwadi_Teachers_In_Selected_Rural_Community_of_Bangalore
7. Percis S. A study to evaluate the effectiveness of video-assisted teaching on knowledge regarding first aid management on selected health emergencies of under-five children among 100 Anganwadi workers. *JETIR* 2020; 7(5): 286-91. Available from: <https://www.jetir.org/papers/JETIR2005042.pdf>
8. Hazarika D, Devi Ranjita, Devi M Thoibi. Effectiveness of self-instructional module on knowledge regarding first aid management among Anganwadi workers in selected district of Sikkim. *International Journal of Advance Research in Community Health Nursing* 2021; 3(1): 33-38. Available from: https://www.researchgate.net/publication/359788248_Effectiveness_of_self-instructional_module_on_knowledge_regarding_first_aid_management_among_Anganwadi_workers_in_selected_district_of_Sikkim
9. Damor PS, Joshi MH, Rathva AM, Rathod MR, Rathva AK, Pranami JG, et al. A study to assess the knowledge and practice of first aid measures among Anganwadis in the selected village of Vadodara. *IJFANS* 2022; 11 (1): 673-77. Available from: <https://www.ijfans.org/uploads/paper/2975b33eaa7369fb8f433af62112b28c.pdf>
10. Adhikari B, Bhattarai S, Gauro P, Mishra R. Awareness and practice of mothers having under-five children regarding prevention of childhood accidents. *Int J Health Sci Res* 2017; 7 (9): 134-44. Available from: https://www.ijhsr.org/IJHSR_Vol.7_Issue.9_Sep2017/21.pdf
11. World Health Organization. Levels and trends in child under-5 mortality in 2020 [Internet]. Geneva: World Health Organization; 2020 [cited 2025 Jan 10]. Available from: <https://www.who.int/news-room/fact-sheets/detail/levels-and-trends-in-child-under-5-mortality-in-2020>
12. Krishnamurthy KV, Murthy MRN. A study on the prevalence of accidents among under-five children in an urban field practice area of Mysuru. *Indian J Med Specialties* 2021; 12(1): 25-30. Available from: https://journals.lww.com/imsp/fulltext/2021/12010/a_study_on_the_prevalence_of_accidents_among.7.aspx#:~:text=The%20prevalence%20of%20accidents%20among%20under%2Dfive%20was%2022.1%25,with%20the%20occurrence%20of%20accidents
13. Sharma SL, Reddy NS, Ramanujam K, et al. Unintentional injuries among children aged 1-5 years: Understanding the burden, risk factors and severity in urban slums of southern India. *Inj Epidemiol* 2018 Nov 5; 5(1):41. Available from: <https://pubmed.ncbi.nlm.nih.gov/30393832/>.
14. Shriyan P, Prabhu V, Aithal K, Yadav UN, Orgochukwu M. Profile of unintentional injury among under-five children in coastal Karnataka, India. *Int J Med Sci Public Health* 2014; 3 (11): 1. Available from: file:///C:/Users/Computer/Downloads/67-1404373452.pdf
15. Kumarasamy H, Prabhakar VR. Prevalence and pattern of domestic injuries in rural areas of Tamil Nadu. *Int J Health Allied Sci* 2016; 5(4): 215-19. Available from: https://www.ijhas.in/article.asp?issn=2278-344X;year=2016;volume=5;issue=4;spage=215;epage=219;aulast=Kumarasamy#google_vignette
16. Tripura K, Das R, Datta SS, et al. Prevalence and management of domestic injuries among under-five children in a peri-urban area of Agartala, Tripura. *The Health Agenda* 2015; 5(2): 41-45. Available from: file:///C:/Users/Computer/Downloads/Across-sectionalstudyregardingprevalenceandmanagemntofdomesticinjuriesamongunderfivechildreninaperi-urbanareaofAgartalaTripura.pdf
17. Krishnamurthy K, Murthy M, Praveen. A study on the prevalence of accidents among under-five children in an urban field practice area of Mysuru. *Indian J Med Specialties* 2021; 12(1): 25-30. Available from: <https://go.gale.com/ps/i.do?id=GALE%7CA649091619&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=09762884&p=HRCA&sw=w&userGroupName=anon%7E91fa9d06&aty=open-web-entry>
18. Mahalakshmy T, Dongre AR, Kalaiselvan G. Epidemiology of childhood injuries in rural Puducherry, South India. *Indian J Pediatr* 2011 Jul; 78 (7): 821-25. Available from: <https://pubmed.ncbi.nlm.nih.gov/21203864/>
19. Khan S, Tauheed N, Nawab S, Afzal S, Khaliq N. Domestic accidents among under-5-year children: a study on the modern-day epidemic. *Int J Community Med Public Health* 2019; 6 (4): 1529. Available from: <https://www.ijcmph.com/index.php/ijcmph/article/view/4310>
20. Masthi NR, Kishore SG, Gangaboriah. Prevalence of domestic accidents in the rural field practice area of a medical college in Bangalore, Karnataka. *Indian J Public Health* 2012 Jul-Sep; 56(3): 235-37. Available from: <https://pubmed.ncbi.nlm.nih.gov/23229218/>