

Research Article

Effect of Information and Education Campaign (IEC) Activity on Knowledge of First-aid in Rabies Prevention: A Quasi-experimental Study among Anganwadi Workers in an Urban Slum of Bhubaneswar, Odisha

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A B S T R A C T

Introduction: Lack of knowledge regarding primary care after an animal bite is a major and pertinent issue that hampers efforts to prevent human deaths caused by rabies. Anganwadi workers (AWWs) represent manpower that can be trained in such care.

Method: Urban slums, being areas of compromised living conditions with stray animals, were the focus of the current study, which was planned to determine if IEC activities could change knowledge about first aid in cases of animal bites among AWWs. Using a convenience sampling strategy, AWWs who gave services to the six Anganwadi Centers (AWCs) in five slums within the catchment area of the medical college were contacted. Data were collected through direct interviews, using a pre-tested, structured questionnaire administered before and after the IEC activities.

Result and Conclusion: There was a marked improvement in their awareness post-IEC. This study highlighted the gaps in knowledge on rabies prevention and emphasized the importance of promoting awareness among AWWs, who act as links between the community and the healthcare system.

Keywords: Rabies, Prevention, Information, Anganwadi Workers

Introduction

Rabies is a viral disease, which is caused by Lyssavirus, a single-stranded RNA virus, of the family Rhabdoviridae causing acute viral encephalitis.¹ India is a country which

is endemic for rabies; instances of animal bites to humans pose a major public health challenge, with an estimated 17.4 million animal bites occurring annually, accounting for an incidence of 1.7%.² The Anganwadi workers (AWWs) comprise the grassroot-level workers, who are chosen from

the same community they serve, and provide healthcare delivery. They should have adequate and correct knowledge with regard to the prevention of rabies so that the right knowledge can be disseminated to the community at large.³ The lack of awareness about primary care after an animal bite is a major area of concern that can hamper the efforts being undertaken to prevent human deaths caused by rabies. Urban slums are areas with living conditions compromised with stray animals; AWWs constitute manpower who can be trained in such care, and they cater to nearly 40% of the mother and child population of the area. The study was undertaken with the objectives (1) to find out awareness on primary care after an animal bite and (2) to study the effect of IEC activities on change in their knowledge with regards to first aid in case of an animal bite.

Materials and Methods

Using a convenience sampling strategy, 12 participants were contacted who provided services to the six AWCs in the five urban slums under the field practice area of Urban Health Training Centre of Department of Community Medicine, Kalinga Institute of Medical Sciences (KIMS), Bhubaneswar for this quasi-experimental study. All data were collected through direct interview schedules, using a pre-tested, structured questionnaire in the first week of August 2021. Ethical approval was obtained from Institutional Ethics Committee (IEC), KIMS, Bhubaneswar. Written informed consent was obtained from the participants before the interview. After the interview, the investigator gave them a summary of correct practices after an animal bite through posters; IEC materials were provided to them, which could be displayed at their respective AWCs. During the last week of September, with the 28th of September being “World Rabies Day”, the investigator conducted a post-test interview using the same questionnaire that was used prior to the IEC activities in August. All data were entered into a Microsoft Excel spreadsheet and analysed using EpiInfo Software version 7.2.3.1.

Table I. Sociodemographic Characteristics of Anganwadi Workers

(N = 12)

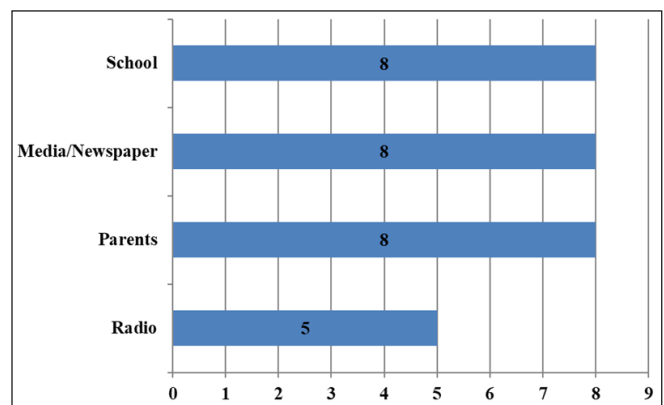
Demographic Characteristics	Frequency n (%)
Age group (years)	
31–40	4 (33.3)
41–50	6 (50.0)
> 50	2 (16.6)
Occupation (category of workers)	
Anganwadi workers	7 (58.1)
Anganwadi helpers	5 (41.5)

Years of service	
5–10	3 (25)
10–15	4 (33.3)
15–20	4 (33.3)
20–25	1 (8.3)
Educational status	
Primary	5 (41.5)
Secondary	4 (33.3)
Graduate	3 (25)

Results

The mean age of the participants was 43.75 ± 9.43 years (range: 32–61 years). Maximum (50%) were in the 41–50 years age group. 66.66% had service experience of 10 to 20 years. 41.5% had primary education (Table 1).

In the study population, all (100%) participants had heard about rabies, and 41.67% knew that rabies was a fatal disease. The sources of information were media (66.67%) and radio (41.67%) (Figure 1). Around 33.33% of the interviewees felt that community members could play a role in controlling the stray dog population. Prior to the IEC activities, none of the participants were aware of the correct way to provide first aid in case of an animal bite. All (100%) participants believed that the victim should be taken to a health facility, but only 2 (16.67%) opined that immediate care was necessary, advocating the use of antiseptic in wound care. None of them knew the method of washing the wound area with soap and water. Post-IEC activities, after a gap of around one and a half months, 100% of them responded that the wound area should be washed with water, 83.33% knew about the required duration for washing, and 66.67% knew about the use of soap during the



*Multiple responses

#None of the participants had heard about rabies from neighbors or attended any training program after joining the Anganwadi Centers.

Figure 1. Source of Information About Rabies (N = 12)

Table 2. Awareness of Anganwadi Workers on Rabies

(N = 12)

Questions	Correct Response n (%)		p Value
	Before IEC	After IEC	
1. Women who had heard of rabies	12 (100.00)	12 (100.00)	-
2. Women who knew rabies is transmitted through animals	4 (33.33)	10 (83.33)	0.038
3. Women who knew rabies is transmitted through animals by a. Biting b. Licking c. Scratching d. All the above	4 (33.33)	12 (100.00)	0.002
	0 (0.00)	3 (25.00)	0.218
	0 (0.00)	4 (33.30)	0.100
	0 (0.00)	2 (16.60)	0.458
4. Women who had knowledge about the prognosis of a dog who was infected with rabies a. They can be treated b. They always die c. Do not know	0 (0.00)	5 (41.50)	0.044
	2 (16.60)	12 (100.00)	0.0002
	2 (16.60)	0 (0.00)	0.458
5. What is the most effective method of rabies control in dogs? a. Killing of stray dogs b. Proper vaccination	0 (0.00)	5 (41.50)	0.044
	0 (0.00)	7 (58.30)	0.007
6. What do you do in the case of a dog bite? a. Clean the wound with water and then take the person to a hospital b. Take the person to the nearest hospital without any first aid	2 (16.67)	12 (100.00)	0.0002
	12 (100.00)	0 (0.00)	< 0.0001
7. Importance of washing the wound with soap and water for a particular time a. Clean the wound for a particular time b. Clean with soap and water	0 (0.00)	10 (83.00)	0.0002
	0 (0.00)	8 (66.60)	0.002

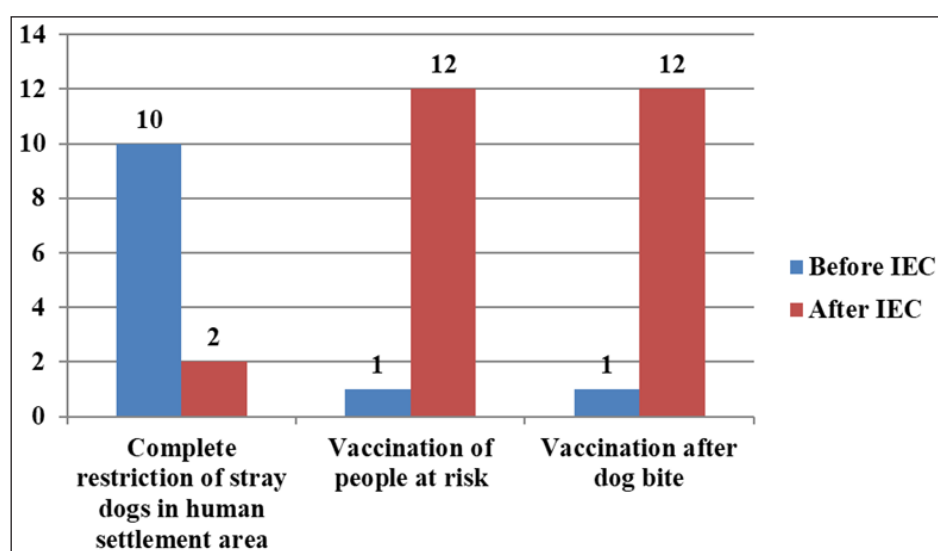


Figure 2. Steps to Prevent Dogs from Getting Rabid and Control of Rabies (N = 12)

process (Table 2). Post-IEC activities, there was a significant improvement in the participants' knowledge on rabies control (Figure 2) regarding "complete restriction of dogs in human settlement areas" ($p = 0.004$), "vaccination of people at risk" ($p < 0.0001$), and "vaccination after a dog bite" ($p < 0.001$).

Discussion

In the current study, the effect of IEC activity as an aid in improving knowledge of AWWs showed that pre-IEC awareness regarding rabies and its prevention was limited. Most of the participants (50%) were in the 41–50 years age range and had 15–20 years of experience (40%). In a study conducted in eastern India on anti-rabies vaccine compliance and knowledge regarding animal bites among community health workers, 98% had heard of rabies, compared to 100% in the present study.⁴ In a study conducted in a tribal block of Odisha among ASHA workers on knowledge regarding rabies prevention, 20.2% correctly identified the causative agent as a virus. In the present study, there was a significant ($p = 0.038$) improvement in knowledge about animals responsible for rabies transmission. In another study by Giri et al., the majority (80.9%) believed that only dog bites transmit the disease rabies.⁵ In a study conducted in Karnataka among AWWs, around 24.32% knew about modes of rabies transmission, i.e., by bite, scratch, and lick on broken skin by an infected rabid animal.⁶ In the present study, there was a significant ($p = 0.002$) improvement from 33.33% (pre-IEC) to 100% post-IEC activity.

"An immediate washing of the wound area with soap and water for a minimum of 15 minutes removes the virus from the area and is important in the prevention of rabies after a dog bite," was known to 8 (66.6%) respondents in the study after the intervention. A similar result was seen in a study conducted among health workers in the Dehradun district, where 73.4% of ANMs and 86.9% of multipurpose workers had correct knowledge regarding first aid following an animal bite.⁷ In a study conducted in Kolkata among emergency health workers and nursing staff, 61.1% said that the wound should be cleaned with an antiseptic.⁸ In the present study, 12 (100%) respondents knew post-intervention that post-exposure prophylaxis (PEP) is given after a dog bite. Contrary to the current study, a study among multipurpose health workers found that 56.2% of them believed that a bite by a vaccinated dog does not require PEP.⁹

The guidelines on rabies by the World Health Organization reiterate the fact that medical attention should be immediate when there is a bite by a suspected rabid animal.²

Strengths

AWWs are a group of frontline workers who provide basic health care and advice and are responsible for ensuring

the utilisation of available healthcare facilities. As they belong to and live in the community they serve, they have the advantage of being able to motivate people more effectively. The study was an attempt to utilize their role in improvising knowledge on an important public health problem - rabies.

Limitations

The study sample group was limited to the catchment area of the urban health and training center of the medical college.

Implications

Advocacy programs are a need and aid to generate awareness. Policymakers should be informed about the need for the engagement of community workers to raise awareness with proper training. For the benefits and sustainability of a control program, resource mobilization is an essential component. Finally, religious leaders, local community leaders and media can also help increase the effectiveness and sustainability of such activities.

Conclusion

This study highlighted that there were gaps in knowledge and awareness regarding rabies prevention and providing first aid in cases of animal bites. Efforts to promote awareness should be targeted at individuals who act as links between the community and the healthcare system - in this case, the AWWs. Results indicated older individuals and those with low literacy levels should be considered the target groups for awareness generation activities.

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Conflict of Interest: None

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