

A pre-experimental study to assess the effect of an information booklet on knowledge regarding Rabies vaccination among adults in selected areas of Pune city

Ms. Sneha Sankpal-Desai^{1*}, Chitra Pasalkar², Justina Rachel Jose³, Angel Pradeep⁴

¹Clinical Instructor, Child Health (Pediatric) Nursing, Bharati Vidyapeeth (Deemed to be University) College of Nursing, Dhankawadi Pune.

²B.Sc. Nursing Student, Bharati Vidyapeeth (Deemed to be University) College of Nursing Dhankawadi Pune.

³B.Sc. Nursing Student, Bharati Vidyapeeth (Deemed to be University) College of Nursing Dhankawadi Pune.

⁴B.Sc. Nursing Student, Bharati Vidyapeeth (Deemed to be University) College of Nursing Dhankawadi Pune.

*Corresponding Author: Ms. Sneha Sankpal-Desai

ABSTRACT

Rabies is a fatal but preventable viral disease and remains a major public health problem in India. Lack of awareness regarding immediate wound care, timely vaccination, and preventive measures after animal bites contributes to increased morbidity and mortality. Health education through information booklets can be an effective and economical method to improve public awareness regarding rabies vaccination. **Aim of the study:** To assess the effect of an information booklet on knowledge regarding rabies vaccination among adults in selected areas of Pune city. **Material and Method:** The research approach adopted for the study was quantitative research approach and research design was pre-experimental one group pre-test and post-test design. A total of 90 adults were selected by Non-probability purposive sampling technique from selected areas of Pune city. Pre-test was conducted using a self-structured knowledge questionnaire, followed by administration of an information booklet regarding rabies vaccination. Post-test was conducted after seven days using the same tool. The collected data were analyzed using descriptive and inferential statistics. **Results:** The findings of the study revealed that the mean pre-test knowledge score was 8.96, indicating poor knowledge among adults regarding rabies vaccination. After administration of the information booklet, the mean post-test knowledge score increased to 20.07, indicating good to excellent knowledge. The mean difference was 11.11 with 124.07% improvement in knowledge. The paired t-test value was -26.418 and the p-value was less than 0.0001, which showed a highly statistically significant difference at 0.05 level of significance. Significant association was found between post-test knowledge scores and selected demographic variables such as age, gender, education, and occupation. **Conclusion:** The study concluded that the information booklet was effective in improving the knowledge regarding rabies vaccination among adults. The findings suggest that simple educational interventions can improve awareness, promote timely treatment-seeking behaviour, and contribute to prevention of rabies at the community level.

Keywords: Rabies, Rabies Vaccination, Information Booklet, Knowledge

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INTRODUCTION

Rabies is a fatal zoonotic viral disease that continues to remain a major public health concern worldwide. It is caused by a virus of the *Lyssavirus* genus and affects the central nervous system, leading to almost certain death once clinical symptoms appear. Despite being completely preventable through timely vaccination and proper wound management, rabies still causes thousands of deaths annually, particularly in developing countries like India. According to the World Health Organization, rabies remains one of the most neglected tropical diseases, significant proportion of global rabies deaths reported from India¹.

In India, 18,000–20,000 deaths occur every year due to rabies, and millions of people are exposed to dog bites annually. Urban areas such as Pune have shown increasing number of dog bite highlighting the seriousness of rabies exposure in the community. The increasing population of stray dogs and lack of awareness regarding post-

exposure prophylaxis contribute to the burden of the disease².

Lack of knowledge regarding immediate wound care, timely vaccination, and the importance of completing the vaccination schedule remains a major challenge. Many people still depend on traditional remedies and delay medical treatment, increasing the risk of infection and fatal outcomes. Since rabies is entirely preventable, spreading awareness and educating the public regarding preventive measures is essential³. There is an urgent need to strengthen public awareness in Pune. Providing an information booklet to adults can bridge the knowledge gap, promote preventive health-seeking behaviour and support the national aim of removing rabies⁴. Health education through information booklets is a simple, cost-effective, and practical method to improve community awareness. Information booklets provide accurate and easy-to-understand knowledge that individuals can read and

refer to repeatedly. Therefore, this study was conducted to assess the effect of an information booklet on knowledge regarding rabies vaccination among adults in selected areas of Pune city.

Need of the Study

Rabies is one of the oldest, most neglected infectious diseases, yet it continues to cause thousands of deaths every year despite being completely preventable. In India, rabies accounts for a major proportion of global deaths, mainly due to lack of awareness regarding immediate wound care and timely vaccination after animal bites. Anti-rabies vaccines are available free of cost in government health facilities, many people still delay treatment or depend on traditional practices, increasing risk of infection and fatality⁵.

Urban areas such Pune have reported a rising number of dog bite, which indicates rabies exposure remains an important public health concern. Adults play a major role in family health decision-making, are responsible for seeking timely medical care for themselves and their family members. However, inadequate knowledge regarding the importance of rabies vaccination, post-exposure prophylaxis, preventive measures creates barriers to effective management⁶.

Health education is an essential strategy to improve awareness and promote early treatment-seeking behaviour. Information booklets are simple, economical, and easy-to-understand educational tools that can be referred to repeatedly for gaining knowledge. Therefore, there is a need to assess the effectiveness of an information booklet on improving knowledge regarding rabies vaccination among adults, which may help in reducing rabies-related complications & support community-level prevention⁷.

Aim of the Study

To assess the effectiveness of an information booklet on knowledge regarding rabies vaccination among adults in selected areas of Pune city.

METHODOLOGY

In this study, the objectives 1.To assess the pre-test level of knowledge regarding rabies vaccination among adults. 2.To evaluate the effectiveness of an information booklet on knowledge regarding rabies vaccination among adults. 3.To find the association between post-test knowledge scores and selected demographic variables. A quantitative research approach was adopted for the study. A pre-experimental one-group pre-test and post-test research design was used to evaluate the effectiveness of the information booklet. The study population consisted of adults aged 19–45 years residing in selected areas of Pune city. A total of 90 adults were included in the study. Non-probability purposive sampling technique was used to select the study participants based on inclusion criteria. The tool used for data collection consisted of two sections: Section A: Demographic variables such as

age, gender, education, occupation, marital status and previous exposure to information on rabies. Section B: A self-structured knowledge questionnaire containing 25 multiple-choice questions related to rabies and rabies vaccination. Each correct answer carried one mark. The reliability of the tool was established using the test-retest method and was found to be $r = 0.82$, indicating high reliability. A pilot study was conducted on 9 adults to assess the feasibility and practicability of the study, and no modifications were required. IEC approval and written consent obtained.

RESULTS

Demographic Variables of the Participants:

The study was conducted among 90 adults from selected areas of Pune city. Among them, 36 (40%) belonged to the age group of 19–28 years, 25 (28%) were in the age group of 29–38 years, and 29 (32.20%) were in the age group of 39–48 years. Majority of the participants were females 63 (70%), while males were 27 (30%). Regarding education, 33 (37%) had primary education, 29 (32.20%) had secondary education, 25 (28%) were graduates, and 3 (3.33%) were postgraduates. With regard to occupation, 44 (49%) were in private jobs, 35 (39%) were homemakers, 5 (5.50%) were in business, 4 (4.40%) were government employees, and 2 (2.20%) belonged to the corporate sector.

Table 1.1: Pre test Knowledge levels

Knowledge Level	Pre-test (n)	
	Frequency	Percentage
Poor	39	43.33%
Average	51	56.67%
Good	0	0.00%
Excellent	0	0.00%
Total	90	100.00%

In the pre-test, 39 (43.33%) participants had poor knowledge and 51 (56.67%) had average knowledge regarding rabies vaccination, while none of them had good or excellent knowledge.

Table 1.2: Post test Knowledge levels

Knowledge Level	Post-test (n)	
	Frequency	Percentage
Poor	0	0.00%
Average	0	0.00%
Good	56	62.22%
Excellent	34	37.78%
Total	90	100.00%

In the post-test, 56 (62.22%) participants had good knowledge and 34 (37.78%) had excellent knowledge, while no participants remained in poor or average knowledge category, indicating improvement in knowledge after the intervention.

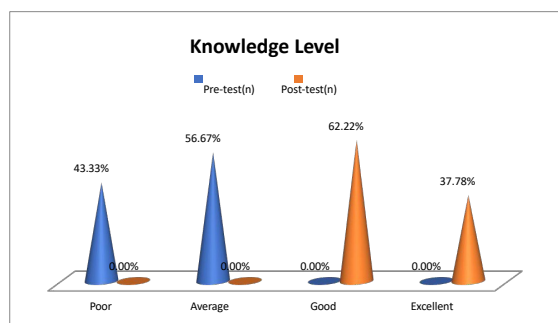


Figure 1: Pre test and Post test Knowledge levels
Table 2.1: Effectiveness on level of knowledge regarding Rabies Vaccination among adults.

Knowle dge Score	N	Me an	S D	t- valu e	p- value	Remar ks
Post- test	9	20. 07	2. 31	- 26.4 18	<0.00 01	Signifi cant

Table No. 2.1 Represents the effectiveness of the information booklet on the level of knowledge regarding rabies vaccination among adults, analyzed by paired t-test. The mean pre-test score was 8.96 and the mean post-test score was 20.07. The obtained t-value was -26.418 and p-value was <0.0001, showing a highly statistically significant difference at 0.05 level of significance. Hence, the information booklet was effective in improving knowledge regarding rabies vaccination among adults.

Table 2.2: Mean Comparison

Mean BT	Mean AT	Mean Difference	t- value	p-value
8.96	20.07	11.11	- 26.418	<0.0001

Knowledge improved by 124.07% after intervention.

Effectiveness Result: The mean pre-test knowledge score was 8.96 and post-test score was 20.07, with a mean difference of 11.11 and 124.07% improvement. The paired t-test value was -26.418 and p-value was <0.0001, showing that the information booklet was effective.

Association Result: The study found significant association between post-test knowledge scores and demographic variables such as age ($p=0.0055$), gender ($p=0.0013$), education ($p<0.0001$), and occupation ($p=0.018$). Thus, demographic variables influenced knowledge regarding rabies vaccination.

DISCUSSION

The study was conducted to assess the effect of an information booklet on knowledge regarding rabies vaccination among adults in selected areas of Pune city. The findings of the study showed that the information booklet was effective in improving knowledge regarding rabies vaccination among adults. The pre-test findings revealed inadequate baseline knowledge, with a mean score of 8.96, indicating poor awareness regarding wound care,

vaccination schedule, and preventive measures. After the intervention, the mean post-test knowledge score increased to 20.07, reflecting good to excellent knowledge levels. The mean difference of 11.11 and percentage improvement of 124.07% clearly indicate the effectiveness of the educational intervention. The paired t-test value (-26.418) and p-value (<0.0001) showed a highly statistically significant improvement in knowledge after administration of the information booklet.

The findings are supported by previous studies, which reported that structured educational interventions significantly improve knowledge regarding rabies prevention and vaccination. Similar studies conducted among adults and nursing students also showed considerable improvement in knowledge scores after health education programmes. These findings strengthen the evidence that simple educational tools can improve public awareness effectively.

The present study also found a significant association between post-test knowledge scores and selected demographic variables such as age, gender, education, and occupation. Participants with higher educational status and those engaged in private or government jobs demonstrated better knowledge levels compared to others. This indicates that demographic factors influence knowledge acquisition and awareness regarding rabies vaccination.

The study highlights the importance of community-based health education in preventing rabies. Improving awareness regarding timely vaccination and wound care can promote early treatment-seeking behaviour and contribute to reducing rabies-related morbidity and mortality at the community level⁸.

CONCLUSION

The findings of the study concluded that the information booklet was effective in improving the knowledge regarding rabies vaccination among adults in selected areas of Pune city. The pre-test findings showed that most participants had inadequate knowledge regarding rabies vaccination, immediate wound care, and preventive measures. After the administration of the information booklet, there was a significant improvement in the post-test knowledge scores, indicating that the educational intervention was effective. The mean post-test score was considerably higher than the pre-test score, and the paired t-test analysis confirmed a highly significant difference between the two scores.

The study also found significant association between knowledge scores and selected demographic variables such as age, gender, education, and occupation, showing that these factors influence awareness and understanding regarding rabies vaccination.

The study emphasizes that health education through information booklets is a simple, cost-effective, and practical method to improve public awareness⁹. Increasing knowledge regarding rabies vaccination can encourage early treatment-seeking behaviour, proper wound management, and timely completion of vaccination schedules. Therefore, educational interventions at the community level can play an important role in prevention of rabies and support the national goal of rabies elimination in India¹⁰.

Conflict of Interest

The authors certify that they have no conflict of interest.

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REFERENCES

1. World Health Organization. Rabies [Internet]. Geneva: WHO; 2023 [cited 2025 Jan 10]. Available from: <https://www.who.int/news-room/fact-sheets/detail/rabies>
2. Ministry of Health and Family Welfare. National Rabies Control Programme (NRCP) [Internet]. New Delhi: Government of India; 2023 [cited 2025 Jan 10]. Available from: <https://nhm.gov.in/index1.php?lang=1&level=2&sublinkid=1076&lid=609>
3. Park K. Park's Textbook of Preventive and Social Medicine. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.
4. Sudarshan MK, Madhusudana SN, Mahendra BJ, Rao NS, Ashwath Narayana DH, Abdul Rahman S, et al. Assessing the burden of human rabies in India. Indian J Community Med. 2007;32(1):1–6. Available from: https://journals.lww.com/ijcm/fulltext/2007/32010/assessing_the_burden_of_human_rabies.1.aspx
5. Ichhpujani RL, Mala C, Veena M, Singh J, Bhardwaj M, Bhattacharya D. Epidemiology of animal bites and rabies cases in India. J Commun Dis. 2008;40(1):27–36. Available from: <https://pubmed.ncbi.nlm.nih.gov/19186742/>
6. Centers for Disease Control and Prevention. Rabies: Epidemiology and Prevention [Internet]. Atlanta: CDC; 2024 [cited 2025 Jan 10]. Available from: <https://www.cdc.gov/rabies/index.html>
7. World Health Organization, FAO, UNICEF, OIE. Zero by 30: Global strategic plan to end human deaths from dog-mediated rabies [Internet]. Geneva: WHO; 2018 [cited 2025 Jan 10]. Available from: <https://www.who.int/publications/i/item/WHO-CDS-NTD-NZD-2018.04>
8. Singh A, Bhardwaj A. Knowledge, attitude and practices regarding rabies among community members. J Family Med Prim Care. 2021;10(4):1687–1692. Available from: https://journals.lww.com/jfmpc/fulltext/2021/10040/knowledge_attitude_and_practices_regarding.29.aspx
9. Indian Council of Medical Research. Rabies: Clinical management and vaccination guidelines [Internet]. New Delhi: ICMR; 2022 [cited 2025 Jan 10]. Available from: https://www.icmr.gov.in/pdf/guidelines/Rabies_Guidelines.pdf
10. National Health Portal of India. Rabies – Causes, Symptoms and Prevention [Internet]. New Delhi: Government of India; 2024 [cited 2025 Jan 10]. Available from: <https://www.nhp.gov.in/disease/communicable-disease/rabies>