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A quasi experimental study to assess effectiveness of video assisted teaching on knowledge regarding first aid on choking in children among Anganwadi workers in selected areas of Pune city

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ABSTRACT

Introduction: The most frequent and potentially fatal emergency among children, particularly those between the ages of six months and five, is choking. Young children are naturally curious, tend to explore the world orally, which often leads to accidental ingestion of food, small objects, toys—potentially causing airway obstruction. If not addressed immediately and correctly, choking can lead to severe complications including brain damage or even death due to lack of oxygen. Aims of the Study: To assess effectiveness of video assisted teaching on knowledge regarding first aid on choking in children Methodology: In present study, Quantitative approach and Quasi experimental study design used. It was carried out on 50 samples. The Non probability purposive sampling technique was used. Data analysis was done by descriptive statistics. Results: The study revealed a significant improvement in Anganwadi workers' knowledge of first aid on choking in children after video-assisted training. 54% of participants had poor knowledge, with a mean pre-test score of 11.1 (SD = 4.66). Post-test 48% achieving excellent scores, with a mean of 18.0 (SD = 5.15), and only 18% scoring poorly. A paired t-test confirmed the improvement, with a t-value of 6.9591 and a p-value of 0.00001, indicating that video-assisted method was highly effective. These findings understand the importance of targeted training to enhance first aid preparedness among Anganwadi workers. Conclusion: Demographic factors such as age, education, marital status, work experience, area of work, and prior training did not significantly affect Anganwadi workers' knowledge of first aid for choking in children.

KEYWORDS: Assess, Effectiveness, Video assisted teaching, First aid, Choking.

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INTRODUCTION

Choking hazards can also come from snack items including popcorn, crackers, pretzel nuggets, and firm or sticky candies like sunflower seeds, dried fruits, and all nuts, including peanuts, are dangerous. Sticky, slick, or dry and hard items, such as ice or cheese cubes, can block the airway, that's roughly the diameter of a drinking straw. A slick hard candy that is the measurement of a drinking straw is one example of a food that can seriously obstruct the airway due to its size, texture, and shape.To prevent your baby from choking, it is crucial to keep small objects and foods out of their reach, as these are the leading choking hazards. It's important to consult your pediatrician about the right time to introduce solid foods. When offering solids, make sure to cut them into small, manageable pieces, ideally no larger than your fingertip.

Anganwadi personnel are essential to protecting children's health and safety, especially in underprivileged and rural areas. They are often the first point ofcontact for parents and caregivers when it comes to educating them about various aspects of child care, including safe food preparation and preventing choking hazards. One of their key responsibilities is to raise awareness about the dangers of certain foods, such as whole grapes, hard candies, and small, round objects, which can pose choking risks for young children. They provide valuable guidance on how to cut foods into small, manageable pieces to reduce the risk of choking.

Children are more curious to learn about their surrounds and have inability to recognize the dangers of their activities. Children exploring nature makes them at high risk of unintentional injury like choking and may lead to the serious danger. The process of their growth and development is ongoing. Any change in its progression results in a developmental disorder.

NEED OF THE STUDY

Since many people experience choking had not seek medical attention, it is challenging to determine the exact prevalence of nonfatal choking. The patients received treatment &were released from the emergency department (87.3%), whereas the majority of choking events (89.8%) took place at home. Choking was most common in children aged 0–4 years. According to both trials, choking rates declined with age, nonfatal choking rates highest among children under one-year-old. In 2001, estimated that 13% of choking events among children aged 14 & under were caused by coins, making them the nonfood item most frequently linked

to paediatric choking. Other nonfood objects that are frequently linked to children choking include pebbles, balloons. At roughly age 71, the death rate from choking increased quickly, accounting for 5,553 deaths in 2022.

A study conducted at Tribhuvan University Teaching Hospital in Nepal (2010–2016) reported a prevalence rate of 0.37% for FBA in children, that peanuts and seeds were the most frequently aspirated objects, the majority of the cases involved male children. This indicates that FBA incidents are not only common among toddlers , also appear to affect male children more frequently than females.factors.

Rimell et al. examined the items that had caused choking & discovered that, 101 items, 14 of them met all the requirements set forth by the government at the time for a safe toy. The motivation for this study arises from the gap in first aid training, particularly regarding choking, among Anganwadi workers. Providing Anganwadi workers with the necessary skills can significantly reduce the likelihood of fatal outcomes during emergencies. The goal is to improve preparedness, response times, & create safer environments for children. The study's findings could offer valuable insights into the benefits of modern teaching methods, guiding the development of effective training programs for Anganwadi workers nationwide.

AIMS OF THE STUDY

To assess effectiveness of video assisted teaching on knowledge regarding first aid on choking in children

MATERIALS AND METHODS

This quantitative study used a quasi-experimental design to assess the effectiveness of a video-assisted teaching program on choking and first aid among 50 Anganwadi workers in selected areas of Pune, using purposive sampling. Data were collected through a structured questionnaire covering demographics and knowledge, administered before and after the video intervention. The video's reliability was confirmed using Cohen's Kappa for interrater agreement, while the questionnaire's internal consistency was measured using Cronbach's Alpha (≥0.7). A pilot study with five participants confirmed the tool's practicality.

RESULTS

SECTION I

SECTION I – Findings Demographic data of the sample.

The demographic analysis of 50 Anganwadi workers showed that the largest age group was 25–29 years (38%), followed by 30–34 years (26%), 20–24 years (22%), and above 35 years (14%). Most had completed secondary education (44%), with 32% graduates and 24% with primary education. A majority were married (54%), while 24% were single, 18% divorced, and 4% widowed. Work experience varied, with 30% having less than 1 year and 26% with 11–15 years. Most worked in urban areas (60%), and 44% had prior first aid or child healthcare training, while 56% did not.

SECTION II

SECTION II A– Findings related to Pre test level of knowledge regarding first aid on choking in children among Anganwadi workers.

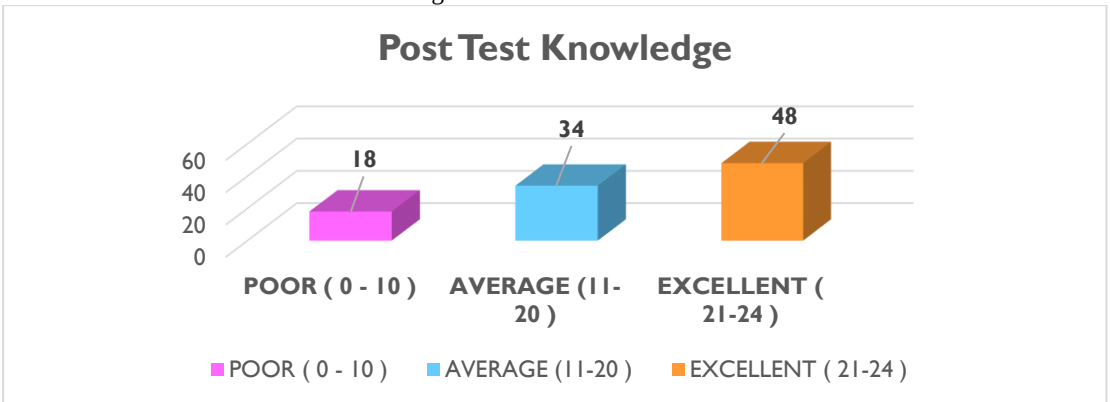
Table No.2 - Related to pretest level of Knowledge.

LEVEL OF KNOWLEDGE PRE TEST	f	%	Mean	SD
POOR (0 - 10)	27	54	11.1	4.66
AVERAGE (11-20)	18	36		
EXCELLENT (21-24)	5	10		

Pre-test results showed that 54% of Anganwadi workers had poor knowledge (scores 0–10) of first aid for choking in children, 36% had average knowledge (11–20), and only 10% demonstrated excellent understanding (21–24). The mean score was 11.1 (SD = 4.66), indicating generally low knowledge with moderate variability.

Section II(B): Finding related to Post-test level of knowledge regarding first aid on choking in children among Anganwadi workers After intervention.

Graph No.1 - Related to Post-test level of Knowledge.



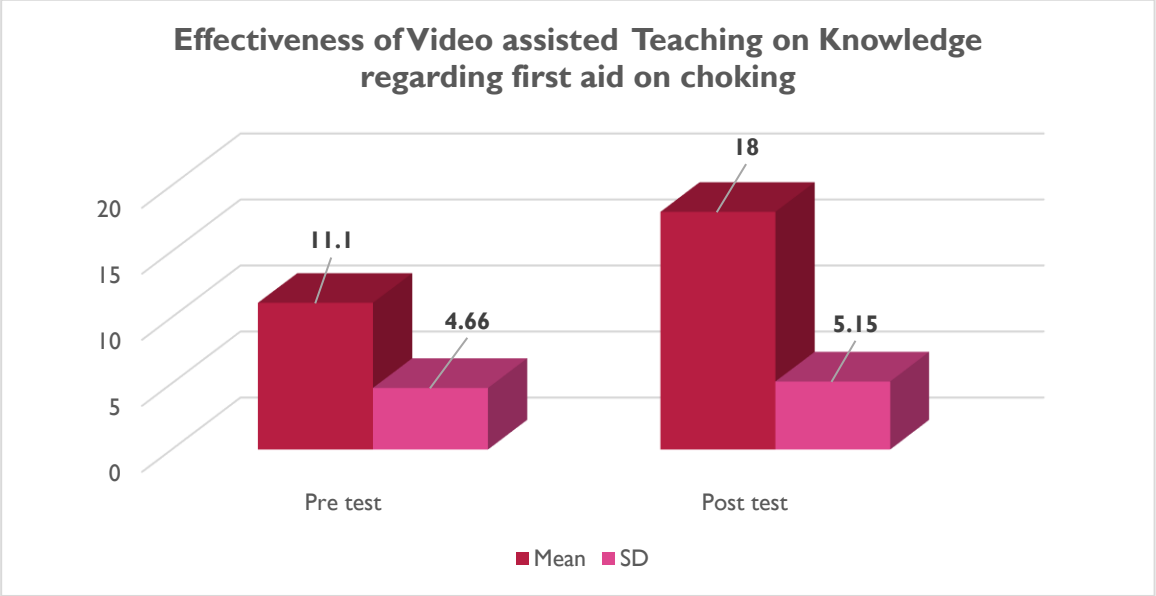
Post-test results showed significant improvement in knowledge of first aid for choking among Anganwadi workers. Nearly half (48%) scored in the "Excellent" range (21–24), while only 18% remained in the "Poor" category (0–10), down from the pre-test. The remaining 34% scored in the "Average" range (11–20), indicating overall knowledge enhancement after training.

SECTION III

SECTION III – Findings related to effectiveness of video assisted teaching on knowledge regarding first aid on choking in children among anganwadi workers.

Table No.4 - related to assess effectiveness of knowledge regarding first aid on choking among Anganwadi workers.

Video assisted Teaching on Knowledge Effectiveness	Mean	SD	DF	T test calculated value	P value	Remark
Pre test	11.1	4.66	49	6.9591	0.00001	Significant
Post test	18.0	5.15	49			



The effectiveness of video-assisted teaching on first aid for choking among Anganwadi workers was evaluated using a paired t-test. The mean knowledge score increased from 11.1 (SD = 4.66) in the pre-test to 18.0 (SD = 5.15) in the post-test. The calculated t-value of 6.9591 with 49 degrees of freedom and a p-value of 0.00001 indicates a statistically significant improvement in knowledge after the intervention. This suggests that the video-assisted teaching was effective in enhancing the participants' understanding of first aid for choking in children.

SECTION IV

SECTION IV-Finding related to an association between pre intervention with demographic variables.

The Chi-square analysis showed no statistically significant association between post-test knowledge levels and any of the demographic variables of Anganwadi workers, including age ($p = 0.853$), educational status ($p = 0.679$), marital status ($p = 0.999$), work experience ($p = 0.798$), area of work ($p = 0.946$), and prior training in first aid or child healthcare ($p = 0.814$). These findings indicate that the effectiveness of the video-assisted teaching was consistent across different demographic groups, suggesting that the intervention was broadly effective regardless of participants' background characteristics.

FINDINGS

The study revealed that most Anganwadi workers were aged 25–39, primarily educated at the secondary level (44%), with 30% having less than a year of work experience. A majority worked in urban areas (60%) and 56% lacked prior first aid or child healthcare training. Pre-test results showed limited knowledge, with 54% scoring in the "Poor" range and a mean score of 11.1 (SD = 4.66). Post-test scores significantly improved, with 48% in the "Excellent" range and a mean of 18.0 (SD = 5.15). The t-test value of 6.9591 and a p-value of 0.00001 confirmed the effectiveness of the video-assisted teaching. Chi-square analysis showed no significant association between knowledge levels and demographic variables such as age, education, marital status, work experience, area of work, or prior training. This suggests that the improvement in knowledge was due to the intervention itself, highlighting video-assisted teaching as an effective method for enhancing first aid knowledge regardless of background.

DISCUSSION

In order to enhance non-professional carers' first aid knowledge with respect to choking deaths, Heena Kumari and KH. Nitakumari conducted two studies: "A Quasi-Experimental Study to Assess Efficiency during Video-Assisted Teaching on Knowledge Given regard to First Aid on Choking within Children between Anganwadi Workers in Selected Areas of Pune City" (2023) and "A Nearly Experimental Study to Evaluate the Effectiveness of Hands-on Skill Training Programs from Knowledge and Skills on First Aid for Choking across Mothers of Students within chosen Community Areas of District Mohali, Punjab" (2023). Both studies utilized quasi-experimental designs to evaluate pre- and post-intervention knowledge and skills, but theirmethodologies differed.

The Mohali study focused on hands-on skill training, allowing mothers to practice first aid techniques through real-life simulations and demonstrations. This approach helped participants gain both theoretical knowledge and practical skills. Conversely, the current study used video-assisted teaching, where Anganwadi workers learned through video demonstrations. While both interventions effectively improved participants' knowledge, the Mohali study likely provided more confidence and practical application due to the hands-on nature of the training.

Both trials demonstrated notable post-intervention increases in knowledge. Mothers in Mohali showed greater self-assurance and proficiency in handling choking situations, indicating that practical training improved their practical competency. Although video-assisted instruction was successful in the current study in expanding theoretical knowledge, unlike the Mohali study, it did not directly evaluate practical skills. The primary distinction lies in the methodology: the Mohali study emphasizes interactive, experiential learning for immediate skill application, while the Current study focuses on visual learning for knowledge retention. Both strategies work, but the practical training provided by the Mohali study might provide more thorough readiness for actual emergency scenarios.

Overall, the findings support the use of video-assisted teaching as a valuable strategy for improving practical skills in public health and emergency care settings.

CONCLUSION

The study concludes that video-assisted instruction is highly effective in enhancing Anganwadi workers' knowledge of managing choking in children. The absence of significant differences in outcomes across demographic groups (age, education,experience) indicates that intervention is universally applicable and beneficial. This suggests that video-based teaching can be a powerful , inclusive method for training community health workers, providing consistent learning outcomes regardless of background The findings indicate that video-based instructional method led to a significant enhancement in the participants' understanding of first aid procedures for children. A mean score of 11.1 with a standard deviation in 4.66 indicated moderate knowledge and significant response variation, indicating that participants possessed a somewhat limited comprehension of first aid, according to the pre-test data. A greater mean score about 18.0 with a standard deviation about 5.15 on the post-test, in contrast, indicated a considerable improvement in the participants' understanding of first aid concepts.

The study concludes that video-assisted instruction is a powerful , successful way to improve the Anganwadi workers' first aid knowledge. The significant improvement in knowledge, particularly among participants with higher educational backgrounds, highlights the potential of video-based education as a valuable for training community health workers to respond more effectively to emergencies.

DECLARATION BY AUTHORS:

Ethical Approval: The study was approved by the institutional ethics committee of Bharati Vidyapeeth (Deemed to be University), Pune. The study participants were briefed about the purpose and nature of the study and written informed consent was obtained before data collection.

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Conflict of Interest: The authors declare no conflict of interest.

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