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EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING ACUTE SUPPURATIVE OTITIS MEDIA (ASOM) AND ITS PREVENTIVE MEASURES AMONG MOTHERS OF UNDER – FIVE CHILDREN IN SELECTED RURAL AREAS: A QUASI – EXPERIMENTAL STUDY.

Nursing

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ABSTRACT

Acute Suppurative Otitis Media (ASOM) is one of the most common infectious diseases among under-five children, characterized by inflammation and infection of the middle ear, often leading to ear pain, discharge, and fever. If left untreated, ASOM can result in complications such as hearing loss, speech delays, and impaired cognitive development, which can significantly affect a child's growth and quality of life. **Objective:** To assess the knowledge regarding acute suppurative otitis media among mothers of under-five children in selected rural areas. **Methodology:** A quasi-experimental one group pre-test post-test design was adopted for the study. The sample comprised 70 mothers of under-five children, selected through non-probability convenient sampling from selected rural areas. A structured knowledge questionnaire consisting of 30 multiple-choice questions was used to assess knowledge regarding Acute Suppurative Otitis Media (ASOM) and its preventive measures. Data were analyzed using descriptive statistics (mean, standard deviation, frequency, and percentage) and inferential statistics (paired t-test and chi-square test) to evaluate the effectiveness of the Self-Instructional Module (SIM) and the association between knowledge scores and demographic variables. **Results:** In the pre-test, the majority of mothers (72.86%) demonstrated good knowledge, while 25.71% had average knowledge and only 1.43% scored in the very good category. The pre-test mean score was 14.31 ± 2.75, reflecting limited baseline knowledge. After administration of the SIM, the post-test mean score increased significantly to 24.42 ± 2.21. The paired t-test yielded a calculated t-value of 22.987, which was significantly greater than the tabulated value of 2.000 at the 5% level of significance. The p-value was 0.000, confirming a statistically significant improvement in knowledge following the intervention. Thus, the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted. Chi-square analysis revealed no statistically significant association between post-test knowledge and demographic variables such as age, education, occupation, income, previous history of ear infection, or source of information ($p > 0.05$), However, a No significant association with number of children, indicating that mothers with more child-rearing experience demonstrated higher post-test knowledge scores. **Conclusion:** The study concluded that the Self-Instructional Module was highly effective in enhancing mothers' knowledge regarding Acute Suppurative Otitis Media (ASOM) and its preventive measures. The significant improvement in post-test knowledge scores highlights the value of structured educational interventions in community health. Incorporating such programmes into routine maternal and child health services can empower mothers to recognize symptoms early, adopt preventive practices, and seek timely care, thereby reducing the burden of ear infections and improving the overall health outcomes of under-five children.

KEYWORDS

: Effectiveness, Self-Instructional Module, Knowledge, Acute Suppurative Otitis Media (Asom), Preventive Measures, Mothers, Under Five Children, Rural Areas.

INTRODUCTION

"An Ounce of Prevention is Better than a Pound of Care"

Acute Suppurative Otitis Media (ASOM) is a common childhood infection and a major cause of outpatient visits and antibiotic use among under-five children. It is a severe form of otitis media characterized by middle ear inflammation with pus formation, ear pain, fever, and potential hearing impairment. The condition is highly prevalent in developing countries, particularly in rural areas due to poor hygiene, malnutrition, limited healthcare access, and low awareness regarding prevention and early treatment. [1]

Otitis media is classified into Acute Otitis Media, Otitis Media with Effusion, and Chronic Suppurative Otitis Media. Common causative organisms include Streptococcus pneumoniae, Haemophilus influenzae, and Moraxella catarrhalis. Risk factors include upper respiratory infections, exposure to tobacco smoke, improper feeding practices, and poor sanitation. [2]

Untreated or recurrent infections may result in complications such as hearing loss, speech delay, tympanic membrane perforation, mastoiditis, and meningitis, affecting a child's development and academic performance. Early diagnosis and appropriate management are therefore essential. [3]

Preventive strategies include breastfeeding, immunization, hygiene maintenance, avoidance of smoke exposure, and timely treatment of respiratory infections. Maternal awareness and health education play a critical role in early recognition and prevention of ASOM. Management includes antibiotics, analgesics, and surgical interventions in recurrent cases. [4]

In rural areas, self-instructional modules are effective in improving maternal knowledge regarding ASOM prevention and early management. Nurses play a vital role in implementing these educational interventions. This study aims to assess the effectiveness of a self-instructional module on knowledge regarding ASOM and its preventive measures among mothers of under-five children in selected rural areas. [5]

BACKGROUND

Acute suppurative otitis media (ASOM) is a common childhood infection and a major cause of outpatient visits and antibiotic use among under-five children. Globally, otitis media accounts for a significant disease burden, with millions of cases annually and serious complications such as hearing loss, meningitis, and brain abscesses, especially in low- and middle-income countries.[6] In India, parental knowledge regarding ear infections varies, with studies showing gaps in symptom recognition, prevention, and care-seeking practices, particularly in rural areas where health literacy and access to services are limited. Preventive measures such as exclusive breastfeeding, smoke-free environments, timely immunization, hygiene practices, and early treatment of respiratory infections are effective in reducing ASOM incidence and complications. Evidence from Indian studies, including rural Karnataka, demonstrates that structured teaching programmes and self-instructional modules significantly improve mothers' knowledge and attitudes regarding ASOM prevention and management. Given the high burden of ASOM, the modifiable risk factors, and the feasibility of delivering educational interventions through community platforms such as Anganwadi centres and VHNDs, evaluating the effectiveness of a self-instructional module on mothers' knowledge of ASOM and its preventive measures in selected rural areas is strongly justified.[7]

Need For The Study

Acute Suppurative Otitis Media (ASOM) remains a significant public health problem among under-five children. Globally, otitis media accounts for nearly 709 million new cases annually, with more than half occurring in children under five, and about 21,000 deaths each year due to complications. In India, community-based studies report an overall prevalence of ear infections at 11.66%, with ASOM, CSOM, and otitis media with effusion contributing substantially to childhood

morbidity. Untreated ASOM can result in hearing loss, delayed speech development, mastoiditis, and intracranial infections.[8]

Despite this burden, maternal awareness regarding ASOM remains inadequate. Studies indicate poor recognition of symptoms, delayed healthcare seeking, and continued use of home remedies. Hospital-based evidence further highlights delayed treatment leading to persistent hearing impairment in children. Given the large pediatric population, even a low prevalence translates into a high absolute disease burden.[9]

A self-instructional module is a cost-effective and feasible educational strategy to improve mothers' knowledge regarding ASOM and its preventive measures, particularly in rural areas where access to health information is limited. Enhancing maternal awareness can promote early recognition, timely treatment, and prevention of long-term complications, thereby improving child health outcomes.[10]

Objective Of The Study

Primary Objectives

1. To assess the knowledge regarding acute suppurative otitis media among mothers of under-five children in selected rural areas
2. To assess the effectiveness of self-instructional module on knowledge regarding Acute suppurative otitis media and its preventive measures among mothers of under-five children in Selected rural areas.

Secondary Objective

1. To find out the association between post-test knowledge score with their selected demographic variables.

Research Method and Material

A quantitative quasi-experimental one-group pre-test post-test design was used to assess the effectiveness of a self-instructional module on knowledge regarding Acute Suppurative Otitis Media (ASOM) and its preventive measures among mothers of under-five children in selected rural areas. Using non-probability convenient sampling, 70 mothers were selected based on Morgan's formula (N=375). Data were collected using a validated and reliable self-structured questionnaire consisting of demographic variables and 30 knowledge items, with scores graded from poor to excellent. The intervention was a self-instructional module covering causes, manifestations, management, and prevention of ASOM. Content validity was established by experts and reliability confirmed (r=0.828). A pilot study confirmed feasibility. Pre-test was conducted on day 1, followed by the intervention and post-test on day 7. Data were analyzed using descriptive statistics and inferential tests (paired t-test and Chi-square).

RESULTS

The study findings revealed that the paired t-test analysis revealed a statistically significant improvement in knowledge regarding Acute Suppurative Otitis Media (ASOM) and its preventive measures among mothers of under-five children. The mean pre-test knowledge score was 14.31 ± 2.75, which increased to 24.42 ± 2.21 in the post-test. The calculated t value (22.987) was substantially higher than the tabulated value (2.000) at the 5% level of significance (p = 0.000), leading to rejection of the null hypothesis and confirmation of the effectiveness of the self-instructional module.

In the pre-test, the majority of participants had good knowledge (72.86%), followed by average knowledge (25.71%), with very few demonstrating very good knowledge (1.43%) and none in poor or excellent categories. Knowledge scores ranged from 7–19, with a mean of 14.31 ± 2.75 (46.73%). In contrast, post-test results showed marked improvement, with 51.43% achieving very good knowledge and 48.57% excellent knowledge; none remained in poor, average, or good categories. Post-test scores ranged from 20–29, with a mean of 24.32 ± 2.21 (81.07%), demonstrating a clear shift to higher knowledge levels following the intervention.

Chi-square analysis showed no significant association ($p > 0.05$) between post-test knowledge scores and selected demographic variables such as age, education, occupation, income, number of children, history of ear infection, or source of information, indicating that the self-instructional module was equally effective across all demographic groups.

Table 1: Effectiveness of the Self-instructional Module by Comparing Pre-test and Post-test Knowledge Scores Using Descriptive and Inferential Statistics. (Paired T-test) (N=70)

Test	N	Mean	SD	t value	Significance (2 tailed)
Pre-Test	70	14.31	2.75	22.987	0.000
Post test	70	24.42	2.21		

DISCUSSION

The present study evaluated the effectiveness of a self-instructional module (SIM) on knowledge regarding Acute Suppurative Otitis Media (ASOM) and its preventive measures among mothers of under-five children. Pre-test findings showed that most mothers had only good knowledge (72.86%), with a mean score of 14.31 ± 2.75 (46.73%), indicating existing knowledge gaps related to ASOM prevention and management.

Following the SIM, knowledge improved substantially, with 51.43% of mothers achieving very good and 48.57% excellent knowledge. The mean post-test score increased to 24.42 ± 2.21 (81.07%). The paired t-test showed a highly significant improvement (t = 22.987, p = 0.000), confirming the effectiveness of the intervention. No significant association was found between post-test knowledge scores and demographic variables, indicating uniform effectiveness across all groups.

CONCLUSION

The study found that the Self-Instructional Module significantly improved mothers' knowledge regarding Acute Suppurative Otitis Media (ASOM) and its preventive measures. However, challenges like limited baseline awareness and difficulty in understanding medical terminology indicate the need for repeated, culturally appropriate, and practical demonstrations. By strengthening maternal knowledge through such educational programmes, early identification, prevention, and timely management of ASOM can be ensured, ultimately contributing to better ear health and overall well-being of under-five children.

Recommendations

Further studies may be conducted on larger populations using different teaching methods and controlled designs to strengthen evidence. Follow-up and qualitative studies are recommended to assess knowledge retention, preventive practices, maternal perceptions, and the role of healthcare workers and digital tools in ASOM prevention.

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