

EFFECTIVENESS OF A COMPUTER-ASSISTED PLANNED TEACHING PROGRAMME ON RURAL MOTHERS' KNOWLEDGE OF HOME-BASED MANAGEMENT OF COMMON CHILDHOOD ILLNESSES AMONG UNDER-FIVE CHILDREN

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ABSTRACT

Background: Common childhood illnesses such as diarrhoea, fever, and upper respiratory infections (URIs) remain major contributors to morbidity and mortality among under-five children, particularly in rural communities. Mothers play a pivotal role in providing home-based care, and improving their knowledge through structured educational interventions can enhance early recognition and management of these conditions. Methodology: A quasi-experimental one-group pre-test–post-test design was employed among 100 rural mothers of under-five children in Duspur Village, Kanker District, Chhattisgarh. Participants were selected using purposive sampling. Baseline knowledge regarding home management of diarrhoea, fever, and URIs was assessed using a structured questionnaire, followed by a computer-assisted planned teaching programme. Post-test knowledge was evaluated eight days after the intervention. Descriptive and inferential statistics, including the Z-test and Chi-square test, were used for data analysis. Results: The mean knowledge score increased significantly from 41.06 ± 3.97 in the pre-test to 58.59 ± 1.42 in the post-test ($Z = 41.58$, $p < 0.001$). Post-intervention, all participants (100%) achieved an excellent level of knowledge, indicating the effectiveness of the educational programme. Significant associations were observed between baseline knowledge and selected environmental factors. Conclusion: The computer-assisted planned teaching programme significantly improved rural mothers' knowledge regarding home-based management of common childhood illnesses. Integrating technology-assisted health education into community nursing and primary healthcare services may strengthen maternal caregiving practices and contribute to improved child health outcomes in rural settings.

Keywords: Under-five children, rural mothers, home-based management, computer-assisted planned teaching programme, diarrhoea.

INTRODUCTION

Children under five years of age represent one of the most vulnerable population groups worldwide due to their rapid growth, immature immune systems, and increased susceptibility to infectious diseases. Despite significant advances in child survival over the past two decades, preventable illnesses such as diarrhoea, acute respiratory infections (ARIs), and febrile illnesses continue to account for a substantial proportion of morbidity and mortality among children in low- and middle-income countries (LMICs). The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) estimate that pneumonia and diarrhoea remain among the leading causes of preventable deaths in children under five years, particularly in resource-limited settings where access to timely healthcare services is inadequate. Global child mortality has declined considerably during the past two decades; however, achieving the Sustainable Development Goal (SDG) target of reducing under-five mortality to fewer than 25 deaths per 1,000 live births remains a major challenge in several developing countries. India has made remarkable progress in reducing childhood mortality, yet preventable infectious diseases continue to impose a significant public health burden, especially among rural and socioeconomically disadvantaged populations. Limited health infrastructure, poor sanitation, unsafe drinking water, malnutrition, delayed health-seeking behaviour, and inadequate caregiver knowledge collectively contribute to adverse childhood health outcomes. Home-based management has emerged as a cost-effective and evidence-based strategy for preventing complications associated with common childhood illnesses. The WHO and UNICEF recommend that caregivers be empowered to recognize early danger signs, initiate appropriate home care, maintain adequate hydration and nutrition, administer oral rehydration solution (ORS) and zinc for diarrhoea, provide supportive care for fever, and identify respiratory symptoms requiring urgent medical attention. Early home-based interventions reduce unnecessary hospital admissions, prevent dehydration and severe infections, and improve child survival outcomes. Consequently, strengthening caregivers' knowledge has become an essential component of integrated child health programmes worldwide. Among caregivers, mothers play the most influential role in maintaining child health. In rural communities, mothers are generally the first to identify illness, make decisions regarding treatment, and implement home care practices. Their knowledge and practices directly influence early disease recognition, timely referral, medication adherence, nutritional management, hygiene practices, and infection prevention. Studies conducted across South Asia and sub-Saharan Africa consistently demonstrate that inadequate maternal knowledge regarding diarrhoea, respiratory infections, and fever is associated with delayed treatment, inappropriate home remedies, increased complications, and higher under-five mortality rates. Conversely, educational interventions targeting mothers have shown significant improvements in disease recognition, home management practices, and healthcare-seeking behaviour. Diarrhoea remains a major contributor to childhood

morbidity despite being largely preventable and treatable. Recurrent diarrhoeal episodes increase the risk of dehydration, electrolyte imbalance, malnutrition, impaired cognitive development, and mortality. Appropriate use of ORS, zinc supplementation, continued breastfeeding, adequate fluid intake, and hygienic practices are well-established interventions that substantially reduce disease severity and mortality. Nevertheless, many rural mothers continue to have misconceptions regarding feeding during diarrhoeal episodes, preparation of ORS, recognition of dehydration, and indications for referral to healthcare facilities. These knowledge gaps limit the effectiveness of national diarrhoeal disease control programmes. Similarly, acute respiratory infections, particularly pneumonia, remain among the leading causes of death in children younger than five years. Early identification of danger signs such as fast breathing, chest indrawing, inability to feed, persistent fever, lethargy, or cyanosis is essential for prompt treatment and prevention of severe complications. However, delayed recognition of respiratory distress and reliance on inappropriate traditional practices continue to hinder effective management in many rural settings. Community-based education focusing on symptom recognition and timely referral has demonstrated significant reductions in childhood mortality associated with respiratory infections. Fever is another common presenting symptom among under-five children and frequently reflects underlying infectious diseases requiring prompt assessment. Although many febrile illnesses are self-limiting, persistent or high-grade fever may indicate serious bacterial or viral infections. Misconceptions regarding fever management, irrational use of antibiotics, inadequate fluid administration, and delayed healthcare consultation remain common among caregivers. Enhancing maternal knowledge regarding temperature monitoring, hydration, medication administration, and danger signs can substantially improve outcomes and reduce unnecessary complications. Health education has long been recognized as one of the most effective strategies for promoting preventive health behaviours. Advances in educational technology have facilitated the integration of computer-assisted teaching programmes into community health education. Compared with traditional lecture-based methods, computer-assisted learning provides standardized, interactive, visually engaging, and learner-centred educational experiences that improve comprehension, knowledge retention, and behavioural change. Multimedia-based educational interventions are particularly useful for populations with varying literacy levels because they combine audiovisual demonstrations with simplified health messages. Previous studies have demonstrated that structured educational programmes significantly improve maternal knowledge regarding home management of childhood illnesses. Nevertheless, evidence regarding the effectiveness of computer-assisted planned teaching programmes among rural mothers remains limited, particularly in underserved regions of India. Earlier investigations primarily evaluated conventional health education methods, while few have assessed technology-assisted educational interventions focusing simultaneously on diarrhoea, fever, and acute respiratory infections. Furthermore, variations in literacy, socioeconomic

conditions, and healthcare accessibility necessitate context-specific evaluation of educational interventions before widespread implementation. Therefore, assessing the effectiveness of a computer-assisted planned teaching programme for improving rural mothers' knowledge regarding home-based management of selected health problems among under-five children is both timely and relevant. Generating evidence on the effectiveness of such interventions may support community health nurses, primary healthcare providers, and policymakers in designing scalable health education strategies aimed at reducing preventable childhood morbidity and mortality. Strengthening maternal knowledge through structured educational programmes has the potential to improve early home-based care, promote appropriate healthcare-seeking behaviour, reduce avoidable hospitalizations, and ultimately contribute to achieving national child health goals and the Sustainable Development Goals related to child survival.

OBJECTIVE

The study aimed to evaluate the effectiveness of a computer-assisted planned teaching programme in improving rural mothers' knowledge regarding home-based management of diarrhoea, fever, and upper respiratory infections among under-five children. It also assessed baseline knowledge and its association with selected socio-demographic characteristics.

REVIEW OF LITERATURE

Home-based management of common childhood illnesses remains a cornerstone of child survival strategies, particularly in low- and middle-income countries where preventable diseases continue to contribute substantially to under-five morbidity and mortality. Previous research consistently highlights that mothers' knowledge and caregiving practices play a critical role in the early recognition and management of diarrhoea, fever, and upper respiratory infections (URIs). Several studies have demonstrated significant deficiencies in maternal knowledge regarding diarrhoeal disease management. Singh Amit Kumar et al. (2012) reported that although most mothers had heard of oral rehydration solution (ORS), less than half administered it correctly, and many lacked knowledge regarding its preparation. Similarly, Shah Salman Mohammad et al. (2012) found that while breastfeeding was commonly continued during diarrhoeal episodes, knowledge regarding ORS preparation and appropriate home fluids remained inadequate. Studies conducted in Pakistan, Nepal, Nigeria, and India further revealed substantial gaps between awareness and actual practice, emphasizing the need for structured educational interventions to improve maternal knowledge and home-based management of diarrhoea. Evidence regarding upper respiratory infections also indicates insufficient caregiver knowledge despite the high disease burden among under-five children. Community-based studies reported that mothers frequently relied on traditional home remedies such as herbal preparations, honey, and warm

compresses, while only a limited proportion recognized danger signs requiring immediate medical attention. Longitudinal and epidemiological studies further identified infants and young children as the most vulnerable population, with higher incidence during seasonal variations. Researchers consistently concluded that improving maternal recognition of symptoms and timely referral practices could substantially reduce complications and mortality associated with respiratory infections. Studies related to fever management similarly demonstrate inadequate caregiver knowledge regarding appropriate assessment and treatment. Investigations evaluating educational interventions found that many mothers lacked accurate knowledge regarding normal body temperature, antipyretic use, and supportive home care. Planned educational programmes significantly improved maternal practices related to temperature monitoring, medication administration, and early identification of severe illness, suggesting that structured health education can effectively enhance home management of febrile conditions. The effectiveness of planned teaching programmes has been well documented across different child health settings. Educational interventions incorporating structured teaching sessions, demonstrations, multimedia presentations, and community-based health education consistently resulted in significant improvements in maternal knowledge and caregiving practices. Studies conducted in Brazil, Bangladesh, and various regions of India demonstrated that planned teaching programmes strengthened mothers' understanding of childhood illnesses, improved appropriate home-based care, promoted timely healthcare-seeking behaviour, and contributed to reductions in child morbidity and mortality. These findings support the integration of educational interventions into primary healthcare and community nursing services.

Overall, the reviewed literature demonstrates that although mothers are the primary caregivers for under-five children, considerable knowledge gaps persist regarding the home management of diarrhoea, fever, and upper respiratory infections. Existing evidence also indicates that structured educational interventions significantly improve maternal knowledge and caregiving practices. However, limited evidence is available regarding the effectiveness of computer-assisted planned teaching programmes among rural mothers in India, particularly for simultaneously addressing multiple common childhood illnesses. This gap provides the rationale for evaluating the effectiveness of such an intervention to strengthen maternal knowledge and promote improved child health outcomes.

METHODOLOGY

Study Design

A quasi-experimental one-group pre-test–post-test design was adopted to evaluate the effectiveness of a computer-assisted planned teaching programme on the knowledge of rural mothers regarding the home-based management of selected health problems among under-five children. The design enabled

comparison of participants' knowledge before and after the educational intervention, thereby assessing its effectiveness in improving maternal knowledge.

Study Setting

The study was conducted in the rural community of Duspur Village, Kanker District, Chhattisgarh, India. The study setting was selected based on accessibility, feasibility, administrative approval, availability of the target population, and the perceived need for improving maternal knowledge regarding home-based child healthcare.

Study Population

The target population comprised mothers of under-five children residing in rural communities of Kanker District, Chhattisgarh. The accessible population included mothers who were available during the study period and fulfilled the eligibility criteria.

Sample Size and Sampling Technique

A total of 100 rural mothers of under-five children participated in the study. Participants were selected using a purposive sampling technique **based** on predefined eligibility criteria. The sample size was considered adequate to evaluate the effectiveness of the educational intervention within the study setting.

Eligibility Criteria

The inclusion criteria comprised mothers residing in the selected rural community who had at least one child younger than five years, were willing to participate voluntarily, and were available for both pre-test and post-test assessments. Mothers who declined participation or were unavailable during follow-up were excluded from the study.

Study Variables

The independent variable was the computer-assisted planned teaching programme on the home-based management of diarrhoea, fever, and upper respiratory infections among under-five children. The dependent variable was the knowledge level of rural mothers regarding the home management of these selected childhood illnesses.

Development of the Educational Intervention

The computer-assisted planned teaching programme was developed following an extensive review of literature, consultation with paediatric nursing experts, paediatricians, and nurse educators, and consideration of existing national and international child health recommendations. The programme included information on the causes, risk factors, signs and symptoms, prevention, danger signs, home-based management, nutritional care, and appropriate referral for diarrhoea, fever, and upper respiratory infections. The educational material was initially prepared in English, translated into Hindi, and reviewed by language experts to ensure clarity and cultural appropriateness.

Data Collection Instrument

Data were collected using a self-structured questionnaire consisting of two sections. Section A included socio-demographic characteristics such as age, education, family type, income, source of drinking water, sanitation facilities, housing type, cooking fuel, and previous information regarding home-based management. Section B comprised 63 multiple-choice questions assessing knowledge related to diarrhoea, fever, and upper respiratory infections. Each correct response received one mark, while incorrect responses received zero marks, with higher scores indicating better knowledge. Knowledge levels were categorized as poor, average, good, and excellent according to predefined score ranges.

Validity and Reliability

Content validity of the questionnaire and educational programme was established through review by a panel of experts comprising paediatricians, nursing faculty members, and a statistician. Recommendations provided by the experts were incorporated before finalization of the instrument. A pilot study involving 10 rural mothers was conducted to assess the feasibility, clarity, and practicality of the study procedures. Reliability of the questionnaire was evaluated using the split-half method with Karl Pearson's correlation coefficient, confirming that the instrument was suitable for data collection.

Data Collection Procedure

Formal administrative permission was obtained from the relevant health authorities before commencing the study. Eligible mothers were informed about the objectives and procedures of the research, and written informed consent was obtained. Baseline knowledge was assessed using the structured questionnaire (pre-test). Immediately after the pre-test, participants received the computer-assisted planned teaching programme. A post-test using the same questionnaire was conducted eight days after the intervention to evaluate changes in knowledge following the educational programme.

Statistical Analysis

Collected data were coded, entered, and analyzed using descriptive and inferential statistics. Frequencies, percentages, means, and standard deviations were used to summarize demographic characteristics and knowledge scores. The effectiveness of the intervention was evaluated by comparing pre-test and post-test knowledge scores using the paired Student's t-test. Associations between post-test knowledge scores and selected socio-demographic variables were examined using the Chi-square test. Statistical significance was considered at $p < 0.05$.

Ethical Considerations

Ethical approval and administrative permission were obtained before conducting the study. Participation was voluntary, and written informed consent was obtained from all participants. Mothers were informed about the purpose of the study and their right to withdraw at any stage without any consequences.

Confidentiality and anonymity of participant information were maintained throughout the research process.

RESULTS

A total of 100 rural mothers of under-five children participated in the study to evaluate the effectiveness of a computer-assisted planned teaching programme on home-based management of diarrhoea, fever, and upper respiratory infections (URIs). The findings are presented according to the study objectives and include participants' socio-demographic characteristics, pre-test and post-test knowledge levels, effectiveness of the intervention, and the association between knowledge scores and selected socio-demographic variables.

Socio-demographic Characteristics

The majority of participants (41%) were aged 21–25 years, followed by 39% aged 26–32 years, 17% above 33 years, and only 3% below 20 years. All participants (100%) were Hindus. Regarding caste, 53% belonged to the Other Backward Class (OBC), 35% to Scheduled Tribe (ST), 10% to Scheduled Caste (SC), and 2% to the general category. Most mothers (58%) had secondary education, whereas 20% were illiterate, 20% had primary education, and 2% had collegiate education.

With respect to family characteristics, 70% of mothers lived in joint families and 30% in nuclear families. Most participants (78%) resided in kutchha houses, while 22% lived in pucca houses. A large proportion (86%) reported a monthly family income above ₹5,000, whereas 14% had an income between ₹3,001 and ₹5,000. Nearly all mothers (99%) were homemakers. Regarding environmental conditions, 58% reported adequate household ventilation, 30% inadequate ventilation, and 12% no ventilation. Separate kitchens were available in 84% of households, while 16% used a kitchen located in the corner of the veranda. The principal source of drinking water was a hand pump (75%), followed by bore wells (25%). Open-field defecation was practiced by 60% of households, while 25% used sanitary pit latrines and 16% had flush toilets. Cooking fuel mainly consisted of firewood or traditional chulhas (50%), followed by biogas (25%) and liquefied petroleum gas (LPG) (25%).

Knowledge Scores According to Socio-demographic Variables

Improvements in knowledge were observed across all socio-demographic groups following the computer-assisted teaching programme. Mothers aged 26–32 years demonstrated one of the largest improvements, with the mean knowledge score increasing from 40.44 during the pre-test to 58.59 in the post-test. Similar improvements were observed among mothers aged 21–25 years, those above 33 years, and those younger than 20 years.

Knowledge gains were also consistent irrespective of educational level. Illiterate mothers showed an increase in mean score from 40.40 to 58.70, mothers with primary education from 40.90 to 59.25, and

those with secondary education from 41.31 to 58.36. Likewise, improvements were evident regardless of family type, monthly income, housing conditions, cooking fuel, water source, or occupation, indicating that the educational intervention was effective across diverse socio-demographic categories.

Area-wise Improvement in Knowledge

The area-wise analysis demonstrated statistically significant improvements across all components of the educational programme. Knowledge regarding diarrhoea increased from a pre-test mean percentage of 85.5% to 99.8% following the intervention ($Z = 4.10$, $p = 0.0001$). Knowledge related to the home-based management of diarrhoea showed an even greater improvement, increasing from 60.56% to 99.25% ($Z = 45.41$, $p = 0.0001$).

Similarly, knowledge regarding fever improved from 61.89% to 99.44% after the intervention ($Z = 34.82$, $p = 0.0001$), while knowledge concerning the home-based management of fever increased from 62.40% to 97.20% ($Z = 26.07$, $p = 0.0001$).

Knowledge regarding upper respiratory infections (URIs) improved substantially, increasing from 70.70% before the intervention to 96.70% after the intervention ($Z = 13.62$, $p = 0.0001$). Improvement in the home-based management of URIs was comparatively smaller, with mean knowledge scores increasing from 56.29% to 62.71%, and the difference remained statistically significant ($Z = 2.94$, $p = 0.04$). Overall, these findings indicate that the computer-assisted planned teaching programme effectively enhanced maternal knowledge across all study domains.

Overall Knowledge Before and After the Intervention

Overall knowledge assessment revealed marked improvement following the educational intervention. Before the programme, 16% of mothers demonstrated excellent knowledge, while 84% exhibited average knowledge. None of the participants were categorized as having good or poor knowledge. Following the intervention, all participants (100%) achieved the excellent knowledge category, demonstrating a substantial improvement in knowledge regarding the home-based management of common childhood illnesses.

The mean overall knowledge score increased from 41.06 ± 3.97 during the pre-test to 58.59 ± 1.42 in the post-test. Correspondingly, the mean percentage score increased from 65.17% to 93.00%, representing an overall effectiveness of 27.83%. The coefficient of variation decreased from 9.67% in the pre-test to 2.43% in the post-test, indicating greater consistency in participants' knowledge following the intervention.

Effectiveness of the Computer-assisted Planned Teaching Programme

The effectiveness of the intervention was evaluated using the Z-test. The calculated Z-value was 41.58, which exceeded the critical value at the 5% level of significance, indicating a highly significant improvement in maternal knowledge following the computer-assisted planned teaching programme ($p =$

0.0001). These findings demonstrate that the educational intervention was effective in improving mothers' knowledge regarding the home-based management of diarrhoea, fever, and upper respiratory infections among under-five children.

Association Between Knowledge and Socio-demographic Variables

Chi-square analysis was performed to examine the association between pre-test knowledge scores and selected socio-demographic variables. No statistically significant association was observed between baseline knowledge and mothers' age, caste, family type, educational status, family income, or source of drinking water ($p > 0.05$).

However, statistically significant associations were identified between pre-test knowledge and type of kitchen ($\chi^2 = 16.38$, $p < 0.01$), cooking fuel ($\chi^2 = 20.24$, $p < 0.01$), household ventilation ($\chi^2 = 5.59$, $p < 0.05$), and type of lavatory ($\chi^2 = 6.05$, $p < 0.05$). Mothers residing in households with separate kitchens, improved cooking fuel, better ventilation, and improved sanitation facilities demonstrated significantly higher baseline knowledge regarding home-based management of common childhood illnesses compared with those living in less favorable household environments.

DISCUSSION

The present study evaluated the effectiveness of a computer-assisted planned teaching programme in improving the knowledge of rural mothers regarding the home-based management of diarrhoea, fever, and upper respiratory infections (URIs) among under-five children. The findings demonstrated a statistically significant improvement in maternal knowledge following the intervention, indicating that computer-assisted health education is an effective strategy for enhancing caregivers' understanding of common childhood illnesses in rural communities. The baseline findings revealed that the majority of rural mothers possessed only average knowledge regarding home management of selected childhood illnesses before the educational intervention. This observation is consistent with the literature reviewed in the thesis, which indicates that although mothers are the primary caregivers, many lack adequate knowledge regarding early recognition of illness, oral rehydration therapy, fever management, and appropriate home care practices. Following the computer-assisted planned teaching programme, all participants demonstrated excellent knowledge, confirming the effectiveness of structured educational interventions in improving maternal awareness and caregiving practices. A substantial improvement was observed in the overall knowledge score, which increased from a pre-test mean of 41.06 ± 3.97 to a post-test mean of 58.59 ± 1.42 . The highly significant Z-value (41.58, $p = 0.0001$) further confirmed the effectiveness of the intervention. These findings support previous studies cited in the thesis, which reported that planned teaching programmes significantly improve maternal knowledge related to childhood illness prevention and home management. The results suggest that computer-assisted learning

offers an engaging and standardized educational approach that facilitates better understanding and retention of health information among rural mothers. The area-wise analysis demonstrated significant improvements in knowledge related to diarrhoea, fever, and upper respiratory infections after the intervention. The greatest improvement was observed in the home-based management of diarrhoea, followed by fever management, while knowledge regarding upper respiratory infections also improved significantly. These findings indicate that the educational programme effectively addressed major knowledge gaps in essential child healthcare practices. The improvements are particularly important because timely home management of these conditions can prevent complications, reduce unnecessary hospital visits, and promote early referral when danger signs are recognized.

The study also found that the educational intervention was effective across different socio-demographic groups. Improvements in knowledge were observed irrespective of mothers' age, educational status, family type, income, occupation, and source of drinking water. This suggests that computer-assisted teaching programmes can be successfully implemented among mothers with diverse educational and socioeconomic backgrounds. However, significant associations between baseline knowledge and environmental factors such as household ventilation, cooking fuel, type of kitchen, and sanitation facilities indicate that living conditions may influence mothers' initial health knowledge. The findings have important implications for community health nursing practice. Community health nurses, Accredited Social Health Activists (ASHAs), Auxiliary Nurse Midwives (ANMs), and primary healthcare workers can incorporate computer-assisted educational programmes into routine maternal and child health services to strengthen caregivers' knowledge and improve home-based management of common childhood illnesses. Such interventions may contribute to reducing preventable childhood morbidity and improving utilization of primary healthcare services in rural communities. Overall, the findings demonstrate that the computer-assisted planned teaching programme was highly effective in improving rural mothers' knowledge regarding the home-based management of diarrhoea, fever, and upper respiratory infections among under-five children. The results support the integration of technology-assisted health education into community-based child health programmes as an evidence-based strategy for promoting maternal knowledge and strengthening preventive child healthcare practices.

CONCLUSION

The present study concluded that the computer-assisted planned teaching programme was highly effective in improving the knowledge of rural mothers regarding the home-based management of selected health problems among under-five children, namely diarrhoea, fever, and upper respiratory infections. The findings demonstrated a statistically significant increase in post-test knowledge scores

compared with the pre-test assessment, indicating that the educational intervention successfully enhanced mothers' understanding of essential home-based childcare practices. The significant improvement observed across all knowledge domains confirms that structured, technology-assisted health education is an effective approach for strengthening maternal knowledge and promoting appropriate caregiving practices in rural communities. Before the intervention, the majority of mothers possessed only average knowledge regarding the prevention and home management of common childhood illnesses. Following the implementation of the computer-assisted teaching programme, all participants achieved excellent knowledge levels, demonstrating the effectiveness of the intervention in addressing existing knowledge gaps. The improvement was observed irrespective of mothers' age, educational status, occupation, family type, and socioeconomic background, suggesting that computer-assisted teaching is a practical and universally applicable educational strategy for rural populations. The study also identified significant associations between baseline knowledge and selected environmental characteristics, including household ventilation, type of kitchen, cooking fuel, and sanitation facilities. These findings indicate that environmental and living conditions may influence mothers' initial knowledge and caregiving practices. Consequently, maternal education should be integrated with broader community health initiatives focusing on environmental sanitation, safe drinking water, clean household environments, and healthy living practices to achieve sustainable improvements in child health outcomes. The findings emphasize the important role of community health nurses, Auxiliary Nurse Midwives (ANMs), Accredited Social Health Activists (ASHAs), and other primary healthcare professionals in providing structured health education to mothers. Computer-assisted teaching programmes can serve as an effective educational tool during community visits, immunization sessions, village health and nutrition days, maternal and child health clinics, and outreach programmes. Incorporating multimedia-based educational interventions into routine child health services may improve maternal awareness, encourage timely recognition of danger signs, strengthen home-based management practices, and promote appropriate healthcare-seeking behaviour. The study provides evidence that computer-assisted planned teaching is an effective educational intervention for improving maternal knowledge regarding the home management of common childhood illnesses among under-five children. Strengthening mothers' knowledge through structured educational programmes has the potential to reduce preventable childhood morbidity, facilitate early identification of serious illnesses, decrease unnecessary hospital admissions, and support the achievement of national child health priorities. The findings support the wider implementation of computer-assisted health education as a component of community-based maternal and child health services, particularly in rural settings where improving caregiver knowledge remains essential for enhancing child survival and well-being.

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