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**“Mothers' awareness of acute respiratory tract infections in  
children under five in Sankalapur Karnataka.”**

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**ABSTRACT:**

*Acute respiratory infections (ARI) contribute to 14.3% of neonatal mortality and 15.9% of deaths among children aged 1 to 5 years in India, making them a major cause of morbidity and mortality in children. Many of these fatalities could be prevented if mothers were aware of the symptoms and signs of ARI, enabling timely referrals. This study aimed to assess the knowledge of ARI among mothers of children under five and evaluate the effectiveness of an educational programme in improving their awareness. Data were collected from 60 mothers of children under five from various regions of Karnataka State, India, using a pre- and post-intervention methodology. The mean pre-test knowledge score was 8.51, while the post-test score increased to 19.31, with a mean difference of 11. The standard deviations for pre-test and post-test scores were 4.59 and 2.54, respectively. The calculated "t" value was 17.29, with 59 degrees of freedom and a table value of "t" at 1.67. These results indicate that the educational programme significantly improved the mothers' knowledge of ARI.*

**KEYWORDS:** *Acute respiratory infections, awareness, mothers, under five children*

**BACKGROUND:**

Acute respiratory infections (ARIs) are a leading cause of mortality in children under five years old in India. On average, children in low-income countries experience five episodes of ARI annually, accounting for 30%–50% of pediatric outpatient visits and 20%–30% of hospital admissions [1]. The prevalence of ARI is inversely correlated with literacy rates. Health education has the potential to influence the attitudes and practices of parents and family members, encouraging them to seek medical care and provide proper home care for children with ARIs [2].

Despite limited epidemiological data on its prevalence, childhood ARI/pneumonia remains a significant public health challenge in India. Pneumonia alone is responsible for nearly one-fourth of all deaths among children under five. Risk factors include exposure to solid fuel, preterm birth, malnutrition, and lack of exclusive breastfeeding [3]. A KAP (knowledge, attitude, and practice) survey conducted among 140 women with 265 children from families registered at the Urban Health Training Centre in Aligarh, India, highlighted the link between maternal literacy and ARI awareness. The findings revealed that 58 mothers had complete knowledge of ARI management, 61 had partial awareness, and 21 either lacked knowledge or provided inadequate responses. Notably, only 15.5% of illiterate mothers had full knowledge

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compared to 75% of literate mothers. This underscores the importance of health education programs in raising awareness [4].

In India, ARIs account for 15.9% of deaths among children aged 1 to 5 and 14.3% of infant mortality. Most of these fatalities could be prevented through early recognition of symptoms and timely medical referrals. Additionally, mothers play a crucial role in providing supportive care to their children during illness [5]. A survey of 156 mothers in a rural area found that more than half did not treat their children's minor ARI episodes or relied on natural remedies [6]. Similarly, an epidemiological study in an urban area revealed that mothers often struggled to differentiate between mild and severe infections. This lack of diagnostic ability, coupled with inadequate knowledge of ARI management, led to widespread self-medication and limited use of healthcare services [7].

Given this context, it is vital to assess the awareness of mothers with children under five regarding ARIs and to evaluate the effectiveness of educational programs in improving their knowledge and practices.

#### **METHODOLOGY:**

An experimental research design was employed for this study to evaluate the effectiveness of an educational program in enhancing the awareness and management of ARI among mothers of children under five. Data were collected from 60 mothers of children under five years of age, selected through purposive sampling from various villages in the Sankalpur Bellari, District Vijaynagara Karnataka

A self-structured questionnaire was used to assess the participants' baseline knowledge. Following the pre-intervention test, mothers were provided with educational materials, including pamphlets, and participated in a teaching program that utilized visual aids such as pictures and charts. The program covered key topics, including the identification of ARI symptoms, the importance of early detection, and the utilization of healthcare services.

The effectiveness of the educational program was evaluated seven days after its implementation through a post-intervention test. The data were analyzed using statistical methods, including mean, standard deviation, and chi-square tests, to measure the program's impact.

#### **RESULTS:**

Half (50%) of the mothers were aged between 31 and 35 years, and 41.66% had completed higher education. The majority (93.33%) of the mothers were housewives, and 60% of the families had a monthly income between ₹10,000 and ₹15,000. Additionally, 50% of the mothers had two children, 58.33% belonged to joint families, and a significant majority (66.66%) had no prior education or knowledge about respiratory tract infections.

Before the implementation of the educational program, 75% of the participants had insufficient knowledge, 25% had intermediate knowledge, and none demonstrated adequate knowledge. Following the educational intervention, there was a significant improvement in knowledge levels: 16.66% of participants attained intermediate knowledge, 83.33% achieved adequate knowledge, and none remained in the insufficient knowledge category.

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A comparison of pre-test and post-test observation scores revealed a significant improvement in mothers' knowledge of acute respiratory tract infections (ARI) in children under five. The mean pre-test score was 8.51, while the mean post-test score increased to 19.31, resulting in a mean difference of 11. The sample size was 60, with standard deviations of 4.59 in the pre-test and 2.54 in the post-test. The calculated "t" value was 17.29, with 59 degrees of freedom (DF) and a table value of 1.67. These findings demonstrate that the educational awareness program on ARI was highly effective in enhancing the mothers' knowledge.

#### **DISCUSSION:**

The primary objective of this study was to assess the knowledge of mothers of children under five regarding ARI and to evaluate the effectiveness of an educational program in improving their awareness. The findings revealed that mothers of young children had limited knowledge of ARI and its management. This aligns with a descriptive cross-sectional study conducted in 16 randomly selected clusters across two districts in Maharashtra, India. That study highlighted poor feeding practices, inadequate hand hygiene, and limited awareness of pneumonia symptoms among mothers of children under five [8].

Another study examining mothers' knowledge, attitudes, and practices regarding ARI and their health-seeking behaviors further supports these findings. Conducted among 204 mothers using a pre-test semi-structured pro forma, the study found that 52.5% of mothers practiced self-medication, highlighting significant gaps in awareness and appropriate health practices [9].

The current study also aimed to evaluate the impact of educational programs on raising awareness of ARI among mothers. The results demonstrated that structured teaching programs were effective in significantly enhancing mothers' knowledge of ARI and its management. Similar findings were observed in a study that assessed changes in mothers' knowledge, attitudes, and practices after receiving health education on childhood respiratory illnesses. Mothers who attended the educational sessions showed marked improvements compared to those who did not [10].

In another study conducted in a semi-urban area of Sasaram, a structured teaching program was implemented to educate mothers about ARI in children under five. The program proved to be highly effective in enhancing their understanding of ARI and its management [11].

These research findings collectively underscore the importance and effectiveness of educational programs in improving awareness, attitudes, and practices among mothers of children under five. Such initiatives play a critical role in reducing the morbidity and mortality associated with ARI by equipping mothers with the knowledge to identify symptoms early and seek timely medical care.

#### **CONCLUSION:**

This study aimed to assess the knowledge of mothers of children under five regarding ARI and to evaluate the effectiveness of an educational program in raising awareness of the condition. The findings indicate that the educational program was highly effective in significantly improving mothers' knowledge about ARI. Additionally, the literacy level of the

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mothers positively influenced their awareness of ARI in young children, highlighting the importance of education in enhancing health outcomes.

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