

Detection of Danger Signs of Acute Respiratory Infections Among Under-Fives & Its Relation to Primary Case Management

Prof. Dr. Ilham Amin Jadoue

Nursing College, Al-Farabi University, Baghdad – IRAQ

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ABSTRACT

Acute respiratory infections form one of the most important health problems with high morbidity & mortality rate among under-fives, particularly in developing countries. ARIs, diarrhea & malnutrition are considered the main leading killers of children, their importance as a public health problem are of particular significance in developing countries where the associated mortality in children of (U5) is (30–50) times higher than million deaths a year. Children have about (4–6) ARIs episodes each year & make up a large portion of patients seen by health workers at health centers. 90% of which are caused by viruses. (3) In addition to bacteria & fungi Danger signs of ARI are specific symptoms pointed out that ARI episode may be severe or life-threatening requiring immediate medical attention. This is centered around inability of child to drink, difficult breathing & chest indrawing.

The objective of this study was focused on early recognition of danger signs & symptoms of ARI episode by mothers & seeking medical attention at proper time, this will show significantly reduce the risk of severe outcomes, including hospitalization & death. The data were obtained via the administration of questionnaires & review of patient chart. The results of this study offer significant contributions to the strategies of primary case management according to severity of ARI episode & ability of mothers to identify danger signs & care seeking behavior.

Keywords: Danger signs, Acute Respiratory Infections, Under Fives, primary case Management.

Introduction

Acute respiratory infections are groups of clinical conditions caused by various viral or bacterial agents with difficult laboratory identification (1). They include infections in any area of the respiratory tract & there can be a wide variety of signs & symptoms of infection, these include cough; fever; difficult breathing; sore throat, runny nose or ear problem. It could be acute if they last less than 30 days & more consider chronic excluding otitis media for 2 weeks. Pneumonia is the most common cause of death & many of these deaths are in young infants less than two months of age.

Therefore, treating children who have pneumonia can greatly reduce deaths in children (2).

These infections could be classified into upper respiratory infections (AURI) & lower (ALRI). The clinical presentation of ARIs can range from mild, nonspecific symptoms to severe respiratory distress (3).

AURI, include cold; otitis media; rhinitis; sinusitis; tonsillitis & pharyngitis whereas ALRIs are centered around laryngitis, laryngotracheitis, bronchitis, bronchiolitis & pneumonia (4). The severity of ARI episode may be mild, moderate or severe. In mild episode child suffers of cough, runny nose or sore

throat. Presence of Fast breathing together with any of the mentioned symptoms in mild condition pointed out to moderate episode. During severe ARIs episode a child turning blue or having difficulty in taking fluid or chest indrawing with or without fast breathing. The plan of case management of ARIs at primary health care level, as developed by WHO requires: Mild, moderate & severe cases to be distinguished from one another. Supportive measures. Antimicrobial treatment. Referral system (5). The mothers have a vital role in discrimination the severity of ARIs episode on child throughout out signs & symptoms especially the danger signs of pneumonia which requires urgent medical attention & hospitalization to administer intravenous infusion, parental drugs administration & oxygen therapy inhalation. So, the mother should be able to seek medical attention at proper time as soon as symptoms appear & avoid delay in seeking medical intervention because it will affect the severity of episode (6)

Methodology

Study Design: A cross-sectional study design was carried out to evaluate the extent of mothers' awareness & participation in detecting ARIs among U5 throughout the severity of signs & symptoms.

Inclusion criteria: includes children of under-five suffer of ARIs episode.

Exclusion criteria: children attending PHC with other health problems & older ages more than five years.

Sample size: involves (100) mothers with their U5 child suffer of ARI episode attending PHC were chosen by simple random selection.

Data collection instrument: for this study will be a structured questionnaire constructed according to review of related literature & previous studies on mothers' awareness & practices concerning ARIs among U5, specifically danger signs appeared on child during episode which is almost accompanied severity of ARI condition (pneumonia). In addition to demographical data for mothers & child.

Validity & reliability of the questionnaire were done throughout experts in the field of pediatric for face

validity & pilot study in addition to test retest for reliability.

Participants in the pilot study were excluded from the final study sample.

Data analysis was achieved throughout the usage of descriptive & inferential statistical measures.

Results

The study surveyed (100) mothers visiting PHC with the age distribution showing a majority in the 22–35 age range. The educational level varied, with a significant portion having completed secondary education, reflecting a moderate level of education among the participants. In terms of employment, the majority were not working outside the home, highlighting the potential for these mothers to primary caregivers. Most mothers reported their monthly income as sufficient, & the majority held 1–2 children, providing a context for their health seeking behavior & capacity to manage ARIs.

The assessment of knowledge about ARIs among mothers of under five children attending primary healthcare centers provides insightful data on their understanding of these common yet potentially severe health issues. The questionnaire distributed to (100) mothers included key questions designed to gauge their awareness & comprehension of ARIs, including causes, symptoms & necessity for early medical intervention.

The responses revealed that a significant majority of mothers have a commendable level of awareness concerning ARIs. 59% of the participants correctly identified ARIs could be caused by both viral & bacterial infections, including a good understanding of the multifaceted nature of these diseases. Furthermore, 53% of the mothers were aware that decreased immunity could contribute to the incidence of ARIs, demonstrating an understanding of the importance of immune health in preventing disease. (55%) of mothers showed awareness for recognizing the impact of nutritional & hydration status on the risk of ARIs. (51%) of the respondents were knowledgeable about how severe respiratory infections (ALRI) child's condition becomes worse. But they were unable to discriminate the danger signs related to bronchitis, bronchiolitis & pneumonia like difficulty in breathing, inability to drink

& chest indrawing in addition to delay in seeking medical intervention as it shown in the first table number 1.

Table (1) shows mothers knowledge toward ARIs episode.

Knowledge Aspect	Mothers' Response	
	Yes (%)	No (%)
ARIs caused by viral or bacterial infections	59%	41%
Decreased immunity contributing to ARIs	53%	47%
Impact of nutritional & hydration status on ARIs	55%	45%
Knowledge of lower respiratory infections	51%	49%

The above table pointed out that half of mother's sample showed awareness of ARIs episode among their children U5, but not accurately discrimination particularly the symptoms associated with (ARI).

Table (2) shows awareness of mothers concerning danger signs of ARIs.

Danger signs of ALRI	Mothers' Response	
	Yes (%)	No (%)
Difficult breathing	28%	72%
Child inability to drink	24%	76%
Chest indrawing	18%	82%

Table (2) shows the mothers' responses toward sign & symptoms of (ALRI) among U5 & more than two third of study participants were unable to discriminate the severity of the episode which required seeking medical intervention without delay. Thus indicate the importance of continuous efforts in health education. The knowledge of ARIs among the participating mothers form a critical foundation for effective disease management & the importance of public health interventions in educating caregivers about pediatric health risks & preventive measures.

(Pie Chart Legend):

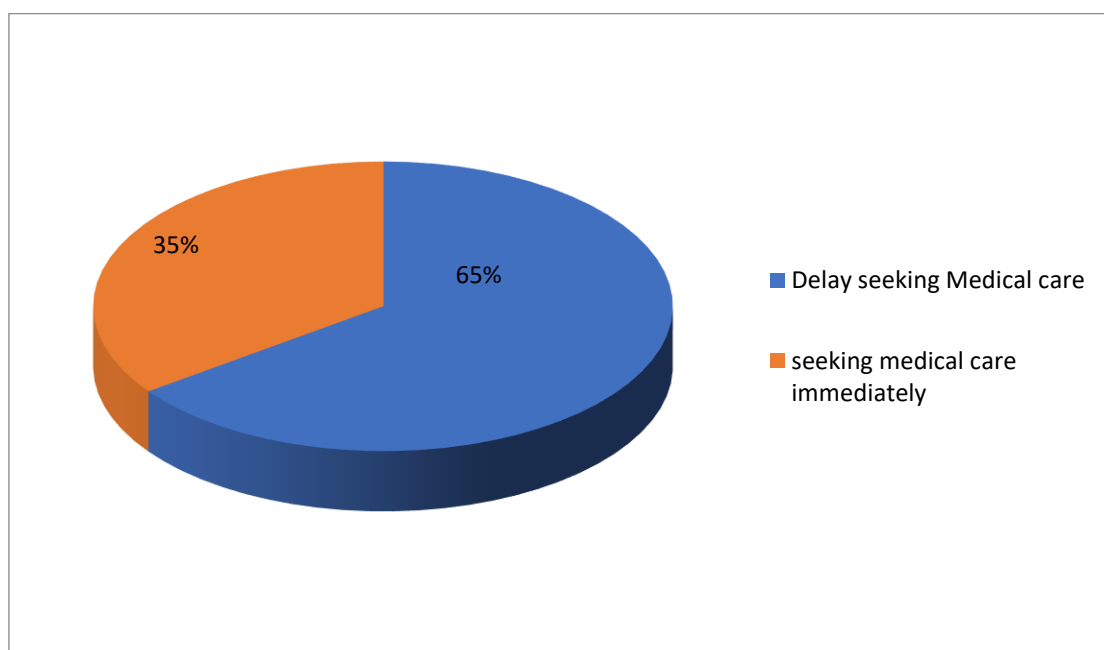


Figure (1) shows Health seeking behavior by mothers toward ARI episodes

The current study investigates the reasons behind delay seeking medical intervention by mothers as it is shown by table number (3)

Table (3) Reasons behind delay in seeking Medical Intervention by mothers

Reasons of Ellery care	Yes F %	No. F %
Perception of mild illness	45 (62%)	20(30.8%)
Financial logistic constraints	30(46.1%)	35(53.9%)
Use traditional home remedies	(60%)	(40%)
Use antibiotics without	(40%)	(60%)
Professional consultation use supportive care	(30%)	(70%)

Table (3) shows reasons behind delay in seeking medical care by mothers. the highest percent was (69.2) for ARI episode is mild & disappear spontaneously; 60% mothers depend on folk remedies; 40% use antibiotics without medical prescription & work with others advice. In addition to financial obstacle confronted mothers & 30% use supportive care.

Table (4) shows coverage of child vaccination

Related Item	Yes F %	No. F %
Importance of vaccination coverage	80%	20%
Midsole of vaccine	42%	58%

Good child vaccines converge help in reduce ARI episodes because most of diseases in involved in the immunization schechal begin as ARI episode.

Discussion

ARIs are caused by a wide array of pathogens with viruses being the predominant agents especially in children under five years of age. Among these viral pathogens, Respiratory syncytial virus (RSV) & influenza viruses stand out as major contributors to ARIs worldwide (7). RSV is particularly known for causing severe respiratory illnesses such as bronchiolitis & pneumonia. Influenza viruses contribute to a broad spectrum of respiratory symptoms ranging from mild cold-like symptoms to severe pneumonia. Bacterial pathogens also play a significant role in ARIs with *Streptococcus pneumoniae* & *Haemophilus influenzae* type b (Hib) being the leading bacterial causes of pneumonia in children (8). The data revealed a good level of knowledge among mothers concerning ARIs will emphasize the importance of caregiver education in managing health of children. Mothers show significance of vaccinations, indicating awareness of preventive measures against ARIs. ARIs However, misconceptions about vaccine coverage highlight the need for improved health education programs. (9). The traditional home-based remedies are widely used among the respondents before seeking professional medical advice reflect cultural reliance on inherited health practices. Also delays in accessing formal healthcare services which can be critical for conditions requiring prompt medical intervention. (10)

The concerning practice of using antibiotics without professional consultation was noted, echoing the global health concerns over antibiotic misuse & the need for stringent educational campaigns about rational antibiotic use. (11)

Early recognition of the signs, symptoms of ARIs, followed by prompt medical evaluation & treatment has been shown to significantly reduce the risks of severe outcomes including hospitalization & death. Research indicates that interventions such as community-based management strategies, where caregivers are educated on the signs of severe ARIs & encouraged to seek care early have led to notable improvements in child health outcomes. (12)

Conclusion & Recommendations

This study has offered in depth insights the maternal perception & management of ARIs among U5 in Iraq. Mothers exhibited a fair understanding of ARIs with especial focussing on nature of ARIs infection & its causative agent viral & bacterial, inability to disting discriminate danger signs which pointed out to ALRI (Pneumonia); delay in seeking medical intervention in addition to depend on folk remedies & neglic negligence for supportive care at home & finally good coverage for child vaccines.

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