A Study on Parental Knowledge and Pattern of Medicine Use in Acute Respiratory Infections among Under Five Children in Urban Field Practice Area of Kempegowda Institute of Medical Sciences, Bangalore

Chethana Ramegowda¹, Prakruthi R A², Pushpa Rajanna³

ABSTRACT

Introduction: Acute respiratory infections is one of the most important cause of morbidity and mortality in developing and developed countries among under five children and has a public health issue in India. But the knowledge among parents about ARI and its management is low. Hence the present study has been taken up to assess the parental knowledge and pattern of medicine use in acute respiratory infections (ARI).

Materials and Methods: Using pre-tested semi-structured proforma, a descriptive study on 100 parents were done after taking informed consent. Information on knowledge of ARI, antibiotics usage and attitude regarding antibiotic use were collected and results were analysed Microsoft excel.

Results: 96 % of them said ARI was caused due to exposure to cold, and 60% by Germs. 51% used home remedies, 97% subjects were not aware any vaccines which prevent ARI. 96% heard about antibiotics, among them 59.3% use antibiotics without consultation. 1.25% had least attitude regarding antibiotic resistance.

Conclusion: Majority had reasonable good knowledge regarding ARI, but lack of knowledge regarding complications of ARI and vaccines available for prevention of ARI. Subjects had unfavourable knowledge and attitude on antibiotic use.

Key words: Knowledge, Antibiotic, Home remedies, Parent.

INTRODUCTION

Acute respiratory tract infection is a major cause of morbidity and mortality in developing and also developed countries in under five years. Acute respiratory infections is inflammation of the respiratory tract anywhere from nose to alveoli, with a wide a range of combination of signs and symptoms. ARI is classified into upper respiratory tract infections (AURI) and lower respiratory tract infections (ALRI). Most common is acute upper respiratory infections and most serious one is acute lower respiratory tract infections. Running nose or common cold, sore throat are common symptoms of AURI, whereas ALRI includes bronchitis, epiglottitis, laryngitis and most common being pneumonia. Acute respiratory tract infections mainly causes distress to the parents or care takers. Nearly 3.9 million deaths occur world-wide, in that 90% of the ARI deaths are due to pneumonia. Both in developed and developing countries, every child has five episodes of ARI per year, it almost accounts for 30-50% of visits to health facilities and 20-30% for hospital admissions and also recent community based study states that 70% of the childhood morbidities were among children aged less than five years was due to ARI. According to NFHS-4 Kar-
nataka prevalence of symptoms of ARI in the last two weeks preceding urban survey was 1% and children with fever or symptoms of ARI in the last preceding the survey taken to a health facility was 77.8%. In general for management of ARI there is a lack of basic health service availability, lack of awareness and other factors associated like overcrowding, environmental factors, defects in immune system, over use and misuse of antibiotics, poverty, absence of ventilation and indoor air pollution however majority of associated factors are preventable. ARI management mainly focuses on case detection and proper treatment, majority of AURI are of viral origin and symptomatic treatments are preferable, however even some bacterial infections are self-limiting and treatment with antibiotics is unnecessary. Parents often request the treating doctor for an antibiotics, where antibiotic is not required, sometimes physician tends to accept parents request and parents also administer antibiotics to children without the knowledge of physician and they also have wrong conception regarding the use of antibiotics and its adverse side effects. It has been reported that problem of ARI is more in urban slums than in rural area. ARI has become major public health morbidity and mortality in India. Hence the present study was undertaken to assess the parental knowledge and pattern of medicine use among under five children.

METHODOLOGY

After taking Institution Ethical Committee clearance, a descriptive study on 100 mothers of under five children attending Urban Health Training Centre of KIMS, Bangalore are enrolled by purposive sampling after taking informed consent and by fulfilling inclusion and exclusion criteria. Inclusion criteria includes parent of under-five children and resident of urban field practice area and those who give consent to participate in study and seriously ill were excluded from the study. Using pretested semi-structured proforma, socio demographic profile, information on knowledge of ARI and pattern of medicine use in ARI was collected, it includes knowledge regarding ARI and Antibiotics and also information regarding attitude towards antibiotic use was also collected. Knowledge was assessed by giving a score of 1 to correct and 0 for wrong response. Attitude was analysed using 5 point Likert scale. Knowledge and attitude were graded as unfavourable (< 50%) and as favourable (>50%). Data was analysed using MS Excel and descriptive statistics.

RESULTS

Table [1] shows socio demographic profile of study subjects. Among 100 study subjects majority 58% belonged to the age group of 25-30 years, 53% of respondents follow Muslim religion and about 52% were educated up to secondary high school. About 91% were house wife, majority 55% belongs to upper middle class socio economic status scale according to modified Kuppuswamy classification and about 65% belonged to nuclear type of family.

Table [2] depicts knowledge responses regarding ARI in that all study subjects knew about ARI, Majority 96% said ARI is caused due to cold weather, 64% is from germs. About 85% of them said dust is the risk factor for ARI, 89% passive smoking, 72% low immunity, 69% inadequate ventilation. Majority 55% respondent that breast feeding can be given during ARI and about 55% denied of giving regular normal diet. 51% gave home remedies. About 44% took child to a doctor after 3 days. Only 10% were aware of ARI complications and 3% were aware of vaccines which prevent acute respiratory infections. About 79% responded exclusive breast feeding prevents ARI, 90% said avoidance of cold can prevent ARI, and 88% said avoidance of passive smoking can prevent ARI.
Table 2: Knowledge responses regarding ARI (n=100)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cause</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold</td>
<td>96</td>
<td>4</td>
</tr>
<tr>
<td>Spread from others</td>
<td>74</td>
<td>26</td>
</tr>
<tr>
<td>Junk</td>
<td>84</td>
<td>16</td>
</tr>
<tr>
<td>Germs</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td><strong>Risk factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust</td>
<td>85</td>
<td>15</td>
</tr>
<tr>
<td>Pollen</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>Inadequate ventilation</td>
<td>69</td>
<td>31</td>
</tr>
<tr>
<td>Over crowding</td>
<td>64</td>
<td>36</td>
</tr>
<tr>
<td>Low immunity</td>
<td>72</td>
<td>28</td>
</tr>
<tr>
<td>Underweight</td>
<td>59</td>
<td>41</td>
</tr>
<tr>
<td>Unimmunized</td>
<td>75</td>
<td>25</td>
</tr>
<tr>
<td>Wood fuel</td>
<td>48</td>
<td>52</td>
</tr>
<tr>
<td>Passive smoking</td>
<td>89</td>
<td>11</td>
</tr>
<tr>
<td>Pets at home</td>
<td>73</td>
<td>27</td>
</tr>
<tr>
<td>Breast feeding</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>Regular food</td>
<td>45</td>
<td>55</td>
</tr>
<tr>
<td>Aware of complications</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>Aware of vaccines</td>
<td>3</td>
<td>97</td>
</tr>
<tr>
<td>Homemade remedies</td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>Action after 3days for ARI</td>
<td>44</td>
<td>56</td>
</tr>
<tr>
<td><strong>Prevention knowledge</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exclusive BF prevents ARI</td>
<td>79</td>
<td>21</td>
</tr>
<tr>
<td>Avoidance of cold</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Avoidance of allergens</td>
<td>84</td>
<td>16</td>
</tr>
<tr>
<td>Good ventilation</td>
<td>68</td>
<td>32</td>
</tr>
<tr>
<td>Avoidance of passive smoking</td>
<td>88</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 3 – Knowledge and management regarding Antibiotic use in ARI

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heard of Antibiotics (n=100)</td>
<td>96 (96.0)</td>
</tr>
<tr>
<td>Given antibiotic without doctor consultation (n=96)</td>
<td>57 (59.4)</td>
</tr>
<tr>
<td>From Pharmacist</td>
<td>02 (3.5)</td>
</tr>
<tr>
<td>Previous prescription</td>
<td>55 (96.5)</td>
</tr>
<tr>
<td>Demanded a doctor for antibiotics</td>
<td>14 (14.6)</td>
</tr>
<tr>
<td>Change over doctor</td>
<td>51 (53.2)</td>
</tr>
<tr>
<td>Side effects of antibiotic over use</td>
<td>11 (11.5)</td>
</tr>
<tr>
<td>Aware of antibiotic resistance</td>
<td>3 (3.1)</td>
</tr>
</tbody>
</table>

Table 4: Attitude regarding Antibiotic use (n=96)

<table>
<thead>
<tr>
<th>Attitude questions</th>
<th>Average score(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it antibiotics required every time the child falls sick with respiratory infections</td>
<td>29.58</td>
</tr>
<tr>
<td>One can use antibiotics without doctor consultation</td>
<td>49.37</td>
</tr>
<tr>
<td>Antibiotics do not have any side effects</td>
<td>18.33</td>
</tr>
<tr>
<td>Completing the course of antibiotics is necessary</td>
<td>59.00</td>
</tr>
<tr>
<td>Antibiotics use can prevent complications from ARI</td>
<td>12.5</td>
</tr>
<tr>
<td>Over usage of antibiotics causes antibiotic resistance</td>
<td>1.25</td>
</tr>
</tbody>
</table>

Table [3] shows knowledge and management regarding ARI. Among 100 mothers 96% knew about antibiotics. Among 96 study subjects 59.4% of them give antibiotic without doctor consultation, majority were following previous prescription. Only 11.5% were aware of side effects of antibiotics and only 3.1% were aware of antibiotic resistance. Table[4] After taking average percentages of attitude score, among 96 study subjects about 59% had favourable attitude regarding completion of antibiotic course, 29.58% had unfavourable attitude regarding antibiotic requirement, 49.37% had unfavourable attitude regarding use of antibiotics without consultation, about 18.33%, 12.5%, 1.25% had unfavourable attitude regarding side effects, use of antibiotics can prevent complications and antibiotic resistance respectively.

DISCUSSION

In this present study majority of study subjects belonged to the age group between 25-30years, most of them followed Muslim by religion , majority respondents were educated upto secondary high school and belongs to upper middle class socio economic status scale whereas study done by meena et.al revealed mean age group between 25-30years, majority 94.5% were Hindu by religion, about 26.6% were educated up to secondary level of education, 51% belongs to nuclear family and about 49.2% were of house wife. In present study, subjects most commonly responded that ARI is caused by cold weather and by germs. In other study done by Chan et al revealed that 59% of responders said that bad weather main cause of ARI, 13% due to food and 27% due to germs. Study done by D.E Simiyu et.al said that about 87.5% exposure to cold weather was the main cause and also study done by D.M.Denno et.al reveals that about 73.4% said exposure to cold air was the cause and about 6.3 % said that dust, car fumes/ smokes was also cause. In this study majority said dust and passive smoking was common risk factors for ARI. In Shireen Qasim Bham et.al study describes about 81% responders said dust was most common aggravating factor and least risk factor was unimmunized 3%. Only 55% said that breast feeding given during ARI whereas in Kapoor et.al study showed that about 89.6% mothers continued breast feeding during ARI, where as 74.5% said they give regular food during pneumonia. Shireen Qasim Bham et.al study revealed that 69% continued breast feeding during ARI. In present study only 10% of mothers were aware of complications regarding ARI, among them most common complication is Pneumonia i.e. 80% (n=10)when compared to Shireen Qasim Bham et al study about 83% mothers said most common complication is pneumonia. In present study only 3% of study subjects
were aware of vaccines available for prevention of 
ARI, in D.E Simiyu et.al revealed about 60.2% 
mothers knew measles was preventable by immu-
nization.\(^6\) A study done by prajapathi et.al 
showed that 21.8% used house hold remedies, in 
another study Shireen Qasim Bham et.al only 6% 
mothers used home remedies, in Kapoor et.al 
study reveals that 51.9%managed ARI using home 
remedies.\(^2\) whereas in present study nearly 51% 
used home remedies for ARI. Study done by Sadaa 
Siddique et.al says about 53% took children to do-
tor in less than 3 days following episodes of 
ARI.\(^4\) In present study 44% took children to doctor 
after 3 days of ARI. A study done by D.M. Denno 
et.al revealed that about 60.8% said prevention of 
exposure to cold is the most common preventive 
measure and 1.4% said due to prevention of dust 
inhalation.\(^11\) Another study done by D.E Simiyu 
et.al depicts that about 87.5% responders said 
avoidance of cold weather is one of the preventable 
measure.\(^9\) In present study majority 90% said 
avoidance of cold weather was the most common 
preventable measure for ARI.

In present study 14.6% demanded for antibiotics , 
in study done by Chan.et.al says about 28% re-
quested or demanded for antibiotics.\(^9\) In Zyoud 
et.al study about 38% never demanded doctor for 
antibiotics.\(^3\) In present study 59.4% gave antibiotic 
without doctor consultation, whereas in study 
done by Farhad et.al revealed that only 5% of them 
gave antibiotics without consultation.\(^4\) A Study 
done by Andreas Roussounides et.al here main 
source of antibiotic information was from pedia-
trician, another study done by Saad Siddique et.al 
revealed that most common reason to use pre-
scribed antibiotic was same antibiotic being given 
by a physician earlier.\(^15\) In study done by zyoud 
et.al main source is physician 61.6%, fol-
lowed by pharmacist 34.3%. In same a study about 
76% don’t change the doctor for not prescribing 
antibiotics.\(^13\) In this study only 11.5% knew that 
antibiotics had side effects and 3.1% aware of antibiot-
ic resistance whereas in Andreas Roussounides 
et.al study revealed that about 93% responders 
said antibiotics have side effects and about 90% 
said over use of antibiotics leads antibiotic resis-
tance.\(^10\) In another study done by Saad Siddique 
et.al revealed about 51% knew antibiotics have side 
effects.\(^6\) A Study done by Saad Siddique et.al about 31.3 % 
have attitude that antibiotics must be used in all 
ARI cases in contrast to this Zyoud et.al revealed that 
about 63.5% of parents agreed that not to give 
antibiotics in simple ARI. About 51.8% agreed that 
antibiotics have their side effects.\(^6\) In Chan et.al 
study about 29% had an attitude that there child 
require antibiotic whenever URTI occurs.\(^9\)

**LIMITATIONS**

Present study have limitations of parents recall 
bias, they might not remember the actual chrono-
logical events of the episodes of the child illness. 
Present study is based on purposive sampling 
technique.

**CONCLUSION**

Majority of mothers had reasonable good knowl-
edge regarding ARI, but there was lack of knowl-
edge regarding complications of ARI and vaccines 
available for prevention of ARI. In spite of good 
knowledge of ARI they had unfavourable knowl-
edge and attitude on antibiotic use and frequency.

**RECOMMENDATION**

As in this study we identified there is unfavour-
able knowledge and attitude regarding antibiotic 
use, in spite of majority were educated mothers. 
More of health educational intervention should be 
more towards use of unprescribed antibiotics and 
thus helps to reduce the emergency of antibiotic 
resistance. Also avoid irrational use of antibiotics 
in children. Also create more awareness regarding 
vaccines available for ARI prevention. Similar 
study should be done by using larger sample size.

**ACKNOWLEDGMENTS:**

The authors express many thanks and sincere 
gratitude to the staffs of Department of Commu-
nity medicine, Kempegowda Institute of Medical 
Sciences, Bangalore. I would also extend my whole 
hearted thanks to my fellow post graduates for the 
immense support, help and encouragement during 
the study. We also thank all the study participants 
for their co-operation during the study.

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