

CHAPTER 6

CONCLUSION AND IMPLICATIONS

6.1. Conclusions and implications

This study confirmed some of the findings of previous studies that presence of 2nd and 3rd degree malnutrition in host, occurrence of diarrhoea during last fortnight, biogas used as cooking fuel and non compliance with vaccination were independently associated with the development of severe ARI.

The most significant risk was shown with malnutrition, which increased with the degree of malnutrition. In Bangladesh the wide spread presence of malnutrition (>60% in general population) and excess mortality due to severe ARI in under five population substantially supported this findings.

Similarly the slight increment of odds ratio in case of diarrhoea indicated evidences in support of hypothesis of this study as well confirmed its pathological role in producing severe ARI.

Based on odds ratios presented in this study the independent effect of non compliance with vaccination again confirmed the findings of other studies in this regard^{48,49}. Although there was almost total coverage of EPI (Extended program for immunization) in urban areas, non compliance with

vaccination as a proxy measure of poor parental care was significantly present in this study population.

Available evidences in the developing world would seem to argue strongly that indoor air pollution from bio gas fire smoke is a risk factor for severe ARI in young children. This study supplemented this hypothesis with demonstrating almost triple the risk with the use of biogas. This result could be important as it remained significant even after taking into consideration of ventilation of the cooking place and its' distance from the child's bedroom. In practical situation, a typical Bangladeshi household in the urban area consists of one or two rooms with attached or inside cooking arrangements and biogas is the usual fuel used.

Some uncertainty remained regarding some of the variables which showed significance on univariate analysis, but failed to do so after adjustment. Of these, the nutritional and protective effect of breast milk when given exclusively after birth can not be denied. Those who were given breast milk for at least 3-4 months exclusively after birth showed a protective effect on univariate analysis in this study.

On the other hand, when children were treated with a combination of regimes showed a risk in comparison to recognized allopathic treatment. This could be an evidence of the effectiveness of the regular treatment.

Negative results were obtained in all the variables related to socio economic group and some variables in other groups. The absence of an effect could be otherwise interpreted as protective effect. Like in family income factor all the strata had similar association. This could be explained as that subjects in this study were more or less from similar socio economic status or this study had missed those subjects who were coming from higher status. In another sense in urban areas where some kind of free public health care was available, parental care did not depend on the family financial condition. Of course it should be reminded here that most of the socio economic factors were intricately related and confounding to each other.

Regarding secondary outcomes of this study the results obtained from blood examination and chest 'X'-ray of the cases were not altogether very different from usual findings in such cases. It was also noticed that, whatever might be the result of blood examination and chest X ray, once a child was brought to hospital, the cure rate was almost hundred percent. As for maternal knowledge and practice, a good feeding practice during illness was observed in control mothers than the case mothers. Similarly their reasons for seeking care and reasons for delay in care seeking were different. But most mothers could name the illness correctly though different terminology were used for them.

Further studies should be carried out with special attention to reliable measurement of certain factors, and pinpointing certain factors. For example the most vulnerable age of the child for severe ARI. A case control design with 1:2 control, one from the same hospital and the other from the neighborhood could probably overcome a lot of biases and produce reliable results. Matching of some factors could be another better alternate process.

6.2. Recommendations

Possession of the means to prevent or to treat specific agents could be insufficient to ensure its control. This is particularly true in case of severe ARI, which might be the end result of many factors. Broad ranging economic and environmental changes will be required to secure longtime improvement in child health. Meanwhile certain preventive and case management medical interventions should be initiated, specially those which aimed to counteract these risk factors of severe ARI. The following suggestions could be considered.

(1). Health education on the causes of severe ARI, recognition of the various form of ARI, and action to be taken by community.

(2). Development and implication of better child care practices.

(3). Prevention of low birth weight and malnutrition, and with a goal to provide children nutrition security.

Although to achieve this, huge resources mobilization and political challenges will be required.

(4). Including all the children under coverage of EPI and ensuring their application. Extension of routine vaccination to include vaccines against S.pneumonia and H.Influenza, type b.

(5). Diarrhoeal cases should be identified and treated early with an emphasis to look for any important signs of severe ARI in these cases.

(6). Safe cooking practice should be encouraged whenever possible and people should be advocated to utilize gas instead of biogas.

(7). There should be free exchange of information among different programs and in some instances some programs could be integrated.

In fact boosting of PHC and family planning programs could include many of these interventions in their schedule and still could function effectively. But it is also true that little will be achieved without the necessary resources. A living together theory would provide a more holistic approach in this regard.