



PREVALENCE OF MALNUTRITION, ACUTE RESPIRATORY INFECTIONS AND DIARRHOEA IN CHILDREN AGED 1-5 YEARS

Dr. Anubha Nema¹, Dr. Sunil Kumar Mittal²

¹MD Paediatric, ²DM Cardiology

SMS Medical College, Jaipur

Conflicts of Interest: Nil

Corresponding author: Dr. Sunil Kumar Mittal

Abstract:

Background: Under-nutrition is a wide spread form of malnutrition in developing countries and is the major factor in childhood mortality and morbidity.

Methods: Study setting and participants a cross-sectional study was conducted in children aged 12-60 months who were residing in the area for past six months were included in the study. For documenting the health care seeking behaviour, family members (preferably the mother/father of the child) were interviewed.

Results: Based on WHO 2006 growth standards, the prevalence of “any” under nutrition (weight for age ≤ 2 SD) was 10.0%. The overall prevalence of stunting (height for age ≤ 2 SD) was 24% and wasting (weight for height ≤ 2 SD) was 12.0%. Prevalence of “severe” under nutrition (weight for age Z score ≤ 3 SD) was 4%. Severe wasting (weight for height Z score ≤ 3 SD) was found to be in 6% of children and severe stunting (height for age Z score ≤ 3 SD) was found in 14% of children. Out of the total 500 children studied, nearly 60% of them were reported to have at least one episode of ARI in the last three months prior to the interview.

Conclusion: Considerable burden of severe malnutrition, ARI and diarrhoea exists in children and programs focussing on poverty reduction, environmental hygiene and sanitation could improve the situation. Health seeking behaviour for ARI and diarrhoea was good in this urban population.

Keywords: Under-five, Malnutrition, Acute respiratory infection, Diarrhoea

Introduction

Under-nutrition is a wide spread form of malnutrition in developing countries and is the major factor in childhood mortality and morbidity.¹ With rapid urbanisation, about one fourth of the urban population in India is forced to reside in urban slums.² Non availability of the basic human necessities in the urban slums adversely affects the growth and nutritional status of the slum population. Urban slum dwellers are exposed to poor environmental conditions (overcrowding, poor quality drinking water and sanitation, no removal of waste etc.).³ Ignorance and difficult conditions of life in the slums are likely to result in improper food habits, low health care use and inappropriate hygiene awareness.³ The situation is further worsened due to lack of necessary.

Although the prevalence of acute respiratory and diarrhoeal diseases in under five in India have been adequately studied, most of the available data are institution-based and there is still a paucity of community-based studies, mores so from the slum

population. Moreover, malnutrition in children has often been implicated in the adverse outcomes due to ARI and diarrhoea but there is a lack of sizeable literature documenting its prevalence from slums of India. Against this backdrop the current study was planned with the objective(s) to document the prevalence of malnutrition, burden of acute respiratory and diarrhoeal diseases and the treatment care seeking behaviour of the care givers in Rajasthan India.

METHODS

Study setting and participants a cross-sectional study was conducted in children aged 12-60 months who were residing in the area for past six months were included in the study. For documenting the health care seeking behaviour, family members (preferably the mother/father of the child) were interviewed.

Children under five years in the selected households were studied by measuring the height, weight, and mid arm circumference. Weight measurements were

taken in a portable digital platform weighing balance. The scale was adjusted to zero before each measurement. Weight was recorded to the nearest 0.1 kg. Height was measured to the nearest 0.5 cm using a measuring tape fixed vertically on a smooth wall perpendicular to the ground. Each reading was taken twice to ensure correctness of the measurement and to minimize intrapersonal errors.

Mid Upper Arm Circumference (MUAC) was measured at the midpoint between acromion and olecranon process in the right hand. The data collectors were trained to take these measurements by the study investigators during pretesting in the community itself.

A semi-structured pretested interview schedule was used to collect information on demographic details of the family, birth order of the child, episodes of ARI and diarrhoea (in the last three months from the time of interview) and health seeking behavior.

RESULTS

A total of 500 children in the age group of 1-5 years were included in the study. Nearly 62% of children were males.

The mean age (in years) of the children included in the study was 3.2 ± 1.4 .

Based on WHO 2006 growth standards, the prevalence of "any" under nutrition (weight for age ≤ 2 SD) was 10.0%. The overall prevalence of stunting (height for age ≤ 2 SD) was 24% and wasting (weight for height ≤ 2 SD) was 12.0%. Prevalence of "severe" under nutrition (weight for age Z score ≤ 3 SD) was 4%. Severe wasting (weight for height Z score ≤ 3 SD) was found to be in 6% of children and severe stunting (height for age Z score ≤ 3 SD) was found in 14% of children.

Out of the total 500 children studied, nearly 60% of them were reported to have at least one episode of ARI in the last three months prior to the interview.

Around one-fourth of the children had at least one episode of diarrhea last three months prior to the interview.

DISCUSSION

As malnutrition is often linked to low immunity and consequently the chances of children being affected by acute respiratory infections and diarrheal illness becomes high, the study also aimed to report the prevalence of these among the children studied. Our study showed lower prevalence of undernutrition,

wasting and stunting when compared to the National Family Health Survey-3 (NFHS-3) urban poor indicators. In the current study the prevalence of undernutrition, wasting and stunting was 10.1%, 12.2% and 25.2% respectively as against 47.1%, 20.8% and 54.2% for the urban poor from the NFHS-3 data.⁴

In the present study, a high proportion of children were affected by acute respiratory infections in the last three months prior to the interview. More than half (60%) had an episode of ARI in last three months. Other studies conducted in different parts of the country have reported a comparatively lesser rates. A cross-sectional survey was carried in urban slum of trans-Yamuna region of Delhi, where a total of 1307 under five children were studied.⁵ Out of these, 14.6 % had an attack of ARI in the preceding two weeks. Another study undertaken in urban and rural areas of West Tripura district found monthly incidence of ARI in children under-five years of age, as 23% and 17% respectively.⁶ The reported lower incidence(s) of ARI by these studies compared to the current study might be due to shorter recall period considered in these studies. It is worthwhile to note that, in the current study, majority of ill under-five children were taken to either private or public health care facility with only a small percentage of them taken to traditional healers/pharmacists. Moreover, no significant sex based differences in care seeking was obtained. These findings seem to be surprising in an urban slum set up as the health care seeking for childhood illnesses is often reported to be inadequate and sex based bias frequent in previous literature, irrespective of the place of study i.e. urban, peri-urban, rural.⁷⁻¹⁰

Around one quarter of the study participants, in the current study, had an episode of diarrhoea in last three months. Oral Rehydration Salt (ORS) was administered by more than 90 percent of the parents to their child suffering from diarrhoea. This reported prevalence of diarrhoea was comparable to a study carried out in an urban slum of Aligarh, Uttar Pradesh in 2009.²¹

CONCLUSION

Considerable burden of severe malnutrition, ARI and diarrhoea exists in children and programs focussing on poverty reduction, environmental hygiene and sanitation could improve the situation. Health seeking behaviour for ARI and diarrhoea was good in this urban population.

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