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Research

Managing childhood diarrhoea at homes in India: An opportunity to reduce child morbidity and mortality

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Abstract *Background:* Diarrhoea is a leading killer of children under five years of age globally. Knowledge and practices about management of diarrhoea is a crucial determinant of its incidence. This study assesses the current status of knowledge about diarrhoea management among the mothers across socio-demographic characteristics in India. Further, this study examines the prevalence of diarrhoea among the children (0—5 years) and the practices followed by their mothers to control diarrhoea at home.
Methods: This study analysed data from the fourth round of the District Level Household and Facility Survey-4 (DLHS-4) conducted during 2012—13 under the purview of Ministry of Health and Family Welfare, Government of India. A total number of 14,532 Primary Sample Units (PSUs) were surveyed in DLHS-4. Bivariate analysis was used to understand the differentials of children who suffered from diarrhoea by socio-demographic variables.
Results: The results reveal that only 76.36% mothers have knowledge about diarrhoea management in India. Merely, 54.76% mothers give oral rehydration solution (ORS) to their children when they get diarrhoea. However, 43.43% mothers use salt and sugar solution for the treatment of childhood diarrhoea at their homes. Despite a great deal of efforts being expanded worldwide to promote breastfeeding, only 19.9% mothers continue breastfeeding when their child suffers from diarrhoea.
Conclusion: The present study is thus significant in locating the gaps where interventions are required to prevent losses from childhood diarrhoea.

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Highlights

- A large number of mothers are still not aware of diarrhoea management in India.
- Merely half of the mothers (54.76%) give ORS to their children when they get diarrhoea.
- Only 19.9% Indian women continue breastfeeding when their child gets diarrhoea.

Introduction

Diarrhoea is a leading killer of children under five years of age globally [1—4]. According to the United Nations Children's Fund (UNICEF) [5], it accounted for nine percent of all deaths among children lower than five years old globally in 2015. This means over 1400 young children are dying each day, or about 530,000 children a year due to diarrhoea. The situation in India is worse than any other country where diarrhoea caused more than 130,000 child deaths in 2013 [6]. This accounts for around one-fourth of all worldwide diarrhoea deaths among children under five years of age [7]. Millennium Development Goal-4 since its inception called for a two-third reduction in the mortality rate among children under five years between 1990 and 2015 as its Goal-4. But, India failed to sustain with its goal.

Most of the deaths from diarrhoea result from excessive fluid and electrolyte losses which lead to dehydration [8,9]. Majority of these deaths are highly avoidable by simple remedies such as oral rehydration solution (ORS) and other fluids available at home, continuous feeding during diarrhoea episodes and breastfeeding [5,10]. The importance of these practices is widely acknowledged in reducing childhood mortality and morbidity [11—15]. WHO and UNICEF have referred drinking water, sanitation and hygiene behaviour (called as WASH variables), as the three primary determinants of diarrhoeal diseases [16]. Appropriate intervention for the prevention and management of diarrhoea depends on the level of knowledge and awareness about the use of ORS, and other practices at homes [17]. Therefore, knowledge about the effective practices to manage diarrhoea at homes is crucial determinant for its prevalence.

The previous researchers Pahwa et al. [4], Tate et al. [18], Saurabh et al. [19], Rao et al. [20], and Shah et al. [21], have studied the various aspects of diarrhoea management at homes. These studies are limited to a very small number of respondents and geographical location hence, relevant in their own way. Though, diarrhoea is highly manageable at homes; it would be interesting to assess the current status of knowledge about diarrhoea management among the Indian mothers across socio-demographic characteristics. Further this study examines the incidence of diarrhoea, and the practices that Indian mothers follow for the treatment of childhood diarrhoea at homes.

Methods

The present study analysed recently released data from the fourth round of the District Level Household, and Facility Survey-4 (DLHS-4) conducted during 2012—13 [22]. The DLHS is a nationally representative cross-sectional survey carried out in 21 states of India under the purview of Ministry of Health and Family Welfare, Government of India. The data from this survey is useful in setting the benchmarks and examining the progress the country has made after the implementation of Reproductive and Chid Health Programme (RCH). The DLHS-4 is designed to provide information on family planning, maternal and child health, reproductive health of ever-married women and adolescent girls, utilization of maternal and child healthcare services at the district level for India. A total number of 14,532 Primary Sample Units (PSUs) were surveyed in DLHS-4. DLHS-4 questionnaires were canvassed in 378,487 households, including 319,695 ever-married women aged 15—49 years.

Sampling techniques and study population

DLHS-4 is a district level survey. The multi-stage stratified sample design was adopted to select the representative sample from each district in India. Rural and urban areas of a district are considered as natural strata. Wherever applicable, urban population in a district was further stratified into million class cities and non-million class cities. Two-stage sampling was used for the selection of the urban samples, where the primary sampling unit (PSU) is the National Sample Survey Office (NSSO) urban frame survey (UFS) blocks and the second stage sampling unit (SSU) is the household. The urban PSUs were selected by equal probability without replacement and ultimate stage sampling unit (USU) chosen by a process of circular systematic sampling. Selection of rural health facilities in DLHS-4 is linked with the sampled rural PSUs. Primary Health Centres (PHC) and Sub-Health Centres (SHC) catered to the health care needs of the sampled rural PSUs were included in the Facility Survey (FS) of DLHS-4.

The methodology applied in the present study is divided into two sections; variable construction and statistical analyses.

Variable description

As per the objectives of the present study, we used the information given (in the questionnaire) on children who suffered from diarrhoea, knowledge of diarrhoea management and type of practices followed by mothers if their children get diarrhoea. It is well recognized around the world in public health literature that women's age and mother's education, and awareness about health services