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The NFHS BULLETIN summarizes findings from the 1992–93 National Family Health Survey. The NFHS collected information from nearly 90,000 Indian women on a range of demographic and health topics. The survey was conducted under the auspices of the Indian Ministry of Health and Family Welfare to provide national and state-level estimates of fertility, infant and child mortality, family planning practice, maternal and child health, and the utilization of services available to mothers and children.

The International Institute for Population Sciences (IIPS), Mumbai, conducted the NFHS in cooperation with various consulting organizations and 18 population research centres throughout India and with the East-West Center in Honolulu, Hawaii, and Macro International in Calverton, Maryland. The U.S. Agency for International Development provided funding for the NFHS and for this publication.

Mass Media Can Help Improve Treatment of Childhood Diarrhoea

For infants and young children in India, diarrhoea is one of the leading causes of death (GOI 1998). Yet 9 out of 10 cases of childhood diarrhoea can be treated successfully at home, simply by increasing a child's fluid intake and continuing feeding (WHO 1995).

Because dehydration is a major factor in deaths from diarrhoea, the Indian Government considers its Oral Rehydration Therapy (ORT) Programme a priority activity for promoting child survival. The programme aims to educate the community—mothers in particular—about the causes, symptoms, and treatment of diarrhoea. Mothers are instructed to increase a child's fluid intake, to continue feeding, and to recognize and respond to danger signs that require treatment at a health facility.

In a country such as India where about two-thirds of mothers are illiterate, radio and television can play an important role in teaching women how to keep their children healthy. The Indian Government has relied heavily on electronic mass media to disseminate messages on child health. Frequent messages on ORT are aired on radio and television and shown in longer documentaries in cinema halls. These messages promote the use of prepackaged oral rehydration salts (ORS) or, alternatively, a home-made solution (referred to as recommended home solution—RHS) combining salt, sugar, and water.

This issue of the *NFHS Bulletin* evaluates the effects of exposure to the electronic mass media on women's knowledge and use of ORT to treat childhood diarrhoea. A more detailed discussion of these results is presented in NFHS Subject Report No. 10 (Rao et al. 1998). The analysis uses information collected in India's 1992–93 National Family Health Survey (NFHS) (IIPS 1995). Results are based on data from 38,161 women of reproductive age (13–49 years) who gave birth during the four years before the survey and on 4,558 children born 1–47 months before the survey who were sick with diarrhoea at any time during the two weeks before the survey.

The analysis shows generally low rates of knowledge and use of ORT in spite of the government's efforts to publicize the treatment. Rather, many children are treated with unnecessary, and sometimes harmful, antibiotics and other antidiarrhoeal drugs. The analysis also shows that women who are regularly exposed to the electronic mass media are considerably more likely to know about and use ORT than are women who are not exposed to these media.

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Treatment of diarrhoea

About 1 in 10 children under age 4 suffered from diarrhoea in the two weeks before the NFHS. Fewer than 40% of these children received any oral rehydration in the form of ORS, RHS, or increased breastfeeding or other fluids. Only 18% received ORS, and 19% received RHS, while 69% received neither ORS nor RHS. Children suffering from diarrhoea were twice as likely to receive decreased breastmilk and other fluids as they were to receive an increase in these fluids (Figure 1).

Even among children who received ORS or RHS, only 14% also received increased fluids, while 25% received less fluid than before they became ill. It is evident from these numbers that the Oral Rehydration Therapy Programme has not sufficiently emphasized the importance of increased fluid intake during a bout of diarrhoea in order to replenish fluid loss and avoid dehydration.

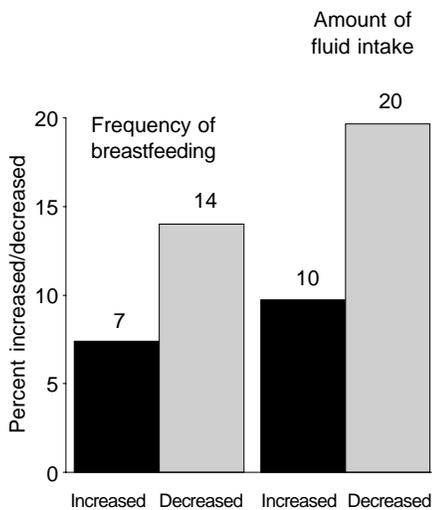


Figure 1. Change in frequency of breastfeeding (if child still breastfed) and amount of fluid intake (apart from breastmilk) for children born 1–47 months before the NFHS who had diarrhoea in the two weeks before the survey: India, 1992–93

At the time of the survey, only 43% of the mothers knew about ORS packets, and only 26% had ever used them. The low use of ORT is surprising because 61% of the children who were sick with diarrhoea received treatment from a health facility or provider. Among children who had diarrhoea during the two weeks before the survey and received treatment from a health facility or provider, 94% received antibiotics or other drugs (excluding home remedies and herbal medicines). Within this group, 35% were treated with drugs as well as ORS or RHS, and 59% were treated with drugs only.

Children with diarrhoea who visited public-sector health facilities or providers were more likely to receive ORS or RHS than were children who visited private-sector facilities or providers. And children treated in the public sector were less likely to receive unnecessary drugs (Figure 2).

These results show that health-care providers, even in the public sector, often do not tell mothers to use ORT when children are ill with diarrhoea. Other studies conducted about the same time as the NFHS also indicate low awareness of ORT among mothers, high reliance on health-care providers, high use of drugs, and a tendency of health-care providers not to prescribe ORT (Singh et al. 1992; Sinha and Srivastava 1993).

Most antibiotics and other drugs commonly prescribed for diarrhoea treatment have no practical benefits in preventing dehydration or improving nutritional status. Some actually prolong diarrhoea, while others have dangerous and sometimes fatal side effects. The World Health Organisation (WHO) strongly advises against the use of drugs to treat diarrhoea, especially for children under age 5 (WHO 1995).

Yet in India, the NFHS found that drugs are used for 94% of diarrhoea episodes in children under age 4 who were taken to a

health facility or provider. This includes 91% of cases where children received treatment in the public sector and 94% of cases where children received treatment in the private sector.

What is the explanation for this? Some health providers may not be aware of the proper role of ORT and drugs in the management of diarrhoea. Others may prescribe drugs because they can charge more money than they could if they simply recommended oral rehydration. Still others may simply be acquiescing to the expectations of parents about what constitutes proper medical care of children who are sick with diarrhoea.

Exposure to electronic mass media

The NFHS included three questions on women's exposure to electronic mass media: "Do you usually listen to radio at least once a week?", "Do you usually watch television at least once a week?", and "Do you usually go to a cinema hall or theatre to

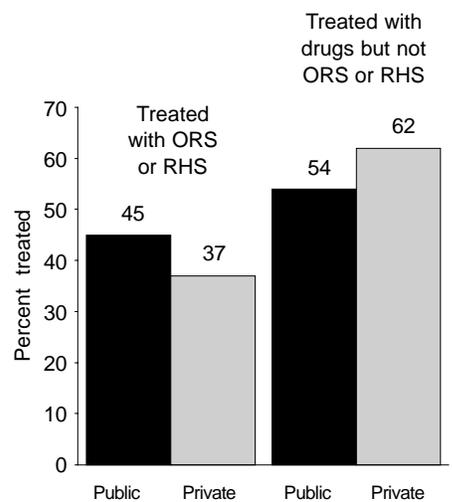


Figure 2. Differential patterns of diarrhoea treatment by public- and private-sector facilities or providers for children born 1–47 months before the NFHS who had diarrhoea in the two weeks before the survey: India, 1992–93

see a movie at least once a month?”. The survey results show that 39% of women who gave birth in the four years before the survey listened to radio at least once a week, 27% watched television at least once a week, and 14% went to the cinema at least once a month. Altogether, 48% of the women reported regular exposure to one or more of these media.

Because media exposure is correlated with many other socioeconomic variables, it is possible that any apparent relationship between media exposure and knowledge and use of ORT is actually due to these other factors. For this reason, it is important, when measuring the effects of media exposure, to introduce statistical controls for potentially confounding variables.

The variables included as controls in this analysis are: age of child in months (1–5, 6–11, 12–23, 24–47); sex of child (male, female); age of mother (13–19, 20–29, 30–49); education of mother (illiterate, literate but not completed middle school, middle school complete); caste/tribe (scheduled caste or scheduled tribe, other)¹; religion (Hindu, Muslim, other); residence (urban, rural); house type (*kachcha*, *pucca* or semi-*pucca*)²; crowding in the house (<3, ≥3 persons per room); safe drinking water (yes, no); clean toilet facility (yes, no); electricity in the household (yes, no); and geographic region (north, central, east, northeast, west, south).

Figures 3 and 4 show the effects of electronic media exposure on knowledge and

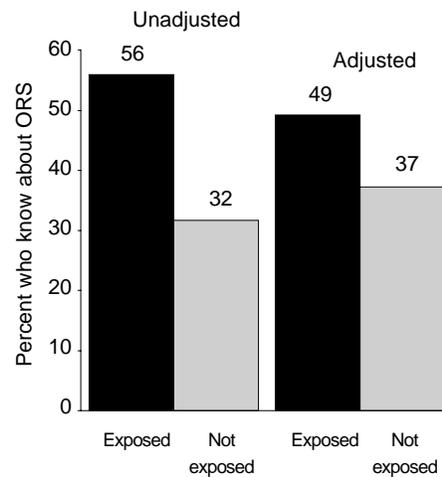


Figure 3. Unadjusted and adjusted effects of electronic media exposure on knowledge of oral rehydration salt (ORS) packets among women who gave birth during the four years before the NFHS: India, 1992–93

use of oral rehydration therapy. The percentages shown in these figures are predicted values derived by logistic regression. Unadjusted percentages are calculated from logistic regressions with media exposure as the only variable; adjusted percentages are calculated with all the control variables included and held constant at their mean values.

The unadjusted percentages in Figure 3 show that knowledge of ORS packets is 24 percentage points higher among women who are regularly exposed to the electronic mass media than among unexposed women. This difference is reduced to 12 percentage points when all the potentially confounding factors are held constant. The remaining difference of 12 percentage points is highly statistically significant ($p < .0001$).

Figure 4 shows that mother’s media exposure has a large positive effect on the use of both ORS and RHS. The effect of media exposure is only slightly smaller when potentially confounding factors are statistically controlled, indicating that the

effect of media exposure is largely independent of the effects of the other factors. The adjusted effect of media exposure is highly statistically significant for both ORS ($p < .006$) and RHS ($p < .002$).

The ORS use rate is considerably higher for boys (20%) than for girls (15%), but the RHS use rate is the same for boys and girls (19%), indicating some gender discrimination in the use of ORS but not RHS. Gender discrimination in the use of ORS may be due to parental perceptions that ORS, which is purchased or obtained from a health provider, is better than RHS, which is homemade. Parents may be more willing to spend the time and money required to obtain ORS packets for boys than for girls.

Discussion and policy implications

Results of this study indicate that, despite a vigorous Oral Rehydration Therapy Programme in India for more than a decade, knowledge and use of ORT to treat childhood diarrhoea remain quite limited. Very small percentages of children who fall sick with diarrhoea are treated with ORS, RHS, or increased fluids, despite the fact that 61% of these children receive treatment from a health facility or provider.

Among those who receive treatment from a health facility or provider, a very large proportion (94%) are treated with antibiotics or other antidiarrhoeal drugs, contrary to WHO recommendations that drugs not be used to treat diarrhoea in young children. The use of drugs is common among both public- and private-sector providers but is more common in the private sector.

The analysis indicates that the electronic mass media are effective in increasing awareness and use of ORT. Women regularly exposed to the media are much more likely than unexposed women to know about ORS packets and to use ORS or RHS. This result is valid even after controlling for a number of potentially

1. Scheduled castes and scheduled tribes are those castes and tribes identified by the Government of India as socially and economically disadvantaged and in need of protection from social injustice and exploitation.

2. *Kachcha* houses are made from mud, thatch, or other low-quality materials. *Pucca* houses are made from high-quality materials, and semi-*pucca* houses are made from partly low-quality and partly high-quality materials.

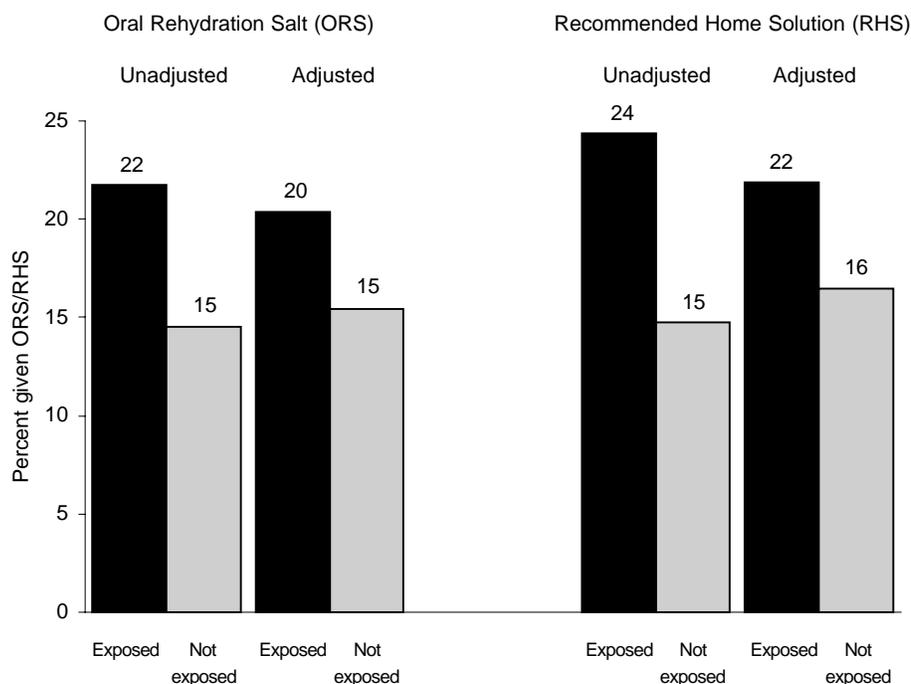


Figure 4. Unadjusted and adjusted effects of mothers' electronic media exposure on use of oral rehydration salt (ORS) packets or recommended home solution (RHS) for children born 1–47 months before the NFHS who had diarrhoea in the two weeks before the survey: India, 1992–93

confounding variables by holding them constant. Results also indicate some discrimination against girls in the use of ORS.

These findings suggest that both mothers and health-care providers are not well informed about the proper treatment of childhood diarrhoea. There is clearly a need to strengthen education programmes for mothers and to provide supplemental

training to health-care providers, emphasizing the importance of increased fluid intake and continued feeding and discouraging the use of unnecessary drugs. The Oral Rehydration Therapy Programme also needs to address the problem of gender discrimination in the treatment of diarrhoea. In all these efforts, the mass media can help.

The **International Institute for Population Sciences** was established at Mumbai in 1956 as the regional institute for training and research in population studies for the Asia and Pacific region of the United Nations. Now also a deemed university, it is an autonomous institution sponsored jointly by the Government of India, the United Nations Population Fund, and the Sir Dorabji Tata Trust.

The U.S. Congress established the **East-West Center** in 1960 to foster mutual understanding and cooperation among the governments and peoples of the Asia-Pacific region, includ-

ing the United States. Principal funding for the Center comes from the U.S. Government, with additional support provided by private agencies, individuals, and corporations and more than 20 Asian and Pacific governments.

The *NFHS Bulletin* Editorial Committee consists of Fred Arnold, B. M. Ramesh, Robert D. Retherford, T. K. Roy, and Sidney B. Westley.

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