Factors Influencing the Prescribing Patterns in Acute Watery Diarrhoea

Pages with reference to book, From 32 To 35

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Abstract

Two hundred sixty4wo randomly sampled general physicians of Lahore were interviewed to study the current practices and factors affecting the management of acute watery diarrhoea (AWD) in children below 5 years of age. Among the physicians, 19% prescribed ORS alone, 61% ORS with some drug, 15% drugs alone and 5% increased fluid intake only. Physicians in govemment sector, recent graduates and those trained in a paediatrics unit prescribed more on the wHO guidelines ($p<0.05$). Attending a diarrhoea training unit (OTU) course, reading WHO guidelines for management of diarrhoea and total number of patients seen daily had no significant effect on prescribing practices. Two hundred fifty-five (97%) physicians thought that majority of other physicians prescribed drugs for the management of acute watery diarrhoea to satisfy the mothers of the children, their belief in the effectiveness of drugs and competition in practice (JPMA 47:32, 1997).

Introduction

In Pakistan, there are estimated 54 millions episodes of diarrhoea yearly, causing some 300,000 deaths of children below 5 years of age[1] . Management of diarrhoea was previously based on intravenous (IV) fluids, initial bowel rest, gradual reintroduction of foods and use of antibiotics and antidiarrhoeal dregs. Mortality and morbidity associated with diarrhoea cases can be effectively reduced by oral rehydration solution (ORSL continued feeding. avoidance of dregs for acute watery diarrhoea (AWD) and effective instmction of the child's mother or other caretaker in management and danger signs[2].

It can be difficult to incorporate new information and to modify the physician's choice of therapy[3-6]. The main sources of information on drugs for doctors are either physicians or advertisements by pharmaceutical companies. Thus ORT has to compete with the multimillion-dollar propaganda campaign of pharmaceutical companies forhigh-cost drugs. A numberof studies in developing countries describe the current management of diarrhoea in children and the effect of different strategies used to change their practice. The use of ORS has increased without affecting the use of antibiotics and antidiarrhoeal drugs[7-9]. Special guidelines for the management of diarrhoea were prepared in 1988 and disseminated to physicians for information and implementation in Pakistan[1]. Since March 1989, a special one week training course for management of diarrhoea has been offered on a regular basis by the Government of Pakistan in diarrhoea training units (DTUs). During 1989-1991, approximately 10,000 physicians, mainly from the government sector, participated in this training. General physicians in the private sector have not been extensively trained through this mechanism although they might have participated in a workshop on diarrhoea management or obtained information from DTU-trnined physicians or throughjournals and newsletters. This study was conducted to determine physicians reported practices in childhood diarrhoea and to identify factors affecting this behaviour.

Methods

Study area and study Population

A list of all private general physicians and medical officers/house physicians of Lahore who treat children but are not qualified paediatricians was prepared. Lists of medical officers in government sector and house physicians were compiled with the help of Provincial and Municipal Health Departments of house physicians and Heads of departments of pacdiatrics in teaching hospitals respectively. For private sector listing help was provided by Wellcome Pharmaceuticals and Pakistan Medical Association. Lahore branch. Thus a total of 1257 physicians were listed in the private (1067) and Government (190) sectors.

Epi Info 5 was used to calculate the sample size. In the absence of comparable data expected frequency was presumed to be 50%, to give the highest sample size required. To detect a 5% difference at a confidence interval of 95%, sample size was estimated to be 220. To give an approximate 20% margin for non-response. a total of 262 physicians (223 private and 39 government) were drawn from the list with the help of a random number table.

Data collection

All 262 physicians included in the study were interviewed at their place of work by a team of three physicians using a pretested, semi-structured questionnaire, The interviewing physicians were trained by the principal investigator.

Physicians were asked whether they would prescribe ORS and/or drugs for a child under 5 years with acute watery diarrhoea (AWD) without dehydration and no histoty of blood or mucous in stool.

The physician factors recorded included internal predictors such as year of medical graduation, experience in child care, training at a diarrhoea training unit (DTU) or other workshop, reading WHO guidelines on management of diarrhoea and external predictors such as place of work, perceived satisfaction of mothers with prescription of drugs or with ORS alone, children's response to ORS and number of patients seen daily.

Analysis

The results were analyzed to study the relationship between the factors studied and the current reported practices of the physicians regarding the prescription of ORS and drugs.

Statistical significance was tested by chi-square without continuity correction. Forthe purpose of reporting $p<0.05$ was used a cut off point for statistical significance.

Results

Characteristics of Physicians

Out of 262 physicians who participated in the sutdy, 39 (15%) were from the government and 223 (85%) from the private sector. Majority of physicians were nmle (85%) and had 5 years or more expericnce(71%) in the management of children with medical problems. Thirty-four percent physicians had previously worked in a paediatrics unit:

Although 48% of physicians had read the WHO guidelines for the management of AWD. only 18% had attended a special DTU course and 12% some workshop on diarrhoea management. Seventy -nine percent physicians managed 20 or more patients per day during their duty/practice hours; similarly, 78% managed 10 or more children below 5 years per day.

Do physicians prescribe according to WHO guidelines?

Prescribing pattern of physicians were for the management of AWD without dehydration in children below 5 years, with no fever or blood or mucous in stool is shown in Table I.

Table I. Frequency distribution of physicians according to the reported prescription behaviour for management of acute watery diarrhoea in children below 5 years (n=262).

Prescription	Number	(Percentage)	
ORS alone	50	(19)	
			209 (80)*
ORS + Drugs	159	(61)	
			198 (76)**
Drugs alone	39	(15)	
No ORS, No drugs; advise only increased fluids.	14	(5)	

*ORS, with or without drugs
** Drugs, with or without ORS

Sixty-one percent prescribed ORS with drugs. Overall 209 (80%) physicians prescribe ORS, either alone or with drugs and 198 (76%) drugs, either alone or with ORS.

Factors affecting reported practice

Forty-four percent physicians in government sector used ORS alone compared to 15% in private practice ($p<0.05$) as shown inTable II.

Table II. Reported practices of physicians in relation to the external predictors studied (n=262).

	Number of Obs.	Reported practices (Percent) ORS alone	ORS+ Drugs	Drugs alone	No ORS No Drug
Practice site*					
Government	39	44	38	3	15
Private	223	15	65	17	4
No. of patients managed daily					
0-19	56	25	59	11	5
20-39	66	17	67	11	6
40-59	52	17	60	17	6
60-79	38	24	55	16	6
80+	50	14	60	22	5
Physicians belief regarding: Mother's response to ORS alone*					
Completely satisfied	27	63	22	0	15
Somewhat satisfied	46	33	48	15	4
Not satisfied	166	11	69	16	5
Child's response to ORS					
Like ORS	71	21	63	10	6
Dislike but takes it	147	18	63	14	5
Refuse to take it	41	22	46	24	7

Physicians trained in a paediatric unit and recent graduates prescribed ORS alone more frequently than

others (Table III).

Table III. Reported practices of physicians in relation to the internal predictors studied. (n=262)

	Number of Obs.	Reported practices (Percent) ORS alone	ORS+ Drugs	Drugs alone	No ORS No Drug
Years since graduation*					
Before 1975	84	12	62	20	6
1975-1979	27	22	59	18	0
1980-1984	73	14	73	11	3
1985-1989	57	28	53	14	5
After 1990	21	38	38	5	19
Experience of working in paediatric unit*					
Worked	89	33	51	9	8
Never worked	173	12	66	18	4
Attended DTU course					
Attended	46	28	56	9	6
Not attended	216	17	62	16	5
Read WHO guideline on management of diarrhoea					
Read	127	22	61	9	7
Did not read	135	16	60	20	4

*$p<0.05$

Attending the DTU course, reading the WHO guidelines for the management of diarrhoea and the number of patients seen daily had no significant effect on prescribing pattern. Physicians who believed that mothers are completely satisfied with the prescription of ORS alone to their children suffering from AWD, reported prescribing more ORS and fewerdrugs as compared to those who did notbelieve so ($P<0.05$). Seventy-one (2 7%) physicians believed that the majority of children like ORS; 147 (57%) believed that they dislike ORS but take it and outs 41(16%) thought that the majority of children refuse to take ORS. But this belief showed no statistically significant relationship with the reported practices of physicians. Two hundred fifty-five (97%) physicians believed that the majority of other physicians prescribed drugs for the management of AWD. The most commonly cited reasons were described as to satisfy the mother/caretaker of the child, the physician's belief in the effectiveness of drugs and competition in practice (Table IV).

Table IV. Frequency distribution of physicians according to the reasons given by them for the prescription of drugs by other physicians (n=255).

Reason	Number*	Percentage
To satisfy mothers	145	57
Believe in effectiveness of drugs	144	56
Competition in practice	80	31
Cause of diarrhoea not clear	56	22
Shortage of time to describe ORS preparation and use	19	7
Do not believe in ORS effectiveness	17	7
Others**	5	2

*Number of responses given by each physician varied from 0 to 5, so the total number of responses is 466 from 255 physicians.

**Others - include those who declined to respond to the question[3], defective teaching[1] and complication of drugs[1].

Discussion

The prescription of ORS for the management of AWD has increased in developing countries but the use of drugs still remains high[3,4]. In this study, only 19% physicians prescribed ORS alone but the majority (80%) used drugs with ORS.

Physicians who graduated recently and those who worked in - paediatric units were exposed to the new concepts of management of AWD, therefore, they prescribed more on WHO guidelines. A short one-week special training course at the DTU and reading WHO guidelines did not have a significant impact on the reported practices of physicians. This suggests that medical school and postgraduate training in paediatrics are the cntical determinants of prescribing practices.

Physicians in the government sector prescribe more in accordance with the WHO recommendations than those in the private sector. This has also been reported from Indonesia, suggesting that physicians in government sector are affected less by their perception of mother's expectations about prescribing drugs for AWD[8]. This may be because, their income is not directly affected by the number of patients seen.This practice is further reinforced by their belief that the majority of mothers can be satisfied with ORS alone. Perception of ehildrens preference had no effect on reported use of ORS. This suggests that education of mothers about the value of ORS alone for AWD can influence physicians practice. Two other issues appear to adversely affect reported practice, first is the belief in the efficacy of drugs and the second that other physicians give drugs and that it is necessaty to do for the "competition". These represent another target concept for education prOgrammes. The failure of DTU training to influence reported practice suggest that the second may be a more "potent" message.

It is concluded that although the information to use ORS and no drugs in the management of AWD in children has reached the majority of physicians, but it has no effect on reported practice as expected. The answer of the problem therefore, lies in well planned teaching and training programmes for the

profession and the community and the organization of private practice in such a way, through the insurance system, that physicians are not directly dependent on the will of patients for their income.

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