Evaluation of Diarrhoea Management of Health Professionals Trained at the Diarrhoea Training Unit of Rawalpindi General Hospital

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Abstract

To promote the use of oral rehydration therapy (ORT), a training programme was launched by The Pakistan National Programme for Control of Diarrhoeal Disease (CDD) by establishing the Diarrhoea Training Units (DTUs). Physicians trained at DTU were designated to establish functioning oral rehydration therapy (ORT) corners at their health centres and train health workers in delivery of facilities on standard diarrhoea case management. The study was designed to evaluate the functioning of ORT corners three years after their establishment. The study revealed that ORT corners have failed to achieve the main objectives of DTU programme. Twenty-four out of 49 OPT corners were non-functional after three years of their establishment, mainly due to frequent transfers of trained staff.In 22 OPT comers evaluated, performance of health professionals was far from satisfactory, 19 out of 22 doctors were found to have inadequate performance in diarrhoea management and only 3 out of 7 LII Vs performed adequately. LIIVs could not consistently deliver health education messages to mothers. There seems to be a lack of interest and willingness to participate actively, as more than 50% of both doctors and LII Vs did not consider ORT work as their job. We conclude that the ultimate objectives of improved and appropriate diarrhoea case management through ORT corners have not been achieved (JPMA 47:3, 1997).

Introduction

In developing countries, diarrhoea is a leading cause of morbidity and mortality in children under five years of age[1,2]. In Pakistan, every year of an estimated 700,000 deaths. about 200,000 deaths in children could be attributed to diarrhoea[3-5]. The main factors responsible for deaths due to diarrhoea are dehydration[2,6] and postdiarrhoeal ileus predisposing to infection following inappropriate use of antidiarrhoeal dmgs[7]. The survivors from repeated episodes of diarrhoea ultimately suffer from protein energy malnutrition (PEM)[5]. The most effective, simple and inexpensive mode of treatment is replacement of fluids and electrolytes by oral rehydration therapy (ORT)[5,6,8,9] which has been used globally as a strategy to reduce deaths from dehydration.

To promote the use of ORT, the Pakistan National Programme for Control of Diarrhoeal Disease (CDD) established ten Diarrhoea Training Units (DTU) in teaching hospitals in collaboration with the donor agencies. One DTIJ was established in Rawalpindi General Hospital, Rawalpindi. The objective of the DTIJ programme was to train doctors from various health facilities in the Rawalpindi Division on standard diarrhoea case management guidelines by enhancing their knowledge and improving clinical skills. After training, the doctors were expected to train all lady health visitors (LHVs) working with them and establish functioning ORT corners in order to promote and practice ORT. This study was designed to assess the outcome of DTU training on practices of health professionals (doctors and lady health visitors). The two main objectives were to evaluate the assessment and treatment of diarrhoea in

children by the DTU trained doctors and LHVs and explore reasons, if any, for inadequate functioning of ORT corners.

Patients and Methods

A total of 49 ORT corners were established in Rawalpindi Division over a period of three years (1989-1991) during which 49 doctors were trained. Training at the DTU consisted of didactic sessions to review the epidemiology and management of diarrhoeal disease and clinical sessions to review classification and management of children sufferirg from diarrhoeal disease. Training included guideline for setting up ORT corners which was conducted for 5 days by trained facilitators at the Rawalpindi General Hospital DTLJ. The training was provided once for each ORT corner.
The study was planned to assess the practices of DTU-trained doctors and LII Vs who supervised the established ORT comers. It focussed on all ORT corners that had a DTU-trained doctor. Each doctor was observed treating three children with diarrhoea. ORT corners that had LHVs. who were trained by DTU-trained doctors. Four observations were made for each LHV while treating children with diarrhoea. The study was conducted in two phases over a period of ten months, During the first phase, the practices of trained doctors and LHVs were observed. Observations were made by two qualified staff nurses who were trained intensively in diarrhoea case management and on how to observe the practices and complete the proforma. The adequate diarrhoea case management was assessed on a score assigned on the basis of observed performance. For this purpose a score of 12 for history, 6 for examination and 11 for advice was designed. For each component of management every question asked or task performed carried one score. History taking, physical examination and advice were considered, adequate if the individual scores for each component were atleast 50% of the expected total scores (i.e., respectively). A combined total of >14 score would mean overall adequacy. ForLHVs 10 outof20 activities were considered adequate performance. Two sets of pre-designed and pre-tested proformas were used for observing doctors and LHVs separately.
Visits were arranged with the help of a divisional health administrator. The observers were directed to visit each health facility for two consecutive days in order to avoid modification of behaviour of ORT staff. If the ORT staff member or patients were not available, a third or fourth visit was made until atleast three observations were made: In the second phase. difficulties in implementing standard diarrhoea case management were assessed by administering a pre-designed and pre-tested questionnaire. This consisted of questions relating to the current status of the ORT corner and questions soliciting views and comments on how to impmve the functioning of ORT corners. This phase was completed by one of the co-investigators, who verified the difficulties and constraints mentioned by the study doctor.

Results

Of 49 ORT corners established, only 25(51.0%) were staffed b a DTU-traincd doctor, in the remaining 24 ORT corners, the trained doctors had been transferred to other health facilities. Out of 25 doctors. 3 were excluded due to small number of case managed by them leaving 22 doctors for evaluation. Sixteen of the 25 ORT corners had lady health visitors (LHVs) trained by the DTU-trained doctor. nine positions of LHVs were vacant. Five LHVs were on leave during study period so the total of 11 LHVs were included. But later four were excluded due to small number of cases managed by theni, Thus seven LHVs were evaluated.

Observation of p hysicians

According to the scoring system. 19 (86%) out of 22 doctors, performed inadequately and only 3 (14%) scored adequately. Doctors were consistent in their performance.

Table I. Observation of doctors while taking history. (n=66*)

Questions asked by doctors	Number of times asked	(%)
Duration of diarrhoea	59	(89)
Consistency of stools	54	(81)
Fever	46	(69)
Vomiting	35	(53)
Blood in stool	33	(50)
Cough	31	(47)
Convulsions	4	(6)
Increased thirst	2	(3)
Urine not passed during last six hours	-	-
Normal feeding practices	14	(21)
Fluids given during diarrhoea	9	(13)
Feeding during diarrhoea (continued/stopped)	-	-

* 22 Doctors were observed three times each.

Table I shows that three questions about duration of diarrhoea (89%), consistency of stools (81%) and fever (69%) were most frequently asked. Only in 13% of observations doctors asked questions about use of fluids, However, some important standard diarrhoea case evaluation factors. e.g. feeding during diarrhoea and urine output in the past six hours were not assessed at alL. During physical examination, none plotted weight on the provided growth card (Table II).

Table II. Observations of doctors while examining a diarrhoea case. (n=66*)

Examination by doctors	Number of observations	(%)
Skin pinch	31	(47)
Mouth for dryness	22	(33)
Anterior fontanelle	20	(30)
Temperature	17	(25)
Weight checked	13	(19)
Weight plotted on chart	-	-

*22 doctors were observed three times each.

The most common (47%) method used forassessing dehvdrationwas by skin pinch. OnI 22 (33%) cases

were referred to the ORT corner. In 23 (34%) cases no advice was given. The most common (41%) home advice given by the doctors was on
correct preparation of ORS. No one prescribed antidiarrhoeals and in only eight (12%) observations, trained doctors advised mothers to continue giving ORS until diarrhoea subsided (Table III).

Table III. Observation of advice given by doctors. (n=66*)

Advice	Number of observations	(%)
How to prepare ORS	27	(41)
Give ORS with cup and spoon	23	(35)
Used antibiotics properly	19	(28)
Used antidiarrhoeal	-	-
Give more fluids/ORS	17	(26)
Hand washing advised	14	(21)
Hazards of bottle feeding	10	(15)
Advantages of breast feeding	8	(12)
Continue ORS till diarrhoea ends	8	(12)
Follow-up	1	(1.5)
Re-assessment done at ORT corner	1	(1.5)

*22 doctors were observed three times each.

Only eight (12%) times, breast feeding was advised. The hazards of bottle feeding were explained to mothers/caretakers often (15%) children. Importance of hand washing was emphasized in 14 (21%) observations.

Observations of LHVs

A total of 28 observations were made on 7 LHVs. Five out of seven LHVs performed inadequately and two did well.

The most frequent (85%) messages given by them were verbal advice on ORS preparation and to start weaning foods (68%) at four months of age. In 13(46%) observations, advantages of breast feeding were conveyed, while the hazards of bottle feeding were explained to only four(14%) cases. In 20(71%) observations, mothers were given ORS packets for home but none of the ‘mothers were educated about the signs of dehydration and worsening illness. None of the LHVs demonstrated hand washing or The most frequent (85%) messages given by them were verbal advice on ORS preparation and to start weaning foods (68%) at four months of age. In 13(46%) observations, advantages of breast feeding were conveyed, while the hazards of bottle feeding were explained to only four(14%) cases. In 20(71%) observations, mothers were given ORS packets for home but none of the ‘mothers were educated about the signs of dehydration and worsening illness. None of the LHVs demonstrated hand washing or the correct preparation of ORS (Table IV).

Table IV. Observation of advice given to mothers and practice by lady health visitors. (n=28*)

Advice/Practice	Number of observations	(%)
How to prepare ORS:		
Verbally	24	(85)
Practically	-	-
Gave ORS packets for home use	20	(71)
Start solid foods at 04 months	19	(68)
Breast feeding advised	13	(46)
Hand washing advised	13	(46)
Washed hand in front of mothers	-	-
Give more fluids/ORS	10	(35)
Advantages of immunization	10	(35)
ORS replaces fluid loss	7	(25)
Asked mothers to repeat messages given	7	(25)
Continue ORS till diarrhoea ends	5	(18)
Hazards of bottle feeding	4	(14)
Monitored ORS therapy in a dehydrated case	1	(3)
Signs of worsening illness such as dehydration explained	-	-

*7 LHVs were observed four times each.
Activities which were not performed and not mentioned in the table include: demonstration of hand washing, preparation of ORS, advice to give extra feeds during diarrhoea, signs of worsening illness.

DTU functioning and constraints

The most common difficulties mentioned by the DTLJ-trained doctor were the availability of antidiarrhoeal medicines (50%), lack of regular supervisory visits (50%) and non-availability of LHVs (3 5%) (Table V).

Table V. Difficulties and constraints mentioned by doctors. (n=22)

Constraints	Number	(%)
Antidiarrhoeals available at health facility	11	(50.0)
No regular visit of ORT corner by health administrator	11	(50.0)
No paramedic posted	9	(40.9)
No antibiotics available for the specific treatment of diarrhoea	8	(36.4)
No room for ORT corner	2	(9.1)
No ORS available in health facility	1	(4.5)

Stock in the ORT corner was found to include antidiarrhoeals in sixteen (53%), health facilities, while antimicrobial drugs for specific treatment Of diarrhoea were found in sufficient quantity in nine (30%) only. In 19(90%) ORT corners sufficient stock of ORS was found. More than 50% of the trained doctors thought that both doctors and LHVs should receive some financial benefit for putting extra efforts while working in ORT corners. More than half (53%) doctors said that ORT work was not part of their job description, while 73% doctors believed that extra allowance should be given to doctors, 90% of the doctors also recommended an extra allowance for LHVs.

Discussion

The key purpose of the DTU programme as planned by the Pakistan National Programme for Control of Diarrhoeal Disease, was to establish functioning ORT corners to implement standard diarrhoea case management and to provide mothers with health education about ORT. Our data revealed that these objectives have not been successfully achieved three years after the establishment of ORT corners. Forty nine ORT corners were established, only half were headed by DTU-trained doctors and only two-fifths had trained LHVs. This means that ORT corners existed with equipment but they lacked necessary personnel. This appeared to be the result of frequent transfers and posting of both doctors and LHVs. No provision was made, whatsoever, for training of the replaced staff.

Furthermore, the performance of health professional is far from satisfactory among those ORT corners which were adequately staffed by DTU trained doctors and LHVs. Out of 22 doctors observed, 19 performed inadequately. This inadequacy was persistent in eliciting history. conducting necessai physical examination and providing appropriate advice based on this assessment. The poor performance cannot be explained by the constraints mentioned later. There seems to be lack of commitment and willingness for better output. More than half (53%) of the doctors reported that ORT was notpartoftheirjob description. Forthe same reason, more than 50%ofboth doctors and LHVs demanded some financial benefit for putting extra effort while working in ORT corners. With this kind of misconception among the health professionals and in the absence of any financial incentive. there would have been no fate other than that met with the ORT corners.

An overall view of the 66 observations made by 22 doctors revealed some deficiencies were shared by

all. None of the doctors took history about feeding during diarrhoea. urine output in last 6 hours and assessed nutritional status of children. Very few mothers were asked about fluid intake and increased thirst. Diarrhoea case management by doctors was unsatisfactory and most cases of children with diarrhoea were not referred to ORT corners for health education and key messages for preventing diarrhoea i.e., hand washing, promotion of breast feeding and discouraging bottle feeding were not explained satisfactorily to mothers. This is contrary to the aims and objectives of the DTU programme. Importance of ORS use during diarrhoea was not emphasized, adequately. However, none of the doctors prescribed antidiarrhoeal drugs. although these were supplied in bulk quantity in health facilities. Doctors appearto have beenconvinced of the futility of using antidiarrhoeal drugs and thus avoided prescribing them. Unfortunately, only in one third of observations antimicrobial drugs were prescribed appropriately, Such deficiencies could probably be remedied by refresher training courses on diarrhoea case management.

The main task of LHVs in ORT corners was to educate and motivate mothers on prevention of diarrhoea. While LHVs did give appropriate advice on some factors relating to ORT. they failed to deliver other key messages consistently. Although LHVs have more time than doctors to educate the mothers while the child is being managed in the ORT corner, One reason for poor performance could be poor training and lack of supervision. There appears to be lack of comnuuiication and co-ordination between the doctors and LHVs working at the same centres. This is reflectedby the fact that the performance of the doctor and LHV was independent of each other, with no check or feedback. The DTU trained doctors were supposed to train LH Vs at their centres. But these phycicians were not trained to impart training to LHVs and other staff. Because the perfonnance of the doctors them, elves remained very poor, so poor performance of the LHVs is obvious.

Various difficulties and constraints in smooth functioning of ORT corners are shown in Table V, these included staff logistics, drug supplies and supervisory problems. Availability of antidiarrhoeal drugs in health facilities is a contradiction to the diarrhoea management guidelines. This may provoke a health professional to misuse those drugs. This coupled with non- availability of ORS and specific antibiotics would frustrate the BHU staff The staff was held accountable if certain medicines were not utilized within a specific period. However, this should not be a major constraint in standard diarrhoea management. Policy makers and drug purchasing authorities, should exclude such useless rather harmful preparations[10,11] and divert these funds for more productive utility. Lack of supervisory visits was mentioned with equal frequency[11], This may not be a true Constraint, as lack of supervisory visits can in no way prevent BHU staff to practice standard diarrhoea management. However, such visits could get early feedback regarding problems mentioned above. Supervision is part of duties of District Health Officer (DHO) who gets thiining through Supervisory Skill Courses. Other constraints like provision of paramedical staff, proper space for ORT and drug supplies are administrative problems where supervisory visits could make the difference and resolve the problems.

For a strategy like National Control of Diarrhoeal Disease (CDD) Programme to be successful, the government health divisions need to consider the difficulties and constraints faced by peripheral health facilities. If trained people are transferred, they should be replaced by trained people or untrained personnel should be trained. This includes the training of LHVs also, because they are a key to the successful operation of ORT corners, If continued training is not carded out, ORT corners will stop functioning and the cost of initial training and establishment of these corners will be wasted. After training, supervision and refresher courses are crucial. Without supervision and re-training, the newly acquired skills arc gradually lost. Job description should be clearly defined and should include preventive measures in. addition to traditional curative services. Adequate training in supervisory skills and supervision is essential to sustain the benefits of a training programme.

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