

ORIGINAL ARTICLE:

THE ROLE OF PHARMACY SHOPS IN THE MANAGEMENT OF ACUTE UNCOMPLICATED CHILDHOOD DIARRHOEA IN GHANA

Agnes B. Amoah* and D. Ofori-Adjei *

*+Department of Community Health, University of Ghana Medical School, P. O. Box 4236, Accra, Ghana.***Centre for Tropical Clinical Pharmacology and Therapeutics, University of Ghana Medical School, P. O. Box 4236, Accra, Ghana.**Summary*

Advice and prescription for acute uncomplicated diarrhoea in children under five years given at pharmacy shops and the availability of Oral Rehydration Salts (ORS) was studied in the city of Accra, Ghana. A Public Health Nurse acting as the mother of a fictitious child with acute diarrhoea sought advice from 37 randomly selected pharmacy shops and purchased all recommended treatment. 33 out of the 37 shops sold drug items to the mother. Only two shops (5.4%) sold her ORS. The rest dispensed kaolin/pectin/antibiotic combinations. None asked the mother to seek medical advice. Eight shops gave instructions as to how to prepare home-made oral rehydration solutions only on request. There is the need for continuing public education on the value of ORS in preventing dehydration in Ghana. The strategy for ORS distribution also requires revision.

in a remarkable reduction in the mortality associated with diarrhoea.¹ In developing countries the points of first contact for patients seeking health advice are many and varied and include health facilities, private pharmacies and "drug stores", friends, relatives and traditional healers.

Pharmacy shops in Accra, Ghana are relatively more accessible than many government health facilities and drugs may be obtained for the treatment of common ailments with or without prescription.

The objective of this study was to ascertain the role of pharmacy shops in the treatment of acute uncomplicated diarrhoea in children under five years and to determine the availability of ORS from their shops.

Materials and Methods

A government-gazetted complete listing of all the 171 wholesale and retail pharmacy shops in the Greater Accra Region of Ghana was obtained. A systematic random sample was obtained by taking every other pharmacy, the starting point having been chosen by simple random sampling. 85 pharmacy shops were thus relisted from which a group of 40 were selected using computer-generated random numbers. In May 1987, a Public Health Nurse (PHN), acting as a mother, visited the selected pharmacy shops with the story of a child

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Introduction

Diarrhoeal dehydration is the biggest single killer of children in most of the developing world. Oral Rehydration Therapy (ORT), since its introduction as a low-cost life-saving strategy for the prevention of dehydration, has resulted

under five years suffering from acute uncomplicated diarrhoea, seeking advice. The PHN was fluent in English and four predominantly spoken local languages in the city of Accra. She ascertained the presence of the pharmacist and recorded the advice, recommended treatment and the cost per item purchased immediately after leaving the shop. After concluding the transaction she specifically asked for ORS and recorded the response and any other comments. She wrote down any instruction given for preparation of ORS at home.

Results

37 out of the 40 selected pharmacy shops were visited, the other 3 were closed at the time of the survey. 37.8% (14/37) of all the shops were located in the busiest part of the city. The findings are independent of the location of the shop.

The ages of the fictitious cases presented to the pharmacy shops were 2 years (14/37), 3 years (11/37), and 4 to 5 years (11/37).

20 shops (54%) had registered pharmacists present and the rest were manned by dispensing assistants or shop attendants. None of the shops advised consultation with a doctor or other health workers. Table 1 shows the prescriptions given to the mother. Four pharmacy shops had no anti-diarrhoeal treatment for children and advised the mother to try other shops.

The remaining 33 shops sold a total of 39 items, 26 (79%) sold only one item; 6 (18%) sold two items and 1 (3%) three items. 8 (20.5%) of the drugs were not identified, three white liquids, three packets of white tablets, an anti-helminthic and an antibiotic suspension. Table

II shows the three groups of drugs which were purchased. 22 (56.4%) of all recommended treatment contained kaolin or pectin, 21 (53.8%) contained antibiotics. Only 2 (5.1%) prescriptions were for ORS. Verbal instruction was given on dosage for 34 (87%) items purchased and none included duration of treatment.

An average of 250 cedis (one US dollar was approximately 160 cedis in May 1987) were spent on treatment. Preparations containing antibiotic cost between 500 and 800 cedis. The cheapest item was sulphadimidine tablets for 5 cedis per tablet. Two sachets of ORS were purchased at 150 cedis each in one shop and 50 cedis for one sachet in another shop. Four other shops had ORS sachets on display but did not offer them to the mother. In one pharmacy shop the mother was told that ORS was not necessary for childhood diarrhoea. In four shops she was informed that ORS was meant for use in polyclinics and hospitals. Only one pharmacist gave written instruction for the preparation of home-made ORS, 7 others gave verbal instructions (Table III).

Discussion

Diarrhoeal diseases rank second to malaria in the list of outpatient morbidity data in Ghana (Data from Ministry of Health, Ghana). All the shops knew about the common ailment presented and offered advice to the mother. Combination drugs including kaolin, pectin and antibiotics were prescribed freely by all pharmacy attendants, though these agents are not indicated for the routine treatment of acute diarrhoea.^{2,3} In a

*Correspondence and Reprint Requests should be Addressed to this author.

Table 1 Pattern of recommended treatment in 37 pharmacy shops

	Consult doctor or health worker	ORS only	ORS plus drugs	Drugs only	Nothing
Frequency (n=37)	0	1	1	31	4
Relative Frequency %	0	2.7	2.7	83.8	10.8

Table 2 Groups of drugs purchased from 33 pharmacy shops and number of times prescribed (in parenthesis)

Kaolin/Pectin containing drugs	Antibiotic containing drugs	Others
Kaolin (8)	Chloramphenicol (2)	ORS sachet (2)
Kaomycin (3)*	Penbritin (1)	White tablets (3) +
Kaopect (2)*	Sulphadimidine (2)	White liquids (3) +
Streptomagma (2)*	Sulphathalazole (1)	Lomotil (1)
Antidiarrhoeal mixture (2)*	"Antibiotic" (1)*+	Anthelmintic (1) +
Kaogen (1)*		
Kaomil (1)*		
Guanimycin (1)*		
Biskostreptomagma (1)*		
Neopect (1)*		

* antibiotic containing mixtures

+ unidentified drugs

Table 3 Instructions for preparation of home-made ORS given at eight pharmacy shops

Sugar (teaspoonfuls)	Salt (teaspoonfuls)	Water (beer bottle)+	Instructions
A 8	¼ - ½	1	-
B 8	1	1½	No need to boil and cool water
C 3	1	1½	-
D 2*	1*	1	Water boiled and cooled
E 8	¼ - ½	1½	Water boiled and cooled
F 8	1	1½	Drink as often as possible
G Sugar	Salt	Water	Discard after 24 hours
			Quantities not stated
H a little sugar	pinch of salt	Rice water	Water boiled and cooled
			-

* beer bottle top instead of teaspoon.

+ volume of one beer bottle = 660 ml

sero-epidemiological study of rotavirus infection in children in a rural community in Ghana, 72.2% of children who showed a four-fold rise in antibody titre had had one or more episodes of diarrhoea compared with 42.8% of those whose antibody levels had remained unchanged or had decreased.⁴ Appreciation of the role of viruses in childhood diarrhoea should lead to a decrease in the use of antibiotics. Such use of antibiotics may not only promote resistance but also direct attention from the importance of replacing lost water and electrolytes.

The cost of drug treatment in government health facilities averages 75 to 100 cedis per patient (Ministry of Health, Ghana). In this survey, the average cost of treatment was 250 cedis. Drug costs outside Ministry of Health facilities are usually higher and patients are likely to pay more for purchases from pharmacy shops. ORS is distributed to hospital pharmacies, polyclinics and other health facilities within the Ministry of Health. Private clinics and pharmacy shops are not supplied apparently for fear that they might sell them at an inappropriately high price. In this study we paid 50 and 150 cedis per sachet of ORS on two occasions. Over a year after a national ORS campaign in Ghana, pharmacists in private practice and their shop attendants do not appear motivated enough to advise mothers to use ORS. In addition, they do not appear to have grasped the formula for the preparation of home-made ORS. There was no agreement between the eight formulae given. The situation prevailing in Accra now is probably similar to what pertains in some developing countries.⁵ The value and use of ORS should be common knowledge if death from diarrhoeal dehydration is to be reduced.

The potential role of pharmacy shops in Primary Health Care cannot be over emphasized and the pharmacist as a member of a health team should not be neglected. A special effort must be made to educate pharmacists and pharmacy shop attendants and other health workers on the value of ORS in acute diarrhoea.

This will improve their role as advisors and vendors of proprietary medicines and result in a better use of these medicines by the public. When a service is being provided free of charge and yet is not readily accessible to all as in the case of ORS in Ghana, a review in strategy is called for. We would suggest that ORS be made widely available at both government and private health care facilities, at a nominal cost which should be publicised. This should limit any appreciable differences in price at various shops and localities. Hence, a very useful and effective tool for combating the major complication of diarrhoea will be available to all.

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