PRACTICE OBSERVED

Practice Research

Has treatment for childhood gastroenteritis changed?

G A KUMAR, T M LITTLE

Abstract
Because so many children with gastroenteritis in our area were being treated with drugs, which are potentially harmful, we assessed the extent of treatment before admission to hospital of 288 children. Sixty four had been treated: 45 with antibiotic, antidiarrhoeal, or antiemetic drugs and 34 had been given glucose-electrolyte solution. 15 of those had also been given drugs; 119 had had no treatment. Since 1979 there has been a decrease in the use of drugs for gastroenteritis, but glucose-electrolyte mixtures are still underused.

Introduction

In 1979-80 we found that the treatment of childhood gastroenteritis in general practice was unsatisfactory; too many children were being given potentially harmful drugs, whereas too little attention was being paid to oral rehydration treatment. Since then the subject has been widely discussed in the medical press, and several drug companies have vigorously promoted glucose-electrolyte preparations. To assess the effects of these measures we examined the preadmission treatment of children with gastroenteritis in 1982-3.

Methods and results

Over a 12 month period in 1982-3 288 children with gastroenteritis were admitted to this hospital. Of these, 250 came from the Midway district, 37

from Madstone, and one from Greenhead. The sex, age, source of referral, and home treatment were recorded together with the treatment given in hospital, the duration of stay, and the results of cultures of bacteria in the stools.

In hospital the children were given a glucose-electrolyte solution (Doralyte, Armour Pharmaceuticals) or intravenous fluids if necessary. Antibiotics were given to one child with *Salmonella* septicaemia, otherwise no drugs were given after admission. There were 145 boys and 143 girls; they ranged

Comparison of patients with gastroenteritis admitted in 1979-80 and 1982-3

	1979-80	1982-3
Drugs given	40 (16%)	45 (18%)
Antibiotics	16 (7%)	22 (9%)
Antidiarrhoeals	14 (6%)	11 (4%)
Antiemetics	10 (4%)	12 (5%)
Glucose-electrolyte solution	4 (2%)	11 (4%)
Other medicines	16 (7%)	10 (4%)
No treatment	159 (64%)	243 (96%)

*Eight month period

in age from two weeks to 10 years; mean 1.4 years; 141 were infants. General practitioners or their deputies had referred 170 patients; 87 came from the accident and emergency department; eight were brought to the ward by their parents, and 23 had been transferred from other units.

Sixty four (22%) patients had been treated before admission; 45 had been given one or more drugs; 22 had been given antibiotics; 14 antidiarrhoeal drugs, and 13 antiemetics. Thirty four had been given a glucose-electrolyte solution; 15 of these had also been given drugs. General practitioners had referred 119 (41%) children who had had no treatment at home.

The mean duration of stay in hospital for patients who had been treated before admission with a glucose-electrolyte mixture or admitted after referral was 1.89 days; this compares with 2.29 days ($p < 0.05$) for those who had been referred by their general practitioners with no home treatment and 2.35 days ($p < 0.01$) for those who had been given drugs at home with or without a glucose-electrolyte mixture. Seventeen patients (6% of the total

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Respondents were asked to place their name on the questionnaire but could answer anonymously if they preferred.

The questionnaire was divided into three sections. Firstly, inquiry was made about current practice concerning the length of the consultation. Respondents were asked to estimate the length of their average consultation, and those with appointment systems were asked how many patients were booked per hour. The second part of the questionnaire explored attitudes towards increased consultation length and how this might be achieved. Closed questions were used throughout the questionnaire. For example, the question regarding how longer consultations might be achieved asked the respondents to indicate any or all of the following: increased delegation (administrative), increased delegation (clinical), smaller list size.

As there was no evidence that reported consultation times followed a normal distribution, non-parametric tests were used in the analysis. The Mann-Whitney U test was used in comparing two variables and the Kruskal-Wallis test used in comparing more than two variables. Spearman rank correlation was used as a test of association.

Results

RESPONSE RATE

Of the 190 general practitioners who were sent the questionnaire, with up to two reminders, 156 (82%) returned it appropriately completed, but 14 of these responded anonymously. In comparing responders with non-responders these anonymous responders had to be classified as non-responders. There were, however, significant differences between responders and non-responders in college membership and date of qualification. Of the 36 college members who were approached, 34 (94%) replied; whereas, of the 154 non-members, 108 (70%) replied ($p < 0.01$). The median qualification date for responders was 1965 and for non-responders 1960 (Mann-Whitney U test, $p < 0.05$, seven missing values).

CURRENT PRACTICES

One hundred and thirty eight doctors (88%) had an appointment system, although nearly all (90%) of these saw some 'extra' patients between appointments. For those doctors with appointment systems a median number of 10 patients was booked to be seen an hour, range five to 20; five missing values. The estimated number of patients seen during an average surgery ranged from three to 30, with a median of 19 (three missing values). The estimated average length of consultation ranged from four to 15 minutes, the median being seven minutes.

FACTORS ASSOCIATED WITH REPORTED CONSULTATION LENGTH

The length of the average consultation correlated negatively with the number of patients booked per hour ($r = -0.69$). There was an association between the number of patients seen per surgery and the reported consultation length (table 1). College members saw fewer patients per surgery; median for members 16, for non-members 20, Mann-Whitney U test, $p < 0.001$.

Number of patients booked per hour	Median consultation length (min)
5-9	14
10-14	12
15-19	10
20-24	9
25-29	8
30-34	7
35-39	6
40-44	5
45-49	4
50-54	3
55-59	2
60-64	1
65-69	1
70-74	1
75-79	1
80-84	1
85-89	1
90-94	1
95-99	1
100-104	1
105-109	1
110-114	1
115-119	1
120-124	1
125-129	1
130-134	1
135-139	1
140-144	1
145-149	1
150-154	1
155-159	1
160-164	1
165-169	1
170-174	1
175-179	1
180-184	1
185-189	1
190-194	1
195-199	1
200-204	1
205-209	1
210-214	1
215-219	1
220-224	1
225-229	1
230-234	1
235-239	1
240-244	1
245-249	1
250-254	1
255-259	1
260-264	1
265-269	1
270-274	1
275-279	1
280-284	1
285-289	1
290-294	1
295-299	1
300-304	1
305-309	1
310-314	1
315-319	1
320-324	1
325-329	1
330-334	1
335-339	1
340-344	1
345-349	1
350-354	1
355-359	1
360-364	1
365-369	1
370-374	1
375-379	1
380-384	1
385-389	1
390-394	1
395-399	1
400-404	1
405-409	1
410-414	1
415-419	1
420-424	1
425-429	1
430-434	1
435-439	1
440-444	1
445-449	1
450-454	1
455-459	1
460-464	1
465-469	1
470-474	1
475-479	1
480-484	1
485-489	1
490-494	1
495-499	1
500-504	1
505-509	1
510-514	1
515-519	1
520-524	1
525-529	1
530-534	1
535-539	1
540-544	1
545-549	1
550-554	1
555-559	1
560-564	1
565-569	1
570-574	1
575-579	1
580-584	1
585-589	1
590-594	1
595-599	1
600-604	1
605-609	1
610-614	1
615-619	1
620-624	1
625-629	1
630-634	1
635-639	1
640-644	1
645-649	1
650-654	1
655-659	1
660-664	1
665-669	1
670-674	1
675-679	1
680-684	1
685-689	1
690-694	1
695-699	1
700-704	1
705-709	1
710-714	1
715-719	1
720-724	1
725-729	1
730-734	1
735-739	1
740-744	1
745-749	1
750-754	1
755-759	1
760-764	1
765-769	1
770-774	1
775-779	1
780-784	1
785-789	1
790-794	1
795-799	1
800-804	1
805-809	1
810-814	1
815-819	1
820-824	1
825-829	1
830-834	1
835-839	1
840-844	1
845-849	1
850-854	1
855-859	1
860-864	1
865-869	1
870-874	1
875-879	1
880-884	1
885-889	1
890-894	1
895-899	1
900-904	1
905-909	1
910-914	1
915-919	1
920-924	1
925-929	1
930-934	1
935-939	1
940-944	1
945-949	1
950-954	1
955-959	1
960-964	1
965-969	1
970-974	1
975-979	1
980-984	1
985-989	1
990-994	1
995-999	1
1000-1004	1
1005-1009	1
1010-1014	1
1015-1019	1
1020-1024	1
1025-1029	1
1030-1034	1
1035-1039	1
1040-1044	1
1045-1049	1
1050-1054	1
1055-1059	1
1060-1064	1
1065-1069	1
1070-1074	1
1075-1079	1
1080-1084	1
1085-1089	1
1090-1094	1
1095-1099	1
1100-1104	1
1105-1109	1
1110-1114	1
1115-1119	1
1120-1124	1
1125-1129	1
1130-1134	1
1135-1139	1
1140-1144	1
1145-1149	1
1150-1154	1
1155-1159	1
1160-1164	1
1165-1169	1
1170-1174	1
1175-1179	1
1180-1184	1
1185-1189	1
1190-1194	1
1195-1199	1
1200-1204	1
1205-1209	1
1210-1214	1
1215-1219	1
1220-1224	1
1225-1229	1
1230-1234	1
1235-1239	1
1240-1244	1
1245-1249	1
1250-1254	1
1255-1259	1
1260-1264	1
1265-1269	1
1270-1274	1
1275-1279	1
1280-1284	1
1285-1289	1
1290-1294	1
1295-1299	1
1300-1304	1
1305-1309	1
1310-1314	1
1315-1319	1
1320-1324	1

The use of an appointment system, female gender, and membership of the college were all associated with longer estimated consultation length, as follows: median length of consultation was seven minutes for 133 doctors who used an appointment system and five minutes for 18 not using one (Mann-Whitney U test, $p < 0.001$); median length was seven minutes for 112 men doctors and eight minutes for 17 women doctors (Mann-Whitney U test, $p < 0.05$); median length was eight minutes for 41 members of the college and six minutes for 109 non-members (Mann-Whitney U test, $p < 0.001$), for the total number of doctors in each group median length of consultation was seven minutes.

Consultation length was significantly associated with list size at the extremes of list size only; in the range 1000-3000 patients there was no association, the median length being seven minutes. For the 23 doctors with lists of over 3000 patients the median reported length of consultation was five minutes. Similarly, there was a significant difference in the number of patients per surgery only for doctors with list sizes above 3000 and below 1000 patients.

Average consultation length was not associated with age, size of partnership, or appointment as a trainee. Eighty doctors worked with a practice nurse, but this was not associated with any difference in average length of consultation or in the number of patients seen per surgery.

ATTITUDES

Desire for change—One hundred and twelve (72%) respondents stated that they would like to increase the average length of their consultation. All groups of doctors responded similarly to this question, and there was no difference in response between those with shorter or longer consultations. When asked how this increase might be achieved 47% of doctors indicated reduction in list size as important. Fewer (39% and 33% respectively) thought that increased delegation of clinical or administrative duties would help to achieve longer consultations.

Optimal consulting rate and length of surgery—The general practitioners were asked what rate of consulting was compatible with practicing to their highest standards, and what number of patients per surgery was compatible with this goal. The median response to the first question was six patients an hour, only 7% choosing fewer than five patients an hour. The median response to the second question was 14.5 patients per surgery. The responses to these questions did not differ significantly according to age, sex, or membership of the college. Current practice, however, did affect median responses. There was a negative association between average length of consultation and what was considered the ideal number of patients to book an hour ($r = -0.34$, $p < 0.001$). Those with an average length of six minutes or less ($n = 64$) thought that seeing eight patients an hour was their optimal rate, whereas those with an average consultation length of seven minutes or more ($n = 87$) thought that seeing six patients an hour was their optimal rate. Similarly, there was an association between the number of patients seen per surgery and the number considered optimal ($r = 0.29$, $p < 0.001$). Those who saw fewer than 20 patients per surgery ($n = 75$) thought that 13 patients was ideal, whereas those who saw 20 or more thought that 15 patients was ideal.

Perceived effects of longer consultations—Respondents were asked whether they thought that longer consultations would alter their behaviour, job satisfaction, or the quality of care provided to their patients. The most frequent responses were that the prescribing rate would decrease, investigation and referral rates would remain the same, patients' consulting rates would decrease, and both quality of care and job satisfaction would increase (see table 2).

Table 2. General practitioners' views on the effects of longer consultations: percentage in parentheses

	Decrease	Increase	No effect	Don't know
Prescribing rate	47	31	18	4
Investigation rate	12	12	58	18
Referral rate	48	32	16	4
Consulting rate	21	44	34	1
Quality of care	11	4	72	13
Job satisfaction	11	1	72	16

Discussion

The overall response rate to the survey (82%) suggests a high level of interest in consultation length among general practitioners. The higher response from members of the Royal College of General Practitioners and more recently qualified graduates is not surprising but should lead to some caution in extrapolating the results to all general practitioners.

Verifying responses were not an aim of this study, but it is reassuring that there was a close association between the estimates of consultation length and the median consulting rate, and that the possibly more reliable, question about the number of patients booked per hour. It is also notable that the estimates of consultation length are close to those actually measured in another recent study. In interpreting the data it is important to recognise that the

needed intravenous fluids. There were no deaths. Pathogenic bacteria were cultured from the faeces of six patients; four had *Salmonella* species and two *Campylobacter jejuni*. The table compares the drug treatment given to children in 1979-80 and 1982-3.

Discussion

Since 1979-80 there has been a change in the treatment of gastroenteritis in general practice in this area. The decrease in the use of potentially harmful drugs is encouraging, but glucose-electrolyte mixtures are still underused and it is disappointing that so many children—41% of those admitted—were referred to hospital without any home treatment. The Bristol-Norfolk Family emphasises the importance of oral rehydration treatment and draws attention to the adverse effects of antibiotics and antidiarrhoeal drugs. *Prescribers' Journal* also had an article on the treatment of childhood diarrhoea, in 1982; and *Midweek Forum*, the report of a symposium on diarrhoea, was sent to all general practitioners in the same year; hence all should be aware of the principles of treatment.

Drugs are of no benefit in the treatment of gastroenteritis and distract attention from giving adequate fluids. The children who had been given drugs before admission had the longest stay in hospital, a finding also noted in a recent study from Australia.¹ The

number of severely ill children, as measured by the need for intravenous fluids, declined over the four year period but there was no fall in the admission rate.

Most of these patients could have been treated at home, for this to be successful their parents must have clear instructions about oral rehydration treatment and the withdrawal and reintroduction of milk and solids. Instruction sheets, such as those published by *Modern Medicine* may be helpful, but most important are the support and supervision of the family doctor.

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Consultation length: general practitioners' attitudes and practices

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Abstract
A survey by postal questionnaire of 190 Nottingham general practitioners on consultation length was conducted and a response rate of 82% achieved. Reported consultation length was associated with the doctor's gender, use of an appointment system, membership of the Royal College of General Practitioners, and the number of patients seen during an average surgery. Seventy two per cent of respondents would have liked to have offered longer consultations and most thought that longer consultations would result in a higher standard of care and a lower prescription rate.

Introduction

More and more general practitioners are expressing dissatisfaction with the brevity of the consultation in general practice and advocating that its length should be increased to an average of at least 10 minutes. After their detailed study of the use of time in a sample of Scottish general practices Buchanan and Richardson in 1973 concluded that to fulfil the newer methods and philosophy of general practice at least 10 minutes per consultation should become a priority. Several authors have since noted the near impossibility of seeing patients at a rate of 10 an hour without sacrificing clinical standards, 'trivialising the patient's problems', or relying on a style of work in which 'frequent prescriptions for psychosomatic illness is coupled with a relatively low level of examination and investiga-

tion'.¹ This view is supported by Dunnell and Cartwright, who in 1972 found that 52% of the general practitioners questioned thought that they would write fewer prescriptions if more time was available. It has also been suggested that lack of time may be a reason for a lack of anticipatory care or health education in the consultation.

Not only doctors are dissatisfied. Cartwright and Anderson found in 1977 that 40% of the patients they surveyed were worried about wasting the doctors' time. One in eight put off a visit for this reason, and one in seven criticised the doctor for hurrying. 'Thus it was suggested that there is a vicious spiral between short and frequent consultations, with patients perceiving the consultation as trivial and, therefore, appropriate for trivial complaints.' An extension of this argument is that longer consultations may provide an opportunity to explore underlying or unrecognised anxiety and thus dealing with these problems may reduce the need for further consultations.²

It is not known whether these opinions about the length of the consultation are representative of general practitioners. The results of this study were: (a) To discover in what way a group of general practitioners arranged the length of their consultations. (b) To investigate factors associated with reported length of consultations. (c) To explore the attitudes of this group of general practitioners towards length of consultation and, particularly, the possibility of longer consultations.

Method

All 190 general practitioner principals who work in central Nottingham and the immediate surrounding area were included in the survey, their names being drawn from the current family practitioner committee list. Each doctor was sent a postal questionnaire with a reply paid envelope. Non-responders were sent a second and, if necessary, third questionnaire.