

Family influences in a cross-sectional survey of higher child attendance

Paul Little, Jane Somerville, Ian Williamson, Greg Warner, Michael Moore, Rose Wiles, Steve George, Ann Smith and Robert Peveler

SUMMARY

Background: A quarter of all consultations are for children, but there is little quantitative evidence documenting what parental factors are important in the decision to consult.

Aim: To assess parental factors in higher child attendance (three or more times per year) — the 32% responsible for most (69%) general practice consultations with children.

Design of study: A random sample of 4000 individuals (one per household), including 670 children.

Setting: Six general practices within a 30-mile radius of the administrative centre.

Method: Parents completed a postal questionnaire for themselves and their child. The adult questionnaire documented lifestyle, attitude to doctors and medicine, Kokko's personality types, perceived health, health anxiety, number of medical problems, medically unexplained somatic symptoms, and willingness to tolerate symptoms. The child questionnaire documented perceived health, the number of medical problems, somatic symptom inventory, willingness to tolerate symptoms, and self-reported attendance.

Results: (Adjusted odds ratios, test for trend, 95% confidence intervals.) A response rate of 490/670 (73%) paired adult and child questionnaires was obtained. Reported higher attendance was valid compared with the notes (likelihood ratio positive test = 5.2, negative test = 0.24), and was independently predicted by the child's age, medical problems, council house occupancy, and by the parents' assessment of the severity of the child's ill health. After controlling for these variables, higher attendance was more likely if the parents were higher attenders (adjusted OR = 3.71, 95% CI = 2.31–5.98), and if they perceived their children had medically unexplained physical symptoms (MUPS) (for 0, 1, 2, 3+ symptoms; adjusted ORs (95% CIs) = 1, 3.1 (1.7–5.7), 2.30 (0.97–5.5), 4.2 (1.8–9.6) respectively; $P < 0.001$). Attendance was less likely if they were willing to tolerate symptoms in their children (score for seven normally self-limiting scenarios = 0–17, 18–29 and 30+; adjusted ORs = 1, 0.71, 0.39 respectively; z for trend $P = 0.03$). Willingness to tolerate symptoms and parental perception of child MUPS were associated with council house tenancy and health anxiety. Parents' perception of child MUPS also related to perception of child health and the parents' own MUPS. Parents of higher attenders were more likely to be depressed (HAD depression scale = 0–7, 8–10, 11+ respectively; adjusted ORs (95% CIs) = 1, 2.04 (1.27–3.27), 1.60 (0.75–3.42)) or anxious (anxiety scale 0–7, 8–10, 11+, respectively; adjusted ORs [95% CIs] = 1, 1.60 [0.99–2.58], 1.97 [1.20–3.26]).

Conclusion: Important parental factors are council house tenancy, the parents' perception of, and willingness to tolerate, somatic symptoms in the child, and the parents' own attendance history, health anxiety, and perception of somatic symptoms. Doctors should be sensitive to the parental and family factors that underlie the decision to consult and of the needs of parents of high-attending children.

Keywords: attendance; child; parent; symptoms.

Introduction

EVERY 10 years sees an increase in consultation rates in the NHS; approximately one-quarter of these consultations are for children.¹ Increased consultation rates have implications for time available in each consultation — a proposed quality marker for patient care.² It is also important for doctors to better understand parents' decisions to consult and identify strategies that might help.

What parental factors are important in childhood attendance? Qualitative studies indicate that parental anxieties are important,^{3,4} although there is little description of the parents *per se* and no characterisation of the parents of high-attending children. A classic quantitative study documented higher attendance and prescribing for children whose parents were taking psychotropic medication.⁵ However, the study was retrospective, was conducted in only one general practice, and parental anxiety or depression were not measured. Furthermore, the association of parental medication and childhood attendance, if not a chance finding, could be confounded by ill health in the family and socio-economic status. Parental medication use may also be a proxy for parental and child 'somatisation' and parental attendance. Limited evidence from paediatric practice in the United States suggests that children who are 'somatisers' — defined as parental perception of frequent medically unexplained physical symptoms (MUPS) — are high users of health services and are associated with council house tenancy and poor parental education.⁶ However, this study did not document parental somatisation, anxiety or depression, and did not specifically compare high- and low-attending children. There are few detailed quantitative studies which explore and characterise the parents of children who commonly attend and most of the literature to date has concentrated on the adult population.^{7–20} Thus there is a clear need to clarify which parental factors are important in childhood attendance.

A large study of the factors predicting attendance in adults was recently conducted.²¹ After controlling for medical problems and the severity of ill health, attendance was predicted by MUPS and health anxiety, alcohol consumption, and attitudes to the pharmacy, doctors, and surgery use.²¹ We hypothesise that, after controlling for perceived ill health, socio-demographic variables, age, and childhood medical problems:

- high-attending children will have high-attending parents, parents who perceive their children to have MUPS are less willing to tolerate somatic symptoms in their children, and these parents will themselves have health anxiety and MUPS; and
- parental attitudes towards doctors, pharmacies, and

P Little, MD, MRCP, FRCGP; J Somerville; and I Williamson, FRCS, MRCP, Primary Medical Care Group, Aldermoor Health Centre, Southampton. S George, Wessex Institute of Health Research and Development, Southampton University. R Peveler, Mental Health Group, Southampton University. Community Clinical Sciences Division, Faculty of Health Medicine and Biological Sciences, Southampton University. R Wiles, Health Research Unit, Southampton University. G Warner, MRCP, Nightingale Surgery, Romsey. M Moore, MRCP, FRCGP, Three Swans Surgery, Salisbury. A Smith, Southampton and South West Hants Health Authority.

Address for correspondence

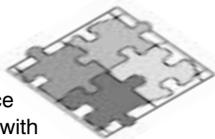
Dr P Little, Aldermoor Health Centre Practice, Aldermoor Close, Southampton SO1 6ST. E-mail: psl3@soton.ac.uk

Submitted: 5 July 2000; Editor's response: 18 September 2000; final acceptance: 22 May 2001.

©British Journal of General Practice, 2001, 51, 977–982.

HOW THIS FITS IN*What do we know?*

There is very little quantitative evidence about the parental factors associated with the decision to consult with children.

*What does this paper add?*

Important parental factors associated with higher child attendance are council house tenancy; the parents' perception of, and willingness to tolerate, somatic symptoms in the child; and the parents' own attendance history, health anxiety, and perception of somatic symptoms. Anxiety and depression are more likely in the parents of high-attending children. Doctors should be sensitive to the parental and family factors that underlie the decision to consult and of the needs of parents of high-attending children.

surgery use will predict surgery attendance for their children.

This paper reports a cross-sectional survey of child and parental factors associated with higher child attendance at general practice.

Method

The methods have been described in full.²¹ Four thousand households were randomly chosen, sampling equal numbers from the age-sex register of six general practices. Where the random choice of participant from the age-sex register was a child (aged under 16 years, $n = 670$) an adult was asked to fill in a questionnaire for themselves, in addition to filling in a briefer questionnaire for the child. We have reported the data from the adult questionnaires alone.²¹ This paper reports the data from the paired adult and child questionnaires returned. A second and third mailing were sent to patients who had not responded to the first questionnaire.

Adult questionnaire

We included items found to be significant from previous studies, lifestyle, attitude to doctors and medicine,²² Kokko's personality types, perceived health, health anxiety, number of medical problems, MUPS (somatic symptom inventory), and willingness to tolerate symptoms.²¹

Child questionnaire

This questionnaire documented perceived health, the number of medical problems, somatic symptom inventory, and willingness to tolerate symptoms.²¹

Self-reported attendance

We were particularly interested in children who consult the doctor or nurse more frequently than the average, i.e. three or more attendances a year (the top 32%, accounting for the majority [69%] of consultations). We showed in 270 consecutive responders that self-reported attendance correlates well with attendance in the notes (rank correlation $r = 0.76$; median difference = 0; interquartile range = 0–2),²¹ and for three or more attendances a year the agreement is good ($\kappa = 0.65$; likelihood ratio for: a positive test = 5.2, and a neg-

ative test = 0.24). Although there is variation of consultation rates in children (for 0 to five years, five to 10 years, and 10 to 15 years age groups from the National Morbidity Survey, 980, 670, and 710 per 1000 respectively have one or more consultations a year²¹), these rates are not so disparate that one attendance cut-off is inappropriate. We also controlled for age group in the analysis.

Sample size

The sample size was calculated for 80% power and 95% confidence using Epi Info software. To detect risk factors for higher attendance with an odds ratio of 2, with prevalence of risk factors ranging from 25% to 75%, and assuming that 25% of 'unexposed' children are higher attenders, then 448 children are required, or 640 in total allowing for 30% non-response.

Analysis

Data were scanned using Formic 3 software and data analysis performed using SPSS for Windows and Stata for Windows software. Associations with attendance (three or more attendances a year) were assessed using logistic regression. Variables significant in univariate analysis at the 1% level were entered by forward selection and retained if the variables remained significant at the 5% level. A 1% level of significance was chosen for model entry to minimise type I error: the more conservative Bonferroni correction was not made owing to the potential collinearity of the hypotheses being tested. If continuous variables were significantly associated with attendance (e.g. somatic symptom inventory, health anxiety) then they were converted to ordinal variables to allow the reader to better assess the 'risk' associated with each variable: cut-offs were determined by the shape of the relationship of the continuous variable with outcome rather than using pre-determined arbitrary cut-offs, unless the questionnaire already had established clinical cut-offs (e.g. the HAD scale). The significance of each variable was tested in the final model using the likelihood ratio χ^2 test, and the value of the model in predicting higher attendance was assessed using area under the receiver operator characteristic (ROC) curve (i.e. assessing the sensitivity and specificity, over a range of probability cut-offs, of the ability of the model to predict the dependent variable).

Results*Response and non-response*

Four hundred and ninety questionnaires were received (73%) and 456 (68%) documented child attendance. For 90% of both high and low attenders the adult questionnaire was filled out by the mother. Comparing the characteristics of the enumeration district of responders and non-responders using postcode-derived indices, responders were more likely than non-responders to have a higher percentage who were non-manual social class (49% and 38% respectively) but a similar percentage who were economically inactive (14% and 19% respectively). The children of responders were of similar age (mean = 8.8 years and 8.7 years respectively) and a similar proportion were of male sex (57% and 51% respectively).

Principal analysis: independent associations with attendance

The model predicting high child attendance had an area under the ROC curve of 0.81. Higher attendance was independently predicted by the child's age, medical problems, council house tenancy, by the parents' assessment of the child's physical ill health, parental higher attendance (five or more times, representing the top 25% of the adult distribution, i.e. similar to the child cut-off), willingness to tolerate self-limiting illness in their children, and if they perceived their children had MUPS (Table 1). Parental attitudes to surgery and pharmacy use, doctors, and lifestyle were not predictors of attendance, although parents of high attenders were more likely to have higher scores on the depression and anxiety scales of the HAD questionnaire.

Secondary analysis of variables predicting attendance

Separate logistic models were built to assess the 'secondary' variables associated with each of the key variables identified in the primary analysis, and for the continuous 'willingness to tolerate symptoms' score a multiple regression model was used (Table 3). To greatly simplify presentation for the logistic models, since the variables were ordered categorical variables with a trend in odds ratios, odds ratios

are quoted for the average increment across the level specified in Tables 1 to 2 (i.e. assuming proportional odds). For each model, estimates are adjusted for all other significant variables.

Willingness to tolerate child symptoms was strongly and inversely related to council house tenancy and also to parental health anxiety score. Parental perception of the child's health related to the number of child medical problems and to child MUPS, and to parental perception of their own health. Parental perception of child MUPS related to perception of child medical health and parents' anxieties about their own health. The complex and close interrelation of the 'secondary' variables that predict attendance for children is illustrated in Figure 1. Anxiety and depression does not appear in Table 1 or Figure 1, since they are 'tertiary' predictive variables and both significantly related to the 'secondary' variables of health anxiety, MUPS, physical health status, and self-perceived health (Spearman rank correlations with these variables are all >0.30, for both HAD depression and anxiety scores). This finding is entirely consistent with the adult data²¹ and suggests that anxiety and depression are not independent variables, but instead act through other variables. Anxiety and depression were only weakly related to the demographic variables of council house tenancy, child age group, and sex (Kendall τ b all \leq 0.13).

Table 1. Socio-demographic details, child medical problems, and practice associations with self-reported higher child attendance at GP surgery (three or more times in past 12 months).

	High attender (%)	Not a high attender (%)	Crude odds ratio (95% CI)	Adjusted odds ratio (95% CI) ^a	Likelihood ratio χ^2 (P-value)
Socio-demographic characteristics					
Age of child (years)					
0-5	52/142 (37)	53/311 (17)	1	1	20.9 (<0.001)
>5-10	34/142 (24)	106/311 (34)	0.33 (0.19-0.56)	0.26 (0.13-0.49)	
>10	56/142 (39)	152/311 (49)	0.38 (0.23-0.61)	0.29 (0.16-0.54)	
Sex of child (male)	65/142(46)	165/311(53)	0.75 (0.50-1.11)	0.70 (0.43-1.13)	2.1 (0.14)
No parental qualifications	22/135 (16)	45/299 (15)	1.10 (0.63-1.92)	0.72 (0.34-1.53)	0.8 (0.39)
Non-manual occupation	33/128 (26)	74/276 (27)	0.95 (0.59-1.53)	1.03 (0.74-1.44)	0.0 (0.85)
Ethnicity (non-white)	4/142 (3)	4/309 (1)	2.21 (0.54-8.97)	2.40 (0.43-13.4)	1.0 (0.32)
Marital status					
Single	11/144 (8)	16/309 (5)	1	1	3.2 (0.20)
Married	116/144 (81)	249/309 (81)	0.68 (0.30-1.51)	1.98 (0.66-5.98)	
Separated/widowed/divorced	17/144 (12)	44/309 (14)	0.56 (0.22-1.45)	1.09 (0.31-3.81)	
Council house tenant	39/141 (28)	40/308 (13)	2.56 (1.56-4.21)	1.98 (1.06-3.78)	4.6 (0.03)
Child health					
Medical problems					
0	67/145 (46)	193/311 (62)	1	1	11.1 (0.004)
1	48/145 (33)	81/311 (26)	1.71 (1.09-2.68)	2.08 (1.19-3.65)	
2 or more	30/145 (21)	37/311 (12)	2.34 (1.34-4.07)	2.78 (1.36-5.66)	
				z trend P<0.001	
Perceived health of child					
Very good	64/144 (44)	230/311 (74)	1	1	14.8 (<0.001)
Good	75/144 (52)	79/311 (25)	3.41(2.24-5.19)	2.54 (1.54-4.18)	
Poor	5/144 (4)	2/311 (1)	8.98 (1.70-47.4)	4.93 (0.61-39.7)	
Practice ^b					
U, A, F, C, DI	20/145 (14)	33/310 (11)	1	1	5.6 (0.35)
U, T, DI	33/145 (23)	43/310 (14)	1.27(0.62-2.59)	0.88 (0.35-2.17)	
U, DI	25/145 (17)	48/310 (15)	0.86(0.41-1.79)	0.46 (0.17-1.27)	
U, F, C, I, T	18/145 (12)	57/310 (18)	0.52(0.24-1.12)	0.39 (0.14-1.04)	
U, I	21/145 (14)	40/310 (13)	0.87(0.40-1.86)	0.70 (0.27-1.80)	
U/R, T, C, F, M	28/145 (19)	89/310 (29)	0.52(0.26-1.04)	0.64 (0.27-1.49)	

^aAdjusted for other significant variables. ^bU = predominantly urban; U/R = urban rural mixed; T = teaching; A = academic (linked to university department); F = fundholding; I = inner city; DI = deprived inner city; M = market town.

Table 2. Parental factors in childhood attendance.

	High attender (%)	Not a high attender (%)	Crude odds ratio (95% CI)	Adjusted odds ratio (95% CI) ^a	Likelihood ratio χ^2 (P-value)
Parental perception of child somatic symptoms					
Perceived MUPS					
0	65/145 (45)	229/311 (74)	1	1	21.3 (<0.001)
1	41/145 (28)	49/311 (16)	2.95 (1.79–4.85)	3.10 (1.69–5.68)	
2	16/145 (11)	18/311 (6)	3.13 (1.51–6.48)	2.30 (0.97–5.49)	
3+	23/145 (16)	15/311 (4)	5.40 (2.67–10.95)	4.15 (1.80–9.57)	
Willingness to tolerate physical symptoms					
0–17	36/145 (25)	51/311 (16)	1	1	4.6 (0.03)
18–29	91/145 (63)	196/311 (63)	0.66 (0.40–1.08)	0.71 (0.38–1.33)	
30+	18/145 (12)	64/311 (21)	0.40 (0.20–0.78)	0.39 (0.17–0.93)	
Parental medical history					
High attendance (5 or more times)	52/136 (38)	42/294 (14)	3.71 (2.31–5.98)	3.15 (1.79–5.53)	16.0 (<0.001)
No current medication	74/140 (53)	199/299 (67)	0.56 (0.37–0.85)	0.66 (0.39–1.11)	
Medical problems					
0	33/145 (23)	100/310 (32)	1	1	2.8 (0.43)
1	38/145 (26)	89/310 (29)	1.29 (0.75–2.24)	1.42 (0.72–2.78)	
2	34/145 (23)	61/310 (20)	1.69 (0.95–3.00)	1.65 (0.78–3.51)	
3	40/145 (28)	60/310 (19)	2.02 (1.15–3.54)	1.76 (0.85–3.64)	
Symptom and health perception of parents					
MUPS					
0	30/145 (21)	102/310 (33)	1	1	3.1 (0.38)
1–2	49/145 (34)	111/310 (36)	1.5 (0.89–2.54)	1.62 (0.85–3.11)	
3–5	38/145 (26)	63/310 (20)	2.05 (1.16–3.63)	1.75 (0.86–3.60)	
6+	28/145 (19)	34/310 (11)	2.80 (1.47–5.33)	1.65 (0.72–3.72)	
Health Anxiety (Whitely) Index					
0	10/145 (7)	26/310 (8)	1	1	1.1 (0.89)
1–2	60/145 (41)	160/310 (51)	0.98 (0.44–2.14)	0.92 (0.34–2.49)	
3–5	58/145 (40)	101/310 (33)	1.49 (0.67–3.31)	1.00 (0.37–2.75)	
6–7	8/145 (6)	12/310 (4)	1.73 (0.55–5.49)	1.04 (0.26–4.23)	
8+	9/145 (6)	11/310 (4)	2.13 (0.68–6.68)	0.55 (0.13–2.35)	
Parental perceived health					
Very good	27/140 (19)	109/307 (39)	1	1	2.1 (0.35)
Good	102/140 (73)	181/307 (56)	2.28 (1.40–3.70)	1.41 (0.77–2.59)	
Poor	11/140 (8)	17/307 (6)	2.61 (1.10–6.22)	0.82 (0.26–2.57)	
Parental anxiety/depression					
Depression (HAD scale)					
0–7	85/139 (61)	227/302 (75)	1	1	4.5 (0.10)
8–10	42/139 (30)	55/302 (18)	2.04 (1.27–3.27)	1.68 (0.93–3.04)	
11+	12/139 (9)	20/302 (7)	1.60 (0.75–3.42)	0.63 (0.24–1.68)	
Anxiety (HAD scale)					
0–7	85/139 (37)	154/302 (51)	1	1	0.9 (0.61)
8–10	42/139 (33)	85/302 (28)	1.60 (0.99–2.58)	1.28 (0.71–2.31)	
11+	12/139 (30)	63/302 (21)	1.97 (1.20–3.26)	0.96 (0.49–1.87)	
Parental Physical Health (COOP WONCA)					
'Physical' (score: activity, work, pain, overall condition)					
0–7	31/126 (25)	88/256 (35)	1	1	0.2 (0.90)
8–9	37/126 (29)	90/256 (35)	1.18 (0.67–2.07)	1.12 (0.56–2.24)	
10+	58/126 (46)	77/256 (30)	2.16 (1.27–3.68)	1.18 (0.59–2.36)	
Change in condition (same or worse than last month)	95/141 (67)	236/307 (77)	0.62 (0.40–0.97)	0.69 (0.39–1.23)	1.6 (0.21)

^aAdjusted for other significant variables.

Discussion

This study is one of the few quantitative studies from primary care to date to assess which parental factors are associated with high childhood attendance. Before the results are discussed in detail, the limitations of the study must be identified.

Measurement bias

Documented attendance may be preferable; however, it is prone to omission bias and self-report is prone to recall bias.

Nevertheless, we have shown that reported and documented attendance agreed well.²¹

Selection and non-response bias

Although this study uses a sub-sample of an original random sample, every household had an equal and random chance of being chosen. The responding sample was similar to the non-responding sample, although fewer families from deprived areas responded. This may have slightly underestimated absolute attendance; however, the aim of

Table 3. 'Secondary' predictors of 'primary' variables associated with attendance.

'Primary' variable	'Secondary' predictive variables	Adjusted odds ratio (95% CI) ^{a,b}
Child MUPS (1 or more on SSI)	Perceived poor health of child	2.0 (1.38 to 2.90)
	Willing to tolerate child symptoms	1.68 (1.20 to 2.36)
	Parental health anxiety	1.43 (1.11 to 1.85)
	Parental medically unexplained symptoms	1.36 (1.10 to 1.70)
	Council house tenancy	1.88 (1.11 to 3.17)
	Male child	0.83 (0.56 to 1.24)
Perceived poor health of child	Child medical problems	1.61 (1.22 to 2.13)
	MUPS of child	1.39 (1.13 to 1.72)
	Perceived poor health of parent	4.34 (2.82 to 6.70)
	Age of child	0.78 (0.60 to 1.01)
Child medical problems (1 or more)	Perceived poor health of child	1.88 (1.32 to 2.67)
	Age	1.35 (1.07 to 1.70)
Willing to tolerate child's symptoms ^b	Parental health anxiety	-0.73 (-1.44 to -0.02)
	Council house tenancy	-3.40 (-4.99 to -1.82)

^aAdjusted odds ratios for other significant variables from each logistic regression model. ^bAdjusted β coefficients quoted from multiple regression model.

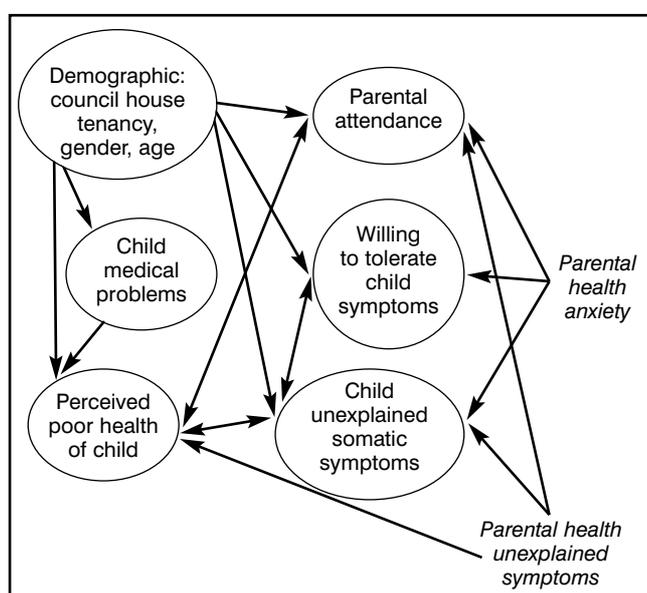


Figure 1. Interrelation between perceived health, health anxiety, and perception of somatic symptoms and other primary 'independent' predictors of attendance (in circles) and with secondary predictors (in italics).

this study was to assess the role of parental factors in higher attendance when controlling for demographic variables. Since we did not specify that the parent who usually took their child to the surgery should complete the questionnaire, we may have slightly underestimated the role of parental factors. Doctors, practices, and other 'supply' factors are likely to be relevant for health care utilisation;^{23,24} we would expect in a larger study that practice variables would become significant. We also sampled only one member from each household group, which means that smaller-sized families have relatively higher representation (reducing the proportion of children from larger families).

Confounding, chance, cause, and effect

Parental physical ill health is a possible explanation of the relationship between parental perception of somatic symptoms and child attendance. However, neither parental med-

ical problems nor the severity of parental physical ill health had major independent associations with child attendance or child MUPS. Type I error may explain some of our findings, although we minimised this by using a 1% level of significance to determine model entry. Further teasing out of the relationships between variables that predict attendance requires longitudinal cohorts and controlled trials.

Main findings

Perception of somatic symptoms and health. As expected, socio-demographic variables, the number of child medical problems, and parental perception of the severity of child ill health were associated with attendance. However, after controlling for these variables the parents' perception of the number of significant 'medically unexplained' somatic symptoms, and their willingness to tolerate somatic symptoms in their children, demonstrate independent associations. The importance of parental factors is reinforced since the parents' own attendance history is independently associated with child attendance, and the parents' perception of childhood MUPS is related to the parents' anxieties about their own health and their own unexplained somatic symptoms. Identification of individuals with 'medically unexplained' physical symptoms is fraught with difficulty.²¹ Nevertheless, there is reasonable agreement between patient self report of such symptoms and GPs' assessment,²⁵ and thus the measurement probably crudely identifies somatisation.

The current study supports previous work that parents of high-attending children may need as much help as their children:⁵ the question is, what help? One approach is to address MUPS. There is very little work relevant to parents and children; however, from the literature on adults, group therapy,²⁶ cognitive behavioural therapy²⁷ (albeit intensive), antidepressants,²⁸ and symptom re-attribution²⁹ may all help MUPS.

Parents' willingness to tolerate symptoms in their children is significantly associated with attendance, and related to the perception of child MUPS and parental health anxiety. This supports previous evidence about the importance of parents' anxieties about their children's symptoms.^{3,4} If perception of childhood symptoms and when to act on them is

important, then information by leaflet, video, telephone (e.g. NHS Direct), or the Internet about symptoms and the management of self-limiting illness could help parents — both in symptomatic management and in their decision to contact the doctor.³⁰⁻³² However, it is important that information is framed to ensure that children who really do need to see the doctor are not inhibited from so doing.

Parents of high-attending children are more likely to have higher scores for depression and anxiety according to the HAD screening questionnaire. This supports Howie's original indirect observation of the association of parental mental health — parental psychotropic medication use — and childhood attendance and prescribing patterns.⁵ Doctors should be aware that frequent childhood attendance may be a marker for parental anxiety and depression. This raises the testable proposition that identification and treatment of parental anxiety and depression could not only help parents, but also alter parental perception of somatic symptoms in their children.

Parental attitudes to doctors, pharmacy, and surgery use

An interesting finding in the current study was that, contrary to the findings in adults,²¹ parents' attitudes to doctors, to surgery use, and to pharmacy use do not predict high attendance with their children. This suggests that, although parents do not 'suspend' their attitudes and reactions towards their own and their children's somatic symptoms in making decisions to consult with their children, they do suspend their own attitude towards doctors and the use of the surgery and pharmacy.

Conclusion

The child's medical problems and parents' perceptions of the child's health are, as expected, strongly associated with attendance. Important parental factors include not only council house tenancy, but also their perception of, and willingness to tolerate, somatic symptoms in the child and their own attendance history, health anxiety, and perception of somatic symptoms. Furthermore, parents of high-attending children are more likely to be anxious or depressed. Doctors should be sensitive to the parental and family factors that underlie the decision to consult and be aware of the needs of parents of high-attending children.

References

- Office of Population Censuses and Surveys. *Morbidity statistics from general practice: fourth national study 1991*. 1st edition. London: HMSO, 1994.
- Howie J, Heaney D, Maxwell M, et al. Quality at general practice consultations: cross-sectional survey. *BMJ* 1999; **319**: 738-743.
- Kai J. Parents' information needs and difficulties in coping with illness in pre-school children: a qualitative study. *BMJ* 1996; **313**: 987-990.
- Cornford CS. Why patients consult when they cough: a comparison of consulting and non-consulting patients. *Br J Gen Pract* 1998; **48**: 1751-1754.
- Howie J, Bigg AR. Family trends in psychotropic and antibiotic prescribing in general practice. *BMJ* 1980; **1**: 836-838.
- Campo JV, Jansen-McWilliams L, Comer DM, Kelleher KJ. Somatization in pediatric primary care: association with psychopathology, functional impairment, and use of services. *J Am Acad Child Adolesc Psychiatry* 1999; **38**(9): 1093-1101.
- Courtenay MJ, Curwen MP, Dawe D, et al. Frequent attendance in a family practice. *J R Coll Gen Pract* 1974; **24**: 251-261.
- Office of Population Censuses and Surveys. *General Household Survey*. London: HMSO, 1991.
- Westhead JN. Frequent attenders in general practice: medical psychological and social characteristics. *J R Coll Gen Pract* 1985; **35**: 337-340.
- Browne GB, Humphrey B, Pallister R, et al. Prevalence and characteristics of frequent attenders in a prepaid Canadian Family Practice. *J Fam Pract* 1982; **14**: 63-71.
- Robinson JO, Granfield AJ. The frequent consulter in primary medical care. *J Psychosom Res* 1986; **30**: 589-600.
- Dowrick C. Why do the O'Sheas consult so often? An exploration of complex family illness behaviour. *Soc Sci Med* 1992; **34**: 491-497.
- Karlsson H, Lehtinen V, Joukamaa M. Are frequent attenders of primary health care distressed? *Scand J Prim Health Care* 1995; **13**: 32-38.
- Neal R, Dowell A, Heywood P, Morley S. Frequent attenders: who needs treatment? *Br J Gen Pract* 1996; **46**: 131-132.
- Carr-Hill R, Rice N, Roland M. Socio-economic determinants of rates of consultation in general practice based on the fourth national morbidity survey of general practice. *BMJ* 1996; **312**: 1008-1013.
- Kokko SJ. Long-term patterns of general practice consulting behaviour: a nine year analysis of general practice histories of a working rural Finnish population. *Soc Sci Med* 1990; **30**: 509-515.
- Escobar J, Ribio-Stipek M, Canino G, Karno M. Somatic Symptom Index (SSI): a new and abridged somatization construct. Prevalence and epidemiological correlates in two large community samples. *J Nerv Ment Dis* 1989; **177**: 140-146.
- Pilowsky I. Dimensions of hypochondriasis. *Br J Psych* 1999; **113**: 89-93.
- Portegijs P, van der Horst F, Proot I, et al. Somatization in frequent attenders of general practice. *Soc Psychiatry Psychiatr Epidemiol* 1996; **31**: 29-37.
- Kirmayer L, Robbins J. Three forms of somatization in primary care: prevalence, co-occurrence, and socio-demographic characteristics. *J Nerv Ment Dis* 1991; **179**: 647-655.
- Little P, Somerville J, Williamson I, et al. Psychosocial, lifestyle, and health status variables in predicting high attendance among adults. *Br J Gen Pract* 2001; **51**: 000-000 [this issue].
- Marteau T. Attitudes towards doctors and medicine: the preliminary development of a new scale. *Psychol Health* 1990; **4**: 351-356.
- Little PS, Williamson I, Warner G, et al. An open randomised trial of prescribing strategies for sore throat. *BMJ* 1997; **314**: 722-727.
- Little PS, Gould C, Williamson I, et al. Re-attendance and complications in a randomised trial of prescribing strategies for sore throat: the medicalising effect of prescribing antibiotics. *BMJ* 1997; **315**: 350-352.
- Peveler R, Kilkenny L, Kinmonth AL. Medically unexplained physical symptoms in primary care: a comparison of self-report screening questionnaires and clinical opinion. *J Psychosom Res* 1997; **42**: 245-252.
- Benson P, Turk T. Group therapy in a general practice setting for frequent attenders: a controlled study of mothers with pre-school children. *J R Coll Gen Pract* 1988; **38**: 539-541.
- Kroenke K, Swindle R. Cognitive-behavioural therapy for somatization and symptom syndromes: a critical review of controlled clinical trials. *Psychother Psychosom* 2000; **69**: 205-215.
- O'Malley P, Jackson J, Santoro J. Antidepressant therapy for unexplained symptoms and symptom syndromes. *J Fam Pract* 1999; **48**: 980-990.
- Morriss R, Gask L, Ronalds E, et al. Cost-effectiveness of a new treatment for somatized mental disorder taught to GPs. *Fam Pract* 1998; **15**(2): 119-125.
- Morrell DC, Avery AJ, Watkins CJ. Management of minor illness. *BMJ* 1980; **280**: 769-771.
- Hansen B. A randomised controlled trial of the effect of an information booklet for young families in Denmark. *Patient Educ Counsel* 1990; **16**: 147-150.
- Terry P, Pheley A. The effect of self-care brochures on use of medical services. *J Occup Environ Med* 1993; **35**: 422-426.