

General practitioners' beliefs about their role in the prevention and treatment of accidents involving children

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SUMMARY. *This questionnaire survey set out to determine the perceptions of family doctors in north Staffordshire regarding their role in the prevention and treatment of childhood accidents. Of 277 doctors sent questionnaires, 207 (75%) replied. Only 23% of respondents considered that they did enough child accident prevention work; lack of time was mentioned as a limiting factor by 66%. Child health surveillance clinics and home visits were considered by 60% and 59% of respondents, respectively, to be appropriate occasions on which to give prevention advice. However, only 12% of respondents frequently gave safety advice while visiting a child. Significantly more older general practitioners (over 44 years) gave advice during a visit than younger doctors. Among doctors with a health visitor who was practice rather than geographically based significantly more gave advice on a home visit and discussed safety issues with their health visitors. Significantly more general practitioners in practices more than five miles from the nearest accident and emergency department offered to provide treatment for children following an accident than those in practices nearer to a hospital.*

Child accident prevention has recently been targeted as an important area for health promotion in primary care. However, this district based survey has identified a relatively low profile for the subject in the everyday activities of the general practitioner. The need for further research to determine the precise role of the family doctor in the prevention and treatment of children's accidents is highlighted.

Keywords: accidents; safety measures; management of disease; children; general practitioner's role.

Introduction

ACCIDENTS are the leading cause of death in children aged one to 14 years in the developed world.¹ In England and Wales, on average, three children die in accidents every day and accidents result in about 10 000 children being permanently disabled annually.¹ Accidents cause one child in six to attend an accident and emergency department every year and they result in one fifth of all hospital paediatric admissions.² They cost the National Health Service over £150 million annually in England and Wales.³

The white paper *The health of the nation* proposes that the prevention of accidents should be one of the five key areas where strategies for improvement are developed over this decade.⁴ It aims to cut deaths from accidents substantially, particularly among children, and sees general practitioners as playing a lead-

ing role in this. The document stresses that general practitioners should use their consultation time with families to give accident prevention and safety advice.

Both in the Hall report⁵ and the government's programme for improving primary care⁶ it has been emphasized that the general practitioner will be expected to take up an increased role in health promotion. The new general practitioner contract⁷ also recognized that health promotion and disease prevention are integral parts of the general medical services provided by general practitioners for their patients. Historically the role of the general practitioner in child accident prevention and trauma management has been poorly defined.⁸⁻¹¹ The aim of this study was to investigate the beliefs of doctors in north Staffordshire regarding their role in the prevention and treatment of childhood accidents.

Method

Following a pilot study, the survey was carried out in April 1992 and the study sample comprised all 277 doctors (265 general practitioners, 10 trainees and two assistants) practising in North Staffordshire District Health Authority. The study sample was sent a questionnaire via the courier service of the Staffordshire Family Health Services Authority, together with a covering letter, pencil and prepaid reply envelope. A second questionnaire was sent to non-respondents after four weeks.

The questionnaire was confidential and information was sought about practice size, location, staff and services offered, together with personal details including age, sex, number and age of children, postgraduate qualifications and membership of child health surveillance and minor surgery lists. Various aspects of child accident treatment and prevention were explored, together with details of relevant courses attended. Most questions asked about children generally but some referred specifically to children under five years of age.

The questionnaire comprised closed questions only and completed questionnaires were read by an optical mark read scanner. Data were analysed using the SAS (version 6.03) statistical package. The *Confidence intervals analysis* statistical package was used to calculate 95% confidence intervals. Where percentages are given in the text without a baseline number these refer to fully recorded data; in cases where there are missing values, the sample size is also given. The cross-tabulated data were analysed using all non-missing pairs of values.

Results

Two hundred and seven doctors (74.7%) returned the questionnaire (199 general practitioners, seven trainees and one assistant). Of these respondents, 144 doctors returned the questionnaire after the first mailing (52.0%, 144/277) and 63 replied only after the second mailing (47.4%, 63/133).

Thirty three respondents (16.3%, $n = 203$) rarely or never gave safety advice when seeing a child in surgery following an accident. Only 46 doctors (22.8%, $n = 202$) felt that they did enough child accident prevention work. The factors which prevented 177 respondents from doing more were lack of time (66.1%), resources (19.8%) and knowledge (14.1%). Forty seven respondents (23.3%, $n = 202$) rarely or never suggested that parents obtain specific items of safety equipment. The items of equip-

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ment that respondents felt should be recommended to parents for children under five years of age are shown in Table 1. The majority felt that a fireguard, car seat and stairgate should be recommended. Most respondents (76.6%, $n = 201$) rarely or never gave parents leaflets on safety.

Over half the respondents felt that child health surveillance clinics and home visits were the appropriate places for general practitioners to mention the topic of accident prevention to parents (Table 1). However, only 24 respondents (11.6%) always or frequently mentioned the topic while visiting children. More older general practitioners (45 years and older) reported that they gave advice during a visit than younger doctors (72.3% (60/83) versus 54.9% (62/113); $\chi^2 = 5.46$, $P < 0.05$, 95% confidence interval of difference (CI) 4.1% to 30.7%).

More doctors with a health visitor attached to the practice gave safety advice on a home visit to a child than those with a geographically based health visitor (71.9% (97/135) versus 41.9% (26/62); $\chi^2 = 14.96$, $P < 0.01$, 95% CI 15.5% to 44.4%). Similarly, more doctors discussed safety issues with health visitors when the health visitors were practice rather than geographically based (55.9% (76/136) versus 27.4% (17/62); $\chi^2 = 12.73$, $P < 0.01$, 95% CI 14.6% to 42.4%).

Ninety eight doctors (48.5%, $n = 202$) had posters on aspects of child safety in the waiting room and only 82 (40.2%, $n = 204$) had a designated play area in the surgery. Seventeen respondents (8.2%) knew of accidents to children in their own surgery premises in the previous 12 months.

Eighty eight doctors (42.7%, $n = 206$) considered that they had enough background information on accidents and their prevention. One hundred and eighty seven doctors (90.8%, $n = 206$) did not know that a child accident prevention group existed in north Staffordshire and only 20 (9.7%) knew the name of their child

Table 1. Respondents' views concerning safety equipment that should be recommended for children under five years of age and when it is appropriate to mention accident prevention, and the services available in the respondents' practices.

	% of respondents ($n = 207$)
<i>Safety equipment that should be recommended</i>	
Fireguard	90.3
Car seat	83.1
Stairgate	82.6
Cooker guard	49.8
Plug covers	47.3
Smoke alarm	47.3
<i>When appropriate to mention accident prevention</i>	
At child health surveillance clinic	59.9
On home visit	58.9
During surgery consultation	44.0
During postnatal visit or examination	23.2
At antenatal clinic	14.5
Never	2.9
<i>Services available in practice</i>	
Cleaning and dressing wounds	94.7
Administration of tetanus vaccine	94.2
Application of sterile skin closure strips	90.8
Treatment of minor burns and scalds	83.1
Treatment of bruises and sprains	80.2
Assessment following head injury with instructions for parents	69.6
Removal of a foreign body	59.4
Suturing a laceration	57.0

n = total number of respondents.

accident liaison health visitors. Forty two doctors (20.3%) had attended any course or lecture on child safety or accident prevention in the last two years. The majority of respondents (96.1%) received notification from the hospital when a child attended the accident and emergency department following an accident.

Facilities available at the surgery for treating childhood accidents are shown in Table 1. The majority of practices offered a wide range of services to treat minor trauma. Most doctors (95.2%) offered to treat a child when a parent telephoned after an accident. In a typical four-week period 138 respondents (67.0%, $n = 206$) expected to see between one and three children under five years of age following an accident (the remainder expected to see fewer than this).

More general practitioners in practices more than five miles from the nearest accident and emergency department offered to provide treatment for children following an accident than those in practices nearer to a hospital (77.6% (57/67) versus 57.7% (79/137); $\chi^2 = 6.95$, $P < 0.01$, 95% CI 7.0% to 32.9%).

No significant associations were found between whether or not the doctor offered to treat a child following an accident or gave safety advice in the practice or on a home visit and the doctor's postgraduate qualifications or membership of the child health surveillance or minor surgery lists. Spending six months or more in an accident and emergency department as part of vocational training or currently holding regular sessions as a clinical assistant in a casualty department also appeared to be unrelated to a doctor's views about child accident prevention or treatment.

The sex of the respondents and the number and age of their own children were unrelated to their stated behaviour with respect to child safety. The size, location and level of deprivation of the practice area were also not significantly related to the doctor's stated beliefs. The 28 single-handed general practitioners who responded to the questionnaire had similar beliefs about safety advice and treatment to the 179 respondents working in group practices.

Discussion

One of the most encouraging findings from this study is that most of the respondents considered that they were involved in some accident prevention work. However, only a minority felt that they did enough. Two thirds felt that lack of time was a major obstacle to doing more preventive work.

It is clear from this study that many doctors are in favour of initiating discussions on accident prevention with parents at varied times and locations. It is encouraging that over half the respondents considered child health surveillance clinics and home visits suitable occasions to mention the topic. The fact that more older general practitioners were willing to give safety advice during home visits may reflect their greater confidence when broaching an, at times, sensitive topic but may also reflect a greater knowledge and understanding of a family over extended years. It is not surprising that the percentage of doctors giving safety advice during visits and discussing safety issues with health visitors is increased by the presence of a health visitor attached to the practice. The health visitor is the professional perhaps most recognized for giving prevention advice to the parents of pre-school children and a previous study has shown that levels of screening uptake in children are also increased when a health visitor is practice rather than geographically based.¹²

Only 43% of the respondents in this study felt that they had enough background information on accident prevention. The results cast doubt on the availability of courses on the subject as only 20% reported attending relevant courses or lectures in the previous two years. If general practitioners are to accept greater responsibility for child accident prevention then their training may be a relevant issue to address.

It was disappointing that only 9% of the doctors were aware of the existence of the local child accident prevention group, despite the fact that the North Staffordshire Hospital Centre was the first pilot trauma centre in the United Kingdom, and is part of a Department of Health trauma centre evaluation project.¹³ The child accident prevention group was formed as a multidisciplinary team in 1989 and has general practitioner representation. Local groups often lack representation by general practitioners to the detriment of their effectiveness. In recent years safety initiatives have been carried out by the group and there has been publicity in the form of newspaper and radio coverage. It was also disappointing to learn that only 10% of respondents knew the name of their child accident liaison health visitors. There has been accident notification and paediatric liaison health visiting in north Staffordshire since a pilot study in 1981 (North Staffordshire District Health Authority, unpublished report, 1981).

The number of doctors reporting accidents to children on their own surgery premises is of interest. However, details of the severity of the accidents were not requested, nor were respondents asked whether accident log-books were used at their surgeries. It has already been demonstrated that children are frequently injured while on hospital wards¹⁴ and on local authority premises.¹⁵

Respondents described a variety of facilities available at their practices for treating accidents and 95% would offer to treat a child following an accident if telephoned. However, a previous study has demonstrated that the majority of parents attended their local accident and emergency department following an accident.¹⁶ Many factors influence this choice including the perceived unavailability of their general practitioner, their belief that the accident was an emergency and the belief that superior skills lay within a hospital department.¹⁷ Posters in the waiting room and the practice leaflet provide an obvious opportunity to inform patients of what is available at their own practice.

Developing aspects of general practice such as treatment of minor trauma may enhance the quality of primary care in the community. Paradoxically, accident and emergency departments are gradually realizing that general practitioner delivery of primary care need not be restricted to the practice premises. Dale and colleagues¹⁸ showed that general practitioners working in casualty departments resulted in a reduction of waiting times, unnecessary investigations and admissions, without compromising patient care. This initiative has pioneered a way of bringing general practitioners into accident and emergency departments on a more structured and permanent basis.

General practitioners deal with many minor injuries to children¹⁹ and in rural areas also with major injuries. The results of this study suggest that more doctors offer to treat childhood accidents when the surgery is at some distance from a hospital department and this agrees with previous work.²⁰

Two general principles should underlie the care of injured children. First, their injury should have the best treatment and secondly their treatment should cause the children and their parents as little distress as possible. Few accident and emergency departments in general hospitals provide the necessary special facilities for children²¹ and there is a place for the treatment of some minor injuries in general practice.

General practitioners can undertake accident prevention work with children in a number of ways: in the course of their clinical work and in collaboration with colleagues in the NHS and community agencies. The traditional role of general practitioners in accident prevention has been one of education. However, Sibert²² has shown that environmental change is often more relevant than education alone. Environmental change is often achieved by legislation. Possible action for general practice in the field of child accident prevention could include collection of practice accident

statistics, liaison with health visitors especially when accident prone families are identified, and active promotion of child safety in a structured age-specific manner.

There is no doubt that the medical profession could make a major contribution to child accident prevention. General practitioners' awareness of accident prevention services could be improved: perhaps at the moment they do not feel that it is their concern. This study reveals a need for further studies of general practitioners' attitudes towards their role in accident prevention and treatment.

References

1. Child Accident Prevention Trust. *Basic principles of child accident prevention*. London: CAPT, 1989.
2. Sibert JR, Maddocks GB, Brown BM. Childhood accidents — an endemic of epidemic proportions. *Arch Dis Child* 1981; **56**: 225-234.
3. Vipulendran V, Mason AR, Sunderland R. Cost to the NHS of accidents to children in the West Midlands. *BMJ* 1988; **296**: 611.
4. Secretary of State for Health. *The health of the nation: a strategy for health in England (Cm 1986)*. London: HMSO, 1992.
5. Hall DMB. *Health for all children: a programme for child health surveillance*. Oxford University Press, 1991.
6. Secretaries of State for Social Services, Wales, Northern Ireland and Scotland. *Promoting better health. The government's programme for improving primary health care (Cm 249)*. London: HMSO, 1987.
7. Department of Health and the Welsh Office. *General practice in National Health Service. A new contract*. London: HMSO, 1989.
8. Greig T. The GP's role in child accident prevention. *Practitioner* 1987; **231**: 1612-1616.
9. Jackson H. The doctor's role in the prevention of accidents. *Arch Dis Child* 1988; **63**: 235-237.
10. Jackson H. Childhood safety — are we doing enough? *Practitioner* 1990; **234**: 524-528.
11. Stone D. Preventing accidents — a high priority target. *Medical Monitor* 1991; **4**: 61-65.
12. Brown J, Watson E, Alberman E. Screening infants for hearing loss. *Arch Dis Child* 1989; **64**: 1288-1295.
13. Templeton J. Trauma centres [editorial]. *Midlands Medicine* 1990; **18**: 82.
14. Levene S, Bonfield G. Accidents on hospital wards. *Arch Dis Child* 1991; **66**: 1047-1049.
15. Bannon MJ. Accidents on hospital wards [letter]. *Arch Dis Child* 1992; **67**: 151.
16. Carter YH, Jones PW. Accidents among children under five years old: a general practice based study in north Staffordshire. *Br J Gen Pract* 1993; **43**: 159-163.
17. Singh S. Self referral to accident and emergency department: patients' perceptions. *BMJ* 1988; **297**: 1179-1180.
18. Dale J, D'Souza P, Bevan P, et al. *Primary care in A & E: establishing the service. Accident and Emergency Primary Care Project*. London: King's College School of Medicine and Dentistry, 1992.
19. Illingworth CM. *The diagnosis and primary care of accidents and emergencies in children*. Oxford: Blackwell, 1982.
20. Inwald AC. A comparison of self-referred patients to accident and emergency department between an urban district and a rural district. *J R Coll Gen Pract* 1980; **30**: 220-223.
21. Phillips BM, Robson WJ. Paediatrics in the accident and emergency department. *Arch Dis Child* 1992; **67**: 560-564.
22. Sibert JR. Accidents to children: the doctor's role. Education or environmental change? *Arch Dis Child* 1991; **66**: 890-893.

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