

Intergenerational transmission of health beliefs in somatoform disorders

Exploratory study

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Summary Children of parents with a range of psychiatric disorders are at increased risk of developing psychological disturbance themselves. There is growing evidence that this includes children who have parents with a chronic somatoform disorder. The health beliefs of children with a parent with a somatoform disorder were compared with those of children with a parent with an organic physical disorder. Children of parents with somatoform disorder scored higher on bodily preoccupation and disease phobia scales and their health beliefs showed similarities to the beliefs of their parents.

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It is well established that parental mental illness is associated with an increased risk of psychological problems in children (Barnes & Stein, 2003). There have been few studies of the children of parents with a somatoform disorder, despite the fact that such disorders are common and account for a significant proportion of healthcare utilisation (Barsky *et al*, 2001). There is some evidence for the clustering of somatisation in families (Garralda, 2000), indicating possible intergenerational transmission and raising questions about the mechanism of any such transmission. This study aimed to examine whether the children of parents with a somatoform disorder had more abnormal health beliefs than children whose parents had a diagnosed organic physical disorder.

METHOD

The study group consisted of parents with a DSM-IV diagnosis (American Psychiatric Association, 1994) of somatoform disorder of at least 5 years' duration and their oldest

child in the age range 8–16 years. They were identified from a database of all patients referred to a liaison psychiatry service at a large teaching hospital.

The comparison group comprised parents with a chronic organic physical illness of at least 5 years' duration and their oldest child in the same age range as the study group. They were recruited from hospital out-patient clinics for patients with inflammatory bowel disease, rheumatoid arthritis and multiple sclerosis. These disorders were chosen to ensure that the comparison group had chronic illnesses that were punctuated by recurrences of severe ill health and were therefore similar in pattern of illness to somatoform disorders. It was also necessary to select illnesses that affect people at an age when they were likely to be parents of school-age children. A mix of conditions was used to recruit a heterogeneous comparison group, as the patients with somatoform disorder also had varied presentations and a range of symptoms.

All parents and children of secondary school age gave written consent. Verbal assent was obtained from the younger children. The local research and ethics committee approved the research protocol.

The Illness Attitudes Scale (IAS; Kellner *et al*, 1987) was used to measure the parents' health beliefs. It consists of nine scales: worry about illness; concern about pain; health habits; hypochondriacal beliefs; thanatophobia (fear of death); disease phobia; bodily preoccupations; treatment experience; and effects of treatment. It has a 5-point response scale for each question.

A modified and validated version of the IAS was used to measure the health beliefs of the children aged 11 and over. The modified IAS was adapted by Eminson *et al* (1996) from the original IAS for use with 11- to 16-year-olds. For those children under the age of 11 years, the questionnaire was modified further, by simplifying the language and omitting some questions on smoking and alcohol.

A semi-structured interview to obtain socio-demographic data and information on the health of the parent, child and immediate family was also carried out.

SPSS version 11.5 was used for data analysis. As the data were not normally distributed, non-parametric tests of significance were used (Mann–Whitney *U*-test). For categorical data, Fisher's exact test was used. Two-tailed *P*-values were calculated throughout.

RESULTS

Thirty-three parents with a diagnosis of somatoform disorder were identified as meeting the study criteria. Of these, three were excluded because they had moved or were not contactable. Of the 30 who were approached to take part in the study, 18 (60%) agreed to participate. Twenty-two patients currently attending three separate hospital out-patient clinics were identified as meeting criteria for the comparison group. Of these, 15 (68%) agreed to take part.

The groups were comparable with respect to age of child and parent, gender of child and parent, ethnicity, marital status, social class and whether the studied parent was the child's main carer.

Children in the somatoform group scored significantly higher overall on the IAS and on the following sub-scales: bodily preoccupations; disease phobia; treatment experience; and effect of treatment (Table 1). A similar pattern of differences was seen with parental scores, with parents in the somatoform group scoring significantly higher on the following IAS sub-scales: bodily preoccupation; hypochondriacal beliefs; treatment experience; and effect of treatment (Table 1).

DISCUSSION

To our knowledge, this is the first study to show that the health beliefs of children who have a parent with a somatoform disorder are different from those of children whose parents have an organic physical condition. Children with a parent with a somatoform disorder had higher scores on a measure of problematic health cognitions; in particular they reported more bodily preoccupation and disease phobia. Furthermore, the different health beliefs in the two groups of children showed similarities to the different health beliefs in the parents. The

inclusion of a group of children whose parents had an organic illness meant that both groups were likely to be similar in terms of experiences related to having an ill parent.

The main limitation of this exploratory study is the sample size. The findings are therefore preliminary and require replication. It might have been easier to recruit a larger community sample of parents with less severe somatising problems but at the risk of seeing a smaller effect size. However, despite the small sample size, the study shows significant differences in some specific health cognitions between the two groups of children. The finding that these differences were similar to those seen in the two groups of parents indicates that there may be intergenerational transmission of problematic cognitions and raises interesting questions about the mechanisms by which such transmission may occur.

The mechanisms for intergenerational transmission are likely to be multiple and include genetics, parental psychopathology, family stresses and parenting style (Walker, 1999; Crane & Martin, 2004), as well as interactions between these factors. It has been hypothesised that mechanisms of transmission in somatisation may include maternal modelling and reinforcement of illness behaviours (Walker *et al*, 1993; Craig *et al*, 2002; Crane & Martin, 2004).

Somatoform disorders are important in terms of prevalence, levels of suffering and cost to health services (Barsky *et al*, 2001). The current study suggests that when these patients are parents their beliefs and behaviours have an impact on their

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children. By understanding more about the mechanisms of intergenerational transmission of health beliefs, it might be possible to develop effective interventions aimed at preventing the development of somatoform disorders.

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Table 1 Health beliefs of parents and children as measured by the Illness Attitudes Scale

Illness Attitudes Scale sub-scale	Parents			Children		
	Somatoform disorder (n=18)	Organic disorders (n=15)	P	Somatoform disorder (n=18)	Organic disorder (n=15)	P
	Median (interquartile range)			Median (interquartile range)		
Worry about illness	6 (3–8.25)	6 (4–8)	0.91	6 (2.75–6)	4 (3–6)	0.33
Concern about pain	4 (0.75–6.25)	4 (2–6)	0.49	4.5 (3–6.25)	4 (3–6)	0.37
Hypochondriacal beliefs	2 (0.75–5)	0 (0–1)	<0.01	1.5 (0–5)	0 (0–1)	0.1
Health habits	6 (3–9)	8 (5–10)	0.22			
Thanatophobia	3.5 (0–5.25)	1 (0–4)	0.21	5 (3–8)	4 (0–8)	0.3
Disease phobia	1.5 (0–4.25)	1 (0–3)	0.2	2 (0–3.25)	0 (0–1)	<0.01
Bodily preoccupations	3 (1.75–4.25)	1 (0–4)	0.05	4.5 (2–6)	1 (1–3)	<0.01
Treatment experience	8.5 (7–10)	6 (5–8)	<0.01	4 (2–5.25)	0 (0–3)	<0.01
Effect of symptoms	8.5 (7.5–10)	4 (3–8)	<0.01	2 (0.75–3)	0 (0–1)	<0.01
Overall score	42 (32.75–56.25)	32 (30–46)	0.06	40 (28.75–48)	27 (18–32)	<0.01