

Primary care

Shared help seeking behaviour within families: a retrospective cohort study

M Cardol, P P Groenewegen, D H de Bakker, P Spreeuwenberg, L van Dijk, W van den Bosch

Abstract

Objective To examine the extent to which the family influences individual use of general practitioner care.

Design Retrospective cohort study of all consultations in one calendar year. Multilevel modelling was used to analyse contact frequencies of individuals within families within practices.

Setting General practice in the Netherlands.

Participants 42 262 families with children aged 2-21 years registered in 96 practices.

Main outcome measures Family influence on individual frequency of contact with general practice and correlation in frequency of contacts between parents and children.

Results After correction for patients' age and sex, analysis of siblings indicates that 22% of the variance in frequencies of contact can be ascribed to influence of the family. This means that contact frequencies of family members within families resemble each other, whereas differences in contact frequencies exist between families. Almost 6% of the variance refers to differences between practices and 73% of the variance refers to individual differences. The strongest correlations were found between mothers and children and between children.

Conclusions The extent of shared help seeking behaviour within families has considerable implications in the context of the practice.

Introduction

Efforts by general practitioners to promote good health or to influence consultation patterns may conflict with their patients' family habits and attitudes at home. In general practice the family was long considered as a starting point for treatment. Families are important social contexts within which illness occurs, lingers, or resolves. Families share the same lifestyle and home environment, and they share beliefs and behaviours relating to illness and health, thereby influencing each other's use of medical care.¹⁻⁶ Most publications emphasise the importance of the mother's role in relation to children's health, with less research on the contribution of fathers.¹⁻³ The propensity of some families to use more health services than others may be attributed to predisposing factors such as family composition, health beliefs, and social structure.

Family members show similar help seeking behaviour with regard to morbidity over time⁷ and the relation between morbidity and attendance,³ while consultation patterns within the family are even transferred to succeeding generations.² In specific terms, consulting a general practitioner for minor ailments, such as a headache or abdominal pain, can affect the replication of consulting patterns from parents to offspring because freedom

of choice to consult a general practitioner is most clear in the case of minor ailments.⁹ It is therefore important to consider patients' social contexts with a view to prevention, diagnosis, and treatment in general practice.

Research on the role of the family, however, mostly dates from the 1970s and 1980s and the family is scarcely mentioned thereafter, let alone used as a unit in analysis. Have individualisation theory, evidence based medicine, and a patient centred approach suppressed the ideas of family medicine?

The individualisation hypothesis suggests that attitudes and behaviour are increasingly based on personal choice and are less dependent on tradition and social connections.¹⁰ This has reduced the impact of the family: families are less cohesive and members are more autonomous, while parenting has become less controlling than some decades ago.¹¹ Children now have a more active role in their interaction with adults and understand more about concepts of health and illness than presumed.¹²⁻¹³ Evidence based medicine is also characterised by an individualistic approach, and this differs from the systems theory, in which family science is rooted.¹⁴ Furthermore, the structure of families has changed, and this may well have moderated the influence of families on health beliefs and consequently on consultation patterns. One parent families are now more common in the Netherlands. In two parent families, one parent more often is not the biological parent, and both parents more often have paid jobs. On the other hand, family influence on consultation rates may have increased because in smaller families each child gets more attention, and only 20% of families now have more than two children.¹⁵

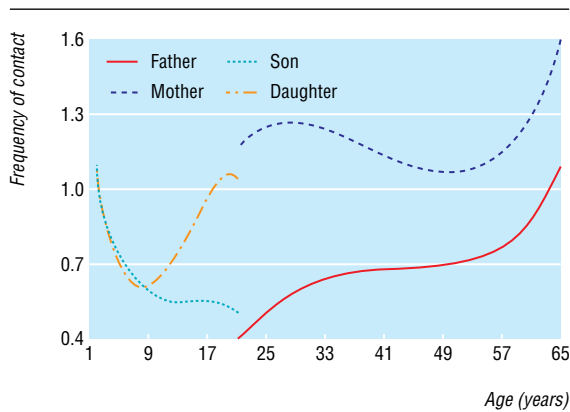
We examined the extent to which families continue to influence individual use of general practitioner care.

Method

We used data from the second Dutch national survey of general practice. The survey recorded all consultations in 2001 for 104 general practices in the Netherlands, comprising 195 general practitioners serving 385 461 patients.¹⁶

We selected for analysis families with one or more children aged ≤ 21 years to exclude elderly parents who live with their adult children. The minimum age of the children was set at 2 years because children below this age also attend baby or child health clinics.

For all family members we selected only those consultations for new problems, as these are the contacts in which the initiative of the patient is most clear. We excluded eight practices from the analysis, mainly because of technical problems with registration. Additional analysis showed that excluded practices did not differ



Relation between frequencies of first contacts and patients' age and sex, corrected for influences of family and practice

from the included practices in terms of practice size, practice type, and degree of urbanisation.

We considered context in the analysis because this influences people's care needs, what they want to do, and what they can do. In addition to the individual level, we considered two kinds of contexts: the family and the practice. Multilevel analysis enabled us to analyse the impact of the family on individual frequency of contacts while also considering another important context related to contact frequencies—that is, the practice. Multilevel analysis extends single level regression analysis to settings with hierarchical data. We calculated the variance in frequencies of contacts due to differences between individuals, differences between families, and differences between practices.¹⁷ Accordingly, the total variance is the sum of the variance on three levels: individual, family, and practice.

We identified the family impact by the amount of variance in the frequency of first contacts with the general practice at family level. Greater impact of family background should result in more variance at family level, indicating more resemblance between family members with respect to frequency of contacts. At the same time, shared help seeking behaviour within families indicates more differences between families. We calculated the variance when all family members were included in the analysis and then carried out a second analysis in which only siblings were included. We further described the family impact by correlation coefficients to evaluate the magnitude of the family impact in relationships between parents and children.

Frequencies of contacts are not normally distributed; they are discrete rather than continuous and usually skewed. Therefore, we used a Poisson distribution in the multilevel analyses (a linear model was used for the estimates of the variances on the three levels because correlations within classes cannot be estimated correctly on the individual level when applying a Poisson distribution).¹⁸

Frequency of contacts also differs by age and sex (figure). To capture the non-linear relation between age, sex, and frequency of contacts, we modelled age as a separate effect for four groups (father, mother, son, daughter).

Results

Table 1 shows the composition of the study population. We included over 42 000 families with children aged 2-21 years living at home (160 926 people in total). Almost 18% were one parent families, and about 1% comprised parents of the same sex, three generations in one home, or a compound family struc-

Table 1 Composition of study population (n=160 926)

	Number
Practices	
Total No	96
No of families with children	42 262
Mean (range) No of families per practice	440 (152-1366)
Parents within families	
Total No	77 727
% of one parent families	17.9
Mean (SD) age (years)	40.3 (7.0)
Mean (SD, range) frequency of first contacts	1.4 (1.7; 0-33)
Children within families	
Total No	83 199
Mean (SD) age (years)	10.5 (5.3)
Mean (SD; range) frequency of first contacts	1.1 (1.4; 0-17)
Mean (SD; range) No per family	2.0 (0.9; 1-11)

ture. The average number of children per family was two, with a maximum of 11.

Corrected for patients' age and sex, 6% of the variance in frequency of contacts clustered on practice level, suggesting that similarities in contact frequencies within families differ between practices. About 18% of the variance can be ascribed to family influence and 76% to individual differences.

When we excluded the parents from the analysis, the family accounted for about 22% of the variance in contact frequencies, the practice for 6%, and individual differences between siblings for 73%. This means that more than a fifth of the variance in contact frequencies relates to shared help seeking behaviour within families.

Table 2 shows the correlations between family members according to sex. The strongest correlations were between contact frequencies for mothers and children and between children. The association between contact frequencies for fathers and children was about the same as the association between parents: somewhat lower but still substantial. The association between parents shows that resemblances in contact frequencies between family members cannot be ascribed to genetic factors alone.

Discussion

Almost all non-institutionalised Dutch citizens are registered with a general practice and family members are usually registered with the same practice. General practices therefore provide good information about frequency of contacts within families. Our study provides empirical support for regarding families as important social contexts for use of health care. Illnesses at the individual level still account for most variance in contact frequencies, but a substantial amount of the variance can be attributed to the context in which the individual functions. The rationale of family medicine has not disappeared, so why is the family so seldom addressed in current healthcare research. We argue in favour of putting the family back on the agenda.

Possible mechanisms

Why do frequencies of contacts in general practice cluster within families? We identified three possible mechanisms: selection,

Table 2 Correlations in frequencies of first contacts with general practice within families, according to sex, corrected for age and sex (n=160 926)

	Father	Mother	Son
Mother	0.30	—	—
Son	0.32	0.46	—
Daughter	0.30	0.49	0.48

socialisation, and shared circumstances. These should be further studied because they can explain shared help seeking behaviour within families and between generations. Selection refers to homogeneity of background characteristics of family members, such as children's inheritance of (vulnerability to) illnesses and responses to stress. Another kind of selection process is known between partners: there is a tendency for healthy people to select healthy partners.¹⁹

Socialisation refers to a more gradual process of resemblance. The people most likely to influence whether adults consult their general practitioner are their partners.²⁰ Children learn their parents' attitudes, beliefs, and values through direct teaching and observation. Parents also learn from their children and adjust their parenting accordingly.²¹⁻²² As a consequence, attendance is partly learnt behaviour, and similarities in contact frequencies between siblings are probably greater than similarities between parents because both genetic selection and socialisation play a part in siblings. Families are seen as the most influential context for socialisation, compared with school or other peer groups, as family life contains many different situations, habits, and views, relationships are close, and family members live together for years in an informal safe setting.²³

Finally, the members of one family share a collective context. Common physical, economic, and social circumstances in daily life may lead to specific family behaviour with accompanying harms or improvements to health. Families with children share the same living arrangements, for example, and infections can easily be transmitted from one family member to another. Furthermore, parents and children usually also share another context—that is, the general practice. In our study, 6% of the variance in frequencies of contact refers to differences between practices or general practitioners. General practitioners differ in the patients they attract, and they influence their patients' help seeking behaviour, which may explain part of the variance at practice level.

Taking account of context

We focused on describing the relation between individual, family, and practice contact frequencies. Explaining the observed resemblances in help seeking behaviour will be a next step. To our knowledge, our methods of analysis have not been used before in relation to this subject. Multilevel analysis is relatively new in health care but is increasingly being used as a way of analysing individual data while taking the context into account. Our multilevel analyses, including a practice level, enabled us to control for the effect of clustering of patients within practices, while making it possible to estimate the extent of variation at the practice level at the same time. The impact of individual variation will be over-rated if the context is not included because the variance at the level of the context will be ascribed to the individual. Although the influence of the practice may be minor compared with the influence of the family, this does not imply that general practitioners cannot influence frequencies of contact.

Family medicine

Our study supports the idea that interventions targeting families may be more effective than those targeting individuals. In practice, the identified mechanisms (selection, socialisation, and shared circumstances) can serve as a framework for a family case history; the context of the family may shed a different light on strategies for prevention, treatment, or recovery. Other research has shown that the main problem is integrating biomedical knowledge with a family approach as family theory and health care have developed from two different traditions.¹⁴⁻²⁴ Training can help to bridge the gap between conceptualisation and skills.

What is already known on this topic

Family background influences help seeking behaviour

Recent studies of help seeking behaviour do not take the family into consideration and society has changed profoundly

What this study adds

Similarities in consulting behaviour within families continue to exist despite profound changes in society, such as an increasing focus on individuality and changes in parenting and family composition

In practice, the concepts of selection, socialisation, and shared circumstances can serve as a framework for a family case history

Research on use of health care will profit from adding a family level as a unit of analysis

Finally, additional services or applications within the medical record that would draw the general practitioner's attention to striking consultation behaviour on an aggregated (family) level, for example, could be helpful. In countries with free access to specialists, general practitioners will usually have fewer opportunities of obtaining insight into family patterns of illness and help seeking behaviour, which may lead to less effective treatment strategies.

Contributors: All authors were responsible for conception and design, and revision and final approval of the paper. MC, PS, and PPG analysed and interpreted the data. MC drafted the paper. MC, PPG, and DHdB are guarantors.

Funding: Netherlands Organisation for Health Research and Development (ZonMw).

Competing interests: None declared.

Ethical approval: Not required.

- Mechanic D. The influence of mothers on their children's health attitudes and behavior. *Pediatrics* 1964;33:444-53.
- Huijgen FJA. *Family medicine; the medical life history of families*. Nijmegen: Dekker and Van de Vegt, 1978.
- Litman TL. The family as a basic unit in health and medical care: a social-behavioral overview. *Soc Sci Med* 1974;8:495-519.
- Schor E, Starfield B, Stidley C, Hankin J. Family health. *Med Care* 1987;25:616-26.
- Wilcox-Gok VL. Sibling data and the family background influence on child health. *Med Care* 1983;21:630-8.
- Bosch WJHM van de. *Epidemiologische aspecten van morbiditeit bij kinderen [Epidemiological aspects of morbidity in children]* [thesis]. Nijmegen: University of Nijmegen, 1992.
- Hippisley-Cox J, Coupland C, Pringle M, Crown N, Hammersley V. Married couples' risk of same disease: cross sectional study. *BMJ* 2002;325:636-40.
- Starfield B, Katz H, Gabriel A, Livingstone G, Benson P, Hankin J, et al. Morbidity in childhood: a longitudinal view. *N Engl J Med* 1984;310:824-9.
- Stewart P, O'Dowd T. Clinically inexplicable frequent attenders in general practice. *Br J Gen Pract* 2002;52:1000-1.
- Ester P, Halman L, Moor R de. Value shifts in western societies. In: Ester P, Halman L, de Moor R, eds. *The individualizing society: value change in Europe and North America*. Tilburg, Netherlands: Tilburg University Press, 1993:1-20.
- Swaan A de. *In care of the state: health care, education, and welfare in Europe and the USA in the modern area*. Cambridge: Polity Press, 1988.
- Elbers E, Maier R, Hoekstra T, Hoogsteder M. Internalization and adult-child interaction. *Learn Instruct* 1992;2:101-18.
- Tates K, Meeuwesen L. "Let mum have her say": turmtaking in doctor-parent-child communication. *Patient Educ Couns* 2000;40:151-62.
- Campbell TL, Culpepper L. Family medicine. In: Jones R, Britten N, Culpepper L, Gass D, Grol R, Mant D, et al. *Oxford textbook of primary medical care*. Vol 1. Oxford: Oxford University Press, 2004:299-309.
- Alders M. Demografie van gezinnen [Demography of families]. *Bevolkingstrends: Statistisch kwartaalblad over de demografie van Nederland* 2003;51:31-4.
- Westert GP, Schellevis FG, de Bakker DH, Groenewegen PP, Bensing JM, van der Zee J. Monitoring health inequalities through general practice: the second Dutch national survey of general practice. *Eur J Public Health* 2005 (in press).
- Leyland AH, Groenewegen PP. Multilevel modelling and public health policy. *Scand J Public Health* 2003;31:267-74.

- 18 Snijders TAB, Bosker RJ. *Multilevel analysis: an introduction to basic and advanced multilevel modelling*. London: Sage, 1999:234-8.
- 19 Monden C. Education, inequality and health [thesis]. Nijmegen: University of Nijmegen, 2003.
- 20 Cornford CS, Cornford HM. "I'm only here because of my family." A study of lay referral networks. *Br J Gen Pract* 1999;49:617-20.
- 21 Cunningham M. The influence of parental attitudes and behaviors on children's attitudes toward gender and household labor in early adulthood. *J Marriage Fam* 2001;63:111-22.
- 22 Whiteman SD, McHale SM, Crouter AC. What parents learn from experience: the first child as a first draft? *J Marriage Fam* 2003;65:608-21.
- 23 Parcel TL, Dufur MJ. Capital at home and at school: effects on child social adjustment. *J Marriage Fam* 2001;63:32-47.
- 24 Launer J, Lindsey C. Training for systematic general practice: a new approach from the Tavistock clinic. *Br J Gen Pract* 1997;47:453-6.

doi 10.1136/bmj.38411.378229.E0

NIVEL (Netherlands Institute for Health Services Research), PO Box 1568, 3800 BN Utrecht, Netherlands
M Cardol *researcher*
P P Groenewegen *professor*
D H de Bakker *senior researcher*
P Spreeuwenberg *statistician*
L van Dijk *senior researcher*

Department of General Practice, UMCN St Radboud, PO Box 9101, 6500 HB Nijmegen, Netherlands
W van den Bosch *professor*

Correspondence to: M Cardol m.cardol@nivel.nl