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Family functioning style and health:

opportunities for health prevention in primary care

Abstract

Background
The relationship between family and health has not been studied in detail in primary care.

Aim
To evaluate the association between family functioning style and health problems among families receiving primary care.

Design and setting
Cross-sectional study in an underserved primary care clinic in Santiago, Chile.

Method
Families registered at the Juan Pablo II Primary Care Clinic in Santiago, Chile from 2006 to 2010 formed the study sample. Each family selected an adult family member to answer a questionnaire to provide data on: family sociodemographics; health problems among family members; and the family functioning style, as assessed with the Family Functioning Style Scale (FFSS). The *t*-test was used to assess differences in family functioning styles between families with and without health problems, and analysis of variance was used to study the relationship between the family functioning style and the number of health problems present.

Results
A total of 6202 families, comprising 25 037 people, were assessed. The following diseases and conditions were examined: in children — asthma or recurrent bronchitis, delayed development, enuresis or encopresis, behavioural problems, overweight; in adolescents and adults — teenage pregnancy, asthma or chronic obstructive pulmonary disease, smoking, hypertension, type 2 diabetes, major depression, alcohol or drug abuse, and frailty. Families with health problems had a significantly lower FFSS score than families without health conditions. Mental health diseases had the strongest association with family functioning style. An inverse relationship between the number of health problems and the FFSS score was also observed.

Conclusion
A better family functioning style was associated with a lower prevalence of health problems in families. Bases for further research considering the family as a target for clinical interventions are provided.

Keywords
family; family relations; primary health care.

INTRODUCTION

Chronic and mental health diseases, and their risk factors, are the leading causes of death, disability, and health expenditure worldwide. In spite of the substantial progress in biological interventions to treat these illnesses, their control and the prevention of comorbidity are major health challenges. As the success of medical interventions depends on adherence to disease-management conduct, behavioural interventions are essential for effective clinical care. Multiple theories explain the complexity of health behaviour but, in recent years, positive family dynamics have been linked to improved clinical outcomes for patients,[1,2] providing insights into new strategies for health prevention.

Family risk and protective factors have been widely studied in mental health diseases, leading to conclusions that the family has an important role in pathogenesis, treatment, and recovery — particularly of patients with mood, anxiety, and substance abuse disorders, and attention deficit and hyperactivity disorder (ADHD).[3–8] Research on the relationship between family and health outcomes in biomedical illness has concentrated on insulin-dependent diabetes,[9,10] children's asthma,[11,12] irritable bowel,[13] and dementia,[14] with less consideration given to chronic and highly prevalent conditions that are commonly treated in primary care, but an association has been observed in type 2 diabetes mellitus, hypertension, weight-related diseases, asthma, and chronic obstructive pulmonary disease (COPD).[15] Findings link family variables to the clinical outcomes of patients, suggesting that they could play an important unexplored role in disease management. These results are, however, inconclusive.

Research assessing the importance of the family in people's health has been conducted with small groups and mainly in secondary care clinics, thereby reducing the applicability to patients in primary care. Consequently, the aim of this study was to evaluate the association between family functioning style and prevalent health problems among families receiving primary care in an underserved community of Santiago, Chile. It was hypothesised that healthy families have a better functioning style than families with health complaints, and that the health problems have a cumulative effect, such that the families who face more health issues have a lower functioning style.

METHOD

Design

A cross-sectional study was designed to compare the family functioning style of families with common health problems — for example, asthma, overweight, depression — in primary care.

Setting

The electronic records of all families registered at the Juan Pablo II Primary Care Clinic, in La Pintana — an underserved district of the south-east metropolitan area

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How this fits in

The relationship between family and health is not questioned, but there have been no in-depth studies of it in primary care. This article describes the association between family functioning style and multiple health problems in a large sample of families receiving primary care. This relationship provides insight for further research in support of the development of family-oriented clinical interventions for health prevention and disease control.

of Santiago, Chile — were analysed. This health centre is directed by the Department of Family Medicine at the Pontificia Universidad Católica de Chile and serves approximately 25 000 individuals. People registered at this clinic have a low socioeconomic status and low educational level, and there are high unemployment rates among the adult population.[16]

Procedures

The records of families who registered with the health clinic from its opening in September 2006 until March 2010 were retrospectively analysed. When people register at the clinic, they are asked to group themselves in families and elect a family member to answer a three-section questionnaire for the entire family group (67 questions). A pre-specified definition of family is not used, instead patients are asked to define their own family group. The first part of the survey includes sociodemographic information about all family members, the second section consists of 30 items that assess the number of family members with health problems according to their age, the third section is a 22-item evaluation of the family functioning style. This evaluation is conducted using the Family Functioning Style Scale (FFSS),[17] validated in Chile.[18] This instrument appraises seven family factors on a 5-point scale, and is used in Chilean primary care;[19] scores range from 22 to 110 and the higher the score, the better the family functioning style. This process is always undertaken when families register at this practice.

Variables

The dependent variable was the FFSS. The independent variables were the health problems reported by the families. The presence of the following was assessed:

- in children (aged <15 years) — repetitive bronchitis or asthma, delayed child development, enuresis or encopresis, behavioural problems, and overweight; and
- among adolescents and adults (aged ≥15 years) — asthma or COPD, hypertension, type 2 diabetes mellitus, adolescent pregnancy, major depression, family violence, smoking, alcohol and drug abuse, dementia, being bedbound, and frailty.

Other diseases that had been considered in the survey but are treated in secondary care — for example, type 1 diabetes, cancer, HIV/AIDS, and schizophrenia — were excluded from the analysis.

Statistical analysis

Data analysis was performed with SPSS (version 16.1). To assess the association between the presence of health problems in the family and the family functioning style, the independent *t*-test for univariate analysis was used. Comparisons were made between the FFSS score of families in whom at least one member had one of the health problems studied and the FFSS score of families that did not report any of the health problems assessed.

Potential confounders were tested one at a time to model the FFSS score. The following variables were examined with backward linear regression:

- number of people per household;
- family income;
- education of family members;
- age; and
- sex of questionnaire responders. Only the final model included the family income and whether a member of the family was illiterate. Estimated marginal means were analysed using Bonferroni multiple comparison.

Analysis of variance and the Bonferroni test were conducted to study the association between the family functioning style and:

- the number of family members with the same health problem;
- the total number of different health problems in the family; and
- the total number of health problems considering all members of the family.

Resulting two-tailed *P*-values of ≤0.05 were considered statistically significant.

RESULTS

A total of 6202 families were included in the

Table 1. Sociodemographic characteristics of families, family members, and survey responders

Characteristic	*n* (%)[a]
Families	**6202**
Family members per household, *n* ±SD	3.26 ±1.9
Annual family income	
<US$3000	3430 (55.3)
US$3000–6000	2177 (35.1)
>US$6000	595 (9.6)
Illiterate family member	526 (8.5)
Family members	25 037
Female	12 929 (51.6)
Ages, years	
≤9	4685 (18.7)
10–19	4846 (19.4)
20–49	11 036 (44.1)
50–64	3423 (13.7)
≥65	1047 (4.2)
Survey responders	6202
Female	4630 (74.7)
Age, years (SD)	43.3 (±14.6)

[a]*Unless otherwise specified. SD = standard deviation.*

study. They comprised 25 037 people, which is the entire population that was registered at the clinic up to March 2010; most of these individuals were aged <50 years and underserved. Survey responders were, in the main, female and aged 30–50 years. The sociodemographic description of families, family members, and questionnaire responders are summarised in Table 1.

Overall, 724 (11.7%) survey responders did not report any health problems among family members. Their FFSS score was 92.5 (standard deviation [SD] ±18.1), compared with a score of 87.1 (SD ±15.9) for the families that reported at least one member having one of the health problems studied (P<0.001). Lower FFSS scores were also in evidence for all of the families with health problems studied among children, adolescents, or adults using univariate analysis, and for most diseases after adjusting for potential confounding variables compared to healthy families (Table 2). Most of the largest differences in the FFSS score between healthy families and those with family members who were ill were for mental and psychosocial health problems, such as child behavioural problems, major depression, smoking, and alcohol or drug abuse.

Inverse associations between the FFSS score and the number of health problems per family (Figure 1), and the FFSS score and total number of health problems per family member (Figure 2) were also found. In effect, the higher the number of health problems affecting a family or family member, the lower the FFSS score.

The relationship between the FFSS score and the number of family members with particular illnesses was significant for delayed child development (P<0.001), enuresis or encopresis (P = 0.002), behavioural problems (P<0.001), major depression (P = 0.001), family violence (P<0.001), smoking (P<0.001), and alcohol and drug abuse (P<0.001 for both). For all of

Table 2. Mean differences in the Family Functioning Style Scale scores of healthy families and those with a family member who is ill

		Univariate analysis		Multivariate analysis	
Health problem	***n***	**Mean difference ±SD**	***P*-value**	**Mean difference ±SD**	***P*-value**
Children					
Repetitive bronchitis or asthma	853	5.4 ±2.1	<0.001	9.7 ±2.8	<0.001
Delayed child development	447	7.3 ±2.5	<0.001	3.8 ±1.1	<0.001
Enuresis or encopresis	291	6.1 ±2.1	<0.001	7.4 ±1.9	<0.001
Behavioural problems	1120	8.3 ±3.0	<0.001	11.0 ±2.7	<0.001
Overweight	1057	6.0 ±1.8	<0.001	9.2 ±2.6	<0.001
Adolescents or adults					
Asthma or COPD	832	6.0 ±2.1	<0.001	8.1 ±2.7	<0.001
Hypertension	1580	4.8 ±1.7	<0.001	4.0 ±1.4	<0.001
Type 2 diabetes mellitus	667	5.2 ±1.7	<0.001	12.9 ±2.3	<0.001
Adolescent pregnancy	380	8.2 ±2.7	<0.001	3.7 ±1.2	<0.001
Major depression	905	6.7 ±2.0	<0.001	12.8 ±2.9	<0.001
Family violence	579	13.0 ±3.8	<0.001	7.8 ±1.7	<0.001
Smoking	3839	6.2 ±1.9	<0.001	12.2 ±1.9	<0.001
Alcohol abuse	912	10.3 ±3.2	<0.001	15.9 ±2.9	<0.001
Drug abuse	758	10.9 ±2.9	<0.001	17.4 ±3.2	<0.001
Dementia	22	8.8 ±3.9	0.023	8.2 ±1.9	0.052
Bedbound	74	6.8 ±2.8	<0.001	–0.2 ±2.0	0.723
Frailty	168	7.2 ±2.6	<0.001	2.4 ±1.1	0.007

COPD = chronic obstructive pulmonary disease. SD = standard deviation.

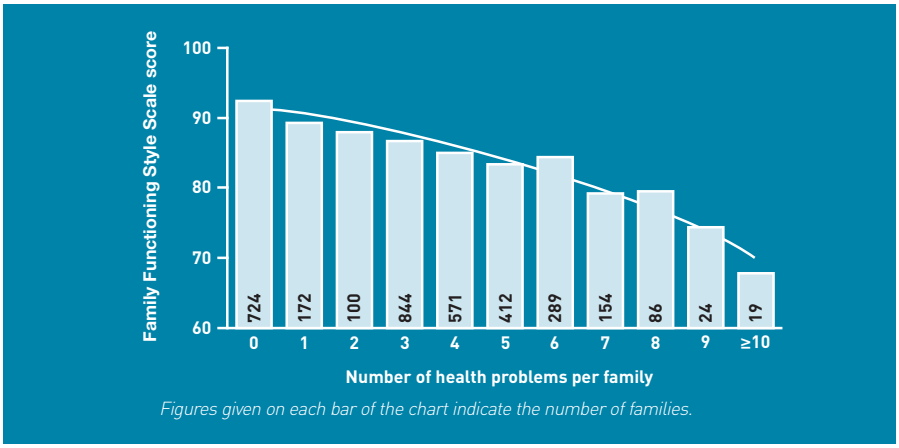


Figure 1. FFSS score (range 22–110) and the number of health problems, by family.

these health problems, the higher the number of family members who had them, the lower the FFSS score (data not shown).

DISCUSSION

Summary

Family characteristics can increase the risk of adverse outcomes related to diseases or provide protection from them. This study found a statistically and clinically significant association between the family functioning style and the presence of physical, mental, and psychosocial problems. This relationship was particularly important for mental health problems, such as alcohol and drug abuse, major depression, and behavioural problems in children. An inverse correlation between the number of health problems and family members who are affected by illnesses and conditions that are highly prevalent in primary care was observed, and the FFSS score; this confirmed the study hypotheses.

Strengths and limitations

This study has important limitations that should be noted. The cross-sectional nature limits the temporal association between family functioning style and health problems. As discussed, this relationship might be reciprocal, but longitudinal follow up and analysis that considers the changes in the family functioning style across time could contribute to a better understanding of this association; this should be addressed in further studies.

The questionnaires were self-reported surveys, and the health information provided by the chosen family member was not confirmed. It is possible, therefore, that the health problems in the family could have been over- or underestimated by the survey responders. As self-reported surveys tend to underestimate the prevalence of mental health and chronic diseases,[20–22] more research is needed to ascertain family members' diagnostic abilities in assessing health problems among other relatives. However, similar results[3–8,11,12,14,20,23–30] and pathophysiological pathways[7,8,31–38] support the findings of this study.

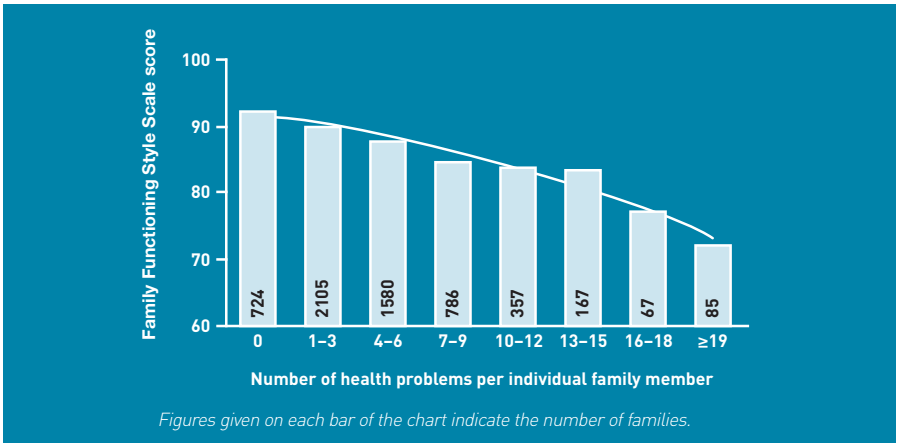
As underserved Chilean families were assessed, it is possible that these results cannot be transferred to other populations; additional research is needed to assess the relationship between family and health in primary care. In spite of this limitation, given that the family is valued worldwide,[39] similar results could be expected in different countries or cultures.

Comparison with existing literature

The results are similar to those of previous studies that have been conducted but that, for the most part, were undertaken in specialist secondary care clinics. Family functioning style has been related to the control of multiple chronic and mental health diseases — evidence supports this association for: hypertension;[20] diabetes;[23] asthma;[11,12] obesity;[24] delayed child development;[25] ADHD;[3] mood and anxiety disorders;[4–6] sphincter-control disorders;[26] tobacco, alcohol, and drug abuse;[7,8,27,28] dementia;[14] and health problems in older people.[29,30] However, this is the first study to assess the relationship of the family and multiple diseases across the lifespan in a large-scale community setting. The strong association between family functioning style and health problems found in this study reveals the importance of families in health. This supports the need for primary care that is family oriented, as well as the undertaking of further research in this setting to assess its impact on clinical care.

Multiple pathophysiological pathways explain these findings. Families with better lifestyle behaviours appear to have healthier families: this study's findings showed that families with fewer smokers and fewer individuals who misuse drugs and alcohol

Figure 2. FFSS score (range 22–110) and number of health problems, by individual family member.



have higher FFSS scores. Other studies have resulted in similar findings, demonstrating that the family environment and attachment reduce the incidence of smoking among adolescents,[31,32] and that marital dissatisfaction and distress can contribute to the development of alcohol and substance disorders.[7,8]

Individuals in families experiencing stress face activating the neuroendocrine system (hypothalamic-pituitary-adrenal axis), which modifies their metabolic and immunological response.[33,34] Higher levels of cortisol and sympathetic nervous system activation could explain the elevated rates of mental, respiratory, cardiovascular, and nutritional disorders found in families with a low FFSS score.[35–38] In addition, mental health disorders have a reciprocal relationship with the family functioning style. Families, in which there are members with psychiatric conditions are susceptible to experiencing relational problems.[7] This can also explain the lower FFSS score in families that have a member who has behavioural problems, sphincter-control disorders, anxiety, mood disorders, is violent towards the family, or misuses substances.

Multiple family characteristics have been related to good or poor health. Family closeness, caregiver coping skills, mutually supportive relationships, clear family organisation, and direct communication about the illness and its management have been linked to better clinical outcomes and have been identified as family protective factors. However, other family characteristics, such as intrafamily conflict, criticism, blaming, lack of an external-family support system, rigidity, and the pre-illness psychopathology of patients and family members, are associated with poorer clinical outcomes; these are identified as family risk factors.[15]

The FFSS scale assesses seven factors: family agreement, cohesion, family support, problem-solving strategies, commitment, internal resources, and strengths. As the aim of this study was to evaluate the relationship of family functioning style with different diseases in primary care, separate analyses of how the different family descriptors relate to the different health conditions were not performed, but family agreement and family support were higher in healthy families compared with those in whom at least one family member had a studied condition. Research in this area is needed to understand which family characteristics are associated with particular diseases and their outcomes in order to develop disease-specific family interventions to improve clinical management.

Implications for research and practice

Behavioural and preventive research is currently directed towards individuals and has assessed outcomes only among those who are ill, ignoring the effects of clinical interventions on other family members. In addition, most interventions are directed towards particular diseases, overlooking the possible impacts on other similar conditions that affect the whole family. As a result of this, family-oriented interventions could be particularly useful in primary care, where health providers offer services in response to highly prevalent health problems and serve many family members living in the same household.

Interventions directed at families can affect several persons at the same time; they can also have an impact at different stages of a disease (risk factor, asymptomatic or symptomatic illness, and rehabilitation), and when multiple illnesses affect different family members.[40] Moreover, if transgenerational effects are taken into account, the possible benefits of these interventions could be achieved in the short, medium, or long term. Alongside all of these possible benefits is the fact that family-focused interventions need not be costly, require advanced technology, or imply important adverse effects; in addition, because most people praise the instrumental, educational, and emotional support of family members,[38] this kind of care orientation could be easily accepted. As such, a family approach in preventive and behavioural care has the potential to be culturally sensitive, economically sustainable, and easy to practise worldwide.

Clinical trials and systematic reviews of family-oriented clinical interventions have revealed that, even though research in this area is limited, positive results can be achieved, thereby improving on the outcomes of the care that is usually provided to patients with multiple chronic diseases.[1,2,19]

In summary, this study showed that family functioning style is significantly related to physical, mental, and psychosocial health problems, and that clustering of health problems is related to lower levels of family support. This study provides the basis for further research examining the family as an eventual target for preventive and clinical care interventions.

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Ethical approval

The use of the registration records of patients was reviewed and approved by the Ethics Review Board of the School of Medicine of the Pontificia Universidad Católica de Chile (10-029, April 2010).

Provenance

Freely submitted; externally peer reviewed.

Competing interests

The authors have stated that there are none.

Ethics committee

Ethical approval was granted by the Ethics Review Board of the School of Medicine of the Pontificia Universidad Católica de Chile (approval number: 10–029, April 6, 2010).

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