Different patterns of social support perceived and their association with physical (hypertension, diabetes) or mental diseases in the context of primary health care

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Abstract *This work discusses the relationship between hypertension, diabetes, anxiety, depression, and social support in primary health care. This research aimed to identify the association between physical disease, mental disease, support network and perceived social support in the research sample. This is a cross-sectional study inserted in a larger research project funded by the Pan American Health Organization and carried out in 2002 in Petrópolis, RJ. The sample consisted of 714 patients with ages ranging from 18 to 65 years old. Results showed association between variables from support network either with evidence of hypertension or diabetes, or with the existence of common mental disorders, but with different patterns. Associations with the perceived support were positive in patients with hypertension and diabetes; Common Mental Disorder patients showed negative associations, inversely associated to the level of mental disease.*

Key words *Hypertension, Diabetes, Social support, Mental health*

Introduction

Noncommunicable diseases (NCD) are highly prevalent and have a high social cost and great impact on the morbimortality of the Brazilian and world population[1], causing, irreversible complications and diseases such as neuropathy, nephropathy, retinopathy, myocardial infarction, cerebrovascular accidents and infections[2-5] in the long term. Hypertension and diabetes are among the main risk factors for cardiovascular diseases, which are the first cause of morbimortality in the Brazilian population[6].

In Brazil, the main causes of hospitalizations in the Unified Health System (SUS) among adults are heart failure, stroke, cerebral ischemia, respiratory diseases, diabetes and hypertension[3,4,6]. In the world setting, a cohort study in Finland[5] detected the association between hypertension and diabetes alone, with the increased risk of cerebral vascular accident (CVA) incidence and mortality. The essentially curative actions aimed at treating diseases have little changing effect on the pattern and occurrence of chronic diseases, since they do not affect their determinants[7].

A significant portion of users of primary healthcare, a reference service for the follow-up of patients with CNCDs in the SUS, is in a state of social vulnerability, with poor housing, unemployment, poor diet and lack of physical activity and leisure[8]. They are groups or individuals weakened in the promotion, protection or guarantee of their fundamental citizenship rights[9,10]. This shortcoming is relevant in determining the sickness process of the population[11].

The health of the population and its life condition are indissociable elements. Art. 3 of Law 8.080[12] defines that:

"Health determinants and conditionants are, among others, food, housing, basic sanitation, work, income, transportation, education, leisure and access to essential goods and services."

Thus, health is influenced by psychological, social, environmental and physical factors[11,13]. Research developed in Brazil[6,14,15] pointed to important factors associated with the development of hypertension and diabetes, such as body mass index, sedentary lifestyle, eating habits, salt intake, sugars, fats, alcohol, smoking, intense stress, schooling, among others .

The relevance of psychological aspects to the health-disease process has been the subject of research in the scope of investigation of CNCD-associated factors. An analysis of the association between diagnosis of diabetes and emotional factors[16] identified depression as one of the reactions to the diagnosis. Another research carried out in Mexico[17] identified factors that were predominant for the development of diabetes, and low social support and Common Mental Disorder (CMD)were among the social and psychological variables.

Regarding the association of CMDs with hypertension and diabetes[18], Brazilian studies have analyzed this phenomenon[19,20]. A very significant finding of this association was detected by Helena et al.[18] when verifying that people with anxiety are at least 3.6 times more likely of developing hypertension when compared to those without anxiety. In that same study, severe depression was associated with a high risk of hypertension among women. Another study[20] showed a positive and significant correlation between symptoms of anxiety and depression of severe intensity with the metabolic syndrome.

The study by Costa and Ludemir[21] conducted in Pernambuco investigated the prevalence of CMD and its association with social support. The overall prevalence of CMD in this population was 36%. A multicenter study conducted in four large Brazilian capitals, representing different regions of the country identified prevalence in Rio de Janeiro (51.9%), São Paulo (53.3%), Fortaleza (64.3%) and Porto Alegre (57.7%)[22]. Overall, the prevalence of CMD among PHC care users described in the literature ranged from 46% to 64%. The main ones aregeneralized anxiety disorders, depressive episode and somatization disorder[8,22,23].

The issue of social support builds on findings that point to its role in maintaining health, preventing disease and facilitating convalescence[24]. There are approaches that analyze the relationships between people's health, living conditions inequalities and level of development of linkages and associations between individuals and groups[11,21].

Social support refers to the emotional or practical support provided by family, friends or health professionals, which reduces individual susceptibility to diseases[17,20]. Researchers have presented the following theoretical framework of the components in this field related to health or stress, and they are: social relationships (availability, quantity, type), social support (type, source, quantity and quality) and social network (size, density, reciprocity and intensity)[25,26].

In literature, social support is described as an important indicator of health and well-being, from childhood to senility, by providing and

completing the resources that subjects have to face life situations that can lead to physical disease[26]. The social network protects the individual in his physical, mental and psycho-affective aspects[27]. Research into their characteristics, such as the number of friends, frequency and intensity of contacts, support networks, available intimate people may facilitate the encouragement of healthy social practices that provide better quality of life and health to the population[26].

The positive influence of social support to hypertensive patients occurs due to the limiting condition imposed by the disease before the patient's relationships with work, family, friends and partners[19], which may even shake their identity, weaken their ability to solve problems and change the meaning that was attributed to life before becoming ill[19]. The hypertensive social network can be used as a strategy to improve the subject's quality of life, both in the physical and in the psychological realm[28].

Low social support was an aggravating factor to the development of diabetes. People with low perception of social support showed significantly lower glycemic control when submitted to stressful situations[17,29,30]. The perception of support, that is, feeling that one is being loved and having intimate friends is a factor that influences different individual behaviors[31,32] and decreases the probability of dysfunctional behaviors in the daily life routine or during treatment[33].

The availability of social support increases self-esteem, enhancing individual adaptation to adverse conditions, promoting resilience by empowering individuals to mobilize their psychological resources and control their emotional problems, allowing people to bypass the possibility of becoming ill as a result of certain life events[33].

With regard to the association between the social support network and mental disorders[34], social support can protect people from crises arising from pathological conditions, including suicidal tendencies, alcohol abuse and social phobia, contributing to the reduced intake of medicines required, as it speeds recovery and allows the acceptance of prescribed medical regimens.

In a survey carried out in Pernambuco[21], northeast of Brazil, some indicators of social functioning were established, namely, to feel being loved and to have close friends. These two indicators were related to low levels of anxiety, depression, somatization and lower effects of stress-producing life events. These researchers have developed two theories that explain the re-

lationship between mental health and social support. One of them explains that social support directly affects mental health, and the second indicates that the construct acts as a mediator of stress, modifying its effect. According to the second theory, the individual with a high level of social support faces more positively stressful situations when compared to others who lack this resource.

This paper will discuss the relationship between physical disease (hypertension and diabetes), common mental disorder (anxiety and depression) and social support in primary health care in order to detect and analyze the association between these in the sample studied. Given the scarce quantitative papers that show a broader picture of social support in the Brazilian context, this work will contribute to this field of research.

While other results on mental disorders, ways of presentation and nosological profile have been published from the source research that originated this paper[35], this was not the case of results on social support and support network. Therefore, this paper sought to analyze and discuss results related to this construct by showing the associations found by this research.

Methods

This study originated in a research entitled "Somatization in Primary Health Care: study of factors associated with the form of presentation of mental disorders in Family Health Program facilities in Petrópolis" (*free translation from the Portuguese*). Located in the mountainous region of the State of Rio de Janeiro, 68 km off the capital, with a population of around 300,000 inhabitants, in 2002, during the period of application of questionnaires, Petrópolis had 25 Family Health Strategy (ESF) units.

This is a cross-sectional study. The database of this research was used as the source of information for analyses. The population sample consisted of 714 patients (first time or returning), attended at five family health facilities, aged between 18 and 65 years. During data collection, patients were interviewed by investigators while awaiting care. The interviews took place between August and December 2002.

Data analysis was developed using the SPSS statistical program, with bivariate analyses followed by linear regression. The regression inclusion criterion was the p value obtained in the bivariate analysis, including variables with p <

0.25. Prevalence ratios, gross odds ratios (OR) and respective 95% confidence intervals (CI) were calculated.

The Ethics Committee, Institute of Social Medicine, State University of Rio de Janeiro approved the research protocol on December 5, 2001. To ensure the voluntary nature of the participation, before the onset of interviews, all study information were explained by the applicator and patients who agreed to participate in the study read and signed an Informed Consent Form, ensuring anonymity and privacy of individual results.

Instruments

Three data collection instruments were used, namely, the General Questionnaire, the General Health Questionnaire - GHQ12[36] and the Medical Outcomes Study (MOS)[37]. The General Questionnaire collected socio-demographic and economic data (income, schooling, religion, etc.) and identified patients as carrying or not a physical disease and describing it, which was used as an indicator of hypertension or diabetes. This was complemented by a block of questions that assessed the social support network through the number of close friends and relatives, participation in religious, social or political group activities, in non-governmental organizations and engaging in sports and artistic activities.

In the General Health Questionnaire - GHQ12[36], a tool for screening common mental disorders with an already validated Brazilian version, those that were positive for three GHQ12 items were considered as "cases" and described as GHQ3. The GHQ reference period for symptoms manifestation comprised the fifteen days period prior to completing the questionnaire.

The Medical Outcomes Study[37] is an instrument used to evaluate perceived support and developed for the evaluation of patients with chronic diseases[38]. It was validated in Brazil in a study on a cohort of workers from a public university in Rio de Janeiro – Pró-Saúde Study[37]. In this study, social support-related items were clustered into five realms of support: emotional, information, material, sentimental and positive interaction.

The material realm measures the practical support in life, such as leading the respondent to the doctor while being sick and material help in the daily chores. The sentimental realm evaluates the existence of people who show affection and make you feel loved. The emotional realm assess-

es having a trusted person who can listen to the patient and to whom the patient can talk about his problems and share concerns. The information evaluates to have someone who can provide suggestions on how to deal with problems, good advice and to understand him/her. Positive interaction measures whether the subject had someone with whom he/she could do pleasant things, entertain himself/herself, relax and have fun.

Results

The sample consisted of 714 patients, mostly women (74.1%) who were married (60.8%), of which 39.5% of them between 50 and 65 years old, where most (52.1%) reported being white and Catholic (57.6%). Schooling level was low, with 8.7% never attending school, 45.2% studied until fourth grade, 23% from fifth to seventh grade, and 9.1% completing elementary school comprising 86% of the sample; income was low, with average monthly family income per capita of R$ 189.00.

Regarding the association between existing hypertension and social network variables, Table 1 shows that having hypertension was not associated with variables close relatives network with more than four members and network of friends with more than four members; not even engaging in sports or artistic activities. There was a statistically significant positive association with the variable attending religious services regularly (OR = 1.56; 95% CI: 1.14-2.14).

Regarding the association between hypertension and perceived social support, there were positive associations between being hypertensive and the four realms (material, emotional, information and positive social interaction). These patients felt receiving support in all realms, but in sentimental support (OR = 1.10; 95% CI: 0.93-1.30), this association was only borderline in terms of its statistical significance.

In the case of patients with diabetes, the association with the support network was significant only with the variable of close relatives'network with more than four members (OR = 2.13; 95% CI: 1.27-3.58). This was a positive association, which suggests that relatives are closer to the sickest patients.

Regarding these patients'perceived social support, positive associations with the various realms were found, where, again, only sentimental support showed borderline statistical significance (OR = 1.56; 95% CI: 0.97-2.51). In

Table 1. Gross odds ratios (OR) and 95% confidence intervals (95% CI) of the association between variables of support network, perceived support, adjusted between them, for hypertension, diabetes and CMD. Hypertension, diabetes, social support and mental health in PHC. 2014.

Support network	Having hypertension	Having diabetes	Having CMD
Close relatives' network with more than 4 people	1.39 (0.94-2.06)	**2.13 (1.27-3.58)**	**0.48 (0.30-0.75)**
Friends' network with more than 4 people	1.30 (0.81-2.08)	1.69 (0.90-3.17)	**0.51 (0.30- 0.90)**
Attending regular religious services	**1.56 (1.14-2.14)**	1.43 (0.86-2.37)	**0.66 (0.48-0.92)**
Engaging in sports and artistic activities	0.81 (0.55-1.88)	1.90 (0.81-2.39)	**0.38 (0.24-0.61)**
Perceived support			
Material perceived support	**1.29 (1.09-1.53)**	**1.88 (1.17-3.03)**	**0.57 (0.47-0.69)**
Emotional perceived support	**1.19 (1.02-1.39)**	**2.06 (1.31-3.22)**	**0.52 (0.42-0.64)**
Information perceived support	**1.21 (1.03-1.42)**	**1.97 (1.24-3.13)**	**0.47 (0.38-0.59)**
Sentimental perceived support	1.10 (0.93-1.30)	1.56 (0.97-2.51)	**0.45 (0.37-0.55)**
Positive social interaction	**1.20 (1.03-1.41)**	**1.67 (1.08-2.58)**	**0.49 (0.39-0.59)**
Total perceived support	**1.26 (1.07-1.47)**	**2.20 (1.39-3.49)**	**0.51 (0.41-0.61)**

the analysis of associations between support network and CMD (Table 1), a distinct pattern of association was observed, with CMDsignificantly inversely associated with all the variables of the support network: close relatives' network (OR = 0.48; 95% CI: 0.30-0.75), friends' network (OR = 0.51; 95% CI: 0.30-0.90), regular attendance of religious services (OR = 0.66; 95% CI:0.48-0.92) and engaging in sports or artistic activities (OR = 0.38; 95% CI: 0.24-0.61).

In relation to the association between CMD and the perception of social support, inverse associations were detected with all realms: material (OR = 0.57; 95% CI: 0.47-0.69), emotional (OR = 0.52; 95% CI: 0.42-0.64), information (OR = 0.47; 95% CI: 0.38-0.59), sentimental (OR = 0.45; 95% CI: 0.37-0.55) and positive social interaction (OR = 0.49; 95% CI: 0.39-0.59). This result follows the same pattern of association between CMD and the support network, but diverges from the positive associations between perceived support and physical disease.

Results indicate that, with physical disease, the individual perceives himself receiving support. However, in the case of mental disorders, associations are reversed, that is, with mental disease, the subject feels receiving less social support.

Discussion

Our results are in agreement with the literature review[8,18,22,35] in relation to the prevalence of CMD and its association with low income, schooling and female gender.

Results showed a direct association between support network and perceived support and physical disease (hypertension, diabetes). These patients felt protected by the support network. In particular, the outcomes demonstrated that relativeget closer to someone with diabetes, which can be used as an important resource for coping with this disease. This confirms the literature's findings[13,15,30].In the case of hypertension, there was a greater attendance in religious activities, where the Church asserts itself as a supporting space. This relationship between the perception of social support and chronic physical diseases confirms data found in the literature, ratifying social support as a relevant tool for coping with physical disease.[17,21,30] However, since the association for the sentimental realm was borderline in these cases, the only unclear issue is whether this is a consequence of the sample size or this realm is less affected by physical disease.

The inversed associations between variables of the support network and the CMD signal another reality. An inversion was identified between requiring and obtaining social support by these patients, because associations were all negative. The literature indicates that the individual with mental disorder is placed in social isolation[22,23]. However, since this is a cross-sectional study, this phenomenon may be happening in both directions: the patient withdraws in isolation and may concomitantly be sidelined. However, as we analyzed perceived support, we found that the perception of these patients is feelingthat they are receiving less support. These results point to the problem of the relational pattern of CMD pa-

tients with their support network. If social support positively helps individuals adapt to adverse conditions, promoting resilience, enabling the individual to mobilize psychological resources and control emotional problems[29,32-34], it is important to seek to promote social insertion of these patients, with greater acceptance of their social reference group.

Their main contribution is to demonstrate the relationship between social support and people's health status, which can offer alternative care when dealing with these crisis situations. The application of this study to the clinic focuses on the recognition of the social support received by patients and on favoring and mobilizing the social network of patients that can be performed by health professionals to better tackle CNCDs and CMDs.

However, the research'sdesign is its main limitation, especially in relation to the determination of causality in the associations between variables. Thus, it is encouraged that other researchers further analyze their studies, corroborating with this field that suggests many developments and possibilities.

Final considerations

The conclusive analysis of findings indicates that individualswith a physical disease perceived that he/she was receiving social support, and the one with mental disorder felt helpless. One hypothesis is that there is a change in the behavior of the social network linked to the type of disease that affects the patient, considering that the types of support also fluctuate according to the type of physical disease, showing different results in the behavior of the social network for hypertension and diabetes.

PHC needs legitimate resources to ensure health promotion in its actions[16]. Trends pointed out in this research expand the knowledge on the association of the social network and the confrontation of physical and/or psychic diseases by subjects. Continuing research in this field can ensure a powerful resource for actions in health promotion and disease prevention in PHC. Thus, approaches that strengthen social support facilitate family and social network components'integration into healthcare are resources that can be valued and used since they add quality to subjects' health.

Collaborations

EIS Aragão, FB Portugal, MR Campos, CS Lopes and SLCL Fortes worked jointly in the production of this paper.

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