



ORIGINAL ARTICLE

Study of Social Capital Status in Patients with Primary Headache Compared to Control Group

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ABSTRACT

Background: Social capital, in general, is mutual relationships, interactions, and networks that emerge among human grouping and is the level of trust formed in the specific group as commitment and social norm. This issue is associated with many mental and physical disorders in the community. The objective of this study was to evaluate the level of social capital in some people with a primary headache in comparison with control group. **Methods:** This case-control study was performed on 60 patients with a primary headache who referred to one of neurology clinics in Yazd city, Iran, as the case group and 60 subjects without primary headache as the control group that had some similarities with case group in demographic features. Data was collected via social capital questionnaire containing demographic information. **Results:** The mean score of social capital in the case group was 193.5 ± 30.82 while the mean score of social capital in the control group was 214.1 ± 34.22 ($P=0.001$) that indicate a significant correlation between social capital level and catching primary headache. **Conclusion:** Further studies are needed on the effect of social capital on the level of response to treatment in patients with primary headache. It is also suggested to be conducted interventions regarding the impact of social capital on headaches and broader studies with larger scale (urban population) in this regard.

INTRODUCTION

Headache is the seventh most common cause of referring to neurology clinics. Ninety percent of people are suffering from a headache at least once a year, and only 5% of individuals with headache develop a serious brain disease (1). The non-organic disease is the source of 95% of chronic headaches; the most common headaches are migraine and tension-type headache. These headaches are more prevalent among women because of unknown reasons (2). Nowadays, it has been determined that many chronic headaches are associated with behavioral problems (3), which are resulting from illnesses affecting the quality of life of individuals (4). The chronic diseases, including headaches, have lifelong effects on roles, lifestyles and the reduction of social interactions among family members (5). Of the recent studies in the field of health have been the effect of social capital on human health and quality of life, and even the rate of response to treatment in the patients (6). The social capital is one of the social criteria of health and is defined as the role of the community in individual health (7). The social capital

emanates from the everyday interaction among individuals and has a completely social meaning (8). The social capital is examined in six domains including groups and networks, trust and agreement, cooperation and collective action, information and communication, social cohesion and inclusion as well as empowerment and political performance (9). Several studies have shown that social capital can play a role in reducing the incidence rate of headaches (10). The purpose of this study was to examine the social capital level in people with primary headaches compared with the control group.

METHODS

In this case-control study, the subjects consisted of the patients with non-organic chronic headache who referred to one of neurology clinics at Shahid Sadoughi Hospital in Yazd city, Iran. The non-organic chronic headache is classified into tension, cluster and migraine types. The social capital includes a set of networks, norms, and values to facilitate intergroup and intragroup collaborations for mutual benefit.

Sixty subjects with a primary headache and 60 healthy subjects without chronic headache were enrolled in the study as the case and control group, respectively. All the subjects have the similar demographic characteristics (i.e., age, gender and socioeconomic status). The social capital of the patients was measured via a questionnaire containing demographic information. The patients suffering from a psychiatric disorder (e.g., schizophrenia, chronic depression, bipolar disorder) were excluded from the study. The patients were selected with census method until the completion of the sample size based on inclusion criteria. Eventually, the data were analyzed with SPSS software version 19 (Inc., Chicago, IL) using Independent sample t, Mann-Whitney U, Chi-square, Hosmer, and Lemeshow tests.

RESULTS

This study evaluates the relationship between primary (non-organic) headache and social capital. For this purpose, 60 cases were chosen from people with a primary headache with no specific cause, and 60 cases were selected from those who were in a group that was almost similar to the patient in terms of age and gender. Fifty-eight people mentioned the duration of the disease (the minimum of 6 months, the maximum of 32 years and the mean was 6.2 years). These 120 people completed the social capital questionnaire by face-to-face interview. In this study, the samples due to their age range were divided into two groups, including the age group of 24 years old (n=19) and the age group of 58 years (n=25). The mean age difference was studied by t-test (P=0.231). Demographic information including the level of education, marital status, occupation status, and gender were surveyed in total on 120 people. The chi-square test showed no significant difference between the two groups (Table 1).

Table 1. Frequency distribution of educational level, marital status, occupation and gender in the two groups

Background information	Groups N (%)			P-value
	Case	Control	Total	
Educational levels				
Diploma and less	27 (45.00)	25 (42.4)	52 (43.7)	0.773
Academic	33 (55.0)	34 (57.6)	67 (56.3)	
Marital status				
Married	33 (56.9)	28 (50.0)	61 (53.5)	0.46
Single	25 (43.1)	28 (50.0)	53 (46.5)	
Occupation status				
Employee	6 (10.0)	6 (10.0)	12 (10.0)	0.176
Worker	0 (0.0)	2 (3.3)	2 (1.7)	
Self-employed	9 (15.0)	18 (30.0)	27 (22.5)	
Homemaker	10 (16.7)	8 (13.3)	18 (15.0)	
Retiree	4 (6.7)	1 (1.7)	5 (4.2)	
Others	31 (51.7)	25 (41.7)	56 (46.7)	
Gender				
Male	15 (25.0)	24 (40.0)	39 (32.5)	0.079
Female	45 (75.0)	36 (60.0)	81 (67.5)	

According to Chi-square test, there were no significant differences among two groups in terms of smoking, alcohol, hookah and other addictive substances (Table 2).

According to our results, it was found that the mean total score of social capital in the case and control groups was 193.5±30.82 and 214.1±34.22, respectively (P=0.001, Figure 1).

The mean score of social capital based on the domains between the two case and control groups show that there was no significant difference in groups and networks, cooperation and collective action, as well as social cohesion and inclusion. However, there was a significant difference in trust and agreement, information and communication, as well as empowerment and political performance (Table 3).

In the present study, the correlation coefficient (R) of the total score of social capital and age was 0.172 (P=0.061);

Table 2. Frequency distribution of smoking, alcohol, hookah and other addictive substances in two groups

Variables	Groups N (%)			P-value
	Case	Control	Total	
Smoking				
Yes	5 (8.3)	13 (21.7)	18 (15.0)	0.041
No	55 (91.7)	47 (78.3)	102 (85.0)	
Alcohol				
Yes	5 (8.3)	7 (11.7)	12 (10.0)	0.543
No	55 (91.7)	53 (88.3)	108 (90.0)	
Hookah and other addictive substances				
Yes	9 (15.0)	12 (20.0)	21 (17.5)	0.471
No	51 (85.0)	48 (80.0)	99 (82.5)	

Table 3. Mean score of social capital based on the domains among two case and control groups

Domains	Groups (n=60)	Mean±SD	P-value
Groups and networks	Case (n=60)	39.5±12.05	0.172
	Control (n=60)	42.6±12.80	
Trust and agreement	Case (n=60)	40.1±11.18	0.008
	Control (n=60)	45.2±9.07	
Cooperation and collective action	Case (n=60)	14.7±4.24	0.946
	Control (n=60)	14.8±3.80	
Information and communication	Case (n=60)	10.1±2.82	<0.001
	Control (n=60)	123±3.14	
Social cohesion and inclusion	Case (n=60)	45.3±10.69	0.201
	Control (n=60)	47.9±11.46	
Empowerment and political performance	Case (n=60)	43.5±11.88	<0.001
	Control (n=60)	51.2±9.28	

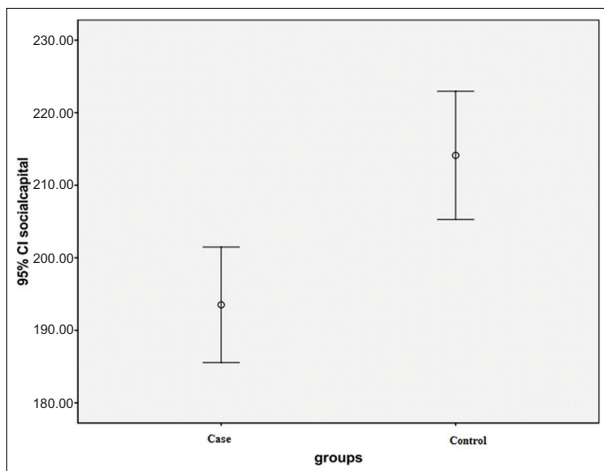


Figure 1. The mean total score of social capital among case and control groups

also, R of the total score of social capital and duration of disease was 0.011 ($P=0.935$). These correlations are positive, but not significant. Hosmer and Lemeshow tests were used to determine the fitness of the model. In the logistic regression analysis, after inserting the variables of the second, fourth and sixth domains, the total score of social capital, smoking, and gender as independent variables, and headache as a dependent variable, the fourth and sixth domains and smoking had a statistically significant relationship with headache. Indeed, for each score added to the fourth domain, the probability of headache was decreased as much as 0.2; and for each score added to the sixth domain, the probability of headache was decreased as much as 0.7. If someone was smoker, the probability of headache been less as much as 1.7.

DISCUSSION

The present study was conducted to investigate the social capital status in patients with primary (non-organic) headache compared with control group. According to our results, the increase in the mean score of social capital was associated with the decrease in catching primary headache. In a study by Harpham et al. on social capital and mental health on 1168 young people aged 15 to 25 with low income in Cali, Colombia, the poor social participation and low-level education were among the most important risk factors of this study. The results of this study showed that the incidence rate of mental disorders in women with a low-level of social capital was three times higher than in men with the same condition (11). Teoh and Tam compared social support between people with and without headaches and concluded that individuals with headache had a greater amount of mental health problems, and had less decision-making power and no ability to deal with problems (12). According to studies conducted in this regard, chronic headaches and depression can have a mutually substantial effect on each other (13). Therefore, the prevalence of headache has a significant relationship with increasing socio-psychological problems. In the treatment of chronic headaches, further attention should be paid to psychological aspects to prevent chronic disease and to accelerate the im-

provement of headache by finding the etiology of headache with the origin of depression and non-depression (14). Ryan et al. performed the study among the migraine and tension-type patients that showed the persistence of these headaches, especially along with anxiety and depression (4). The results from studies on the relationship between depression and chronic headache indicate that depression is one of the forms of headache (15), resulting in hospitalization in some cases (16). In addition, many chronic headaches are associated with mental and behavioral problems (17). Zwart et al. demonstrated that both chronic and non-chronic headaches were associated with unpleasant disorders such as stress and anxiety (18), but did not violate previous findings. Mongini et al. studied 56 women with headache related to depression and showed that seizure-type headaches along with depression were more common in women than in men. Therefore, it can be concluded that these types of headaches due to having behavioral problems and the presence of depression in women are not treated in the short term (19). Safari et al. (2008) examined the relationship between migraine headache and lifestyle among women referred to clinics affiliated with Isfahan University of Medical Sciences in 179 patients. The findings of a study showed a significant relationship between some aspects of lifestyle such as nutritional status and dietary habits, sleep and rest patterns, patterns and habits of drug use with migraine headache. However, there was no significant difference between smoking, exercise pattern and exposure to stressors with migraine headache. Also, it is necessary to change and improve the lifestyle of migraine headache patients to prevent headache attacks, as well as studying lifestyle and health behaviors should be on the priority of health care services (5). Farajzadegan et al. investigated the relationship between social capital and diabetes in Isfahan city on 129 diabetes patients who were divided into two groups: controlled ($HbA1c < 7$) and uncontrolled ($HbA1c > 7$) diabetes. They stated that the mean social capital score was 185.1 in the control group and 174.4 in the uncontrolled group, indicating the positive effect of social capital in controlling diabetes (10). Cornwell and Waite studied the effect of social network resources on management of hypertension in 3005 older adults aged 57 to 85 years and found a significant relationship between the risk of undiagnosed and uncontrolled blood pressure with social networks, including interactions, information and emotional support. In this study, married status had no significant effect on uncontrolled blood pressure (20).

CONCLUSION

According to the results of the present study, there was a significant relationship between the mean score of social capital and catching primary headache, so that the mean total social capital in the control group was higher than to the case group.

SUGGESTIONS

It is recommended to conduct more studies on the relationship between social capital and other diseases such as

blood pressure, obesity and also about the score of social capital in people with headache in all age groups. Further studies are needed on the effect of social capital on the level of response to treatment in patients with primary headache. It is also suggested that there should be interventions regarding the impact of social capital on headaches and broader studies in the larger scale (urban population) in this regard.

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AUTHORS CONTRIBUTION

All authors contributes in this study equally and done their works as below:

Study Design: Azar Pirdehghan, Abolghasem Rahimdel. Data collection: Fariba Yazdanfar, Mohammadreza Malekjamshidi. Data Analysis: Azar Pirdehghan, Fariba Yazdanfar

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