SHORT ARTICLE

Association between Social Capital and Self-rated Health of Older People in Chandigarh, India

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Abstract

Background: Social capital reflect the degree of social cohesion in communities. Although studies have shown that social capital influences health, there is limited understanding about the role of social capital on physical and mental health of older people in India. **Aims & Objectives**: To assess the association between social capital and self-rated health among older people. **Material &Methods**: A cross-sectional study was conducted among 211 older people selected from 1563 households in urban and rural Chandigarh District. Standardized tools were used to measure social capital (Global Social Capital Survey) and self-rated health (SF-36). The association between social capital and physical and mental health dimensions of self-rated health was analyzed using multiple linear regression. **Results**: Participants' mean age was 68.1 years (SD 7.6); about half were women. The mean total social capital score was 45.5 (SD 11.9). The mean physical and mental health dimensions of self-rated health scores were 1027.7 (SD 252.5) and 1416.9 (SD 487.7), respectively. Social capital was found to be a significant predictor of mental health dimension of self-rated health. Age and gender were found to be significant predictors of physical health dimension of self-rated health. **Conclusion**: Social capital influences mental health of older people. Interventions to improve social capital, in terms of strengthening relationships with family members and other social networks, can contribute to improving mental health of older people.

Keywords

Social Capital; Self-Rated Health; Older People; Cross-Sectional Survey; India.

Introduction

Social capital refers to the processes between people that establish networks, norms and social trust and facilitate coordination and cooperation for mutual benefit. (1) In the field of health, empirical analyses have been conducted that suggest social capital has a significant influence on human health behaviors and its outcome. (2,3) However, much of this research has been carried out in western countries.

Research on social capital and health among Indian older population is extremely limited. The need for focus on the elder sector of the population is vitally important especially in countries like India where birth rate is on decline and an increase in the number of older people has been observed worldwide and in India in the last few years. The health needs of young and older are different; for biological and socioeconomic reasons. Ageing makes older people economically and socially dependent. Accordingly, this study's objectives was to assess the association between social capital and self-rated physical and mental health among older people in Chandigarh.

Aims & Objectives

To assess the association between social capital and self-rated health among older people

Material & Methods

This cross-sectional survey was conducted in Chandigarh District, North India. Chandigarh district is organized into sectors and each sector is further divided into sub sectors (A to D). Each sector is spread over an area of 246 acres and has been so planned in such a way that each of these sectors have facilities for re-creation, market, school, and places of worship. The urban area is stretched over 114 square km., has 12 villages around it and is divided into 26 wards by Municipal Corporation. The total population is around 10.5 lakhs. (4) In Chandigarh, the older people account for 5% of the total population. (5) The study dataset was part of a larger database (n=1563). For this analysis, we included older people (defined as those people who are aged 60 years and above) who are living in urban and rural Chandigarh. Those having neurologic illness or those living in old age homes were excluded.

The sample size was calculated on the basis of difference in proportion of people reporting health problems with the lowest (p1=0.82) and highest level (p2=0.42) of social capital (6). Considering the power of the study to be 90, with a 95% confidence interval. The calculated sample size was doubled to represent both genders and taking into consideration the design effect (2.0) (7), and the final estimated sample size was 211.

We selected two sectors, randomly on either side of a mid-line (a main road) that divides Chandigarh. Most of the sectors in Chandigarh are more or less evenly distributed on each side of this mid-line. The first house number was randomly selected from each sub-sector. Only if there was no individual who met the inclusion criteria we moved to the next house. Keeping in mind that all the subsectors have nearly equal representation in terms of number of respondents, consecutive houses were selected till the desired sample size was achieved. One male and one female from the same house were interviewed, but if the family had two older people of the same gender then only one was selected randomly.

The structured survey questionnaire was translated to Hindi and back to English for ensuring clarity and removing ambiguity. The questionnaire was pre-tested in a different population to estimate the time taken for the interview process and appropriateness for the local context. The time taken for each interview was about 40 to 50 minutes. The study was approved by the Institutional Ethics Committee of Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, and all interviews were conducted after obtaining written informed consent.

For self-rated health (outcome variable), a standardized method of scoring SF-36 was used. For measuring social capital (predictor variable), the Global Social Capital Survey (GSCS) was modified in order to make it convenient for the study population following a standard scoring system. (8) The SF-36 is a subjective summary of how individuals perceive their own health. However, SF-36 is a short-form health survey and generic in nature, and can be used across ages, disease and treatment group. Physical and mental health components of SF-36 are usually scored separately in line with the recommendation from developers of SF-36 scale. The GSCS questionnaire has been developed by the World Bank for developing countries and was pilot tested in Republic of Ghana and Uganda in 1998. Results from these settings revealed that same dimensions emerged clearly in the two demographically dissimilar populations. Characteristically, this scale covers the dimensions of - group and network associations, subjective well-being, political engagement, sociability and community activities, relation with government, identity, violence and crime and channels of communication. After factor analysis, we used a refined 22-item version of the GSCS, to assess the total social capital.

We conducted univariate analysis of the outcome and predictor variables (mean and SD). Multiple linear regression analysis was conducted to examine

whether physical and mental health dimensions of self-rated health can be predicted from social capital, controlling for potential confounding variables. All analyses were conducted with IBM SPSS version 16.

Results

A total of 211 older people were interviewed. The mean age of the respondents was 68.1 years (SD 7.6), 48.3% were females and 13.7% had no formal education. Most of the people (80.1%) were non-Hindus. More than 90% of the population resided in urban areas and the mean duration of stay in Chandigarh was 19.8 years (SD 13.7). Table 1 provides details on the social capital and self-reported health scores. The mean social capital score of older people was 45.5 (SD 11.9). The mean physical and mental health dimensions of self-rated health scores were 1027.7 (SD 252.5) and 1416.9 (SD 487.7), respectively.

Bivariate analysis revealed significant positive correlation between social capital and mental health dimensions of self-rated health (.24, p<.001), but the association with physical health dimension of self-rated health was negative, but not significant (.13, p=.06).

Table 2 summarizes the results of multiple linear regression. Social capital was found to be a significant predictor of the mental health dimension of self-rated health, but not the physical health dimension. Age and gender were significant predictors of mental health dimension of self-rated health, but were negatively associated with it.

Discussion

This study examined the relationship between social capital and self-rated health among older population. We found that, in older people, social capital predicted self-rated health, similar to the findings from studies conducted among children and young people. (9) Age and gender was also found to play an important role in determining self-rated health. This manner influence of social capital on health also varies by gender groups which means probably females are more influenced by cognitive aspects of social capital, and they spend more time in community activities than males. (10)

There are studies that have reflected upon association between social connection or social capital as social determinant and quality of life of older people. (11) There are other social determinants like gender, income and information sharing that affect health in the old age. (12) Some of these studies reported a strong correlation between demographic characteristics and social capital. (13) Our study also expands present knowledge regarding existing literature that socio-demographic characteristics affect both the social capital and health independently. Not only the age and gender significantly affect both the physical and mental health of the old people but also the gender and level of education are the common factors. Gender was also found to be significant to predict total self-rated health because social capital for males differs from females in network sizes, composition, participation and relationships with network members. Males are usually considered to have lower network sizes and less contacts with network members compared to females. While women have larger networks including kin and neighbours, men are more likely to have various members in the network including co-workers and friends. (10)

Most of the studies on social capital and self-rated health have shown that social capital is not associated with physical health but significantly associated with mental health. (14, 15) Different domains of social capital are significantly associated with self-rated health. Social participation and trust were also found to be significantly associated with self-rated health. (16) While most of the earlier literature on social capital of older people is focused on 'bridging', or 'bonding' social capital, this cross-sectional survey captured all the domains of social capital (17) as well as explored social capital's association with both physical and mental health of older people.

The results identified that social capital is beneficial to older people's health status, but its benefits are not the same for physical and mental health dimensions. Appropriate social interventions can be developed based on study results. At community level, social services can be developed for older to increase social interactions by facilitating social participations. Some stress management programs can be organized to strengthen the mental health of older people.

Much of the research of social capital on health outcomes have focused on developed countries. (18, 19, 20, 21, 22, 23) Our study found that mental health of older people in India may be influenced by social capital, possibly through individual characteristics and activities, or through political and social environment. (24)

This study has some limitations. Since this study analyzed cross-sectional data, the interpretation of the results is not explanatory. For further studies, thus, the use of longitudinal data would be necessary to explore the contributory relationships between social capital and health status. Qualitative studies can also help in understanding the processes by which social capital influence physical or mental health of older people.

Conclusion

There is significant association between social capital and mental health of older people. Interventions to improve social capital, in terms of strengthening relationships with family members and other social networks, can contribute to improving the mental health of older people.

Authors Contribution

MK: Conceptualization and planning of Study; IR: Conceptualization and planning of Study. VC & PVML: Analysis and Writing; PK: Writing; NK: Data Management and Analysis.

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Tables

TABLE 1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF ELDERLY PEOPLE IN URBAN CHANDIGARH

Characteristics (n= 211)	Mean	SD
Age	68.1	7.6
Length of stay	19.8	13.7
Family size	4.5	2.3
Physical health dimension	45.5	11.9
Mental health dimension	1027.7	252.5
Social capital total	1416.9	487.8
	n	%
Gender		
Man	109	51.7
Woman	102	48.3
Marital status		
Married	180	85.3
Unmarried	03	1.4
Divorce/Separated/Widow	28	13.3
Living Area		
Rural	16	7.6
Urban	195	92.4
Education		
Illiterate	29	13.7
Up to Primary education	31	14.7
Above primary to Higher secondary	69	32.7
University/College/More	82	38.9
Occupational status		
Housewife/Unemployed*	77	36.5
Retired/Pensioner	126	59.7
Currently employed	08	3.8
Religion		
Hindu	42	19.9
Other (e.g., Sikh, Christian)	169	80.1
Caste		
Schedule Caste/Other Backward classes	32	15.2
General	179	84.8

TABLE 2 LINEAR REGRESSION ANALYSES ON SELF-RATED HEALTH, SOCIO-DEMOGRAPHIC CHARACTERISTICS AND SOCIAL CAPITAL SCORES OF ELDERLY PEOPLE (N=211)

Social factors	Physical dimension of self-rated health		Mental Dimension of self-rated health	
	β	p value	β	p value
Age (in years)	-.193	.001	-.148	.023
Gender	-.233	.001	-.070	.380
Educational status	.010	.872	-.031	.643
Occupation	.025	.696	.055	.462
Religion	-.110	.051	-.077	.235
Caste group	-.049	.470	.026	.738
Living area	-.411	.000	-.346	.000
Marital status of the respondent	-.098	.120	-.074	.300
Social capital (total score)	-.012	.840	.152	.025