Does social capital enhance self-rated health of married women? Findings from a population-based study

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Abstract

Background: Social capital is one of the main concepts that has received attention in the health literature. This study aimed to investigate the association between social capital and self-rated health in married women in four western provinces of Iran.

Methods: This cross-sectional study was conducted using a multi-stage sampling method in four main western provinces of Iran. In total, 1531 married women participated in our study. The questionnaire included demographic variables, women's self-rated health, and social capital.

Results: The mean (SD) self-rated health was 3.83 (0.77). Pearson correlation test showed that among the social capital subscales, trust had the most (r = 0.116, p<0.001) and networks the least significant correlations (r = 0.095, p<0.001) with self-rated health among the participants. Social capital shows a weak association with self-rated health (Coefficient=0.0030, p=0.001).

Conclusion: This study showed that there was a positive correlation between social capital dimensions with the self-rated health among women, however it was relatively weak association. This may be due to the complex nature of health and its related factors such as social capital.

Introduction

Self-rated health (SRH) as a simple and good indicator of health has been used widely in social epidemiological studies [1]. SRH assess perception of people about their general health [2]. According to the literature, people who perceived their health as poor have a greater risk of mortality and worst overall health profile [3, 4]. During the last decades, empirical evidence showed that social capital is one of the important social determinants of health Evidence shows that social capital is associated with a range of health-related behaviors and their consequences including criminal behaviors, mental health, smoking, suicidal ideation, suicide attempts and mortality [5–9]. A study in the Brazilian general population found that people who had fewer friends, and provide less support for neighborhood people, and had lower community-based participation and activities were more likely to rate their health negatively [10]. Evidence also shows that high levels of community participation were associated with higher social cohesion and better mental health, physical functioning, and general health [8].

Social capital defined by Putnam “as social trust, cross-trade norms, and social network density” [11]. Social capital is a context-based concept that its conceptualization, measurement, and effect may differ from a society to another society with different economic, social and cultural backgrounds. Iran is one of the developing and under transition countries that has experienced unstable political and economic situation and is under great sanctions in the last decade, accompanied by fundamental but gradual social changes. It seems that this unstable political and socioeconomic status could increase or decrease social capital and its influences on the population's health. Despite the enormous costs spent annually on disease prevention and health promotion programs, many of the key determinants of health such as social relationships, citizens' trust, and social capital especially among women are still neglected [12].
Distribution of different types and levels of social capital are not equal among various groups of a society. The related evidence suggests that there is a difference between social capital of men and women especially married women. Women constitute main part of the Iranian population who can play an important role in sustaining levels of social capital. However, there is little evidence about the level and characters of social capital and its effect on SRH of married women in Iran.

A previous study research demonstrated that the existence of social capital could provide various social support, for people including financial, information, appraisal practical and emotional supports, among which the provided emotional support more clearly helps a person's health [13]. Giddens believes that emotional support is a kind of protective shell by which people protect themselves when faced with life challenges [14]. Although the association of social capital and health have long be studied [15], the previous studies are mainly from developed and high-income countries, and there is a little evidence on the relationship between social capital and health especially among women from developing countries. The married women as an important subgroup of population have an important role in family and society’s health. Due to gender specific predictors of health, evaluating of predictors health among married women are necessary. Therefore, this study aimed to investigate the association between social capital and SRH in married women in four western provinces of Iran.

**Methods**

**Sample and procedure**

This cross-sectional study was conducted in the four main western provinces of Iran (Kermanshah, Sanandaj, Hamadan, and Ilam) with a majority of Kurdish population in April-May 2019. The western provinces had a population of 1079325 married women. Using multi-stages sampling method, a total of 1531 married women completed the questionnaire. Inclusion criteria were being married, and not being hospitalized due to the mental illness during the past month, based on people's self-declarations. This study obtained ethics approval from the Research Ethics Committee of Kermanshah University of Medical Sciences (No. KUMS.REC.1397.258).

**Measures**

The first part of the questionnaire included demographic variables such as age, spouse's age, number of family members, education, spouse's education, history of illness, and hospitalization, occupation status, and spouse's occupation. The second part of the questionnaire was a question on women's SRH. We asked participants "How would you rate your general health status?". This question measures SRH on a 5-point Likert scale and has been proposed by WHO [16]. The third part of the questionnaire was a questionnaire for measuring the social capital that was developed based on the Nahapiet and Goshal social capital questionnaire [17]. This questionnaire has three structural, relational, and cognitive dimensions that examine seven subscales of networks, trust, collaboration, mutual understanding, relationships, values, and commitment. It consists of 28 items based on a five-point Likert scale (strongly agree = 5, agree = 4, disagree = 3, disagree = 2, and strongly disagree = 1). A higher score indicates more
social capital. In the present study, according to the target group and the research objectives, the questionnaire was translated into Persian and tailored. The face and content validity of the questionnaires was assessed by an expert's panel including three sociologists, three psychologists, and two health promotion specialists. According to the experts' comments, Content Validity Index (CVI), and Content Validity Ratio (CVR) were 0.92 and 0.84, respectively. To assess the reliability, the questionnaire was distributed among 150 individuals who were similar to the statistical sample. Cronbach's alpha coefficient for the whole questionnaire was 0.93. Cronbach's alpha coefficient for the structural, cognitive and relational, dimensions was 0.87, 0.95, and 0.90, respectively.

Data Analysis

Data were analyzed by STATA version 12. Descriptive analyses are reported as numbers (percentages), means (standard deviations). To determine the relationships between the variables, Pearson correlation. Multiple linear regression analysis was conducted to determine the adjusted association between social capital and self-rated health. To correct for the population distribution, poststratification adjustments were applied using sampling weights. P-value < .05 was considered statistically significant.

Results

Out of 1650 distributed questionnaire, a total of 1531 married women completed the questionnaire, with a response rate of 94%. The mean (SD) age of the respondents was 33.67(11). The lowest percentage of age groups belonged to 60 years or older (3.3%). Nearly 30% of the respondents had a bachelor's degree. Seventy-six percent of the respondents were housewives and only a small percentage (1.1%) were retired. The majority of the respondents (90.4%) reported that they have no history of chronic disease (Table 1). Nearly 6% of participants were either unsatisfied or very unsatisfied with their state of health, while 74% were either satisfied or very satisfied. The mean (SD) SRH and overall social capital were 3.83 (0.77) and 97.66 (23.50), respectively. Table 2 present the mean (SD) subscales of social capital dimensions and SRH.

Pearson correlation test showed that among the social capital subscales, trust had the most significant correlation ($r = 0.116, p < 0.001$) and networks had the least correlation ($r = 0.095, p < 0.001$) with SRH. Among the dimensions of social capital, the total Relational dimension had the strongest correlation ($r = 0.120, p < 0.001$) and the total cognitive dimension had the weakest correlation ($r = 0.103, p < 0.001$) with SRH. Also, results of the partial correlation showed that the relationship between social capital and SRH was positive and significant ($r: 0.092, p = 0.001$) after controlling of age, education, chronic disease, and occupation (Table 3).

Multiple linear regression test was performed to investigate the predictors of women's SRH. The variables of education, occupation, age, chronic disease, and social capital were entered into the model. The results showed that the level of education is associated with the SRH. Only the diploma level of education compared to the reference group (below diploma) was not significant in the model (Coefficient = 0.022, p = 0.709). As shown in Table 3, the presence or absence of chronic disease had significant adjusted
association with women's SRH (Coefficient = 0.750, p = 0.001). Where social capital had the least impact (Coefficient = 0.0030, p = 0.001) (Table 4).

Discussion

Our study aimed to investigate the association between social capital and SRH among the married women in four western provinces of Iran. Finding of our study could fill gaps in our knowledge of social capital and SRH among married women in the context of Iran as a developing country. Our finding showed that mean of SRH among the married women was relatively high. It was inconsistent to those reported in Khawaja and Mowaf study [18] and was similar to Brown et al. [19]. Also, our finding indicated that considering the attainable range of social capital score, the mean of the social capital in the married women was relatively high.

According to our findings, higher social capital was associated with increase in SRH in the married women. This finding was consistent with the results of previous studies [20–22]. Kim et al. (2007) in the United States found that people with higher levels of social capital experienced few days with poor physical and mental health (boredom and ill-health) and activity restriction [23]. Result of a study in Japan showed that women who actively participated in the social group were more socially empowered compared to women with lower social participation, which is conceptually consistent with the present study [24]. Herzong et al.'s (2002) also showed that lower social participation and social support (as indicators of social capital) have negative effects on people's health [25]. However, a study conducted in Iran showed that there was no significant association between participation in social or local activities, being active in the social context, and quality of neighborhood communications with perceived health [26].

Also, our finding showed a correlation between the relational dimension of social capital and SRH among the participants. This dimension was more strongly correlated with SRH than others. Also, among the subscales of communication, trust had the highest correlation with SRH. Most theories of social capital emphasize two key elements including trust among social members and participation in social organizations [27]. Social trust is a positive ethical orientation among individuals in a community with essence of community-based moral expectations [28]. Girdano et al. (2010) in a study showed that an inability to trust others was significantly associated with poor health, while social participation was significantly associated with improved health over time [29]. Meng et al. (2014) also assessed the association between social capital and health among urban and rural population in China and found that among the components of social capital, only trust had a significant effect on health [30]. The findings of our study showed that cognitive social capital had a positive and significant association with participants’ SRH. This finding is consistent with the past study by Rajabie et al. (2013) among Iranian teachers [12]. Cognitive social capital addresses qualitative dimensions of social capital and encompasses variables such as values, reciprocal norms, and collaboration. It can affect overall health
by creating health-related behavioral norms, controlling risky behaviors, social support, and creating unofficial information exchange tools. While the cognitive dimension of social capital is considered as a key factor in moving individuals to health action, the structural dimension is also effective as facilitator. Social support as a component of cognitive social capital promotes health through highlighting the sense of belonging and solidarity in individuals as well as enhancing the performance and self-esteem [12].

Our findings also showed that the structural dimension of social capital was correlated with the women's SRH. The growth of voluntary service associations and participation of women in those as a structural dimension of social capital can enhance the vertical and horizontal relationships between people and improve their health. The associations can build trust and partnership at the macro, middle and micro levels of community through warm and symmetrical relationships and creating material and emotional opportunities, and subsequently strengthening the social relations network [31].

According to our finding, education and employment were associated with SRH among the participants. These findings are consistent with those in Yousefi et al. study (2010) [32]. Previous studies showed that the mental health status of employees is better than non-employed, which is consistent with the results of the present study [33, 34]. According to Keyes and Shapiro (2004), attention to the effect of social context in health is an important issue which should be considered in healthcare and medical interventions [35]. Although Field (2006) has emphasized that the psychological approach to trust and control are apart from social environment and government policies [11], however, the general pattern of evidence such as the findings of our study and similar studies illustrate the positive association between social capital and health. Putnam discussed that social capital through social networks is related to health in four ways: first; social networks reduce anxiety through tangible benefits, second; networks reinforce the health measures, third; networks can better address the demand for health services, and fourth, social interaction and activation make the body's immune system more active [36].

Our study has two limitations that have to be considered when interpreting the findings. First; using a large sample size from four provinces resulting in more precise estimates. Second; a very high response rate (94%) along with a randomly selected sample decreased the possibility of selection bias. However, there would be a possibility of measurement bias, because of the self-reported nature of data gathering.

**Conclusion**

This study showed that there was a positive association between social capital and its dimensions with the SRH among women, although it was a relatively weak association. This might be due to the complex nature of health and its associated factors especially social capital. promote group activities through community-based voluntary associations can facilitate social participation, develop personal relationship networks and trust, strengthen emotional and social support, and ultimately reduce physical and mental stress and improve health among married women.

**Abbreviations**
Declarations

Ethics approval and consent to participate

At the start of each interview, the main study objectives were elucidated and informed consent was obtained. The study was approved by the ethics committee of Kermanshah University of Medical Sciences (approval number: IR.KUMS.REC.1398.014).

Consent for publication

Not applicable.

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Competing interests

There is no conflict of interest to be declared.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Authors' contributions

All authors of this manuscript contributed in the study design, data preparation, writing and critically reviewing multiple manuscript drafts. All authors have read and approve of the submission of the manuscript.

References

1. Szwarcwald CL, Souza-Júnior PRBd, Esteves MAP, Damacena GN, Viacava F. Socio-demographic determinants of self-rated health in Brazil. Cadernos de Saúde Pública. 2005;21:54–64.
2. Bjorner JB, Fayers P, Idler E. Self-rated health. Assessing quality of life 2005:309–323.
3. DeSalvo KB, Fisher WP, Tran K, Blosor N, Merrill W, Peabody J. Assessing measurement properties of two single-item general health measures. Qual Life Res. 2006;15(2):191–201.

4. Bennet L, Lindström M. Self-rated health and social capital in Iraqi immigrants to Sweden: The MEDIM population-based study. Scandinavian journal of public health. 2018;46(2):194–203.

5. Chuang Y-C, Chuang K-Y. Gender differences in relationships between social capital and individual smoking and drinking behavior in Taiwan. Soc Sci Med. 2008;67(8):1321–30.

6. Khezeli M, Hazavehei S-M-M, Ariapooran S, Ahmadi A, Soltanian A, Rezapur-Shahkolai F. Individual and social factors related to attempted suicide among women: A qualitative study from Iran. Health Care Women Int. 2019;40(3):295–313.

7. Abdollahpour I, Nedjat S, Noroozian M, Salimi Y, Majdzadeh R. Caregiver burden: the strongest predictor of self-rated health in caregivers of patients with dementia. J Geriatr Psychiatr Neurol. 2014;27(3):172–80.

8. Berry HL, Welsh JA. Social capital and health in Australia: an overview from the household, income and labour dynamics in Australia survey. Soc Sci Med. 2010;70(4):588–96.

9. Sujarwoto S, Tampubolon G. Mother's social capital and child health in Indonesia. Soc Sci Med. 2013;91:1–9.

10. Loch MR, Souza RKTd, Mesas AE, González AD, Rodriguez-Artalejo F. Association between social capital and self-perception of health in Brazilian adults. Revista de saúde publica. 2015;49:53.

11. Field J. Social Capital. Tehran: Saba Publication; 2006.

12. Rjabi Gilan N, Ghaeemi S, Reshadat S. The relationship between social capital and health-related quality of life among teachers. J Adv Med Biomed Res. 2013;21(88):95–107.

13. Tavakkol M, Maghsoodi S. Social capital and mental health: causative and interactive models and mechanisms. Social Welfare Quarterly. 2011;11(42):173–202.

14. Giddens A: Modernity and self-identity: Self and society in the late modern age: Stanford university press; 1991.

15. Kawachi I, Subramanian SV, Kim D: Social capital and health. In: Social capital and health. edn.: Springer; 2008: 1–26.

16. Organization WH: WHOQOL-BREF: introduction, administration, scoring and generic version of the assessment: field trial version, December 1996. In.: Geneva: World Health Organization; 1996.

17. Nahapiet J, Ghoshal S. Social capital, intellectual capital, and the organizational advantage. Academy of management review. 1998;23(2):242–66.

18. Khawaja M, Mowafi M. Cultural Capital and Self-Rated Health in Low Income Women: Evidence from the Urban Health Study, Beirut, Lebanon. J Urb Health. 2006;83(3):444–58.

19. Brown DC, Hummer RA, Hayward MD. The Importance of Spousal Education for the Self-Rated Health of Married Adults in the United States. Popul Res Policy Rev. 2014;33(1):127–51.

20. Eriksson M, Ng N. Changes in access to structural social capital and its influence on self-rated health over time for middle-aged men and women: a longitudinal study from northern Sweden. Soc Sci
21. Kobayashi T, Kawachi I, Iwase T, Suzuki E, Takao S. Individual-level social capital and self-rated health in Japan: an application of the Resource Generator. Soc Sci Med. 2013;85:32–7.

22. Pinillos-Franco S, Kawachi I. The relationship between social capital and self-rated health: A gendered analysis of 17 European countries. Soc Sci Med. 2018;219:30–5.

23. Kim D, Kawachi I. US state-level social capital and health-related quality of life: multilevel evidence of main, mediating, and modifying effects. Ann Epidemiol. 2007;17(4):258–69.

24. Amemiya A, Saito J, Saito M, Takagi D, Haseda M, Tani Y, Kondo K, Kondo N. Social capital and the improvement in functional ability among older people in Japan: a multilevel survival analysis using JAGES data. Int J Environ Res Public Health. 2019;16(8):1310.

25. Herzog AR, Ofstedal MB, Wheeler LM. Social engagement and its relationship to health. Clin Geriatr Med. 2002;18(3):593–609. ix.

26. Bahrami M, Amiri A, Montazeralfaraj R, Dehghan H. The relationship between social capital dimensions and perceived health in Yazd Urban society, 2013. Tolooebehidasht. 2016;15(3):67–77.

27. Chalabi M, Mobaraki M. Analysis of the relationship between social capital and crime at micro and macro levels. Journal of Iran Sociology. 2005;6(2):3–44.

28. Saei A, Rooshan T. Fuzzy analysis of political trust university professors. Journal of Iran Social Studies. 2013;7(2):59–86.

29. Giordano GN, Lindstrom M. The impact of changes in different aspects of social capital and material conditions on self-rated health over time: a longitudinal cohort study. Soc Sci Med. 2010;70(5):700–10.

30. Meng T, Chen H. A multilevel analysis of social capital and self-rated health: evidence from China. Health Place. 2014;27:38–44.

31. Chalabi M. Sociology discipline: Anatomy and theoretical analysis of the social order. Tehran: Ney publication(In Persian) 1996.

32. Yousefi A, Baratali M, Erfan A. The relationship between mental health, employment and having higher education among female students of Isfahan University of Medical Sciences. Iranian Journal of Medical Education. 2011;10(5):748–54.

33. Lee C: Women’s health: Psychological and social perspectives: Sage; 1998.

34. Arber S, Cooper H. Gender and inequalities in health across the lifecourse. Gender inequalities in health 2000:123–149.

35. Keyes CL, Shapiro AD. Social well-being in the United States: A descriptive epidemiology. How healthy are we. 2004;15(3):350–72.

36. Zahedi-Asl M, Farokhi J. The relationship between social capital wit quality of life in head of household resident in Tehran. Journal of Social Sciences. 2010;49:1–29.

Tables
Table 1: Characteristics of underlying variables in married women by social capital and SRH (n=1531)

| Variables          | Categories | N (%) | Mean (SD) | SRH (Mean (SD)) |
|--------------------|------------|-------|-----------|-----------------|
| Age groups         | <21        | 108 (7)| 100.62 (18.30) | 3.88 (0.745) |
|                    | 21-30      | 644 (42)| 97.75 (21.80) | 3.94 (0.679)  |
|                    | 31-40      | 447 (29.2) | 95.70 (24.72) | 3.87 (0.765)  |
|                    | 41-50      | 214 (14) | 97.08 (26.93) | 3.56 (0.888)  |
|                    | 51-60      | 69 (4.5)  | 102.42 (27.21) | 3.30 (0.828)  |
|                    | >60        | 51 (3.3)  | 102.00 (23.35) | 3.92 (0.812)  |
| P-value            |            | 1533 (100) | 0.092       | 0.001          |
| Education          | Sub-diploma| 297 (19.4) | 94.98 (27.69) | 3.49 (0.774)  |
|                    | Diploma    | 440 (28.7) | 97.56 (24.26) | 3.66 (0.783)  |
|                    | Undergraduate| 290 (18.9) | 96.32 (24.18) | 3.89 (0.709)  |
|                    | Bachelor   | 458 (29.9) | 99.64 (19.31) | 4.14 (0.615)  |
|                    | Master and above | 48 (3.1) | 102.72 (19.96) | 4.25 (0.975)  |
| P-value            |            | 1533 (100) | 0.036       | 0.001          |
| Occupation         | Housewife  | 1170 (76.3) | 97.62 (23.71) | 3.75 (0.745)  |
|                    | Freelance  | 166 (10.8) | 96.00 (23.23) | 3.90 (0.770)  |
|                    | Governmental| 180 (11.7) | 99.84 (22.57) | 4.28 (0.751)  |
|                    | Retired    | 17 (1.1)   | 89.41 (27.03) | 4.13 (0.990)  |
| P-value            |            | 1533 (100) | 0.217       | 0.001          |
| History of chronic disease | Yes | 147 (9.6) | 93.63 (29.10) | 3.02 (0.858)  |
|                    | No         | 1386 (90.4) | 98.03 (22.88) | 3.93 (0.706)  |
| P-value            |            | 1533 (100) | 0.031       | 0.001          |

Table 2: Mean and standard deviation of social capital dimensions and women’s SRH (n=1531)

| Variables          | (Mean (SD)) |
|--------------------|-------------|
| SRH                | (0.77) 3.83 |
| Overall Social Capital | (23.50) 97.66 |
| Structural Dimension |            |
| Network            | (3.62) 13.90 |
| communication      | (3.67) 14.02 |
| overall structural dimension | (7.01) 92.27 |
| Cognitive Dimension |            |
| collaboration      | (3.67) 14.02 |
| Values             | (2.61) 50.10 |
| overall cognitive dimension | (5.90) 24.5 |
| Relational Dimension |           |
| Mutual understanding| (3.69) 13.90 |
| trust              | (4.57) 17.21 |
| commitment         | (3.91) 14.08 |
| overall relational dimension | (10.35) 45.18 |
Table 3: Correlation between social capital dimensions and women's SRH (n=1531)

| Variables | Dimensions of Social Capital | Subscales of Social Capital Dimensions | SRH  | P-value |
|-----------|-----------------------------|----------------------------------------|------|---------|
| Social Capital | Structural Dimension | Network | 0.10 | <0.001 |
| | | communication | 0.11 | <0.001 |
| | | overall structural dimension | 0.10 | <0.001 |
| | Cognitive Dimension | collaboration | 0.11 | <0.001 |
| | | Values | 0.09 | <0.001 |
| | | overall cognitive dimension | 0.10 | <0.001 |
| | Relational Dimension | Mutual understanding | 0.11 | <0.001 |
| | | trust | 0.17 | <0.001 |
| | | commitment | 0.10 | <0.001 |
| | | overall relational dimension | 0.12 | <0.001 |
| | Overall Social Capital | | 0.11 | <0.001 |

Table 4: Multiple regression to determine the variables affecting the SRH in married women

| Variables | Categories | coefficient | P-value | 95% CI |
|-----------|------------|-------------|---------|--------|
| Age groups | <21 | Ref | | |
| | 21-30 | -0.15 | 0.04 | -0.006 | -0.29 |
| | 31-40 | -0.17 | 0.03 | -0.02 | -0.31 |
| | 41-50 | -0.37 | 0.001 | -0.20 | -0.54 |
| | 51-60 | -0.26 | 0.03 | -0.03 | -0.50 |
| | >60 | -0.11 | 0.40 | -0.14 | -0.35 |
| Educational level | Illiterate or primary school | Ref | | |
| Diploma | -0.02 | 0.71 | 0.14 | -0.09 |
| Undergraduate | -0.24 | 0.001 | 0.36 | 0.12 |
| Bachelor | 0.37 | 0.001 | 0.47 | 0.26 |
| Master and above | 0.43 | 0.002 | 0.71 | 0.16 |
| Occupation | Housewife | Ref | | |
| Freelance | 0.14 | 0.03 | 0.25 | 0.014 |
| Governmental | 0.32 | 0.001 | 0.44 | 0.20 |
| Retired | -0.59 | 0.006 | 1.00 | 0.17 |
| History of Chronic disease | Yes | 0.75 | 0.001 | 0.90 | 0.59 |
| Social Capital | 0.003 | 0.001 | 0.005 | -0.002 |