

Social Capital and Mental Health: Results from a Cross-Sectional Study in Bangladesh

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Abstract

This paper examines the relationship between social capital and mental health of the aging people in Bangladesh. A cross-sectional study was conducted in Madhabdi municipality and data were collected through face to face interview among the aging people. Mental health was measured by using General Health Questionnaire (GHQ-12). Bivariate analysis such as cross tabulation was applied to presentation of the data and chi-square test was applied to test the association between social capital dimensions and mental health. The chi-square test showed that all dimensions of social capital were related to mental health. Binary logistic regression model was applied to measure the effects of social capital on mental health. The results showed that the aging people who had low neighborhood cohesion, low social networks, low norms of reciprocity and low social trust were 1.967 (0.999-3.874), 1.909 (1.015-3.587), 2.302 (1.288-4.113) and 1.705 (.928-3.132) times more likely to say that they have poor mental health status. So, this study reveals that social capital was associated with mental health of the aging people in Bangladesh.

Keywords: social capital, social networks, trust, neighborhood cohesion, civic participations, norms of reciprocity, mental health

1. Introduction

There is increasing evidence that health experience is shaped not only individual genetics and life style but also a wide range of social, cultural, economic, political and environmental factors (Morgan, 2004). Social determinants now are attended to considerable factor for individual health by the researchers in general. Social capital is associated with many socio-economic outcomes even with health (Kawachi et al., 1999). Social capital is considered to link among the different health outcomes including, cardiovascular disease, obesity and diabetes, suicide and mortality rate, self-rated health, smoking behavior and hygienic practice (Welsh & Berry, 2009; Kawachi et al., 1999). Moreover, there is rising awareness that social capital is linked to mental health (De Silva et al., 2005). Social capital is describing the social relationships among the people of the societies or groups of the people (De Silva et al., 2005). Many scholars describe social capital in different ways. Bourdieu defined social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition-or in other words, to membership in a group-which provides each of its members with the backing of the collectively-owned capital, a 'credential' which entitles them to credit, in various senses of the word" (Bourdieu, 1986, pp. 248-249). He mainly focused the social networks which can be used for beneficiary outcomes. Coleman described social capital as "Social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: They all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure" (1990, p. 302). He described social capital as physical and human capital that facilitates for productive activity (Ottebjer, 2005).

Putnam (1995) defined social capital as "features of social organization, such as trust, norms and networks, that can improve the efficiency of society by facilitating coordinated actions" (1995, p. 167). His definition of social capital is largely used in public health. He distinguishes two kinds of social capital-bonding and bridging. Bonding social capital refers to relations within homogenous groups such as families or social or ethnic groups

and bridging social capital refers to relations between different groups, networks that are outward looking and encompass people across diverse social cleavages (Ottebjør, 2005).

Kawachi and Berkman (2000) identified that social capital may be helpful for health because it provides emotional support and acting as the source of self-esteem and mutual respect (Derose & Varda, 2009). Social network size is associated with lower risks for psychiatric hospitalization (Derose & Varda, 2009). Elderly people in Bangladesh have no formal security system. So, they are dependent on their spouse, daughter, son and daughter in law for emotional, practical or material support (Nilsson, 2006). On the other hand, due to rural urban migration and changes to life style, large families are broken down and it causes elderly people in Bangladesh in marginal position (Ahmed, 2005). So their health status is low in Bangladesh. Oldest people have the greater risk to lose their spouse, friends which make them more dependent on different types of social capital on society (Nyqvist et al., 2006). So they have more probability to have poor mental health. To the purpose of this study was to investigate the relationship between social capital and mental health among the aging people in Bangladesh.

1.1 Review of Literature

Social capital is related to children's mother mental health. Thuy and Berry (2013) investigated the relationship between social capital and children's mother mental health in Vietnam. They found that those mothers had high level of mental distress tended to have low levels of community participations. They also found that spending time with friends and neighborhoods were associated with better mental health of these mother. Social capital is not related only people's mental health but also related with wellbeing. Welsh and Berry (2009) analyzed the association between social capital and mental health and wellbeing in Australia. They found that social capital was related to mental health and subjective well-being. Their study demonstrated that social capital was affected to the male and female differently. Their study revealed that social capital was related to males' mental health and women's subjective well-being. Some study showed that social capital not directly effected on mental health. Mitchell (2002) considered social capital as a mediating variable among economic and environmental stressors and mental health. They found that bridging social capital was inversely related to mental health and bonding social capital was positively associated with mental health. By using multilevel modeling Hamano et al (2010), found that social capital was related to mental health in Japan. Their study revealed that both two types namely-cognitive and structural social capital at the ecological level influenced to mental health in this area. They suggested that promoting social capital may be helpful for enhancing mental health. Mental health is not only related to social capital but also related with economic hardship. People, lives in disadvantages area, are more suffering from mental health. Ahnquist et al. (2012) examined the relation between social capital and economic hardship on psychological distress in Sweden. They found that both economic hardship and low social capital (low social participations, low interpersonal trust, low institutional trust) were associated with poor psychological distress. By using synergy index, they also showed that when economic hardship and low social capital were combined, it enhanced the poor mental distress. In Bangladesh, social support is closely related with mental health. Islam and Iqbal (2008) they examined the effects of social support on mental health in Bangladesh. They found that mental health was lower who had more social support. So, social supports are important to improve people's mental health. Generally women and poor are suffering from mental disorder. De Silva et al. (2007) analyzed the relationship between social capital and mental health among the four low income countries as Peru, Ethiopia, Vietnam and India. They found that social capital was associated with common mental health disorder. Linking social capital helps to hospitalization due to mental disorder. Lofors and Sundquist (2007) found that there was a strong association between linking social capital and hospitalization due to depression or psychosis in Sweden. Poblete et al. (2008) were applied both qualitative and quantitative method to understand the relation between social capital and mental health. Their qualitative result showed that all components of social capital was important for mental health, But from quantitative study, they found that only social trust was associated with better mental health. So, they suggested that improving social trust in community level may enhance mental health.

2. Data and Methods

2.1 Research Design

This was a cross-sectional study. This study mainly showed the relationship between social capital and mental health only one point of time. This study mainly analyzed by using quantitative survey study.

2.2 Research Area and Location

Area lies under Madhobde Municipality were selected as my research area. Madhabdi is a municipality in Narsingdi District, Dhaka division, Bangladesh. This Municipality is famous for textile and industrial area.

2.3 Population of the Study

All aged population, aged 60 and above years old, were the population of this study. The current study selected the aging people because they were generally suffered from mental distress.

2.4 Sampling and Sample Size

Simple random sampling method was applied to select the respondents. There are 9 wards in Madhobde Municipality. At first time, ward no 2 and ward no 4 were randomly selected from this area. Then, aging people were selected from the national voter list of those two wards. Thereafter, a complete list of the aging people has created from those two wards. Among these wards, 450 aging people were selected by using random table. Sample size was determined by using this equation.

$$n = \frac{Nz^2 pq}{Nd^2 + Z^2 pq} \quad (\text{Islam, 2008, p. 139})$$

2.5 Data Collection Procedure

Social survey method was applied to collect the data. Closed-ended and open ended questions were included in the questionnaire and data was collected through face to face interviews. The questionnaire was divided into three sections. The first section was designed for collecting the data about aging peoples' demographic, social, economic and familial information in the study areas and the second section included aging peoples social capital related information and third section included the mental health related information.

2.6 Analytic Techniques

Data were analyzed by using SPSS software 20 (Statistical Package for Social Science). Social capital dimensions were measured by likert item scale which was not described in this paper. Then the all social capital dimensions score were summarized and dichotomized into high to low level. Cronbach's Alpha was applied to measuring the internal consistency reliability of the all social capital dimension's scale. Bivariate analysis as cross-tabulation was applied to presentation of the data and chi-square test was applied to check the association between social capital dimensions and mental health. Next, binary logistics regression was applied to measure the effects of social capital dimensions on mental health status of the aging people.

2.7 Reliability

Here, the internal consistency reliability of the neighborhood cohesion was 0.934 which was excellent. The internal consistency reliability of the social networks was 0.921 which was good. The internal consistency reliability of trust was 0.963 which was excellent. The internal consistency reliability of the norms of reciprocity was 0.922 which was excellent. The internal consistency reliability of the social support was 0.895 which was good. The internal consistency reliability of the civic participation was 0.816 which was good. The internal consistency of the General Health Questionnaire (GHQ-12) was found 0.789 which was acceptable. The internal consistency of the all social capital dimensions was good and standard.

2.8 Variables of the Study

Independent variables: Social capital was the independent variable. Here, social capital was measure by using six dimensions. Those dimensions were social networks, social trust, norms of reciprocity, neighborhood cohesion, social support, civic participations.

Dependent variable: Mental health was the dependent variable of the study. Mental health was measured by the 12 items of the General Health Questionnaire (GHQ-12). After that, mental health index was dichotomized to good mental health or poor mental health.

3. Results

3.1 Bivariate Analysis

Table 1. Relationship between social capital dimension and mental health

| Variable | Mental Health | | | | Total | |
|---|---------------|------|------|------|-------|--------|
| | Good | | Poor | | n | % |
| | n | % | n | % | | |
| Neighborhood social cohesion | | | | | | |
| High | 228 | 82.3 | 49 | 17.7 | 277 | 100.00 |
| Low | 31 | 49.2 | 32 | 50.8 | 63 | 100.00 |
| Total | 259 | 76.2 | 81 | 23.8 | 340 | 100.00 |
| $\chi^2 = 30.994, df=1, P \text{ value} < .000$ | | | | | | |
| Social trust | | | | | | |
| High | 201 | 80.7 | 48 | 19.3 | 249 | 100.00 |
| Low | 58 | 63.7 | 33 | 36.3 | 91 | 100.00 |
| Total | 259 | 76.2 | 81 | 23.8 | 340 | 100.00 |
| $\chi^2 = 10.596, df=1, P \text{ value} = .001$ | | | | | | |
| Social networks | | | | | | |
| High | 181 | 83.8 | 35 | 16.2 | 216 | 100.00 |
| Low | 78 | 62.9 | 46 | 37.1 | 124 | 100.00 |
| Total | 259 | 76.2 | 81 | 23.8 | 340 | 100.00 |
| $\chi^2 = 18.948, df=1, P \text{ value} < .000$ | | | | | | |
| Norms of Reciprocity | | | | | | |
| High | 180 | 84.9 | 32 | 15.1 | 212 | 100.00 |
| Low | 79 | 61.7 | 49 | 38.3 | 128 | 100.00 |
| Total | 259 | 76.2 | 81 | 23.8 | 340 | 100.00 |
| $\chi^2 = 23.644, df=1, P \text{ value} < .000$ | | | | | | |
| Social support | | | | | | |
| High | 164 | 80.4 | 40 | 19.6 | 204 | 100.00 |
| Low | 95 | 69.9 | 41 | 30.1 | 136 | 100.00 |
| Total | 259 | 76.2 | 81 | 23.8 | 340 | 100.00 |
| $\chi^2 = 4.994, df=1, P \text{ value} = .025$ | | | | | | |
| Civic participation | | | | | | |
| Low | 66 | 66.7 | 33 | 33.3 | 99 | 100.00 |
| High | 193 | 80.1 | 48 | 19.9 | 241 | 100.00 |
| Total | 259 | 76.2 | 81 | 23.8 | 340 | 100.00 |
| $\chi^2 = 6.960, df=1, P \text{ value} = .008$ | | | | | | |

1) Neighborhood social cohesion

The results shows that poor mental health status was lower (17.7%) among old people than who had high neighborhood social cohesion while poor mental health status was considerably higher (50.8%) among the old people who had low neighborhood cohesion. So, mental health status was high when the aging people had lower neighborhood social cohesion. The Chi-square test also showed that the association between neighborhood cohesion and mental health status was significant

2) Social networks

Social network plays a crucial role for the aging people's mental health. Poor mental health status was considerably lower (19.3%) among old people who had high social networks. The rate of poor mental health status was higher (36.3%) among the aging people who had low social networks. So, poor mental health status increases as the social network of the aging people decreases. The Chi-square test also showed that the association between social networks and mental health status was significant.

3) Norms of reciprocity

Norms of reciprocity was also associated with poor mental health status. The table shows that poor mental health status was considerably lower (15.1%) among old people who had high norms of reciprocity while poor mental health status was considerably higher (33.3%) among the old people who have low norms of reciprocity. So, mental health status decreases with the increases of norms of reciprocity. The Chi-square test also showed that the association between norms of reciprocity and mental health status was significant.

4) Social support

Social support plays an important role to the aging people's mental health. The result shows that poor mental health status was higher among aging people (26.0%) who had high social support compared to those (20.1%) who had low social support. The proportion of mental health status problem increases with the decreases of social support. The Chi-square test also showed that there was a strong association between social support and mental health status.

5) Social trust

Social trust was also associated with poor mental health status. Poor mental health status was considerably lower (19.3%) among old people who have high social trust while poor mental health status was considerably higher (36.3%) among the aging people who had high norms of reciprocity. The Chi-square test also showed that the association between social trust and mental health status was significant.

6) Civic participation

Civic participation is an important indicator of improving mental health status among aging people in Bangladesh. Poor mental health status was considerably lower (19.9%) among old people who have high participation and memberships. Poor mental health status is considerably higher (33.3%) among the aging people who had low civic participation. So, poor mental health increases as the civic participations of the aging people decreases. The Chi-square test also showed that the association between civic participation and mental health status was significant.

3.2 Multivariate Analysis

Table 2. Logistic regression analysis showing the odds ratio of the respondents by social capital dimension

| Variables | B | S.E. | Sig. | Odds ratio | 95% Lower | Conf. interval Higher |
|------------------------------|--------|------|------|------------|-----------|-----------------------|
| Neighborhood social cohesion | | | | | | |
| High(ref) | | | | | | |
| Low | .677 | .346 | .050 | 1.967 | .999 | 3.874 |
| Social networks | | | | | | |
| High(ref) | | | | | | |
| low | .646 | .322 | .045 | 1.908 | 1.015 | 3.587 |
| Social trust | | | | | | |
| High(ref) | | | | | | |
| low | .055 | .345 | .872 | 1.057 | .538 | 2.078 |
| Norms of reciprocity | | | | | | |
| High(ref) | | | | | | |
| Low | .834 | .296 | .005 | 2.302 | 1.288 | 4.113 |
| Social support | | | | | | |
| High(ref) | | | | | | |
| Low | .534 | .310 | .085 | 1.705 | .928 | 3.132 |
| Civic participation | | | | | | |
| High(ref) | | | | | | |
| Low | .103 | .318 | .746 | 1.109 | .595 | 2.067 |
| Constant | -2.404 | .280 | .000 | .090 | | |

Hosmer and Lemeshow goodness-of-fit test: =5.099; df=8; $p=0.747$

Ref=reference category

1) Neighborhood social cohesion

Neighborhood social cohesion was found statistically associated with mental health in bivariate analysis. Here, the multivariate analysis also showed the similar results. The logistic regression showed that the aging people who had low neighborhood social cohesion were 1.967 (0.999-3.874) times more likely to say that they had poor mental health status compared to the reference group who had high neighbored cohesion while other independent variables remain fixed.

2) Social networks

In multivariate analysis, the relationship between social networks and mental health status again found significant in logistic regression. The aging people who had low social networks were 1.909 (1.015-3.587) times more likely to say that they had poor mental health status compared to the reference group who had high social networks while other independent variables remain fixed.

3) Norms of reciprocity

The relation between norms of reciprocity and mental health also found significant in multivariate analysis. The logistic regression shows that the aging people who had low norms of reciprocity were 2.302 (1.288-4.113) times more likely to say that they had poor mental health status compared to the reference group who had high norms of reciprocity while other independent variables remain fixed.

4) Social support

Multivariate analysis showed the similar result that the association between social support and mental health status. The logistic regression shows that the aging people who had low social support were 1.705 (.928-3.132) times more likely to say that they had poor mental health status compared to the reference group who had high social support while other independent variables remain fixed.

4. Discussion and Conclusion

The result shows that all types of social capital were associated with mental health in bivariate analysis. But in multivariate analysis, not all but some of social capital dimensions were associated with mental health. Social trust and civic participations were not found significant at multivariate analysis.

This study shows that lower level neighborhood cohesion was associated with poor mental health. Lower level neighborhood cohesion was associated with poor health (Sun et al., 2009). So neighborhood social cohesion should be increased to improve mental health status (Mohnen, 2012). This study reveals that poorer level of social networks contributed to poorer mental health. From those social networks, aging people find emotional support from them. This support is most important for aging people's mental health. Moreover, social network is also important to health service utilization in the case of mental health (Maulik et al., 2009).

Norms of reciprocity were found to associate with mental health in this area. Civic participation was not found with associated with mental health to this area. Sun et al. (2009) found in China that social participations were not associated with self-rated health.

This finding is similar to Sun's study in China (Sun et al., 2009). The effects of civic participations are not more helpful for aging people's mental health (Sun et al., 2009). In Bangladesh, few aging people participate in formal groups or social activities. Some aging people participate in political group, but attending this group may not enhance mental health. Moreover, most of the aging people do not participate in cultural and sports groups. Social support was also found associated with mental health in this study. The people with have more social support, have the better mental health in Bangladesh (Islam, 2008). In Bangladesh health support programmes only target individual behavior. But it will give better success if the intervention included in the community level. To improve aging people's mental health boarder social context also need to be considered. This study reveals that social capital is a resource in the aging people. It is associated with aging people's mental health.

There are some limitations of the study. This is a cross sectional study. So causality cannot be established in present study. Besides, a small number of the sample (340) included in the study. To understand the effects of social capital on mental health status, a longitudinal study with large sample would give the better result. Moreover, social capital dimension was measured by likert type scaling those were summarizing and dichotomous by using scoring. Instead of scoring, an exploratory factor analysis may give more relievable results. In our study, we control the other socio-demographic variables. But those variables may also effects on aging people's mental health status. We suggest that with adjusting socio-demographic variables and by using multilevel modeling will give more reliable results while measuring social capital links to mental health. This study has also strength. It is the first study which shows the relation between social capital and mental health in Bangladesh among the aging people.

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