

## Predicting mental health based on social capital and organizational citizenship behavior in female nurses

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**Background:** Mental health is an essential requirement for any profession, especially nursing and plays an important role in improving positive psychological characteristics. Some variables related to mental health can be social capital and organizational citizenship behavior. Thus, the aim of this study was the prediction of mental health based on social capital and organizational citizenship behavior in female nurses.

**Methods:** This correlational cross-sectional study was carried out on 180 female nurses, selected via simple random sampling, of state hospital in the west of Mazandaran province, 2017. The questionnaires were short form of mental symptoms, social capital and organizational citizenship behavior. Data was analyzed by SPSS-19 software using Pearson correlation and multivariate regression with enter model methods ( $p \leq 0.01$ ).

**Results:** The average age of the participants was  $35.94 \pm 4.36$  years, most of them (90.56%) married and undergraduate education (80.56%). The results showed that social capital ( $r = -0.381$ ) and organizational citizenship behavior ( $r = -0.456$ ) have a negative and significant relationship with mental health in female nurses. Given that the high score in mental health questionnaire means low mental health, mental health in female nurses enhances by increasing social capital and organizational citizenship behavior. In addition, both social capital and organizational citizenship behavior variables could predict 25.4 percent of variance of mental health in female nurses and the share of organizational citizenship behavior was higher than social capital ( $p \leq 0.01$ ).

**Conclusion:** The results verified the role of social capital and organizational citizenship behavior in predicting mental health of nurses. Thus, officials should pay attention to the indications of social capital and organizational citizenship behavior to design and implement appropriate programs to improve the mental health of nurses.

**Keywords:** mental health, social capital, organizational citizenship behavior, female nurses.

## Introduction

The end-stage renal failure (ESRD) is an incurable condition, which is associated with more than 95% degradation of kidney tissue as well as an irreversible loss of renal function (1). The number of individuals affected by ESRD is rising by approximately 6% annually (2). About 25,000 of patients with chronic renal failure have been reported in Iran (3). Although kidney transplant has some benefits, numerous complications may cause many psychological and social problems for the patient (4). Mood disorders and anxiety are considered as the most common disorders before and after the kidney transplantation (5). Despite a successful transplant without any rejection, depression would be occurred due to the other side effects of the medications (6). Depression is the most common psychological problem among these patients (7). In the recent years, the prevalence of depression has been increased significantly in chronic diseases, especially chronic renal failure (8). According to the results of Rebecca's research (2006) on patients with chronic renal failure, it is stated that 36.7% of the participants had mood disorders, of which 9.6% suffered from major depressive disorder and 27.1% had mild depression disorders (9). Study of Afshar et al (2010) showed that 70% of patients undergoing hemodialysis treatment had some degree of depression and 26.7% suffered from severe depression (8). There are some controversial results among the conducted studies on the depression rate after kidney transplantation. The results of Szeifert study (2010) stated that the prevalence of depression in patients was 33% versus 22% in transplant recipients (10). Some studies have shown that the patients with transplantation have less depression than the patients with dialysis (11, 12). Furthermore, Dobbels (2008) reported that between 22%-39% of kidney transplant recipients had depressive symptoms and between 10-22% experienced mild to severe depression (13). While Prez et al (2008) mentioned that the depression rate among renal transplant patients one year after transplantation was higher (14). Kidney transplantation in 19% of patients leads to failure, and 11% of patients should turn to be treated with dialysis that this rate is twice in case of depression among the individuals (13). In the Novak study (2010), which was conducted among 840 kidney transplant patients, the depressed patients had a higher mortality rate than non-depressed ones, 21% versus 13%, respectively (15).

Treatment in ESRD cannot be considered as an actual aim; however, it is crucial to achieve the highest level of performance and the patient well-being in order to reach the ability to perform their daily activities (16). The kidney transplantation as a selective treatment for ESRD (17). brings high stress to both patients and their families even with its benefits (18). Post-transplant psychiatric disorders have negative impacts on the outcome of the treating patients with ESRD and their quality of life, which may lead to an increased rate of mortality (10, 18, 19). The researchers have been found that ESRD patients experience a wide range of symptoms of depression, including loss of pleasure, decreased or increased appetite, weight change, sleep patterns dysregulation, aggression, fatigue, lack of concentration, feelings of guilt or helplessness, suicidal thoughts or mental involvement with death (11). These psychological problems can affect the final trend of the disease. Thus, it is vital to consider the psychological problems of patients. Since nurses are more dealing with these patients rather than other health care workers, they can prevent depression and its severity by identifying them in order to help timely treatment. Disease prognosis and patient survival would be improved with the timely diagnosis and effective treatment of depression, quality of life. Therefore, the present study compares the patients' depression symptoms before, during and after kidney transplantation in Babol Shahid Beheshti Hospital.

## Methods

This cross-sectional study was a correlation study. The statistical population of this study was all female nurses working in the hospitals of western of Mazandaran (Imam Sajjad (AS) in Ramsar, Shahid Rajaei in Tonekabon and Ayatollah Taleghani in Chalous) in 2017. The size of the population was 327 nurses and the sample size was estimated 177 according to the table of Krejcie & Morgan (23). In this study, 180 nurses were selected through simple random sampling method, by providing the list and by means of random numbers. The inclusion criteria included working in general sectors, non-use of psychiatric drugs, and non-occurrence of stressful events such as divorce, death of loved ones, etc. in the past six months, and the exclusion criteria was the incompletely filled questionnaires. The method of conducting the research was that after coordinating with the hospitals and obtaining a letter of cooperation with the researcher, the

researcher went to the hospitals in person. After expressing the purpose of the research, the principle of secrecy and confidentiality of personal information and obtaining informed consent, they were asked to fill out the questionnaires correctly. The items do not have the correct and incorrect answer, and the best answer is the answer that reflects their real status.

A short form questionnaire of the psychological symptoms by Najjarian and Davoudi was used to measure mental health. This tool has 25 items that are graded using the five-point Likert scale (0 = no to 4 = extremely). The scores range from 0 to 100, and the highest score means less mental health. Simultaneous validity of the short form was confirmed using the long form (i.e., the 90-item of psychological symptoms by Derogatis et al.) and its reliability was reported by Cronbach's alpha method as 0.97 and 0.78 through a re-test method (24). In addition, Asgizzadeh Mahani et al. reported the reliability of the tools through Cronbach's alpha as 0.92 (25). In this study, the reliability was obtained as 0.88 through Cronbach's alpha.

The social capital questionnaire of Pajak was used including 12 items that are graded using the five-point Likert scale (1 = fully disagree to 5 = fully agree). The range of scores is between 12 and 60, and higher scores means more social capital. Instrument validity was confirmed with the concepts of generalized social trust, social tolerance, positive attitude toward outsiders and lack of bias toward the groups. Reliability was confirmed by Cronbach's alpha as 0.86 (26). Adibi Sadeh et al. also reported the reliability of the tool as 0.81 through Cronbach's alpha (27). In

## Results

In this study, 180 nurses with an average age of  $35.94 \pm 4.36$  years were present whose demographic characteristics are provided (Table 1).

Investigating the correlation and multiple regression presumptions indicated that Kolmogorov-Smirnov test results were not significant for any of the variables, thus the assumption of normality was confirmed. In addition, the Variance Inflation Factor was equal

this study, reliability was obtained by Cronbach's alpha as 0.79.

Smith et al.'s organizational citizenship behavior questionnaire, including 16 items, was used to measure organizational citizenship behavior. This tool are scored using the five-point Likert scale (1 = completely disagreeing to 5 = completely agree), so that the range of scores is between 16 and 80. The items 4, 8, and 10 are scored in reverse order, and the higher score means more organizational citizenship behavior. The reliability of the tool was reported in Cronbach's Alpha method to be 0.89 to 0.91 (28). In addition, Amini et al. reported the reliability of the tool through Cronbach's alpha method as 0.74 and confirmed the content validity of the tool with the opinion of the professors of the Faculty of Educational Sciences of Isfahan University (29). In this study, reliability was obtained by Cronbach's alpha as 0.83.

It should be noted that the questionnaires were first reviewed and then collected by the researcher. According to the request of the researcher, there were no incomplete or missing questionnaires regarding the accuracy of completing the questionnaires. The time required to complete the questionnaires for each person was about 15-20 minutes.

Data was analyzed in SPSS-19 software at a significant level of  $p \leq 0.01$ . The central tendency and dispersion indexes were used to describe the distribution of variables, and Pearson correlation and multiple regression were used with step-by-step model to test the statistical assumptions.

to 1.356, which was far from 10, so multiple linearity assumptions were rejected. In addition, the Durbin-Watson value was 1.809, which was far from 0 and 4, therefore, the assumption of solidarity correlation was also rejected. Therefore, the presumptions of using multiple regression exist. Pearson correlation coefficient was used to investigate the relationship between social capital and citizenship behavior with mental health in female nurses (Table 2).

Social capital ( $r = -0.381$ ) and organizational citizenship behavior ( $r = -0.465$ ) had a negative and significant correlation with mental health of female nurses ( $P \leq 0.01$ ). As the high score in the mental health questionnaire means low mental health and low score means having high mental health; therefore, by increasing social capital and organizational citizenship behavior, the mental

health of nurses was increased. Social capital also had a positive and significant relationship with organizational citizenship behavior ( $p \leq 0.01$ ) (Table 2). To determine the ability of social capital and organizational citizenship behavior, the multiple regression was used with a coherent model (Table 3) in predicting mental health of nurses.

**Table 1:** The demographic characteristics of female nurses in terms of educational, marital status and age range

| Demographic features    | classes   | Frequency | Percentage |
|-------------------------|-----------|-----------|------------|
| Educational status      | Associate | 24        | 13.33      |
|                         | Bachelor  | 145       | 80.56      |
|                         | Masters   | 11        | 6.11       |
| Marital status          | Married   | 163       | 90.56      |
|                         | Single    | 17        | 9.44       |
| Age range status (year) | 6-11      | 14        | 7.78       |
|                         | 12-16     | 116       | 64.44      |
|                         | 17-22     | 43        | 23.89      |
|                         | Above 22  | 7         | 3.89       |

**Table 2:** Mean, standard deviation and correlation matrix of social capital and organizational citizenship behavior with mental health in female nurses

|  | M      | SD    | 1        | 2        | 3 |
|--|--------|-------|----------|----------|---|
|  | 38.609 | .91   | 1        |          |   |
| 2- Organizational Citizenship Behavior | 53.316 | 10.03 | **0.197  | 1        |   |
| 3. Mental health                       | 29.413 | 23.44 | -**0.381 | -**0.465 | 1 |

\*\* $p < 0/01$

**Table 3:** Results of multiple regression analysis with simultaneous model for predicting mental health of female nurses based on social capital and organizational citizenship behavior

| Predictive variables                | R     | R <sup>2</sup> | F change | df  | Sig.  | B      | SE    | Beta   | T      | Sig.  |
|-------------------------------------|-------|----------------|----------|-----|-------|--------|-------|--------|--------|-------|
| Organizational Citizenship Behavior |       |                |          | 2   |       | -0.486 | 0.093 | -0.351 | -5.225 | 0.001 |
| Social capital                      | 0.504 | 0.254          | 9.316    | 177 | 0.001 | -0.257 | 0.071 | -0.294 | -3.619 | 0.001 |

The correlation coefficient of social capital and organizational citizenship behavior with mental health of female nurses was 0.504% and these two variables were significantly able to predict 25.4% of mental health changes in female nurses ( $P \leq 0.001$ ,  $R^2 = 0.254$ ). Also, according to the beta value, the organizational citizenship behavior variables ( $P \leq 0.001$ ,  $\beta = -0.351$ ) and social capital ( $P \leq 0.001$ ,  $\beta = -0.294$ ) had a negative and significant role in the prediction of health change of female nurses (Table 3).

### Discussion

The findings indicated that social capital and organizational citizenship behavior had a negative and significant relationship with mental health in female nurses and social capital variables and organizational citizenship behavior were able to significantly predict the mental health of female nurses that the share of organizational citizenship behavior was higher in this prediction.

The results showed that there was a negative and significant relationship between social capital and mental health of female nurses. According to the method of scoring the mental health questionnaire by increasing social capital, the level of mental health of nurses increases. This result is consistent with the results of Colton et al. (9), Verduin et al (10), Shoja et al (11) and Faraji Dehersorkhi et al. (12). Colton et al concluded that with increased social capital, mental health also increased (9). In another study, Faraji Dehersorkhi et al. reported that nurses' mental health improved with increased social capital (12). In explaining this finding, it can be said that in nurses, like other groups, social capital is a resource that is a legacy of social relationships and facilitates collective activities. These resources are created through socialization and include trust, participatory norms and networks of social ties, and the aggregation of individuals in a coherent and stable way within the group to achieve a common goal, which first increases the

efficiency and usefulness, and ultimately increases mental health. Moreover, social capital is the sum of actual or potential resources that are the result of durable networks of more or less institutionalized relationships within the groups. A network that enriches each member with collective capital support and deserves credit for them, and the more people are more credible, they are less stressed and stressed, which increases their mental health. And finally, having social capital requires the development of a spirit of trust, support (emotional, social, financial, etc.), cooperation and membership in social networks. As a result, as many people in this structure have higher social capital, in the sense that this variable as a set of valuable resources such as mutual trust, social, psychological and financial support, the existence of kinship networks, sense of belonging and affiliation and participation in various aspects of life. Socially for people, their mental health will be in a better position (30).

The results also showed that there was a significant negative relationship between organizational citizenship behavior and mental health of nurses. According to the method of scoring the mental health questionnaire, increasing the level of mental health of nurses increases the level of mental health of nurses. This result is consistent with the results of researches of Singh (17), Aarons & Sawitzky (18), Houshmand and Cheraghali (19) and Soleimani and Siri (20). While studying organizational citizenship behavior and its relationship with mental health, Singh concluded that organizational citizenship behavior had a significant correlation with mental health (19). In another study, Suleimani and Siri reported that with increased organizational citizenship behavior, mental health increases (20). Considering that the average of organizational citizenship behavior was higher than average, in explaining this finding, according to Wang et al. (15), it can be said that employees with high organizational citizenship behavior have beneficial behaviors outside of their formal role and duties, who conduct these behaviors without waiting for any expectations and rewards voluntarily, which indicates their desire for work and organization that their interest reduces stress and increases mental health. It can also be said that employees who work to help others beyond their roles and responsibilities and follow the policies adopted by the organization help improve the enrichment of the work environment and affect the effectiveness of the organization. As a result, if employees participate in organizational

citizenship behaviors and contribute to its improvement, the work situation becomes more effective and the tasks are smarter, which firstly leads to a positive perception of their role in the organization and ultimately increases the mental health of the employees of that organization.

Other results showed that social capital variables and organizational citizenship behavior were able to predict mental health in female nurses. This result in the field of social capital's ability to predict mental health that were consistent with the results of Berry (31), Faraji Dehersorkhi et al. (12) and Soltani and Jamali (32) and in terms of the ability of organizational citizenship behavior to predict mental health with the results of the research by Singh (17) and Mahdad et al. (33). Berry concluded that social capital was able to predict mental health, stress and happiness (31). In another study, Soltani and Jamali, reported that social capital could predict the mental health of students (32). Singh also concluded that organizational citizenship behavior was able to significantly predict the mental health of school teachers (17). In another study, Mahdad et al. reported that organizational citizenship behavior was able to predict psychological health (33). In explaining this finding, it can be said that individuals who carry out non-formal and non-existent behaviors voluntarily and without any expectations and rewards (individuals with organizational citizenship behavior) or those who effectively co-operate to achieve common goals, act together, support each other emotionally, socially, financially, and trust each other and help each other (people with social capital), have less psychological problems in their work and family life, face less problems and challenges, overcome them alone or with the help of others and mostly use proper and more consistent strategies, that these factors make social capital and organizational citizenship behavior able to predict meaningful mental health.

The most important limitation of this research was the use of self-reporting tools. Individuals may have no sufficient self-observation while completing such tools and do not respond the items responsibly. Another limitation is the limitation of the sample group to the nurses of the West of Mazandaran. Therefore, the generalization of the results to male nurses and even female nurses in other cities should be done cautiously.

## Conclusion

The results indicated that social capital and organizational citizenship behavior could predict

the mental health of nurses that the role of organizational citizenship behavior in predicting mental health of nurses was higher than social capital. So what plays a major role in their mental health is, first of all, how many people conduct voluntary and non-existent voluntary behaviors out of their formal role and responsibilities without waiting for any expectations and rewards. Therefore, in order to improve the mental health of nurses, especially female nurses, social capital and organizational citizenship behavior can be increased. It is also recommended that planners, authorities, and other stakeholders, according to the results of this research, develop mental health promotion programs through increased social capital and organizational citizenship behavior. They can also train professionals to carry out their own programs, and are advised and expert

psychologists trained to implement training programs developed in the form of workshops, especially for nurses with lower mental health, and thus they will make positive changes in mental health.

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