


# Difference Between Social Capital Caregivers of Schizophrenic Patients Who Have the Highest and Lowest Burden

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<p><b>Submitted:</b> 2023-01-06</p> <p><b>Revised:</b> 2023-03-20</p> <p><b>Accepted:</b> 2023-07-27</p> <p><b>Keywords:</b> Caregiver, Schizophrenia, Social Capital</p> <p><b>Copyright holder:</b> © Sari, Y. M., Sudiyanto, A., &amp; Herdaetha, A. (2023)</p> <p>This article is under: </p> <p><b>How to cite:</b> Sari, Y. M., Sudiyanto, A., &amp; Herdaetha, A. (2023). Difference Between Social Capital Caregivers of Schizophrenic Patients Who Have the Highest and Lowest Burden. <i>Bulletin of Counseling and Psychotherapy</i>, 5(2). <a href="https://doi.org/10.51214/00202305491000">https://doi.org/10.51214/00202305491000</a></p> <p><b>Published by:</b> Kuras Institute</p> <p><b>E-ISSN:</b> 2656-1050</p>	<p><b>ABSTRACT:</b> Mental disorders cause economic, social, physical, and even psychological burdens on the sufferer and the family. The role of the family as an informal nurse (caregiver) greatly influences the patient's healing. Long treatment and inhumanity of schizophrenic patients is a heavy burden and cause stress on the caregiver, so proper social capital is needed. This study aims to determine the difference between social capital in caregivers of schizophrenic patients with the highest load and caregivers of schizophrenic patients with the lowest gear at Rumah Sakit Jiwa Daerah (RSJD) dr. Arif Zainuddin Surakarta Hospital. This study is a retrospective study with a case-control approach, conducted on 100 caregivers of schizophrenic patients where 25 caregivers with the highest caregiver load as cases and 25 caregivers with the lowest social load as a control, using social capital questionnaire instruments and validated caregiver load questionnaires. Based on the study's data, normal and homogeneous social capital data distribution was obtained in cases and controls. For the normality test results, the sig level value was obtained <math>&gt; .05</math>, namely .084 and .200, and the homogeneity test obtained a sig level value of <math>&gt; .05</math>, namely .066. From the results of the T-test, a Sig (2-tailed) value of <math>&lt; .05</math> was obtained, which is .000. There is a significant difference between social capital in caregivers of schizophrenic patients with the highest burden (cases) and in caregivers of schizophrenic patients with the lowest load (control).</p>
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## INTRODUCTION

Mental disorders are one of the leading health disease problems, in addition to degenerative diseases, cancer, and accidents. They do not cause death and are transmitted to others. Still, the burden of people who experience mental disorders will increase because they feel that they are already unproductive and inefficient (Geller, 2011). In research (Bronfort et al., 2011) states that the results from this analysis produced only one significant main effect of the gender of the relative on supervision, with male relatives suffering from schizophrenia requiring higher supervision than female ones as their relative caregiver's responses indicate.

Schizophrenia is a severe mental disorder affecting about 1% of the population, typically emerging in late adolescence or early adulthood (Drahl, 2008). It is characterized by hallucinations, delusions, disorganized thinking, abnormal motor behavior, negative symptoms, and cognitive deficits (Patel et al., 2014). The exact cause is not fully understood, but a combination of genetic, environmental, and neurobiological factors is believed to contribute. Treatment usually involves antipsychotic medications, psychosocial interventions, and support services to manage symptoms

and improve daily functioning (Guo et al., 2010). Early detection and intervention are vital for better outcomes, and with proper support and treatment, individuals with schizophrenia can lead fulfilling lives (Lieberman. et al., 2002).

Also, research conducted by (Stanley et al., 2017) states that High perceived burden and lower QOL were seen in most caregivers. They also manifested high levels of anxiety and depression. Patient characteristics such as age, gender, symptoms, and illness duration did not influence caregivers' perceived burden. In contrast, positive and negative symptoms and the duration of illness were correlated with their QOL. Having a family with a mental disorder can be a source of stressors (Caqueo-Úrizar et al., 2011). Caring for people with mental disorders with all their behaviors causes economic, social, psychological, and physical burdens (Panayiotopoulos et al., 2013). The family is an informal caregiver for the patient (Afriyeni & Sartana, 2017). Families are unpaid, and caring jobs are not limited to working hours. With a significant burden, it is necessary to explore how families can build social capital and the role of social capital in caring for people with mental disorders (Valencia-Garcia et al., 2012).

Social capital is a resource that arises from the results of interactions within the community (Falk & Kilpatrick, 2000). The social capital component consists of structural and cognitive components (social networks, social contracts, and participation), namely individual perceptions of trust, social support, feelings of belonging, norms, values, attitudes, and reciprocity. The quality of social capital will be better if it is often utilized (Coleman, J.S Muttaqien, I., Widowatie, D. S., & Purwandari, 2008). Based on data from the outpatient poly of RSJD Surakarta, outpatient visit data for January 2020 – September 2020 was obtained as follows in table 1.

Based on data on outpatient visits of schizophrenia patients at Surakarta Hospital, it can be seen that there is a high prevalence of schizophrenia in Surakarta Hospital. This indicates a high prevalence of schizophrenia in that area. Various factors, such as the social environment, genetics, and psychological factors, can cause this (Kinderman, 2005). In this case, it is necessary to carry out efforts to prevent and treat schizophrenia early in patients with schizophrenia, both through a medical approach and a social approach, to reduce the prevalence rate and improve patients' quality of life.

Data on outpatient visits of schizophrenia patients at Rumah Sakit Jiwa Daerah (RSJD) dr. Arif Zainuddin Surakarta can also provide information about the risk factors contributing to the disease's development. Some risk factors include using certain drugs, excessive anxiety, stress, trauma, and sleep disturbances (Die, T, 2013). Therefore, it is necessary to carry out prevention and early treatment of these risk factors to reduce the risk of developing schizophrenia.

Data on outpatient visits of schizophrenic patients at the Surakarta Hospital also show the critical role of the family and environment in patient care. The family and the environment around the patient can provide the social and emotional support that schizophrenic patients need. Therefore, it is necessary to take a more holistic approach to treating schizophrenia patients, which involves the patient's family and environment.

Data on outpatient visits of schizophrenia patients at Surakarta Hospital can also be the basis for developing more integrated mental health services in the region. This can improve accessibility and quality of care for schizophrenic patients, thereby reducing the number of visits to the Surakarta Hospital and improving patients' quality of life.

To improve the quality of life of schizophrenic patients, it is necessary to carry out prevention efforts, early treatment, and the development of more integrated mental health services. This can help reduce the prevalence rate and the number of outpatient visits of schizophrenia patients at Rumah Sakit Jiwa Daerah (RSJD) dr. Arif Zainuddin Surakarta, as well as improve the welfare of patients and their families.

## Rational of Study

This research was conducted because the social capital of caregivers of schizophrenic patients has a vital role in influencing the success of treatment and recovery of patients. Therefore, it is essential to know the differences in the social capital of caregivers of schizophrenic patients with the highest and lowest burdens in Surakarta Hospital. The scientific sources used in this research include scientific journals and reference books on schizophrenia, social capital, patient care, and factors that influence treatment success. Some of the experts and experts used as a reference in this study, among others:

dr. Retno Pudjiastuti, Sp. KJ (K) is a psychiatrist with experience treating schizophrenia patients.

Prof. Robert D. Putnam, a sociologist known for his work on social capital and its relationship to treatment success.

Dr. Vikram Patel, a global mental health expert who studies the critical role of family and community in caring for patients with mental disorders.

Dr. Alan Rosen, a psychiatrist knowledgeable about the factors influencing treatment success in schizophrenic patients.

Concerning the scientific sources and experts above, this research is expected to contribute to developing more integrated and holistic mental health services, which involve the family and the environment around the patient in the care of schizophrenia patients at Surakarta Hospital.

## Objectives

This study aimed to determine differences in the social capital of caregivers of schizophrenic patients who had the highest and lowest burdens in Surakarta Hospital. The specific objectives of this study were to determine the factors that influence the social capital of caregivers of schizophrenic patients in Surakarta Hospital, to find out the differences in the social capital of caregivers of schizophrenic patients who have the highest and lowest burden in Surakarta Hospital, and provide recommendations for mental health services in Surakarta Hospital. in increasing the social capital of caregivers of schizophrenic patients. With this research, it is hoped that it can provide helpful information for health workers and decision-makers at Surakarta Hospital in improving mental health services and care for schizophrenic patients and contribute to the development of science and mental health research globally.

## METHODS

### Design

The research design used in this study was a case-control or control case design with a retrospective approach. In this study, the cases were caregivers of schizophrenic patients with the

Table 1. Outpatient Visit Data for Schizophren Patients at RSJD Surakarta January - September 2020

-	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
F 20	14	10	6	2	2	5	207	5	12
F 20.0	226	242	243	236	175	219	0	190	206
F 20.1	57	29	33	29	25	30	27	17	22
F 20.2	5	1	1	1	3	1	2	2	0
F 20.3	950	699	827	888	723	871	1063	1184	1172
F 20.4	3	0	0	0	1	0	0	0	0
F 20.5	329	354	354	292	205	257	258	224	159
F 20.6	0	0	0	0	0	0	0	0	0
F 20.7	0	0	0	0	0	0	0	0	0
F 20.8	149	186	180	176	129	143	131	104	114
F 20.9	1	1	1	0	0	0	0	1	1
Total Visit	1734	1522	1645	1624	1263	1526	1688	1727	1686

highest burden, and the controls were caregivers of schizophrenic patients with the lowest burden. In a retrospective approach, data were collected from medical records and interviews with caregivers of schizophrenic patients.

The advantages of a case-control design with a retrospective approach are the efficiency and speed of data collection. Researchers can collect data before the same event or condition occurs in the population. However, this design has areas for improvement, namely the limited information available in medical records and limitations in evaluating causality between the variables studied.

This study chose a case-control design with a retrospective approach because it provides convenience and speed in collecting data on populations relevant to the research objectives. However, the researcher must pay attention to the existing limitations and carefully analyze the causal relationship between the variables studied, see figure 1.

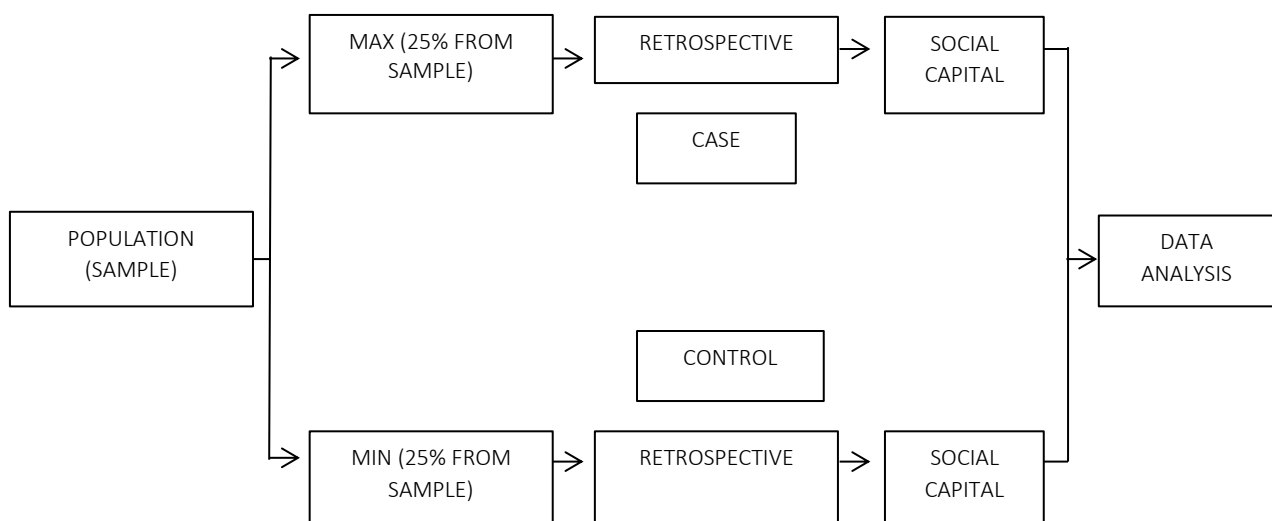


Figure 1. Research Design

## Participant

Participants in this study involved all caregivers of schizophrenia patients who visited the Surakarta Hospital in November 2020 and met the inclusion criteria. The sample size was determined as many as 100 participants, selected using purposive sampling, which allows researchers to select participants based on certain considerations. Of the total sample size, 25% or 25 participants were selected as cases, representing caregivers with the highest caregiver burden. Meanwhile, 25% or 25 other participants were selected as controls, representing caregivers with the lowest caregiver burden. This sample size was determined through careful calculations by researchers, in accordance with the recommendations for sample selection.

The sampling criteria for this study consisted of both inclusion and exclusion criteria. The inclusion criteria required that participants be caregivers of outpatient poly patients diagnosed with schizophrenia, between the ages of 20-60, who visited RSJD Surakarta's mental poly in November 2020, lived in the same house as the patient, and could read and write. On the other hand, participants who had a mental disorder or severe health problems were excluded from the study. These criteria were carefully selected to ensure that the study focused solely on caregivers of schizophrenic patients and to minimize any potential confounding variables that could affect the study's results.

## Procedures

The research was conducted at RSJD Surakarta, Indonesia, using a case-control design with a retrospective approach. The participants included caregivers of outpatient poly patients diagnosed with schizophrenia who visited RSJD Surakarta's mental poly in November 2020 and met the inclusion criteria. The sampling was carried out using purposive sampling, and the sample size was determined to be 100 participants, with 25 cases and 25 controls representing caregivers with the highest and lowest caregiver load, respectively. The study collected data using a structured questionnaire, which consisted of three sections: demographic characteristics, caregiver burden, and social capital. The data obtained were analyzed using descriptive statistics, such as frequencies and percentages, as well as inferential statistics, such as t-tests and chi-square tests, to identify any differences in social capital between caregivers with the highest and lowest caregiver load. Ethics approval was obtained from the ethical committee of RSJD Surakarta, and informed consent was obtained from all participants before the data collection process. The study's findings were reported using tables and graphs, and the results were discussed in light of the research questions and objectives.

## Instruments

In this study the variable that was measured was the social capital of caregivers of schizophrenic patients. Social capital is a concept known as the strength of social relations in society that can assist individuals in obtaining the resources they need (Troy et al., 2005). Social capital includes norms, values, and social relations that exist in society (Kilpatrick et al., 2003). The measurement of social capital in this study was carried out using the social capital scale developed by (Putnam et al., 1993) which consists of three dimensions, namely participation in organizations, social networks, and trust. This scale has been adapted and tested for validity and reliability by previous researchers and declared suitable for use in the Indonesian population.

On the dimension of participation in the organization, measurement is done by measuring how often caregivers are involved in organizational activities in their surroundings. On the social network dimension, measurement is done by measuring how broad and complex the caregiver's social network is with the surrounding environment (Faber & Wasserman, 2002). Whereas on the trust dimension, measurement is done by measuring how high the caregiver's level of trust is in the surrounding environment.

The measurement of social capital variables in this study is important to determine the extent to which caregiver social capital influences the burden of caring for schizophrenic patients. Measuring social capital variables using the adapted social capital scale can provide a clear picture of the level of social capital of caregivers of schizophrenic patients. In addition, by using a scale that has been tested for validity and reliability, it can increase confidence in the research results obtained.

## Data Analysis

The collected data were analyzed using descriptive and inferential statistics. The descriptive statistics used in the analysis included frequency distributions, percentages, means, and standard deviations. Meanwhile, inferential statistics such as the t-test and chi-square test were used to determine the differences in social capital between caregivers with the highest and lowest caregiver load. The t-test was used to determine the mean differences in social capital scores between the two groups, while the chi-square test was used to identify any significant associations between social capital and caregiver load. The significance level was set at  $p < 0.05$ . Furthermore, data were analyzed using statistical software such as SPSS (Statistical Package for the Social Sciences) version 23. The results of the data analysis were presented in the form of tables and graphs to provide a clear understanding of the findings. Finally, the results were discussed in light of the study's objectives,

research questions, and existing literature in the field of social capital among caregivers of schizophrenic patients.

## RESULTS AND DISCUSSION

### Results

The characteristics of the respondents are the variety of backgrounds that the respondents themselves have. This characteristic is to see what kind of background respondents have in this study the respondent's background is focused on gender, education, economy and employment see the table below. The relationship of respondents' characteristics to *caregiver* load can be seen in table 6.

### Social Capital Against Caregiver Burden

In this study to see whether or not there is a difference in the social capital of *caregivers* with the highest and lowest loads, an unpaired T test is used to conduct an unpaired T test see table 9, it is necessary to do a normality test and a homogeneity test see table 7 and 8.

### Discussion

This research is quantitative where the data produced will be in the form of numbers. An analysis was carried out using SPSS 23 software from the data obtained. This study aims to analyze the difference in social capital against the highest and lowest caregiver burden of schizophrenic patients. With the objectives based, data was collected with a questionnaire of 100 caregivers of outpatient schizophrenic patients measured by their caregiver load, 25 caregivers with the highest caregiver load were made cases and 25 caregivers with the lowest caregiver load were taken into control. The results of the study will be described in this chapter.

Based on Table 4.4 above, this study used respondents as many as 25 cases and 25 control people, from the selected sample when viewed from the overall income of the sample who did not earn as many as 20 people (40%), less than 500 thousand 14 people (28%), 500 thousand to less than 1 million 12 people (24%) and more equal to 1 million 4 people (8%). In the case of non-earning as many as 17 people (68%), less than 500 thousand 6 people (24%), 500 thousand to less than 1 million 2 people (8%) and nothing more equal to 1 million. In the control of non-earning as many as 3 people (12%), less than 500 thousand 8 people (32%), 500 thousand to less than 1 million 10 people (40%) and more equal to 1 million as many as 4 people (16%). Based on the results of data analysis with Chi Square, a significancy value of  $p = .000$  was obtained, based on this value  $p < .05$ , it can be said that income is related to caregiver's expenses.

After the data normality test is carried out, a homogeneity test is carried out to determine the data distribution. The normality test of social capital data is carried out as one of the requirements for the unpaired T test. The results of the normality test can be seen in table 4.6, based on the table can be seen the distribution of homogeneous distributed data and meet the homogeneity test because the *sig* level value  $> .05$ , which is .066.

After the normal distributed normality test and the homogeneous distributed homogeneity test, an unpaired T test is performed. In table 4.7, it can be seen that the average value (mean) of social capital in the case is 94.2 and the average value (mean) of social capital in the control is 77.36 so the average value of social capital in the case (highest caregiver load) is lower than the average value of social capital in the control (lowest caregiver load). From table 4.6, a *Sig (2-tailed)* value of  $< .05$  is .000, so there is a significant difference between social capital at the highest caregiver load of schizophrenic patients (cases) and social capital at the lowest caregiver load of schizophrenic patients (control).

Based on the results of the study, it can be obtained characteristics of outpatient poly caregivers for schizophrenic patients. In terms of gender, the overall sample of female sex was 22

Table 2. Gender Characteristics

Gender	Caregiver Load		Total
	Highest Load (Case)	Lowest Load (Control)	
Woman	15 60.0%	7 28.0%	22 44.0%
Man	10 40.0%	18 72.0%	28 56.0%
Total	25	25	50

Table 3. Characteristics of Education

Education	Caregiver Load		Total
	Highest Load (Case)	Lowest Load (Control)	
Did Not Finish	9 36.0%	8 32.0%	17 34.0%
Elementary School	12 48.0%	8 32.0%	20 40.0%
Junior High School	3 12.0%	4 16.0%	7 14.0%
Senior High School	1 4.0%	2 8.0%	3 6.0%
Diploma	0 0.0%	1 4.0%	1 2.0%
Undergraduate	0 0.0%	1 4.0%	1 2.0%
Postgraduate	0 0.0%	1 4.0%	1 2.0%
Total	25 100.0%	25 100.0%	50 100.0%

Table 4. Job Characteristics

Work	Caregiver Load		Total
	Highest Load (Case)	Lowest Load (Control)	
Not Working/Housewives	17 68.0%	6 24.0%	23 46.0%
Work	8 32.0%	19 76.0%	27 54.0%
Total	25 100.0%	25 100.0%	50 100.0%

Table 5. Learning Characteristics

Income	Caregiver Load		Total
	Highest Load (Case)	Lowest Load (Control)	
No Income	17 68.0%	3 12.0%	20 40.0%
Less than 500 thousand	6 24.0%	8 32.0%	14 28.0%
500 thousand To Less 1 million	2 8.0%	10 40.0%	12 24.0%
More Equal to 1 million	0 0.0%	4 16.0%	4 8.0%
Total	25 100.0%	25 100.0%	50 100.0%

people (44%) and 28 men (56%). In the case there were 15 women (60%) and 10 men (40%), in the control there were 7 women (28%) and men as many as 18 people (72%). In terms of education as a whole, there were 17 people who did not finish elementary school (34%), 20 people who graduated from elementary school (40%), 7 people who graduated from junior high school (14%), 3 people who graduated from high school (6%), 1 person who graduated from Diploma (D1/D2/D3/D4) (2%), 1

Table 6. Relationship of Respondent Characteristics with caregiver load

Characteristics of Respondents	p
Gender	p = 0.023
Education	p = 0.082
Employment	p = 0.002
Income	p = 0.000

Table 7. Normality Test and Homogeneity Test

		p	Information
Normality Test	Case	.084 (> .005)	Normal Distributed
	Control	.200 (> .005)	Normal Distributed
Homogeneity Test	Sig Levene's Test	.066 (> .005)	Homogeneously Distributed

Table 8. Result T Test

Social Capital	t	SD	Df	p	MD	Lower	Upper
	25.888	14.98665	10	.000	16.840	51.8448	61.6097

person who graduated from S1 (2%) and 1 person who graduated from Postgraduate (S2 / S3) (2%). In the case of 9 people who did not finish elementary school (36%), 12 people finished elementary school (48%), 3 people finished junior high school (12%), 1 person graduated from high school (4%), none of them graduated Diploma (D1/D2/D3/D4), Undergraduate (S1) and Postgraduate (S2/S3), in the control of 8 people who did not finish elementary school (32%), 8 people finished elementary school (32%), 4 people finished junior high school (16%), 2 people finished high school (8%), 1 person graduated from Diploma (D1/D2/D3/D4) (4%), 1 person graduated from Undergraduate (S1) (4%) and 1 person graduated from Postgraduate (S2/S3) (4%). Judging from the overall occupation, the sample who worked was 27 people (54%) and those who were not working or housewives were 23 people (46%). In the case of working as many as 8 people (32%) and those who are not working or housewives as many as 17 people (68%). In the control who worked as many as 19 people (76 %) and those who did not work or housewives as many as 6 people (24%).

Judging from the overall income of the sample who did not earn as many as 20 people (40%), less than 500 thousand 14 people (28%), 500 thousand to less than 1 million 12 people (24%) and more equal to 1 million 4 people (8%). In the case of non-earning as many as 17 people (68%), less than 500 thousand 6 people (24%), 500 thousand to less than 1 million 2 people (8%) and nothing more equal to 1 million. In the control of non-earning as many as 3 people (12%), less than 500 thousand 8 people (32%), 500 thousand to less than 1 million 10 people (40%) and more equal to 1 million as many as 4 people (16%).

There was a significant relationship between caregiver load and sex ( $p = .023$ ), it can be seen that in cases where the highest caregiver load there were more female caregivers than men and vice versa in controls where the lowest caregiver load was more male caregivers. There is a significant relationship between caregiver burden and caregiver work ( $p = .002$ ), it can be seen that in cases where caregiver load is highest there are more caregivers who are not working/housewives than those who work and vice versa in control where the burden of the lowest caregiver is more caregivers working. There is a significant relationship between caregiver expense and caregiver income  $r$  ( $p = .000$ ), it can be seen that in cases where caregiver burden is highest there are more caregivers who do not earn otherwise in control where the lowest caregiver load is less caregiver who earns. Based on the data from the study, the distribution of normal and homogeneous social capital data was obtained in cases and controls.



For the normality test results, the sig level value was obtained  $> .005$ , namely .084 and .200 and the homogeneity test obtained a sig level value of  $> .005$ , namely 0.066. From the results of the T test, a Sig (2-tailed) value of  $< .005$  was obtained, namely .000, so there was a significant difference between social capital at the highest caregiver load of schizophrenic patients (cases) and social capital at the lowest caregiver load of schizophrenic patients (control). There was a significant difference in social capital in caregivers of schizophrenic patients with the highest burden (case) and lowest burden (control) where the average value (mean) of social capital in the case was 94.2 and the average value (mean) of social capital in the control was 77.36 so the average value of social capital in the case (the highest caregiver load) was lower than the average value of social capital on the control (caregiver load lowest).

The findings of this study have several implications for the field of mental health care. Firstly, the study highlights the importance of addressing the burden experienced by caregivers of schizophrenic patients, especially those with a higher caregiver load. Healthcare providers need to develop and implement effective strategies to support caregivers (Ferrell et al., 2013), such as providing counseling services (Kazdin & Rabbitt, 2013), respite care (Jardim & Pakenham, 2010), and educational programs to improve their coping mechanisms and reduce the burden they experience (Hoffman et al., 2007). Secondly, the study shows that social capital plays a crucial role in mitigating the caregiver burden, indicating the need for interventions that focus on improving social support among caregivers of schizophrenic patients (Kate et al., 2013). Healthcare providers can promote the development of social networks and encourage participation in social activities to enhance social capital and improve the well-being of caregivers (Lewis et al., 2013). Finally, the study underscores the need for more research in this area to further explore the relationship between social capital and caregiver burden and to identify effective interventions that can enhance social support and reduce caregiver burden (Rodakowski, 2012). The findings of this study can inform the development of interventions that are tailored to the unique needs of caregivers of schizophrenic patients and can ultimately improve the quality of care provided to this vulnerable population.

### Implication

The study emphasizes the crucial need to address and support the caregivers of individuals with schizophrenia, particularly those who have a higher caregiver load. Caring for someone with schizophrenia can be emotionally and physically demanding, leading to increased stress and burden on caregivers. Therefore, mental health care providers should develop and implement targeted interventions, respite care programs, and support groups to help alleviate the burden experienced by caregivers. By providing adequate support to caregivers, mental health professionals can improve the overall well-being of both the patients and their caregivers, enhancing the quality of care and ultimately leading to better outcomes for individuals with schizophrenia.

### Limitation and Future Research

There are several limitations and strengths of this study that should be considered when interpreting the results. One of the strengths of this study is the use of a case-control design, which allows for the comparison of caregivers with the highest and lowest caregiver loads, minimizing the potential confounding effects of other factors. Additionally, the use of validated instruments to measure social capital and caregiver burden enhances the validity of the findings. Another strength is the sample size, which is large enough to provide adequate statistical power for the analyses conducted.

However, there are several limitations to this study that should be noted. Firstly, the study was conducted in a single hospital setting, limiting the generalizability of the findings to other contexts.

Secondly, the study relied on self-reported data, which may be subject to social desirability bias or other reporting biases. Additionally, the study did not consider other factors that may contribute to caregiver burden, such as the severity of the patient's illness, the caregiver's financial situation, or their social support networks. Finally, the study used a retrospective approach, which may introduce recall bias and limit the ability to establish causality.

Overall, while this study has several limitations, the use of a case-control design, validated instruments, and a large sample size enhances the validity and reliability of the findings. However, future research should address the limitations of this study by using a prospective approach, considering other factors that may contribute to caregiver burden, and conducting studies in different settings to enhance generalizability.

## CONCLUSION

There is a significant difference in social capital between caregivers of schizophrenic patients with the highest burden (cases) and caregivers of schizophrenic patients with the lowest burden (control). This finding suggests that the burden experienced by caregivers of schizophrenic patients has a considerable impact on their social capital. Caregivers in the "cases" group may face limitations in accessing social support, which can affect their ability to interact and engage within their community. Conversely, caregivers in the "control" group may have more social support and resources to assist them in their caregiving responsibilities and social interactions. These results underscore the importance of providing support and understanding to caregivers of schizophrenic patients, especially those experiencing higher burdens, to improve their quality of life and social well-being. However, it is essential to interpret these findings cautiously, and further research is needed to identify the causal factors contributing to this difference.

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## AUTHOR CONTRIBUTION STATEMENT

All authors have read and approved the final version of the manuscript.

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