Resilience and Perceived Social support among Family Caregivers of Patients with Schizophrenia

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Abstract

Background: Psychological distress and burden among family caregivers of patients with schizophrenia can be mediated by resilience and perceived social support from family members, friends, and other significant caregivers. These are integral to bring positive changes in recovery and adaptation of family caregivers. Those reduce stress characteristics, also improve quality of life and quality of care provided for patients by family caregivers. **Aim:** This study aimed to determine the relationship between level of resilience and type of perceived social support among family caregivers of patients with schizophrenia. **Design:** A descriptive correlational design was used in this study. **Setting:** The study was conducted at Elmaamoura Hospital for Psychiatric Medicine in Alexandria, Egypt. **Subjects:** Subjects of this study consisted of 200 family caregivers of patients with schizophrenia. **Tools:** Three tools were used to collect necessary data namely a socio-demographic structured interview schedule, Connor-Davidson Resilience Scale (CD-RISC-10) and the Multidimensional Scale of Perceived Social Support (MSPSS). **Results:** Among the studied caregivers 76% had low level of resilience and most of the caregivers 82.5% had moderate perceived social support. A statistically significant positive relationship was found between resilience and total score of perceived social support & its three subscales (family social support, important people social support and friends social support). On further analysis using stepwise multiple regression, the study revealed that family social support emerged as the first predictor of resilience. **Conclusion:** It can be concluded that most of the studied patients had low level of resilience and moderate perceived social support. Moreover, perceived social support is related to and can predict more resilience among family caregivers.

Keywords: Resilience, Perceived Social support, Family caregivers, Schizophrenia.

Introduction

Schizophrenia is one of the chronic mental illnesses that impose distress and psychological burden on family caregivers **(Bademli et al, 2018)**. Family caregivers of patients with schizophrenia have very important role in the treatment and recovery process of their patients. In addition to pharmacological treatment, the quality of care given by family caregivers is directly related to patients' functioning **(Magliano et al, 2007)**. The caregivers' responsibility in the care provision for their patients has increased in the past decades. This is mainly due to the move toward community care and deinstitutionalization **(Kohn-Wood & Wilson, 2005, Wynaden et al, 2006)**.

The impact of caregiving on caregivers is significant and a directly affect the quality of care they provide **(Magliano et al., 2007)**. Family caregivers usually experience significant stress in caring for the patients. They are responsible for meeting psychological, physical, financial, and social needs of their patients in addition to their own personal needs. This has led to great burden on family caregivers which can compromise their own health and quality of life. It can also impair the functioning of the family as often the whole family is directly or indirectly involved in the care process **(Chan, 2011, Kate et al, 2013, Hsiao & Tsai, 2015)** . Burden also includes environmental burden and is associated with stigma of mental illness and social isolation by neighbors and other acquaintances **(Lögdberg et al, 2004)**. Family caregivers are often

confronting restrictions in their social activities including manifest social networks reduction. They may remain isolated in their homes with few social contacts. These burdens may also be due to their caring role along with insufficient social support or ineffective coping strategies, which can affect their quality of life and biopsychosocial integrity **(Kuipers, 1993, Thara et al, 2003, Adelman et al, 2014)**. In this respect, if family caregivers are resilient and have adequate perceived social support, they can better cope with the burden associated with care provision. This is also essential for providing proper care and social support to patients and for ensuring the continuity of care **(Walton-Moss et al, 2005, Caqueo-Urízar et al, 2009)**.

Resilience is defined as "a process of effectively negotiating, adapting to, and managing significant life stressors" **(Wright et al, 2013)**. Resilience also reflects one's inner strength or ability to challenge various adversities to survive the day to- day burden of caring. Accordingly, lower levels of resilience among family caregivers contribute to greater psychological distress **(Connor & Davidson, 2003, Chen et al, 2016)**. In this respect, resilience implies the ability of family caregivers to survive and grow to decide what they should do and the increase ability to take care of their patients **(Walker et al, 2017, Gooding et al, 2019)**.

Resilience is directly influenced by negative life events. In general, the resilience levels of an individual are not influenced by changes in life, but mainly by the number of psychological events perceived as bad by the individual. The stressful situations experienced by the family caregivers are the motivating factor for them to use their mental fortitude to gain strength, which is called resilience **(Henry et al, 2015)**. The concept of resilience among family caregivers allows them to consider healthy family functions in difficult circumstances. While some families are disintegrated in the face of chronic stress or crisis, it is incredible that some others can manage such circumstances in a more competent and resilient manner. Resilience among family caregivers should be evaluated in terms of family function, socio-cultural structure, and life processes **(Walsh, 2016)**.

Accordingly. family caregivers can be helped to regain their resilience through structures such as family support groups, community resources and social support **(Bergström et al, 2015, Walsh, 2016)**. Social support is defined as an important factor in resilience. It is also considered as a contributing factor in counteracting the negative outcomes of stress. Social support is found in relationships and interactions between individuals, families, peer groups and larger social networks **(Wang et al, 2020)**. The ecological aspect of social support focuses on the transactional nature of family caregivers - external relationships, understanding that different variables act as protective or risk factors for the capacity of a family to adapt to challenges **(Chen & Greenberg, 2004)**.

Perceived social support refers to the perception that the person cared for, is respected, and is part of a group. The exchange of supportive behaviors is not in itself sufficient to enhance the emotional well-being of the recipient. It is thus difficult to objectively observe and count the actual support received; rather, the recipient must be asked how it was perceived. Many findings support the role of perceived social support as an interpersonal coping resource and is significantly associated with family caregivers' adaptation **(Knight & Sayegh, 2010, Aggarwal et al, 2011, Mackay & Pakenham, 2012)**.

Psychological distress and burden among family caregivers of patients with schizophrenia can be mediated by resilience and perceived social support from other family members, friends, and other significant caregivers. It has been shown that resilience and social support buffer against the negative effects associated with caregiving among family members **(Magliano et al, 2002, Wu, 2011)**. Resilience and perceived social support are integral to bring positive changes in recovery and adaptation of the family caregivers to reduce stress and improve caregivers' quality of life and the quality of care provided for their patient consequently **(Van Breda, 2001, Lima & Beltrão-Lima, 2017)**. Thus, the present study aimed to investigate the relationship between perceived

social support and resilience levels of family caregivers.

1. Research questions

- What is the level of resilience and type of perceived social support among family caregivers of patients with schizophrenia?
- Is there a relation between level of resilience and type of perceived social support among family caregivers of patients with schizophrenia?
- Could perceived social support predict resilience among family caregivers?

Materials and Method

Materials

Research Design:

A descriptive correlational research design was used to conduct this study.

Setting:

The study was conducted at Elmaamoura Hospital for Psychiatric Medicine in Alexandria. The hospital is affiliated to the Ministry of Health and Population and serves three governorates namely Alexandria, Matrouh, and El-Beheira. The study was conducted in the outpatient clinic for psychiatric patients. The outpatient clinic is opened for patients with schizophrenia 6 days a week. Based on outpatient statistical records of El- Maamoura hospital, it receives about 820 recurrent cases of schizophrenia per 3 months.

Subjects:

The subjects of this study consist of 200 family caregivers of patients with schizophrenia. This sample size was based on Epi Info sample size estimation which revealed the minimum sample size to be 194 family caregivers. The 200 family caregivers were meeting the following inclusion criteria:

- One family caregiver for each patient,
- The family caregiver lives with the patient in the same house and is financially and/ or emotionally responsible for him/ her (father/ mother, sister /brother, wife/ husband, son/daughter),
- The family caregiver aged ≥18 years,
- The family caregiver undertaken primary care for more than 3 months and was willing to participate in the study.

Tools:

Three tools were used for data collection in this study.

Tool I: A socio-demographic structured interview schedule:

This tool was developed by the researcher. It was composed of two parts, part one is related to patient's family caregiver to elicit sociodemographic data as age, sex, marital status, occupation, level of education and blood relation to the patient and part two included data about patients with schizophrenia and elicit sociodemographic data as age, sex, birth order , marital status, family size, occupation and level of education besides clinical data as duration of illness, age of onset of illness, number of previous psychiatric hospitalization and treatment compliance.

TOOL II: Connor-Davidson Resilience Scale (CD-RISC-10):

The scale is a self-report scale based on how the subject has felt over the past month. It intended to evaluate an individual's current capacity for resilience **(Campbell-Sills & Stein, 2007)**. It consists of 10 items, each answered on a five-point likert scale from 0 reflecting completely false to 4 reflecting completely true. The total score for the CD-RISC10 was calculated by summing up the scores of the 10 items, with a range of 0-40 which was converted into % score and classified into the followings; < 50% for low resilience level and ≥50% for high resilience level. The CD-RISC10 demonstrated good internal consistency in two recent studies **(Shin et al, 2018, Kwan et al, 2019)**.

TOOL III: The Multidimensional Scale of Perceived Social Support (MSPSS):

This scale was developed by Zimet et al (1988) to measure perceived social support from the family, friends and important individuals in one's life **(Zimet et al, 1988)**. It consists of 12 items rated on a seven-point likert scale of 1 reflecting ("absolutely no") to 7 reflecting ("absolutely yes"). The scale has three subscales consisting of four items each to determine the support of family, friend and

important individuals. The lowest and highest scores obtained from the subscales are 4 and 28, respectively. Total score is ranging from 12 to 84, obviously the higher the score points, the greater the perceived social support. Scale was tested for internal consistency Cronbach's alpha values were 0.85 for the family subscale, 0.88 for the friend sub-scale, and 0.92 for the private person subscale.

METHOD:

1. Approvals from the Ethical Committee of the Faculty of Nursing, Alexandria University and department of psychiatric nursing and mental health were obtained.
2. Written permissions were obtained to conduct the study from official authorities (General Secretariat of Mental Health and Director of El-Maamoura hospital for Psychiatric medicine).
3. Tool I (A socio-demographic and clinical data structured interview schedule) was developed by the researcher.
4. Tool II and III (Connor Davidson Resilience Scale (CD-RISC-10) and The Multidimensional Scale of Perceived Social Support) were translated into Arabic language by the researcher and back translation was done by a bilingual expert in the field of psychiatric nursing and mental health.
5. Tool II& III were tested for content validity by a jury of five experts in the field of psychiatric nursing. Tools proved to be valid**.**
6. A pilot study was carried out on 20 Outpatients with schizophrenia and their family caregivers to assess the clarity and applicability of the tools. Those patients and their family caregivers were excluded from the actual study subjects.
7. The reliability of the study tools was ascertained by measuring the internal consistency of their items using the Cronbach alpha coefficient test. Tools proved to be reliable, for tool II $\alpha = 0.75$ and tool III $\alpha = 0.82$.
8. All patients and their family caregivers available in the outpatient clinic and meeting the inclusion criteria were included in the study until the sample size was reached.
9. Each patient and his family caregiver were recruited by non-probability, convenience sampling; that is, all participants who met the inclusion criteria were included in the study.
10. Each recruited patient and his family caregiver were met on an individual basis, first to establish rapport, then to explain the aim of the study and obtain the informed consent, after that, the data was collected using tool I, II and III.
11. Data collection was completed over a period of about one month and half from 1st of March 2021 and ending on the 18th of April 2021.

Ethical considerations:

For each recruited subject, the following issues was considered:

1. Securing the subject's written informed consent after explanation of research purpose.
2. Assuring confidentiality of the subject's data.
3. Right of the study subjects to voluntary participate.

Statistical analysis:

- Data were fed to the computer and analyzed using IBM SPSS software package version 20.0**. (**Armonk, NY: IBM Corp**)**
- Qualitative data were described using number and percent.
- The Kolmogorov-Smirnov test was used to verify the normality of distribution.
- Quantitative data were described using range (minimum and maximum), mean, and standard deviation.
- Reliability of tools was assessed using Cronbach's Alpha test.
- Significance of the obtained results was judged at the 5% level.
- Student t-test was used for normally distributed quantitative variables, to compare between two studied groups.
- F-test (ANOVA) was used for normally distributed quantitative variables, to

compare between more than two groups and Post Hoc test (Tukey) for pairwise comparisons.
- The correlations between two normally distributed quantitative variables were assessed using Pearson coefficient.
- Mann Whitney test was used for abnormally distributed quantitative variables, to compare between two studied groups.
- Kruskal Wallis test was used for abnormally distributed quantitative variables, to compare between more than two studied groups and Post Hoc (Dunn's multiple comparisons test) for pairwise comparisons.
- Regression was used to detect the most independent/ affecting factor for affecting resilience.

Results:

Table 1 displays the distribution of the studied patients with schizophrenia according to their socio- demographic characteristics. The table shows that 78.5% the studied patients were male. The age of the studied patients ranged from 17 to 61 years with a mean age of 30.88 ± 10.09 years. It was found that 44.5% were 20 years and above. While 30.5% of them were 30 years and above. The table also shows that 56 % of the studied patients were single and 33.5% had primary & preparatory education. Those who were illiterate/ read & write amounted to 29 %. More than half of the studied patients (59 %) were unemployed. Regarding the number of residing family members, 51.5 % of the studied patients reported a range from 3 to less than 6 family members. In relation to birth order, 43.5 % of the studied patients were the first born and 41 % were second in birth order. A large percentage (60 %) of the patients cared from their father/ mother.

Table (1): The distribution of the studied patients with schizophrenia according to their socio-demographic characteristics (N=200):

Socio-demographic characteristics		No.	%
Age	<20	17	8.5
	20-	89	44.5
	30-	61	30.5
	40-	20	10.0
	50+	13	6.5
	Mean ±SD	30.88 ± 10.09	
	Range	17.0 – 61.0	
Sex	Male	157	78.5
	Female	43	21.5
Marital status	Single	112	56.0
	Married	31	15.5
	Widowed/ Divorced	57	28.5
Educational level	Illiterate/ Read & write	58	29.0
	Primary & Prep school	67	33.5
	Secondary school	38	19.0
	University degree	37	18.5
Occupation	Unemployed	118	59.0
	Employed	32	16.0
	Housewives	38	19.0
	Students	12	6.0
Family member	3-	103	51.5
	6-	76	38.0
	9+	21	10.5
Birth order	First	87	43.5
	Middle	82	41.0
	Last	31	15.5
Who take care for the patient? *	Father/ Mother	120	60.0
	Sister/ Brother	49	24.5
	Son/ daughter	8	4.0

	Wife/ Husband	30	15.0

* The responses are not mutually exclusive.

Table (2) presents the distribution of the studied schizophrenic patients according to their clinical characteristics. In relation to duration of illness, 50.5% of the studied patients were with schizophrenia for less than 5 years and 49.5% were previously admitted to psychiatric hospital. Regarding psychiatric medications used, most of the studied patients (73.5%) were taking psychiatric medications and 76.2% of them were non-compliant to medications. Coming to the main reason for non-compliance, 55.4 % of them reported side effects of medications as the main reason of non-compliance.

Table (2): The distribution of the studied patients with schizophrenia according to their clinical characteristics (N=200):

Clinical characteristics		No.	%
Duration of illness (years)	> 5	92	46.0
	5-	77	38.5
	10-	25	12.5
	> 15	6	3.0
Previous admission to Psychiatric hospital	Yes	99	49.5
	No	101	50.5
Previous psychiatric medications	**Yes**	**147**	**73.5**
	No	53	26.5
Compliance with previous psychiatric medications (n=147)	Compliant	35	23.8
	Non-compliant	**112**	**76.2**
The main reason for non-compliance (n= 112)	Side-effects	62	55.4
	No effect	40	35.7
	No need	10	8.9

Table (3) displays the socio-demographic characteristics of the studied family caregivers. The age of the studied caregivers ranged from 27 to 74 years with a mean age equal to 44.35 ± 13.66 years and those in the age group ranging from 30 to less than 40 amounted to 29.5%. The table also shows that 59.5% of the studied caregivers were male. Regarding marital status, 61.5% of studied caregivers were married.

Speaking about level of education, the largest percentage (32%) of the studied caregivers had primary & preparatory education. Regarding occupation, 49 % of the studied caregivers were employed. Most of studied patients 66.5% were living in urban areas. Regarding the kinship of the family member, 61 % of the studied caregivers were parents and 57.5 % of the studied caregivers had not enough financial income.

Table (3): The distribution of the studied family caregivers according to their socio-demographic characteristics (N=200):

Socio-demographic characteristics		No.	%
Age	> 30	35	17.5
	30-	59	29.5
	40-	37	18.5
	50-	37	18.5
	60 -74	32	16.0
	Mean ±SD	44.35 ± 13.66	
	Range	27.0 – 74.0	
Sex	Male	119	59.5
	Female	81	40.5
Marital status	Single	60	30.0
	Married	123	61.5
	Widowed/ Divorced	17	8.5
Educational level	Illiterate/ Read & write	47	23.5
	Primary & Prep school	64	32.0
	Secondary school	56	28.0
	University degree	33	16.5
Occupation	Employed	98	49.0
	Unemployed	21	10.5
	Housewife	63	31.5
	Retired	18	9.0
Place of residence	Urban	133	66.5
	Rural	67	33.5
Kinship of the family member	Parents	122	61.0
	Brother/ sister	48	24.0
	Son/daughter	8	4.0
	Spouse	22	11.0
Financial income	Enough	85	42.5
	Not enough	115	57.5

Table 4 represents the distribution of the studied family caregivers according to their levels of resilience and perceived social support. The table illustrates that 76 % of the studied caregivers had low level of resilience, while the rest had high level of resilience with a total mean score of 17.55 ± 2.88. Regarding the level of perceived social support, the table displays that most of the studied caregivers (82.5%) revealed moderate perceived social support with total mean score of 44.52 ± 8.37 and 16.5 % of them had low perceived social support. The mean scores of the three subscales of perceived social support (family social support, important people social support and friends social support) were 17.86 ± 7.13, 13.64 ± 2.64 and 13.02 ± 2.56 respectively.

Table (4): The frequency and mean of levels of resilience and perceived social support of studied family caregivers (N=200):

Variables		Level	No	%	Min- Max (Mean ± SD)
Resilience		Low High	152 48	76.0 24.0	10.0 – 25.0 (17.55 ± 2.88)
Perceived social support	**Family social support**	Low Moderate High	20 87 93	10.0 43.5 46.5	7.0 – 26.0 (17.86 ± 7.13)
	Important people social Support	Low Moderate High	45 155 0	22.5 77.5 0.0	6.0 – 20.0 (13.64 ± 2.64)
	Friends social support	Low Moderate High	57 143 0	28.5 71.5 0.0	7.0 – 20.0 (13.02 ± 2.56)
	Total	Low Moderate High	33 165 2	16.5 82.5 1.0	27.0 – 61.0 (44.52 ± 8.37)

Table (5): demonstrates the correlation between resilience and perceived social support among the studied family caregivers. The table reveals that there was a statistically significant positive relationship between resilience with total score of perceived social support & its three subscales (family social support, important people social support and friends social support).

Table (5): Correlations between resilience and perceived social support among the studied family caregivers (n =200)

Perceived social support	Resilience	
	R	P
Important people social Support	0.414*	<0.001*
Family social support	0.792*	<0.001*
Friends social support	0.424*	<0.001*
Total	0.934*	<0.001*

r: Pearson coefficient ***: Statistically significant at p ≤ 0.05**

Table 6: illustrates the prediction of resilience using family, important people and friends social support using a hierarchical multiple regression analysis. Preliminary analyses were performed to ensure there were no violation of the assumption of normality, linearity, multicollinearity and homoscedasticity. Perceived family social support was entered into step 1 and the model showed that R^2 = 0.627 where (F=332.431, p<0.001). This indicates that in this model, 62.7% of the variance of resilience was explained by the regression on family social support. In predicting resilience, it is found that resilience was significantly positively associated with family social support, where (β = 0.192, t =18.233, P<0.001). Thus, the final equation will be "Y: = constant + β_1 X_1 "

Resilience = 32.787 +.0.192 **(family social support)**

In step 2, important people social support was entered into the equation. Model 2 had two variables where R2 = 0.759 where (F=309.467, p=<.001). This indicates that in this model, 75.9 % of the variance of resilience was explained by the regression on family social support and important people social support. In predicting resilience, it is found that resilience was significantly positively associated with family social support (β = 0.186, t= 21.894, p= < 0.001) and important people social support where, (β = 0.238, t =10.372, P=< 0.001). This indicates that higher scores on resilience is associated with more family social support and more important people social support. The value of

beta for family social support was higher than important people social support. This indicates that when the two variables were entered into the model, family social support is a more effective predictor than important people social support. Thus, the final equation will be "Y: = constant + β1 X1" + β2 X2

Resilience = 23.547 + 0.186 (**family social support**) +0.238 (**important people social support**)

In step 3, the friends social support was entered into the equation. Model 3 had three variables where R2 = 0.892 where (F=540.631, p=< 0.001). This indicates that in this model, 89.2% of the variance of resilience was explained by the regression on family social support, important people social support and friends social support. In predicting resilience, it is found that resilience was significantly positively associated with family social support (β = 0.175, t= 30.470, p= < 0.001), important people social support where, (β = 0.259, t =16.794, P =< 0.001) and friends social support (β = 0.250, t =15.586, P=< 0.001). This indicates that higher scores on resilience is associated with increased level of family social support, important people social support and friends social support. The value of beta for family social support was higher than important people social support and friends social support. This indicates that when the three variables were entered into the model, family social support is a more effective predictor than important people social support, and friends social support. Thus, the final equation will be Y: = constant + β1 X1 + β2 X2+ β3 X3

Resilience = 13.952 + 0.175 (**family social support**) + 0.259 (**important people social support)** + 0.250 (**friends social support**)

Table (6): Prediction of resilience using perceived family, important people and friends social support:

	B	SE	Beta	T	p	95% CI	
						Lower	Upper
Model 1							
Family social support	0.192	0.011	0.792	18.233*	<0.001*	0.171	0.213
R^2 =0.627 and adjusted R^2 = 0.625,F= 332.431*,p<0.001*							
Model 2							
Family social support	0.186	0.009	0.768	21.894*	<0.001*	0.169	0.203
Important people social Support	0.238	0.023	0.364	10.372*	<0.001*	0.193	0.283
R^2 = 0.759and adjusted R^2 = 0.756,F= 309.467*,p<0.001*							
Model 3							
Family social support	0.175	0.006	0.722	30.470*	<0.001*	0.164	0.186
Important people social Support	0.259	0.015	0.396	16.794*	<0.001*	0.229	0.290
Friends social support	0.250	0.016	0.370	15.586*	<0.001*	0.218	0.282
R^2 = 0.892and adjusted R^2 = 0.891,F= 540.631*,p<0.001*							

Dependent Variable: resilience
R^2: Coefficient of determination
B: Unstandardized Coefficients
Beta: Standardized Coefficients
*: Statistically significant at p ≤ 0.01
F,p: f and p values for the model
SE: Estimates Standard error
t: t-test of significance

Discussion

Family caregivers of patients with schizophrenia encounter persistent challenges that have various impacts on the entire family. Recovery of the whole family may be promoted by focusing on family processes that enhance adaptation. By understanding resilience and perceived social support among family caregivers, it is possible to recognize and support key process that empower families to manage stressors more effectively **(Bishop & Greeff, 2015, Ribé et al, 2018)**. Accordingly, the aim of the present study was to investigate the relationship between resilience and perceived social support among family caregivers of patients with schizophrenia.

The results of the present study revealed that most of the studied family caregivers had low resilience. This may explain why family caregivers are unable to determine and assume

their role in the care of family member who is suffering from schizophrenia **(Lo et al, 2015)**. These results are congruent with Gupta et al., 2019 and Mahmoud 2018 who reported that half of family caregivers of patients with schizophrenia had low level of resilience **(Elewa, 2019, Gupta et al, 2019)**. Possible explanations for the lack of resilience among caregivers may be the physical, psychological and financial burden encountered by family caregivers **(Abd El-Ghafar et al, 2018, Elewa, 2019)**. In fact, in the present study the family caregivers were mostly staying with their patients at the same house and are emotionally and financially responsible for them. Moreover, the higher rates of unemployment among the studied patients add to stress faced by family caregivers leading to low resilience. Another explanation may be due to stigma attached to mental illness which may force family caregivers to deny their burden and prevent them from seeking professional help or counseling **(Nihayati et al, 2020)**. These results also may be due to the lack of social support perceived by the studied family caregivers. Moreover, inadequate community mental health services provided to caregivers as lack of counseling, psychoeducation, and home visit services may explain the results of this study. On the other hand, several other studies showed that family caregivers' resilience is either moderate or high **(Faqurudheen et al, 2014, Nihayati et al., 2020, Wu et al, 2021)**.

Results of the present study also show that most of the studied caregivers had moderate level of perceived social support. This may reflect that the family caregivers perceived the availability of assistance needed that moderates the negative effect of caregiving at moderate level **(Gottlieb & Bergen, 2010)**. These findings are in accordance with the study of Lök & Bademli., 2021 who stated that most family caregivers in their study experienced moderate levels of perceived social support **(Lök & Bademli, 2021)**. This finding may be related to more than half of the study subjects lives in urban area. Most of them are from nuclear family and semi-urban areas who have less social support and routine family activities and interactions compared to caregivers from rural **(Raj et al, 2016)**. Another explanation may be the quality of social interactions and individuals' satisfaction with their relationships more important than to have large social contacts and social support system **(Gottlieb & Bergen, 2010)**. On the other hand, Raj et al., 2016 reported that caregivers of persons with schizophrenia had high level of perceived social support **(Raj et al., 2016)**. Also, Lawrence et al., 2020 showed that caregivers of children with psychological illness had low level of social support **(Lawrence et al, 2020)**. The present study also reported that the mean perceived social support related to the family was higher than that related to the friends and important people. The results of the study by Salim et al., 2019, Lakzai et al., 2015 were consistent with these results **(Lakzaei et al, 2015, Salim et al, 2019)**. In contrast, Raj et al., 2016 showed that social support scores were higher in the three dimensions **(Raj et al., 2016)**. The probable cause of this difference can be justified by the difference in the studied population.

The present study also showed a statistically significant positive correlation between caregivers' resilience and perceived social support. This result may reflect that caregiver with higher perceived social support utilize the support to openly talk about problem, patient illness, awareness and shared with others that may enhance resilient coping skills and mitigating distress **(Wang et al., 2020)**. In addition, greater resilience may enable caregivers to effectively seek social support **(Lamis et al, 2014)**. Perlman et al., 2017; Gupta et al., 2019; Wang et al., 2020; Lök & Bademli., 2021 similarly reported a significant positive relationship between resilience and perceived social support. Social support seems to have positive effects on resilience, family function and health outcomes for all family members **(Perlman et al, 2017, Gupta et al., 2019, Wang et al., 2020, Lök & Bademli, 2021)**. It was also reported that social support is one of the most important resources that could help individuals in adaptation and lighten the burden of workload which appears in several forms, namely family, important people in one's life and friends **(Chen et al., 2016)**. Additionally, resilience among family caregivers leads to maintenance of constructive communication, the positive growth of family

members, the integration of family bonds and formation and maintenance of social support to minimize the impact of stressors on the family **(Lee et al, 2004)**.

Regarding the prediction of resilience, this study findings revealed that family social support (as a subscale of perceived social support) emerged as the first predictor of resilience. Family social support can be found to mitigate the impact of the caregiver's psychological problems **(Vyavaharkar et al, 2010)**. It can also help caregivers to cope with stresses of everyday life **(Calvete & Connor-Smith, 2006)**. This result also may be due to the fact that families in Egyptian culture accept and support their relatives, as such families have a sense of commitment to the unchangeable situation. In this respect, families began to feel that it was their own problem and established an inner conscience to positively confront this situation. Therefore, they can find different ways to adapt to their situation **(Abd El-Ghafar et al., 2018)**. Along the same line, Jonker & Greeff., 2009; O'Rourke et al., 2010; Giesbrecht et al., 2015 reported that social support or a network of strong interpersonal relationships as a significant factor in developing resilience **(Jonker & Greeff, 2009, O'Rourke et al, 2010, Giesbrecht et al, 2015)**. In addition, Wilks., 2008; Leve et al., 2009 emphasized the role of family social support in predicting resiliency outcomes among caregivers **(Wilks & Croom, 2008, Leve et al, 2009)**.

Conclusion

Based on the findings of the current study, it can be concluded that, most of the studied patients had low level of resilience and moderate perceived social support. Moreover, perceived social support was positively associated and can predict more resilience among family caregivers.

Recommendations

- Psychoeducational program should be established for family caregivers to enhance their resilience, coping skills and to recognize the importance of connecting with many supporters around families.
- Supportive interventions and counseling services should be implemented to increase caregiver's resilience and decrease the effect of the burden on them, and improve their quality of life consequently.
- Future research is needed to examine the other possible confounders. For instance, the duration of caregiving and adequate diversity of the sample as the inclusion of different types of caregivers, e.g., sole caregivers, caregivers with lower financial status or educational level, and married/single caregivers.
- Replication of the study is needed on larger sample size and across caregivers of patients with different types of physical and/or mental illnesses.

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