

Assessment of knowledge, practices, and burden among caregivers of patients with schizophrenia

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Abstract: Schizophrenia does not cause disturbances for the patients only but also their caregivers. Caring for a family member with schizophrenia is challenging for caregivers because it is extremely stressful burden. The aim of this study was to assess caregivers' knowledge, practices, and burden with their schizophrenia patients. Design: A descriptive research design was utilized in this study. Subjects: A convenient sample of families' caregivers of schizophrenic patients (60) (All caregivers are available) Setting: Data were collected from the psychiatric out-patient clinic department at Demera psychiatric hospital. Data collection tools: Four tools were used for data collection Tool 1: Bio-demographic data sheet, which included (a) Demographic data related to caregiver, (b) Demographic data of patient, (c) Clinical data related to the patient, Tool 2: Assess caregivers' knowledge, Tool 3: Assess caregivers' practice, and Tool 4: Caregiver burden scale Results: More than half of the studied caregivers aged between 40 – 59 years with mean 49.9 ± 13.2 years, near to three quarters of them was female and lives in the urban area. Half of the studied caregivers had poor knowledge and practices regarding schizophrenic disease and more than two third of them had always burden distress levels. Conclusion: Caregivers knowledge, and practices need to improve especially for newly diagnosed patient to decrease burden of patient disease on their family. Recommendation: provide psycho-educational programs in psychiatric hospitals and out-patient clinics

Keywords: Burden; Caregivers; Knowledge; Practices; Schizophrenia.

1. INTRODUCTION

Schizophrenia is the most chronic psychosis in Egypt, accounts for the majority of inpatient in mental health hospital and considers catastrophic events in the family life, placing burden on them. It is disruptive and distressing illness is not only affecting lifestyle and socioeconomic status of the patient but also disturbs social, psychological, physical and economical aspects of the family members. Schizophrenia rather than any other physical illness generates very different responses from society. The tradition of tender, love, sympathy, and support that are shown on those with physical ill patients are clearly denied to those with mental illness (Khalil et al., 2019).

Family climate plays an important role in the prognosis of patients with schizophrenia. In this respect, the concept of expressed emotions has gained respectable ground in the field of psychiatry. Schizophrenia has destructive effect on family and patient as produce objective and subjective burden and stigma. Important studies have shown psychopathological risk and damage in the quality of life of many caregivers. This makes family under stress continuously which produces high expressed emotions toward their patient. Caregiver becomes a hidden patient which in turn affect patient prognosis course negatively (Caqueo-Urizar et al., 2017).

The family and caregivers of these patients face major challenges with clinical heterogeneity, multiplicity of symptoms and the manner of dealing with these symptoms, and, due to the multidimensional nature of the disease, also the family have to bear numerous financial, physical and mental costs. Furthermore, the pressures imposed by the disease destroy family interactions and lead to indifference, financial problems arising from the patient's costs of care and disability, social isolation arising from withdrawal from social activities given the great amount of time spent caring for the patient and a lower quality of life overall for these families (Akbari, Alavi, Irajpour, & Maghsoudi, 2018).

Nurses have a great role in helping patients to attain better quality of life, the caring aspect of nursing is not only concerned about the patients but also their families. Nurses help families to manage side effects of treatment to be adjusted psychologically and physically to the stressors they face, deal with ill relatives and detect abnormal behavior. So, quality of life of both the patients, and their families may be affected by the ability of nurses to help them with the required support, information and adjustment (Zäske et al., 2019).

Psychiatric nurses should clarify the term of “expressed emotions” to families because they often blame the patient for the problems of mental illness and deal with patient from their point of views. So when the concept is completely understood, it will help the family to deal with patient in a better adaptive coping style so developing a constructive programs based on this concept leads to decrease pain in caregiver (Nuwara, Masa'Deh, Hamdan-Mansour, & Qhah, 2019).

Significance of the Study

Schizophrenia does not cause disturbances for the patients only but also their caregivers. Caring for a family member with schizophrenia is challenging for caregivers because it is extremely stressful burden. Some family caregivers experience a series of conflicts and tend to show emotional responses such as fear of violence, high levels of burden, stigma, frustration, sadness, feeling angry, and timelessness (Kitchen et al., 2012).

According to national survey for mental health in Egypt, out of a total number of 25,095 subjects included in the study. A family history of psychiatric disorders was found in 1.6% of the studied sample and schizophrenia represent 7.1% of them (Ministry of Health and Population, and General Secretariat of Mental Health and Addiction Treatment, 2017).

Based on Demera Psychiatric Hospital Medical Record (2017), the outpatient clinics received monthly from 400 to 600 schizophrenic patients with their caregivers for follow up. Most of schizophrenic patients live with their families and depend on them for majority of their care. When the caregivers develop and maintain successful management skills for managing patient's symptoms and enhance effective coping methods, it could minimize their burdens and stress, reduce patient hospitalization and relapse rate. Therefore, the psychiatric nurse can motivate the caregivers of schizophrenic patients to empower their knowledge related to their relatives' illness and encourage them to use more effective skills in dealing with patient's symptoms for better life for both (patient and caregiver).

Assess caregivers' knowledge, practice, and burdens would make a significant contribution in the nursing care, especially in the community care. The study findings could increase nursing knowledge by assessing and identifying area of relative needs, which address obviously in caregivers' burdens experienced, also increases the knowledge about how caregivers.

Aim of the Study

The aim of this study was to:

1. Assess caregivers' knowledge & practice regarding schizophrenic diseases.
2. Assess caregivers' perceived burden towards schizophrenic patients.

Research Hypotheses

The researcher hypothesized that the psycho-educational program will have a positive effect on the knowledge & practice of families' caregivers of schizophrenic patients and reduce their burden.

2. SUBJECTS AND METHODS

Subjects and methods of this study were portrayed under four main domains as following:

I. Technical design.

II. Operational design.

III. Administrative design

IV. Statistical design

I. Technical Design

Technical design for this study includes research design, research setting, subjects of the study and tools of data collection.

Research design:

A descriptive research design was adopted to fulfill the aim of the study and answer the research questions. It helps the researcher to describe aspects of a situation. As well, this design helps to establish a database for future research.

Research Setting:

The study was conducted at psychiatric out-patient clinic department at Demera psychiatric hospital. This hospital follows the general secretariat of mental health and established in 2008. It contains 80 beds, serves the governorates of Dakahlia, Damietta, and Kafr El Sheikh. It is divided into two floor building with out-patient clinics, pharmacy, children's, adolescent, elderly, psychosocial clinics, social services, electrical convulsive therapy (ECT) unit and internal department (male and female).

Sample:

A convenient sample of families' caregivers of schizophrenic patients (All caregivers are available) who attended the out-patient clinic at Demera psychiatric hospital during one months.

The inclusion criteria set for sample selection were as follow:

1. Criteria of patients:

- Schizophrenic patients
- Both sexes
- Age between 18 – 65 years

2. Criteria of caregivers:

- Family caregivers and patient living in the same dwelling
- Both sexes

Exclusion criteria:

- Caregivers care for more than one family member with physical or mental illness.
- Caregivers themselves had a mental disorder.

Tools of data collection:

The researcher used four tools to collect the data during the study:

Tool I: Bio-demographic data sheet: An interviewing Questionnaire developed by the investigator to collect the data.

a) Demographic data related to caregiver includes age, sex, educational level, occupation, marital status, residence, economic level, and patient kind-ship.

International Journal of Novel Research in Healthcare and Nursing

Vol. 8, Issue 2, pp: (112-127), Month: May - August 2021, Available at: www.noveltyjournals.com

- b) Demographic data of patient includes age, sex, educational level, occupation, marital status, residence, and economic level.
- c) Clinical data related to the patient which included number of admissions, duration of stay in hospital, length of mental illness, medication taken to treat mental illness.

Tool 2: Assess caregiver knowledge modified by Compton, Quintero and Esterberg (2007) regarding schizophrenia disease. It consists of 18 questions MCQ (definition, causes, sign and symptoms, therapeutic management and follow up).

Scoring System:

Correct answer was scored as (One) while incorrect answer was scored as (Zero). Scores less than 50% was classified as poor level of knowledge, scores ranged between 50- 75% was classified as fair level of knowledge, and scores more than 75% was classified as good level of knowledge.

Tool 3: Assess caregivers' practice developed by **Tungpunkom et al., (2000) as cited in Suriyong, Tungpunkom and Chalinee, (2008)** for schizophrenic patient. It consists of 50 items checked by 'done' or 'not done'

Scoring system:

The score was design to be (1) for done, and (0) for not done. Caregivers with a total score of practice 60% or more was considered to have good practice and those with less than 60% was considered as poor practice level.

Tool 4: Caregiver burden scale constructed by **Pai and Kapuire(1981)** to assess the burden on the caregiver caused by caring role regarding schizophrenic patient. It composed of 20 items divided into 6 categories: financial (5 items), routine family activities (4 items), leisure family activities (3 items), family interaction, contains (4 items), and physical and mental health of the family caregiver (4 items).

Scoring system:

The score ranged from 0-3 which is composed of four items for every point, (0) for no burden, (1) for mild burden, (2) for moderate, and (3) for severe burden.

II. Operational Design:

The operational design includes preparatory phase, pilot study, fieldwork, limitations of the study and ethical considerations. This study was conducted from September 2019 to the last of July 2020.

A-Preparatory phase:

A review of the past, current Arabic and English related literature covering various aspects of the problem was done, using available books, articles, periodicals, journals and meeting families having patient with schizophrenia to get acquainted with the research problem and develop the study tools.

Validity and reliability:

To achieve the criteria of trust worthiness of the tools of data collection in this study, the tools were tested and evaluated for their face and content validity, and reliability. Face and content validity was tested by three professors in mental health nursing department. To ascertain relevance, clarity and completeness of the tools, professors elicited responses, which were either agree or disagree for the face validity and content reliability. The items on which 85% or more of the professors have agreed were included in the proposed tool. The required corrections and modifications were done.

B-Pilot study:

A pilot study was carried out before conducting the actual study to determine the size and the method of selection of the sample, to test the feasibility, clarity and applicability of the study tools also to test relevancy and clarity of the content, to calculate the time needed for conducting the study and to estimate the needed time to be filled in the tools. The tools were revised by three experts for more verification. A total of 10 subjects were recruited for the pilot study. All subjects recruited in the pilot study met the criteria for the inclusion of the study randomly chosen from the outpatient clinics at Demera psychiatric hospital, that were excluded from the main study sample.

C-Fieldwork:

Permissions for data collection was obtained by submission of official letters issued from the administrators of the Faculty of Nursing, Helwan University to the manager of Demera psychiatric hospital and the statistical center of the same hospital. Meeting and discussions were held between the researcher and the other psychiatric medical administrative personnel, as well as the caregivers of patient and other family members to explain the aims of the study.

D. Ethical considerations

The research proposal approval had obtained from scientific research ethical committee in Faculty of Nursing at Helwan University before starting the study. The research approval of each participant to share in the study was given.

Before carrying out the study, the researcher was clarified the aim of the study and its expected outcomes. The study subjects had secured that all the gathered data was confidential and was used for the research purpose only. The researcher maintained on anonymity and confidentiality of subjects. Subjects were allowed to participate or not and they had the right to withdraw from the study at any time.

IV. Statistical Design:

Data collected and coded. Then the collected data were organized, analyzed using appropriate statistical significance tests using the Computer Statistical Package for Social Science (SPSS), version 25. Data presented by using descriptive statistics in the form of percentages. The statistical analysis has included the arithmetic mean, standard deviation and X^2 test. Degrees of significance of results were considered as follow:-

P-value > 0.05 Not significant

P-value \leq 0.05 Significant

P-value \leq 0.01 Highly Significant

3. RESULTS

Table (1): Percentage distribution of caregivers according to their demographic characteristics (n = 60).

Demographic data	No.	%
Age / years		
20- < 40	12	20.0
40- 59	35	58.3
\geq 60	13	21.7
Mean \pm SD	49.9 \pm 13.2 Years	
Gender		
Female	43	71.7
Male	17	28.3
Patient relative relation		
Father/mother	44	73.3
Husband/wife	10	16.7
Brother/sister	4	6.7
Son /Daughter	2	3.3
Married status		
Single	4	6.7
Married	38	63.3
Divorced	7	11.7
Widow	11	18.3
Educational level		
Illiteracy	4	6.7
Primary education	32	53.3
Secondary education	15	25.0
University education	9	15.0

Demographic data	No.	%
Occupation		
Not working	22	36.7
An employee	11	18.3
Private work	9	15.0
Free work	18	30.0
Monthly Income		
Sufficient	26	43.3
Insufficient	34	56.7

Table (1): showed that 58.3% of the studied caregivers aged between 40 – 59 years with mean 49.9 ± 13.2 years, 71.7% of them was female, 73.3% of patients their relative was father/ mother, 63.3% of the studied caregivers was married, 53.3% of them had primary education, 36.7% of them not working, and 56.7% of them had insufficient monthly income.

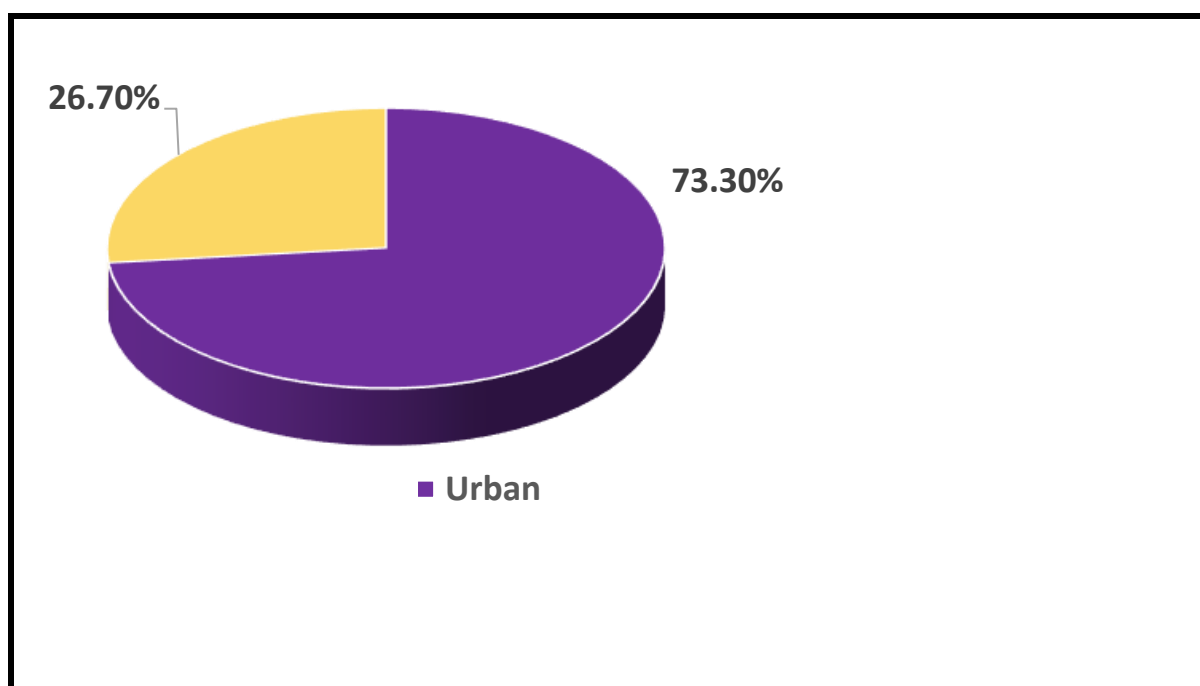


Figure (1): Percentage distribution of caregivers according to their residence (no.=60).

Figure (1): illustrated that 73.3% of the studied caregivers lives in urban area and 26.7% of them rural area

Table (2): Percentage distribution of patients with schizophrenia according to their demographic characteristics (no.=60).

Demographic data	No.	%
Age / years		
20 - < 40	41	68.3
40 - < 60	13	21.7
≥ 60	6	10.0
Educational level		
Illiteracy	10	16.7
Primary education	25	41.6
Secondary education	16	26.7
University education	9	15.0
Occupation		
not working	36	60.0

an employee	9	15.0
Private work	3	5.0
Free work	12	20.0

Table (2): presents that 68.3% of patient with schizophrenia aged between 20- < 40 years, 41.6% of them had primary education, and 60.0% of them notworking.

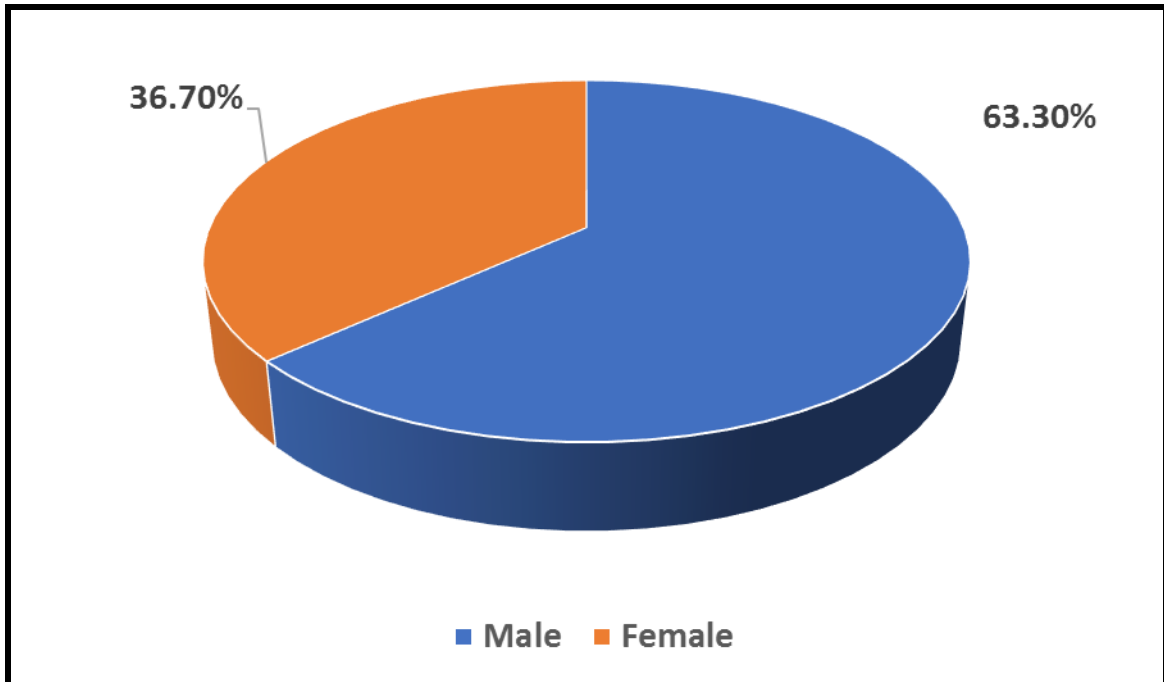


Figure (2): Percentage distribution of patients with schizophrenia according to their gender (no.=60).

Figure (2): demonstrated that 63.3% of the patients with schizophrenia was female patient and 36.7% of them was male.

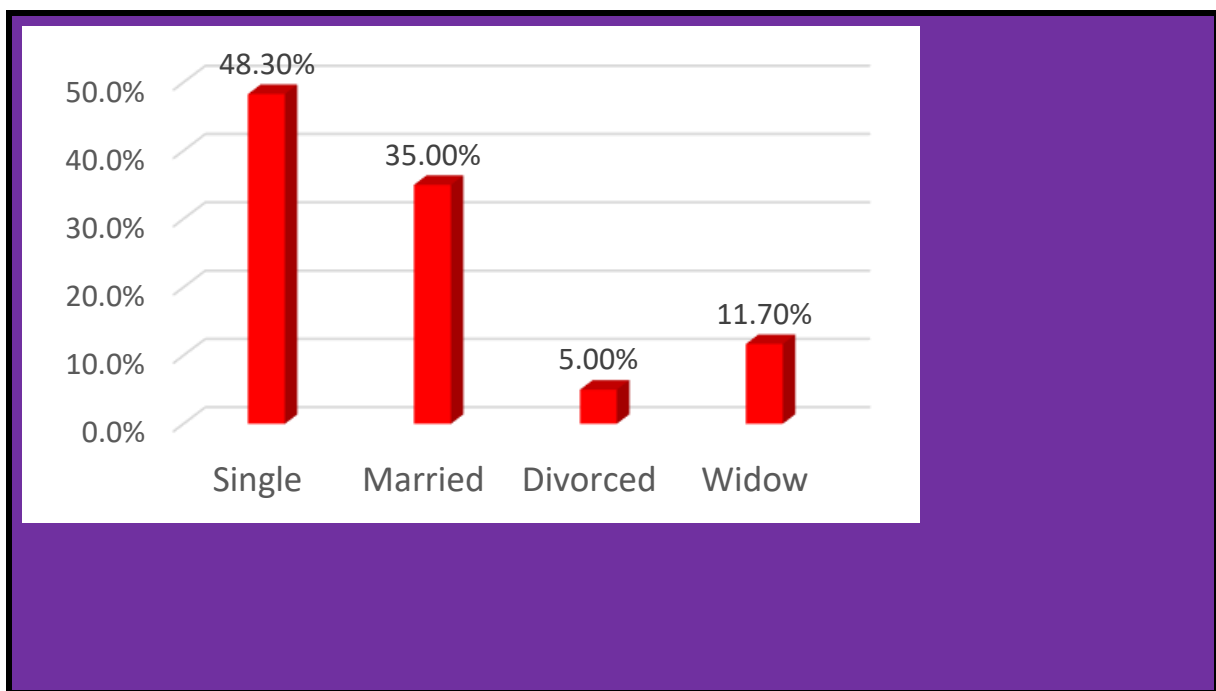


Figure (3): Percentage distribution of patients with schizophrenia according to their marital status (no.=60).

Figure (3): illustrated that 63.3% of the patients with schizophrenia was female patient and 36.7% of them was male.

Table (3): Number & percentage distribution of medical history of the schizophrenic patients (n.= 60).

Medical history of the schizophrenic patients	NO	%
No of admission:		
1-2	10	16.5
3-4	50	83.5
Length of mental illness		
> 5 yrs	10	16.5
5-10 yrs	20	33.5
10-15 yrs	25	41.5
>15 yrs	5	8.5
# treatment modalities		
Therapeutic	60	100.0
Psychotherapy	27	45.0
ECT	47	78.3
Religious reminder	28	46.7
Cupping therapy and herbs	15	25.0

Responses not normally exclusive

Table (3): reveals that 83.5% of the studied patient with schizophrenia admitted between 3 – 4 times, 33.5% of them the duration of mental illness 5 - < 10 years and all of them follow therapeutic

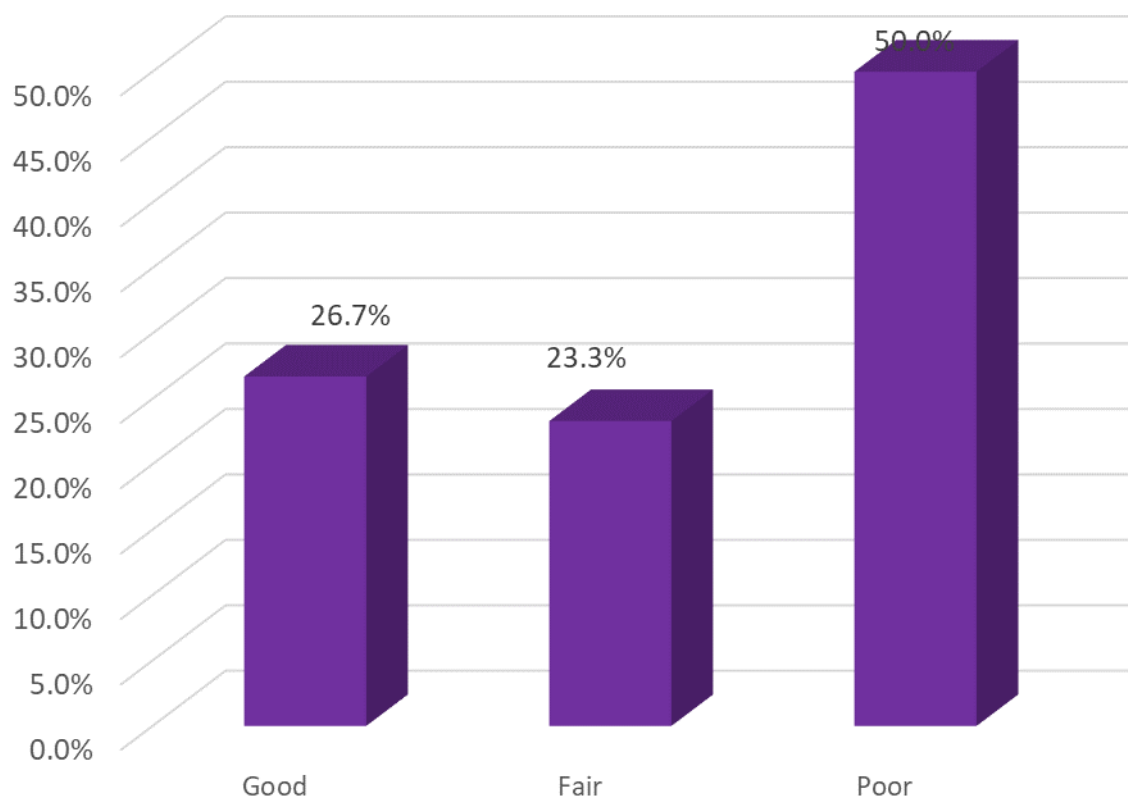


Figure (4): Percentage distribution of total knowledge levels among the studied sample regarding schizophrenic (n = 60).

Figure (4): illustrates that 26.7% of caregivers had good knowledge level about all aspects of schizophrenia disease, 23.3% of them had fair knowledge level and 50.0% of them had poor knowledge.

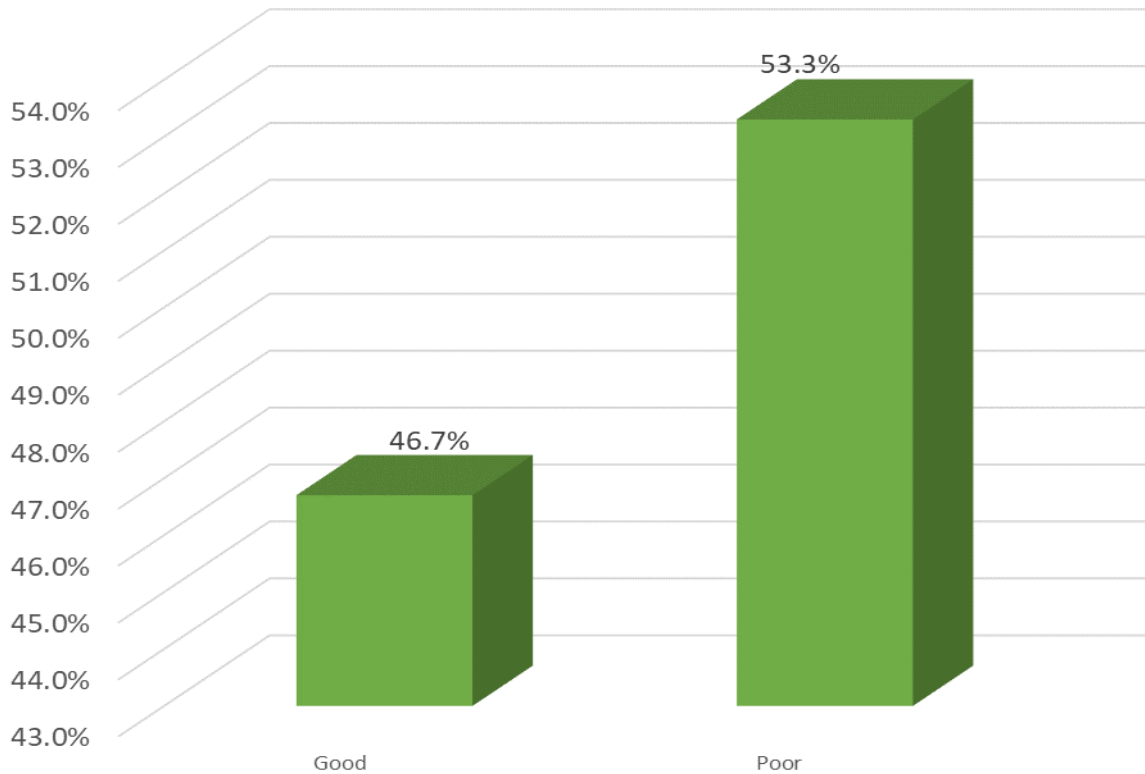


Figure (5): Percentage distribution of total practice levels among the studied sample regarding schizophrenic (n = 60).

Figure (5): demonstrated that 53.3% of caregivers had poor practice level and 46.7% of them had good practice.

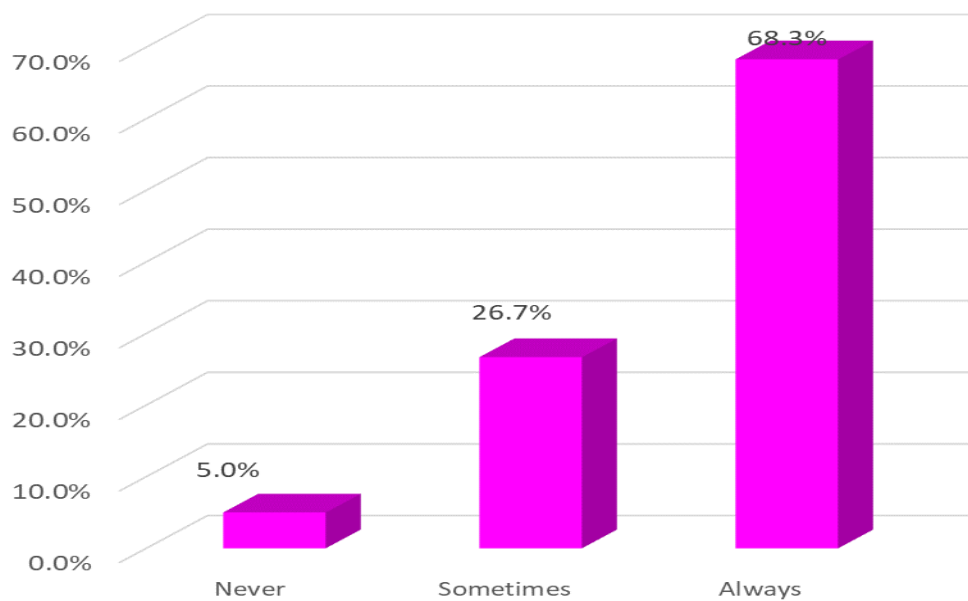


Figure (6): Frequency distribution of total burden distress levels of caregivers who provide care for schizophrenic (n = 60).

Figure (6): illustrated that 68.3% of caregivers' had always burden distress levels, 26.7% of them had sometimes burden and 5.0% of them never had burden distress

Table (4): Relation between caregivers' demographic characteristics and their total knowledge level (no.=60).

Demographic data	Total knowledge levels							Test of significance	
	Good (n= 16)			Fair (n = 14)		Poor (n = 30)		X ²	P – value
	No.	No.	%	No.	%	No.	%		
Age / years									
20-	12	4	25.0	3	21.4	5	16.7	1.183	.553 NS
40- 59	35	10	62.5	8	57.1	17	56.7		
More than 60	13	2	12.5	3	21.5	8	26.7		
Gender									
Male	43	10	62.5	9	64.3	24	80.0	.902	.340 NS
Female	17	6	37.5	5	35.7	6	20.0		
Degree of kinship									
Father/mother	44	7	43.8	9	64.3	28	93.4	16.711	.05* S
Husband/wife	10	8	50.0	1	7.1	1	3.3		
Brother/sister	4	1	6.3	2	14.3	1	3.3		
Son /Daughter	2	0	.0	2	14.3	0	.0		
Married status									
Single	4	3	18.8	1	7.1	0	.0	10.616	.013* S
Married	38	4	25.0	11	78.7	23	76.7		
Divorced	7	2	12.5	1	7.1	4	13.3		
Widow	11	2	12.5	1	7.1	8	26.7		
Educational level									
Illiteracy	4	0	.0	0	.0	4	13.3	6.857	.05* S
Primary education	32	5	31.3	10	71.4	17	56.7		
Secondary education	15	6	37.4	1	7.1	8	26.7		
University education	9	5	31.3	3	21.4	1	3.3		
Occupation									
Not working	22	8	50.0	4	28.6	10	33.3	7.236	.05* S
an employee	11	5	31.3	3	21.4	3	10.0		
Private work	9	2	12.5	2	14.3	5	16.7		
Free work	18	1	6.3	5	35.7	12	40.0		
Monthly Income									
sufficient	26	12	75.0	9	64.3	5	16.7	8.909	.003** HS
Insufficient	34	4	25.0	5	35.7	25	83.3		
Residence									
Urban	44	10	62.5	9	64.3	25	83.3	1.309	.252 NS
Rural	16	6	37.5	5	35.7	5	16.7		

* = Statistical significance differences ** Highly statistically significance differences

Table (4): presents that 93.4% of father / mother as a degree of kinship had poor knowledge level than other kindship, and 76.7% of married caregivers had poor knowledge level than other marital status with statistically significance differences which P - value < .05, .013 respectively.

Also, 56.7% of primary education caregivers had poor knowledge level than other educational level, 40.0% of free work caregivers had poor knowledge level than other occupation, 83.3% of caregivers who had insufficient had poor knowledge level than sufficient income with statistically significance differences which P - value < .05, .05, .003 respectively.

Table (5): Relation between caregivers' demographic characteristics and their total practice level (no.=60).

Demographic data	Total practice levels					Test of significance	
	No.	Good (n= 28)		Poor (n = 32)		X ²	P – value
		No.	%	No.	%		
Age / years							
20-	12	10	35.7	2	6.3	11.606	.003** S
40- 59	35	16	57.1	19	59.4		
More than 60	13	2	7.1	11	34.3		
Gender							
Male	43	16	57.1	27	84.4	5.454	.019* S
Female	17	12	42.9	5	15.6		
Degree of kinship							
Father/mother	44	16	57.1	28	87.5	10.174	.017* S
Husband/wife	10	9	32.1	1	3.1		
Brother/sister	4	1	3.6	3	9.4		
Son /Daughter	2	2	7.2	0	.0		
Married status							
Single	4	3	10.7	1	3.1	9.491	.02* S
Married	38	12	42.9	26	81.3		
Divorced	7	5	17.9	2	6.2		
Widow	11	8	28.6	3	9.4		
Educational level							
Illiteracy	4	1	3.6	3	9.4	8.281	.04* S
Primary education	32	12	42.9	20	62.5		
Secondary education	15	7	25.0	8	25.0		
University education	9	8	28.6	1	3.1		
Occupation							
not working	22	12	42.9	10	31.3	3.75	.124 NS
an employee	11	4	14.3	7	21.9		
Private work	9	2	7.1	7	21.9		
Free work	18	10	35.7	8	25.0		
Monthly Income							
sufficient	26	20	71.4	6	18.8	16.876	.0004** HS
Insufficient	34	8	28.6	26	81.3		
Residence							
Urban	44	18	64.3	26	81.3	2.197	.138 NS
Rural	16	10	35.7	6	18.7		

* = Statistical significance differences ** Highly statistically significance differences

Table (5): reveals that 59.4% of caregivers' aged between 40- 59 years had poor practice levels, 84.4% male caregivers had poor practice levels than female caregivers, 87.5% of father / mother as a degree of kinship had poor practice levels than other kindship, and 81.3% of married caregivers had had poor practice levels other marital status with statistically significance differences which P - value < .003, .019, .017, and .02 respectively.

Also, 62.5% of caregivers who had primary education had poor practice levels, and 81.8% of caregivers who had insufficient had poor practice levels than sufficient income with statistically significance differences which P - value < .04, and .0004 respectively.

Table (6): Relation between caregivers' demographic characteristics and their total burden distress level (no.=60).

Demographic data	Total burden distress levels							Test of significance	
	No.	Never burden (n=3)		Sometimes (n= 16)		Always (n= 41)		X ²	P – value
		No.	%	No.	%	No.	%		
Age / years									
20-	12	0	.0	7	43.8	5	12.2	7.266	.122 NS
40- 59	35	1	33.3	6	37.4	28	68.3		
More than 60	13	2	66.7	3	18.8	8	19.5		
Gender									
Female	43	2	66.7	15	93.8	26	63.4	5.254	.05* S
Male	17	1	33.3	1	6.2	15	36.6		
Degree of kinship									
Father/mother	44	2	66.7	9	56.3	33	80.5	8.940	.05* S
Husband/wife	10	1	33.3	5	31.3	4	9.8		
Brother/sister	4	0	.0	1	6.2	3	7.3		
Son /Daughter	2	0	.0	1	6.2	1	2.4		
Married status									
Single	4	2	66.7	2	12.5	0	.0	11.983	.05* S
Married	38	1	33.3	8	50.0	29	70.7		
Divorced	7	0	.0	3	18.8	4	9.8		
Widow	11	0	.0	4	25.0	7	17.1		
Educational level									
Illiteracy	4	0	.0	1	6.2	3	7.3	6.124	.409 NS
Primary education	32	0	.0	8	50.0	24	58.5		
Secondary education	15	0	.0	6	37.6	9	22.0		
University education	9	3	100.0	1	6.2	5	12.2		
Occupation									
Not working	22	0	.0	2	12.5	20	48.8	14.839	.02* S
An employee	11	3	100.0	6	37.6	2	4.9		
Private work	9	0	.0	3	18.8	6	14.6		
Free work	18	0	.0	5	31.3	13	31.7		
Monthly Income									
Sufficient	26	3	100.0	12	75.0	11	26.8	11.799	.003** HS
Insufficient	34	0	.0	4	25.0	30	73.2		
Residence									
Urban	44	3	100.0	6	37.6	35	85.4	13.025	.001** HS
Rural	16	0	.0	10	62.4	6	14.6		

* = Statistical significance differences ** Highly statistically significance differences

Table (6): shows that 63.4% female caregivers had always burden distress level than male caregivers, 80.5% of father / mother as a degree of kinship had always burden distress level than other kindship, and 70.7% of married caregivers had always burden distress level than other marital status with statistically significance differences which P - value < .05, .05, .05 respectively.

Also, 48.8% of notworking caregivers had always burden distress level than other occupation, 73.2% of caregivers who had insufficient had always burden distress level than sufficient income, and 85.4% of caregivers' lives in the urban area had always burden distress level than rural area with statistically significance differences which P - value < .02, .003, .001 respectively.

4. DISCUSSION

Regarding the demographic characteristics of the caregivers, Table (1): the current study showed that more than half of the studied caregivers aged between 40 – 59 years with mean 49.9 ± 13.2 years, more than two third of them was female, near three quarter of patients their relative was father/ mother, less than two third of the studied caregivers was married,

more than half of them had primary education, more than one third of them not working, and more than half of them had insufficient monthly income.

This result current study come in accordance with (Chen et al., 2019) who studied " The burden, support and needs of primary family caregivers of people experiencing schizophrenia in Beijing communities: a qualitative study" and reported that the most of the studied caregiver were female and more than two third of them were retired and more than half of them were the parents. But this result differs with the same author in reporting that the educational level of the half of them were secondary education.

Regarding the distribution of caregivers according to their residence Figure (1), the current study illustrated that less than three quarter of the studied caregivers lives in urban area and more than one quarter of them rural area. This result differ with (Tak, Maheshwari, & Makhija, 2016) who studied "effectiveness of psycho-education on knowledge of family members about home based care of patients with schizophrenia" and reported that the majority of the studied sample live in rural area. Also this result disagree (Sayied & Ahmed, 2017) who stated that slightly less than two third of the studied sample live in rural area.

Regarding the distribution of patients with schizophrenia according to their demographic characteristics, Table (2), the present study showed that more than two third of patient with schizophrenia aged between 20- < 40 years, less than half of them had primary education, and less than two third of them not working. This results come in the line with (Abd El-Hay, Mona, & Mohamed, 2017) who reported that less than two third of the studied sample were in the age group ranging from 25 to less than 45 years of age, less than half of them had a preparatory school degree, and more than half the comparison group were unemployed.

Regarding the gender of the schizophrenic patient Figure (2), the current study demonstrated that 63.3% of the patients with schizophrenia were male patient and 36.7% of them were female. This result come in the line with (Mora-Castañeda et al., 2018) who reported that more than two third of the studied sample were male. This result was confirmed by (Sayied & Ahmed, 2017) who studied "Efficacy of teaching self-management strategies on auditory hallucinations among schizophrenic patients" and reported that slightly less than two third of the studied sample were male.

Regarding marital status the current study illustrated that only more than one third of the studied patient were married. This result comes in the line with (Doğan Bulut et al., 2016) who studied " The Relationship between Symptom Severity and Low Vitamin D Levels in Patients with Schizophrenia" and reported that more than one third of the studied patient were married. But these results come in consistent with (Sayied & Ahmed, 2017) who reported that more than two third of the studied sample were married.

Regarding the caregiver knowledge, figure 4, the current study illustrated that more than one quarter of caregivers had good knowledge level about all aspects of schizophrenia disease, less than one quarter of them had fair knowledge level and the half of them had poor knowledge. This result comes in accordance with Balasubramanian, Juliana, & Sathyanarayana, (2013) who studied " Knowledge Questionnaire on Home Care of Schizophrenics (KQHS): Validity and Reliability" and reported that the most of Primary Caregivers on Home care of schizophrenic patients had good knowledge.

This result come inconsistent with Gabra, Ebrahim, Osman, & Al-Attar, (2020) who studied "Knowledge, attitude and health-seeking behavior among family caregivers of mentally ill patients at Assiut University Hospitals: a cross-sectional study" and reported that the studied caregivers had low scores of knowledge and attitude towards mental illness. This result were contraindicated with Rahmani, Ranjbar, Ebrahimi, & Hosseinzadeh, (2015) who studied "The effects of group psychoeducational programme on attitude toward mental illness in families of patients with schizophrenia " and reported that the majority of the families of schizophrenic patients had a negative attitude towards mental illness

Concerning the caregiver practices in pre educational program Figure (5), the current study showed that more than half of caregivers had poor practice level and less than one half of them had good practice. This result may be related to that the studied sample may not offered any previous educational program so they had poor practices before intervention. This result was supported by (Shinde, Desai, & Pawar, 2014) who studied "Knowledge, Attitudes and Practices among

Caregivers of Patients with Schizophrenia in Western Maharashtra" reported that only more than one third of the studied caregiver had good practices with their schizophrenic patient.

Regarding the caregiver burden Figure (6), the present study illustrated that more than two third of caregivers' had always burden distress levels, more than one quarter of them had sometimes burden and the minority of them never had burden distress. This result come in the line with **Shamsaei, Cheraghi, & Bashirian, (2015)** who studied "Burden on Family Caregivers Caring for Patients with Schizophrenia" and reported that less than half of the studied sample had "moderate to severe" burden and less than one third of them had "severe" burden.

This result were confirmed by **Tamizi et al., (2020)** who studied Caregiving burden in family caregivers of patients with schizophrenia: A qualitative study" and reported that the family caregivers of the patients with schizophrenia encounter many problems related to multiple responsibilities in the caring process and challenges in the provision of mental health-care services.

Also, **Csoboth, Witt, Villa, & O'Gorman, (2015)** who studied "The humanistic and economic burden of providing care for a patient with schizophrenia" reported that Caregiving roles are not easy and may affect the personal life of the caregivers, and the accumulation of these tasks imposes a heavy burden on caregivers.

Regarding the caregivers' demographic characteristics and their total knowledge level, Table (4), the present study showed that there were statistically significance differences between the total knowledge level and the degree of kinship and marital status, educational level, occupation, monthly income with statistically significance differences which P - value < 0.05, 0.013, 0.05, 0.03, and 0.05 respectively. Also, there is no statistically a significance difference between the total knowledge level and the age, gender and residence of the studied sample.

This result come in accordance with **(Tak et al, 2016)** who reported that was a significant association of knowledge level with educational status, and relationship with the patient and monthly family income. But the current result come consistent with the same author who report that there was a significant association of knowledge level with age and residence.

Regarding the relation between caregivers' demographic characteristics and their total practice level, Table (5), the present study revealed that more than half of caregivers' aged between 40- 59 years had poor practice levels, the most of male caregivers had poor practice levels than female caregivers, 87.5% of father / mother as a degree of kinship had poor practice levels than other kindship, and 81.3% of married caregivers had had poor practice levels other marital status with statistically significance differences which P - value < .003, .019, .017, and .02 respectively.

The same result was reported by **Nayak, Mallik, Hembram, & Dash, (2020)** who studied " perceived family burden among the male & female caregivers of schizophrenia patients- a comparative study in Eastern India" reported that the females had good practices than male.

Regarding the relation between caregivers' demographic characteristics and their total burden distress level Table (6), the current study showed that, there were statistically significance differences between the total burden distress and gender, degree of kinship and marital status which P - value < .05, .05, .05 respectively.

This result come in accordance with **(Noori & Ebrahim, 2020)** who stated that there are significant differences between the mean of caregiver 's burden according to their gender at P value (0.05). Also, these results, were in agreement with **(Pajonk et al., 2010)**, who studied " Hippocampal plasticity in response to exercise in schizophrenia" and found that there was a significant difference in gender in terms of their burden.

Also this result were confirmed with **(Tristiana et al., 2019)** who studied " Relationship Between Caregivers' Burden of Schizophrenia Patient with Their Quality of Life in Indonesia" and reported that there were statistical significance differences between the caregiver burden and their gender (p = 0.004), marital status (p = 0.017; r = 0.161).

Also, the current study illustrated that there were statistically significance differences between the total burden distress and occupation, monthly income, and residence which P – value. This result come inconsistent with **(Tristiana et al., 2019)** who reported that there are no significant relationships between the caregiver burden and their age (p = 0.228), education level (p = 0.171), and income (0.244).

5. CONCLUSION

Based on the results of the present study, the following can be concluded: Caregivers knowledge, and practices need to improve especially for newly diagnosed patient to decrease burden of patient disease on their family.

6. RECOMMENDATIONS

Based upon findings of the current study, the following recommendations were suggested:

- Provide family psycho-educational intervention to caregivers.
- Facilitating access to psycho-educational programs in psychiatric hospitals and out-patient clinics
- Further studies are needed to examine the effects of family psycho-educational programs on the other outcomes such as relapse rate, patient functioning, and medication compliance after hospital discharge.
- Replication of the study on large sample selected from different geographical areas from Egypt is recommended for generalizing the study findings.

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