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Relationship between Caregiver's Expressed Emotions and Patient's Symptoms Severity among Schizophrenic Patients: A Comparative Study

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Abstract
Background: Schizophrenia is one of the most common mental disorders which is characterized by debilitating nature and recurrent relapse of its psychotic episodes that have been often misunderstood and lead to confusion among the family members, who play the role as primary caregivers. Although expressed emotion (EE) has been widely studied in the Western world, it is not well understood in Middle East communities. **Aim**: The aim of the present study was to assess and compare the association between expressed emotion EE and patients' symptoms severity among caregivers of schizophrenic patients in two Middle East countries (Egypt and Saudi Arabia).**Methods:** A convenient sample of 120 patients and their caregivers was selected; (60) patients and their caregivers from Saudi Arabia, and (60) caregivers and their patients from Egypt. Three tools were utilized in the current study including; (1) the Socio-demographic Data Sheet; (2) The Family Attitude Scale (FAS); and (3) Positive and Negative Syndrome Scale (PANSS).**Results:** The study result revealed that there were statistically significant relationships between FAS levels and Egyptian and Saudi patients' duration of illness as (X^2=24.466, p=.000, and X^2= 10.792, p=.001 respectively). However, Egyptians and Saudi patients did not differ in relation to the number of patients' admission and caregivers' FAS. **Conclusion:** The study concluded that, Egyptian patients' socio-demographic and medical characteristics differ with FAS levels; however, Saudi patients did not. On the other hand, PANSS scores differ by Saudi patients' socio-demographic and medical characteristics. **Recommendations:** The study recommended that there is a need to develop specialized nursing interventions program to raise awareness of family caregiver by schizophrenia and mange their psychological and emotional problems that result from caring for mentally ill patients.
Keywords: Expressed emotions, Symptom intensity, Schizophrenic patients

Introduction

Schizophrenia is a serious mental issue, described by significant disturbances in considering, influencing dialect, discernment, and feeling of self. It is one of the most common causes of disability. It can impair functioning through the loss of an acquired capability to carrying out everyday life activities, social functioning, or the disruption of studying (National Alliance on Mental Illness, 2013). Schizophrenia happens in all class, culture, and religion. The formative example of the sickness is predictable crosswise over cultures; however, social contrasts may shape its clinical introduction and additionally the nature of association examples and nature of family connections of the schizophrenic patients. Internationally 21 million individuals overall experienced schizophrenia (WHO, 2016) Nonetheless, the effect of schizophrenia has a tendency to be most noteworthy in the Middle East (Binder, 2016).

Family members of schizophrenic patients are the immediate care providers; they play a noteworthy effect on the treatment result of the patient's sickness. The parts of families being taken care of by individuals with schizophrenia have been progressively recognized in the research literature (Hooley, 2012) . Taking care of schizophrenia is very stressful due to its chronic and disabling nature, poor outcome, and severity of symptoms. Besides that lack of support system, inadequate information on the illness, negative attitude, and stigma from society, all act as stressors on the family members. In turn, they start to show negative attitude to the patients in the form of high expressed emotion (EE) (Mo¨ller-Leimku¨hler , & Jandl, 2011).

The expressed emotion (EE) is considered to be an adverse family environment, which includes the quality of interaction patterns and nature of family relationships among the family caregivers and patients of schizophrenia disorders. It is a significant characteristic of the family milieu that has been found to predict symptom relapse in a wide range of mental disorders (Yu, Kwok, Choy, & Kavanagh, 2016). The construct of (EE) comprises the following behavioral examples; threatening vibe, and passionate over contribution.

Expressed emotion by the group of a schizophrenic patient is portrayed by having a basic, unfriendly, or candidly over-included relationship. They additionally tend to concentrate more on the patients shortcomings.

As revealed by many research studies, certain family structures and correspondence examples were thought to be contributing elements to the improvement and the upkeep of the disease. However, with the trend of de-institutionalization of psychiatric patients and the simultaneous growth of community mental health services, the onus for the patient's care has been exchanged to relatives, and the concentration of both research and in administration arrangement moved towards the investigation of intrafamilial connections and how the family setting can best support and watch over patients with psychosis (Samalin, Blanc, & Llorca, 2010).

Furthermore, the attitude and behaviors expressed to the patient from his or her family members, usually characterized as expressed emotion (EE). EE has been extensively researched across psychiatric disorders as the strongest family factor that influences the course of an illness (Mo¨ller-Leimku¨hler , & Jandl, 2011).

The differences between low and high expressed emotion families are remarkable. It appears that low they give a positive nonverbal atmosphere, demonstrate worry for the patient, and attempt to discover answers for issues (Samalin, Blanc, & Llorca, 2010). They cooperate with the patients' recuperation, seeing that they without a doubt have confusion and need bolster instead of feedback keeping in mind the end goal to defeat the obstacles they confront.

Family with low (EE) additionally tends to concentrate on the patients positive characteristics and have faith in the patient's qualities (National Alliance on Mental Illness, 2013). It has been discovered that caregivers of schizophrenia patients, with high (EE) revealed decreased fulfillment of their individual exercises, lessened good faith about their future, and diminished self-adequacy contrasted and low (EE) caregivers. In addition, guardians of high (EE) were less empathic, unbending, and restless than low (EE) caregivers figures (Koutra, et al., 2015).

Many research studies have demonstrated that high (EE) by relatives towards the patient is one of the solid indicators of relapse in schizophrenia. It is settled that high family levels of (EE) are reliably connected with higher rates of relapse in patients with schizophrenia. A considerable lot of the reviews that have occurred in connection to (EE) have exhibited that an abnormal state of (EE) from relatives has coordinate relationship with schizophrenic relapse (Binder, 2016; Koutra et al., 2015; National Alliance on Mental Illness , 2013; and Hooley, 2012). A meta-analysis of 26 studies affirmed that the mean relapse rate was 48% for schizophrenic patients living with high (EE) families and 21% for those in low (EE) families. A far reaching investigation for information from 1,346 schizophrenic patients set up the connection between family caregivers figure's (EE) and relapse, and furthermore the defensive component of lessened face-to-face contact for patients in high (EE) emotion families (Downey, & Zun, 2015 and Sariah, Outwater, & Malima, 2014).

In spite of the fact that the correct explanation behind high or low (EE) states of mind in caregivers is not yet totally uncovered, it has been recommended that (EE) may mostly mirror the level of the patient's symptoms. It appears to be misty which patient's qualities have the most effect on caregivers. A few reviews found that positive insane manifestations are more oppressive, though others reasoned that negative ones are more troublesome for the guardian to manage (Samalin, Blanc,& Llorca , 2010).). The present study is intending to look at to what degree (EE) levels in family caregivers figure were identified with seriousness of symptoms in an agent test of Egyptian and Saudi Middle Eastern schizophrenic patients.

Culture elements additionally likely assume a critical part in deciding family 'demeanors towards patients. Some of these impacts can be negative while others are certain. Family connections and cooperation are only one of the numerous classes that fluctuate extraordinarily from culture to culture over the world. Their commitments to subjective weight of care and ethnic-related issues have been considered in a few settings (Mo¨ller-Leimku¨hler , &Jandl, 2011). Western societies have a tendency to be more expressive with their feelings than Eastern societies and this can largely affect the level of (EE). In Western culture, albeit family esteems are essential, the ideas of family respect and convention are not as unbending as in the East (Downey & Zun , 2015).). Little is known about the impact of culture on the (EE) seriousness in caregivers of patients with schizophrenia. Likewise, it is recommended that the culture standards of the general public must be considered so as to see the full picture of what is happening inside the family condition of schizophrenics' patients.

Unfortunately, many of the studies conducted take into account expressed emotion in families of Western culture yet very few have looked into other Eastern cultures. Studies from the Middle East on this topic have been particularly rare. Further research and replication is necessary to deepen our understanding of Expressed emotion in Egypt and Saudi Arabia families, as few studies have yet addressed this point (Mo¨ller-Leimku¨hler , &Jandl, 2011).

Significance of the Study

An appropriate understanding of the association between high-Expressed Emotion (EE) in family members of schizophrenic patients and severity of symptoms is needed as it has a great impact on the course of rehabilitation

and to improve adaptation of psycho-educational interventions in the Middle East cultures. The current study was done to compare the association between expressed emotion and symptoms severity among caregivers of schizophrenic patients in two Middle East countries (Egypt and Saudi Arabia).

Aim of the Study

The aim of the present study was to assess and compare the association between expressed emotion EE and patients' symptoms severity among caregivers of schizophrenic patients in two Middle East countries (Egypt and Saudi Arabia).

Research Questions

Compare between Saudis and Egyptians samples regarding:

1-What is the level of caregiver's expressed emotion according to Family Attitude Scale (FAS)?

2- What is the symptoms severity among schizophrenic patients according to (PANSS)?

3- Is there a relationship between caregiver characteristics and level of expressed emotion of caregiver by FAS scale?

4- Is there a relationship between patients' characteristics and patients' symptoms severity?

5- Is there a relationship between caregiver's level of expressed emotion (FAS) and patients' severity of symptoms (PANSS)?

Subjects and Methods

Research Design

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

Setting

It is in outpatient clinic at Al-Amal Complex for Mental Health, Dammam, Eastern Provenance Saudi Arabia.Out-patient Clinics at the Psychiatric Medicine and Addiction Prevention Hospital – El Manial University Hospital, Cairo, Egypt.

Sample

The current sample was comprised of 120 Egyptian -Saudi patients with schizophrenia and their primary caregiver; (60) patients and their caregivers from Saudi Arabia, and (60) caregivers and their patients from Egypt. The sample size was estimated based on the following formula that is used for descriptive studies only: $n=N/1+N\ (e)^2$.

n= Sample size, N= study population, E= margin of error which is usually calculated to be (0.5), confidence level=95%. In the current study, the total number of patients (N)=100 in both settings, accordingly, $n= 100/1+100\ (0.5)^2 = 125$ patients and their caregivers . However, the researchers could only recruit 120 patients and their caregivers and a refusal rate of 4% which is considered acceptable.

Inclusion criteria of caregivers are (1) their ages are between 18 and 50 years old (2) they live with patient in same place in the last three months (3) they are able to read (4). **Exclusion criteria of caregivers** are (1) significant intellectual handicap, or diagnosis of psychiatric disease.

Inclusion criteria according to the patient are (1) out of hospital for at least 4 weeks and considered stabilized by his or her treating psychiatrist ;(2) diagnosis of schizophrenia according to the ICD-10 criteria or DSM-IV symptoms, (3) they are first admission and recurrent of admission to hospital more than one time. (4) their age are from 18 to 50. The **exclusion criteria of patient are** suffered substance abuse or had major disabilities, organic brain disorder, dementia or delirium.

Data Collection Tools

Three research tools were used in the current study:

I- Socio-demographic data sheet – This included patient's age, gender, residence, marital status, education, number of admission, and duration of illness. The caregiver' s age, gender, education, occupation.

II- Family Attitude Scale (FAS). This scale was developed by Kavanagh, et al., (1997) measure a person attitude and behaviors toward other person and in the current study it was used to assess caregivers' level of expressed emotions. Family Attitude scale has 30 negative and positive items. The negatives Items are scored (4) every day (3) most days (2) some days (1) very rarely (0) never and reverse the scoring to the positive items. The Family Attitude Scale is divided into three subscales; seven sentences are for the hostile subscale, fourteen are about criticism and nine for distancing (Yu, Kwok, Choy, , & Kavanagh, 2015). The total score arrange between 0 to 120, the higher the scores the higher the expressed emotion. The optimal cutoff point is ≥ 51 to determine level of expressed emotion as low or high (Kavanagh, et al., 2008).

FAS is excellent psychometric assessment of caregiver expressed emotion toward schizophrenic patient, because of associating FAS with Camberwell Family Interview (CFI). When it shows higher scores in hostility and criticism in CFI, it shows higher scores of negative comments in FAS[8]. The tool was translated from English

to Arabic language by three experts of psychiatric nursing and statistics. The reliability of FAS was calculated in the current study and it was (.82) which is considered very good reliability.

III- Positive and Negative Syndrome Scale (PANSS): The scale was developed by Kay, Opler, and Fiszbein (1987). It is a medical scale used for measuring symptom severity of patients with schizophrenia. The scale is measuring two types of symptoms in schizophrenia, as defined by the American Psychiatric Association: positive symptoms, which refer to an excess or distortion of normal functions (e.g., hallucinations and delusions) and it consists of seven questions, and negative symptoms, which represent a diminution or loss of normal functions and it includes seven items , and 16 questions to measure general psychopathology signs and symptoms. The scale is on seven rating items which are (1) = absent, (2) = minimal, (3)= mild, (4)= moderate, (5)= moderate severe, (6)= severe, and (7)= extreme, a patient can not score lower than 30 for the total PANSS score. According to Leucht, et al., (2008) the scores of PANSS can be divided into (58= mildly ill); (up to 75= moderately ill); (up to 95=markedly ill); and (up to 116= severely ill) .The reliability of the (PANSS) was tested in the current study and it was (.79) which is considered respectable.

Procedure

The study purpose was explained to the eligible patients and their caregivers to recruit those who agreed to participate in the study. The tools were filled with each patient and their caregiver and that took 30-45 minutes. The data was collected over three months from December 2016 to February 2017.

Pilot Study

The questionnaire was pretested on a sample equal to 10 % of the total sample size that were not part of the main study. No further medications were done to the scales.

Ethical Considerations

An official permissions were obtained from directors of Al-Amal Complex for Mental Health, Dammam, Saudi Arabia.And the director of Psychiatric Medicine and Addiction Prevention Hospital – El Manial University Hospital, Cairo, Egypt. The participants and caregivers who met the inclusion criteria and agreed to participate in the current study were asked for an oral consent y. Confidentiality and anonymity of the participants' information and freedom to withdraw at anytime during the study were ensured.

Statistical analysis

The data analysis was done by using SPSS version 22 software. Descriptive statistics were used for describing caregiver level of expressed emotion by using Family Attitude Scale (FAS) and patient and characteristics socio-demographic data also for examination clinical history of patient. Frequency and percent were done for qualitative variables and median and Inter Quartile Range for quantitative variable if the variable is abnormally distributed. For correlation test, it was used correlation coefficient (r) and probability of chance (p) for test of significant.

The test of significance was done for comparing variables, if the Chi-Square is not valid when the all cells ≥ 25% and expected count is more than 1 the Fisher's Exact Test and Continuity Correction will be used. The Fisher's Exact Test was used when the all cells > 25% and Continuity Correction was used when all cells = 25%. If the probability of chance is ≤ 0.05 the test was statically significant and for high statically significant the p ≤ 0.01.

Results and Data Analysis

The results part will answer the current research questions in five main sections.

Part One: Socio-demographic and Medical Data

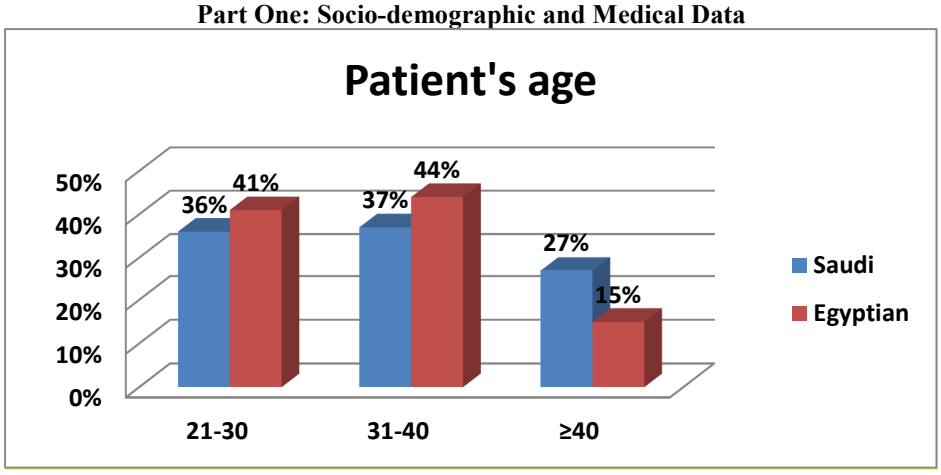

Figure (1) Frequency distribution of Egyptian and Saudi patients according to their age

Figure (1) shows that, less than half of Egyptian patients (44%) and (37%) of the Saudi patient their age ranged between (31-40 years), while (15%) of the Egyptian and (27%) of the Saudi patients their age were more than 40 years.

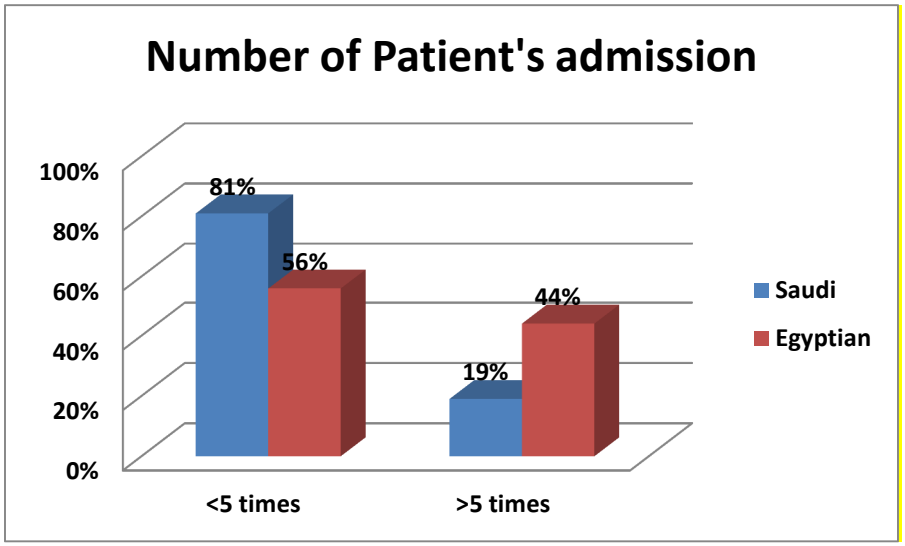

Figure (2) Frequency distribution of Egyptian and Saudi patients according to number of hospital admission

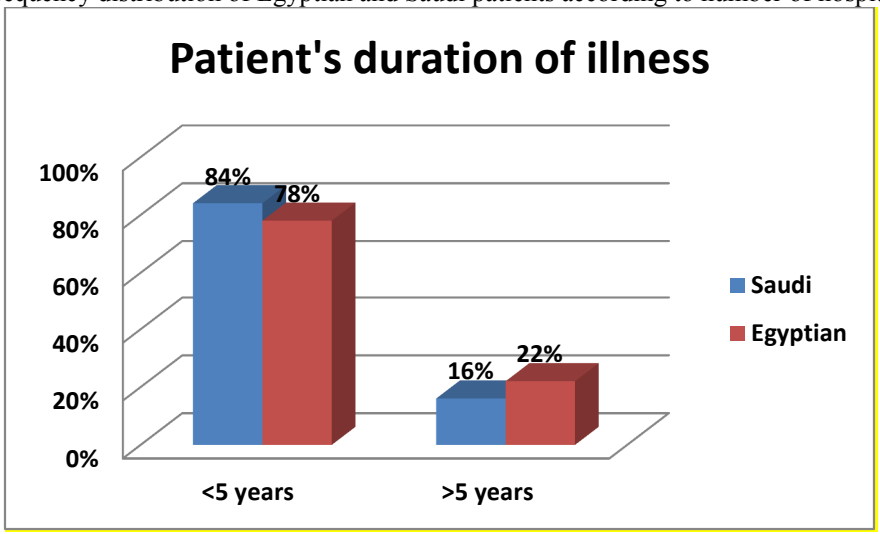

Figure (3) Frequency distribution of Egyptian and Saudi patients according to duration of illness

Figures (2 &3)revel that, majority of Saudi patients (81%) were admitted to hospital less than five times, while (44%) of the Egyptian patients were admitted more than five times to hospital. Also, majority of Saudi and Egyptian patients (84%& 78%) respectively) have duration of illness for less than five years.

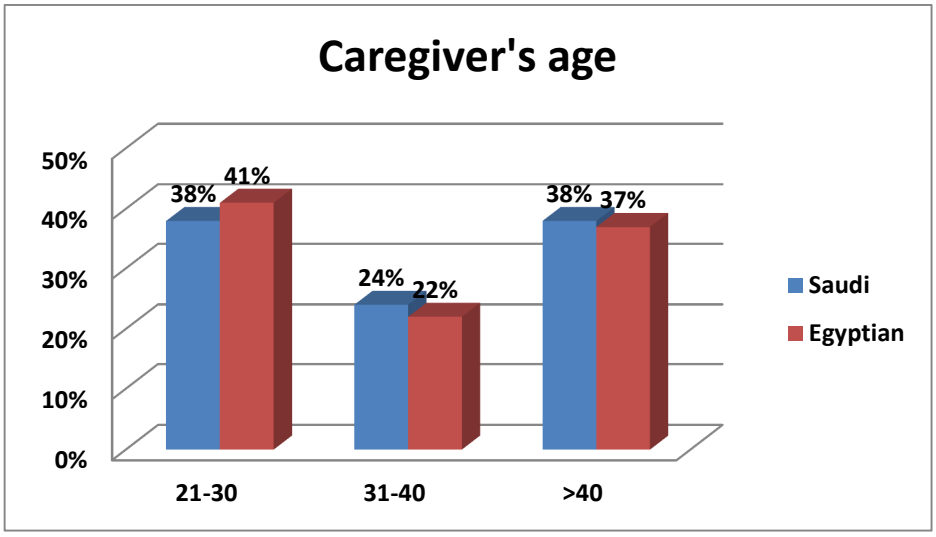

Figure (4) Frequency distribution of Egyptian and Saudi caregivers according to their age

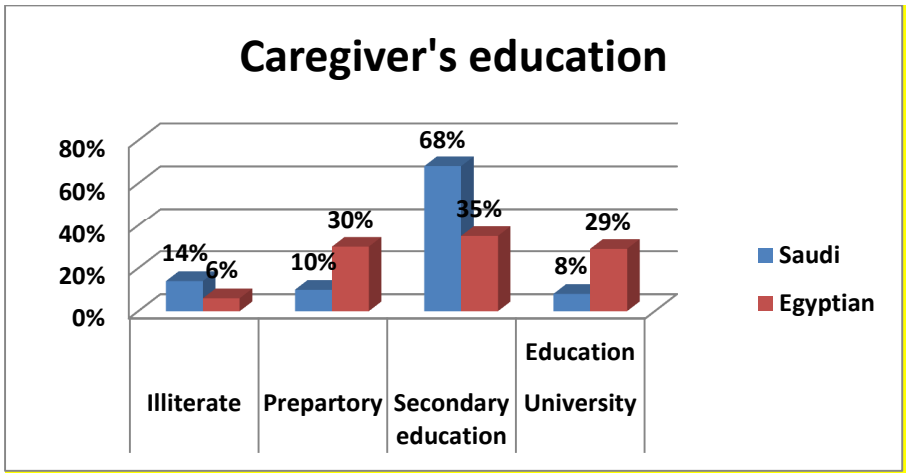

Figure (5) Frequency distribution of Egyptian and Saudi caregivers according to their education

Figures (4&5)revel that, (41%) of Saudi caregivers their age ranged between (21-30 years) and (38%) of the Egyptian caregivers their age was more than 40 years. Moreover, (68%) of the Saudi caregivers had secondary education, while (29%) of the Egyptian caregivers had university education.

Part Two: Levels of FAS AND PANSS

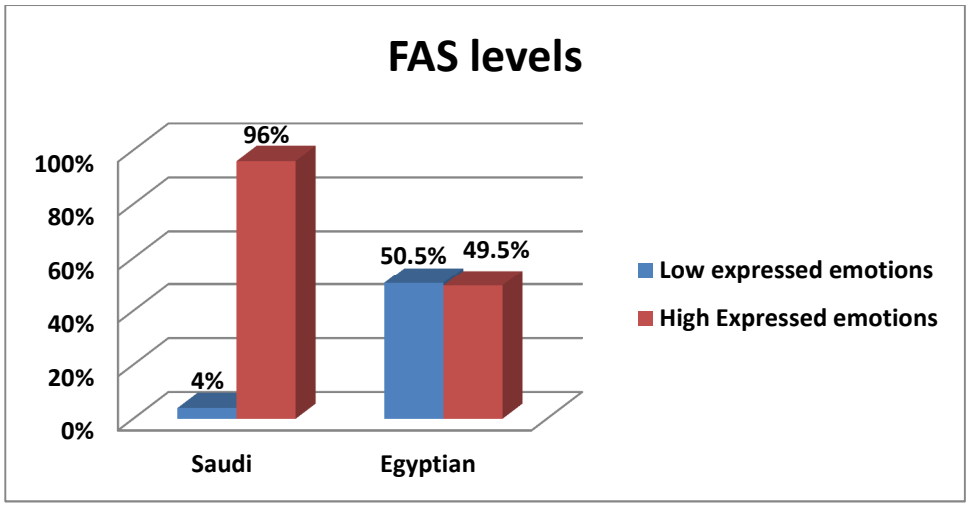

Figure (6) Frequency distribution of Egyptian and Saudi caregivers according to FAS levels

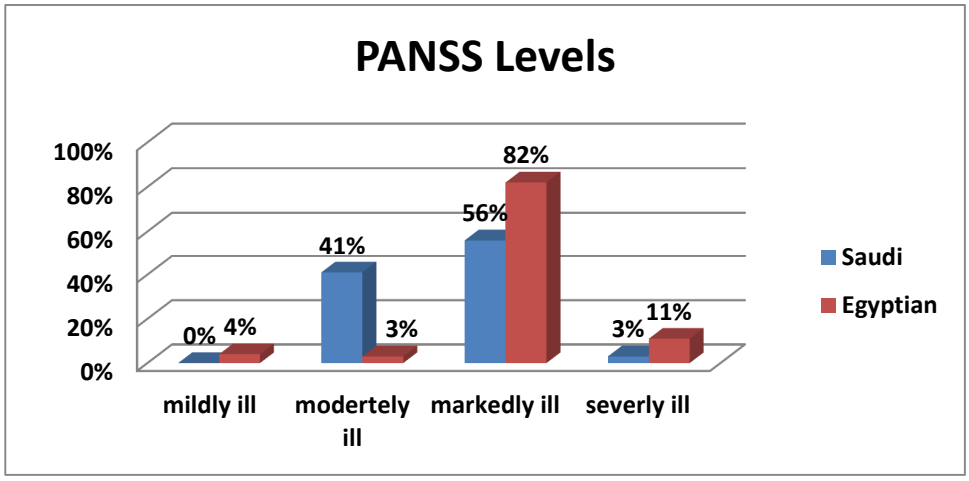

Figure (7) Frequency distribution of Egyptian and Saudi patients according to PANSS levels

Figures (6&7) indicate that, (96%) of the Saudi caregivers had high level of expressed emotions compared to (45.5%) of the Egyptians caregivers. Also, (82%) of the Egyptian patients were markedly ill compared to (56%) of the Saudi patients.

Part Three: Relationship between Patients' Socio-Demographic Characteristics and FAS Levels

Table (1)Relationship between caregiver's FAS levels and Egyptians' and Saudi patients' socio-demographic and medical characteristics (n=120)

Variables		Patient's age	
		X^2	P
FAS levels	Saudi (n=60)	.345	.842
	Egyptian (n=60)	27.529	.000*
	Patient's gender		
	Saudi (n=60)	1.541	.214
	Egyptian (n=60)	1.541	.214
	Patient's employment status		
	Saudi (n=60)	.853	.356
	Egyptian (n=60)	22.930	.000*
	Patient's education		
	Saudi (n=60)	1.961	.531
	Egyptian (n=60)	24.465	.000*
	Number of patient's admission		
	Saudi (n=60)	.977	.323
	Egyptian (n=60)	2.202	.138
	Duration of patient's illness		
	Saudi (n=60)	10.792	.001*
	Egyptian (n=60)	9.385	.002*

*significant<0.05

Table (1) shows that there were statistically significant relationships between FAS and Egyptian patient's age, employment status, education, and duration of illness as (X^2=27.529, p=.000; X^2=22.930, p=.000; X^2=24.466, p=.000) respectively. However, there was no significant statistical relationship between the Saudi patient's socio-demographic and medical data and FAS levels expect for duration of patient's illness as (X^2= 10.792, p=.001).

Table (2)Relationship between FAS levels and Egyptians' and Saudi caregivers' socio-demographic characteristics (n=120)

Variables		X^2	p
		Caregiver's age	
FAS levels	Saudi (n=60)	.395	.821
	Egyptian (n=60)	19.017	.000*
	Caregiver's gender		
	Saudi (n=60)	.620	.431
	Egyptian (n=60)	.620	.431
	Caregiver's marital status		
	Saudi (n=60)	6.870	.076
	Egyptian (n=60)	8.585	.014*
	Caregiver's employment status		
	Saudi (n=60)	.302	.583
	Egyptian (n=60)	.169	.681
	Caregiver's education		
	Saudi (n=60)	1.679	.642
	Egyptian (n=60)	45.843	.000*
	Caregiver's residence		
	Saudi (n=60)	1.175	.278
	Egyptian (n=60)	3.076	.079
	Caregiver's relation to the patient		
	Saudi (n=60)	15.459	.004*
	Egyptian (n=60)	13.149	.011*

*significant<0.05

Table (2) reveals that, there were statistically significant relationships between FAS levels and Egyptian caregivers' age, marital status, and caregiver' relation to the patientas (X^2=19.017, p=.000; X^2=8.585, p=.014; X^2=45.843, p=.000; and X^2=13.149, p=.011) respectively. On the other hand, there were no significant statistical relationships between the Saudi caregivers' socio-demographic and FAS levels, however, the relation to the patient was statistically significant (X^2= 15.459, p=.004).

Table (3-a)Relationship between PANSS scores and Egyptians' and Saudi patients' socio-demographic and medical characteristics (n=120)

		Patient's age	
		F	P
Total Negative symptoms scores	Saudi (n=60)	3.824	.025*
	Egyptian (n=60)	1.355	.263
Total positive symptoms scores	Saudi (n=60)	3.233	.044*
	Egyptian (n=60)	2.013	.139
Total general psychopathology scores	Saudi (n=60)	.581	.561
	Egyptian (n=60)	1.436	.243
		Patient's gender	
		t	P
Total Negative symptoms scores	Saudi (n=60)	1.386	.169
	Egyptian (n=60)	.564	.574
Total positive symptoms scores	Saudi (n=60)	1.784	.078
	Egyptian (n=60)	.359	.721
Total general psychopathology scores	Saudi (n=60)	1.685	.095
	Egyptian (n=60)	.317	.752
		Patient's work	
		t	P
Total Negative symptoms scores	Saudi (n=60)	3.952	.002*
	Egyptian (n=60)	.740	.461
Total positive symptoms scores	Saudi (n=60)	3.900	.001*
	Egyptian (n=60)	.777	.441
Total general psychopathology scores	Saudi (n=60)	.888	.381
	Egyptian (n=60)	1.424	.158

*Significant<0.05

Table (3a) illustrates that, there was statistically significant relationship between Saudi patients' age and total negative symptom scores as (F= 3.824, p=.025); and there was statistically significant relationship between Saudi patients' age and total positive symptoms scores as (F= 3.233, p=.044), however, there was no statistical significant relationship between Egyptian patients' age and total negative symptoms, total positive symptoms, and total general psychopathology scores. Regarding patient's gender there were no statistical relationship between total negative symptoms, total positive symptoms, total general psychopathology scores and Egyptian and Saudi patients' gender. Concerning the patients' work, Saudi patients show statistical significant relationships with total negative symptoms as (t=3.952, p=.002) and total positive symptoms scores as (t=3.900, p=.001).

Table (3-b)Relationship between PANSS scores and Egyptians' and Saudi patients' socio-demographic and medical characteristics (n=120)

		Patient's education	
		F	p
Total Negative symptoms scores	Saudi (n=60)	27.507	.000*
	Egyptian (n=60)	.290	.833
Total positive symptoms scores	Saudi (n=60)	17.512	.000*
	Egyptian (n=60)	.522	.668
Total general psychopathology scores	Saudi (n=60)	.988	.402
	Egyptian (n=60)	.783	.506
	Number of patient's admission		
		t	p
Total Negative symptoms scores	Saudi (n=60)	3.382	.001*
	Egyptian (n=60)	.010	.992
Total positive symptoms scores	Saudi (n=60)	3.622	.001*
	Egyptian (n=60)	.840	.401
Total general psychopathology scores	Saudi (n=60)	2.496	.014*
	Egyptian (n=60)	1.400	.165
	Duration of patient's illness		
		t	p
Total Negative symptoms scores	Saudi (n=60)	1.427	.165
	Egyptian (n=60)	1.004	.323
Total positive symptoms scores	Saudi (n=60)	.160	.844
	Egyptian (n=60)	.012	.991
Total general psychopathology scores	Saudi (n=60)	2.847	.000*
	Egyptian (n=60)	.299	.767

*Significant<0.05

Table (3-b) revels that, Saudi patients' education was statistically significant relationships with total negative symptoms as (F=27.507, p=.000) and total positive symptoms as (F= 17.512, p=.000). In addition, the number of Saudi patients' admission was statistically significant related with total negative symptoms as (t=3.382, p=.001) and total positive symptoms as (t= 3.622, p=.001), and total general psychopathology scores (t=2.496, p=.014). Moreover, Saudi patients' duration of illness was statistically significant related with total general psychopathology scores as (t=2.847, p=.000). On the other hand, there were no statistical significant relationship between Egyptian patients' socio-demographic and medical data and total negative symptoms, total positive symptoms, and total general psychopathology scores.

Part Four: Relationship between FAS and PANSS

Table (4)Correlation matrix among total FAS subscales and total PANSS subscales (n=120)

		Total positive symptoms scores		Total Negative symptoms scores		Total general psychopathology scores	
		Egyptians (n=60)	Saudis (n=60)	Egyptians (n=60)	Saudis (n=60)	Egyptians (n=60)	Saudis (n=60)
Hostile subscale	r	.004	.188	.005	-.073	.129	.238
	p	.966	.061	.959	.473	.199	.017*
Criticism subscale	r	-.016-	.262	-.018	-.159	.124	.221
	p	.871	.008**	.856	.114	.219	.027*
Distancing subscale	r	-.054-	.264	.027	-.153	.152	.213
	p	.596	.008**	.791	.128	.131	.034*
FAS	r	-.027-	.367	.003	-.292	.150	.274
	p	.793	.000**	.974	.003**	.137	.006**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed)

Table (4) shows that, Saudi patients ' total positive symptoms subscale was highly statistically significant positively related with caregivers' total criticism subscale and as (r=.262, p=.008) and with total FAS scores as (r=.7367, p=.000). Also, there was a statistical significant inverse relationship between Saudi patients' total negative symptoms and caregivers' total FAS score as (r=-.292, p=.003). Moreover, there were statistical significant positive relationship between Saudi patients' PANSS subscales and total FAS subscales. However, there was no significant relationship between the Egyptian patients' PANSS subscales and total caregivers' FAS subscales.

Discussion

The schizophrenialiteraturedemonstratesthathavingahigh-EEfamilymember is typically associated with greater patient symptom severity. The primary objective of the present study was to attempt to find similar evidence for this finding. This study was carried out to provide insight into the understanding of the association between high-Expressed Emotion (EE) in family members of schizophrenic patients and severity of symptoms as it has a great impact on the course of illness (El-Tantawy, et al., 2014).

Concerning the socio-demographic characteristics, the current study revealed that less than half of the Egyptian and Saudi patients their age ranged between 31-40 years.

It is also interesting to note that, this finding is similar to the results of Koutra, et al., (2015) who conducted a study to identify the socio-demographic and clinical determinants of family functioning in Greek patients with psychosis, the study was done on (66) patients and the results revealed that (34%) of them their age ranged between 17 to 4o years. Also, El-Tantawy et al., (2014)[(15)]performed a study to explore stigma and expressed emotions among people with severe psychiatric illnesses and their family members; the study revealed that the mean age of the patients was (32.9±13.5) years. This result might be related to that this is the age of the active phase of schizophrenia in which most of the patients might be admitted to the hospital to control their symptoms.

Regarding the patients' number of admission, the study revealed that majority of Saudi patients and more than half of the Egyptian patients were admitted less than five times.

These findings are congruent with Koutra, et al., (2015) who found 50.0% had one hospitalization and 40.0%had 2–4 hospitalizations. These findings might be related to the increased relapse rate of schizophrenic patients as reported by many studies for example; Emsley et al., (2013) pointed out that severity of symptoms and relapse rates are very high when treatment is discontinued, even after a single psychotic episode. During the data collection, the researchers noted that many of the Saudi and Egyptian caregivers complained that the patients refuse to take their medications specifically after being discharged from the mental hospital, and they usually re-hospitalized again after few weeks from being discharged from the hospital.

As regards the patient's duration of illness, the current study indicated that the majority of the Egyptian and Saudi patients had duration of illness for less than five years. These results contradict with the findings of Kourta et al., (2015) who found in their study that the patients had duration of illness between 15and 39 years of age. These results might be related to the young age of the sample in both Saudi and Egyptians patients as was reported in the results.

Concerning the levels of FAS, the Saudi sample showed high EE compared to Egyptian sample. This finding might be due to the Saudi culture constraints that might impact the family members' ability to express their emotions in relation to caring of mentally ill patients.

On the other hand, regarding the levels of PANSS, the Egyptians and Saudi patients showed marked

degree of illness severity. The one reason behind that might be related to the tremendous reports in the literature that point out those schizophrenic patients are most likely to be non-adherent to their medications which affect their symptom severity and lead to re-hospitalization.

Based on the current study's finding that showed significant relationship among Egyptian patients' socio-demographic and medical characteristics and caregivers' EE levels, however, the Saudi patients' socio-demographic and medical characteristics did not show any statistical significant relationship with caregiver's EE levels. These finding are consistent with the results of Breitborde, López, Aguilera, and Kopelowicz, (2013) who found that caregivers' EE was correlated with some of patients' socio-demographic characteristics as patient's education. Also, Gurak and Mamni, (2015), found that patient's occupation and gender were correlated with caregiver's EE.

Additionally, Koutra et al., (2015) demonstrated a variety of caregivers' and patients' socio-demographic characteristics which are related to EE, such as the caregiver's not being a spouse or being a father, being unemployed and the patient's being young and unmarried, as well as having low levels of education as stated by (Carra et al., 2012).

The current research revealed that there were statistically significant relationships among Saudi patients' socio-demographic and medical characteristics and PANSS scores. This is in the same line with Sharif, Shaygan, and Mani, (2012) who found that patient's age and gender were statistical predictors of patients' symptom severity.

Also, El-Tantawy et al., (2014) revealed the same findings and reported that the patients' socio-demographic and clinical characteristics were correlated with patient's severity of negative symptoms. As it was observed by the researchers in the Egyptian or Saudi clinical settings, the patient's age, gender, education, and duration of illness can affect the presence and severity of psychiatric symptoms.

The current results seem to further lend support to the idea that high- and low-EE relatives may impact patient symptom severity as there were statistical significant relationships between caregiver's EE and patient symptom severity in both the Egyptian and Saudi samples. These findings were support by many researches (El-Tantawy, 2014; Carrà, Cazzullo & Clerici, 2012; Amaresha &Venkatasubramanian, 2012; El-Masri, 2011; and El-Tantawy, 2010). These research studies confirmed in different samples from different cultures that there is a relationship between severity of psychiatric symptoms and caregivers' expressed emotion.

These results might be due to the lack of available psychological and emotional support for the mentally ill patients' family caregivers who are being challenged on a daily basis to provide care for a patient with tremendous needs and at the same time they have to care for their own needs. Those caregivers as being observed during data collection face the public stigma that affects their help seeking behaviors, lead them to be socially isolated and psychologically exhausted.

More recent studies have also repeatedly demonstrated that patients with schizophrenia who returned to live with their families that demonstrated high-EE level tended to relapse and their symptom severity increases twice as likely within 6 to 9 months post-hospital discharge compared to their counterparts who returned to low-EE households (Jansen, et al., 2014).

Conclusion

The study concluded that, Egyptian patients' socio-demographic and medical characteristics differ with FAS levels; however, Saudi patents did not. On the other hand, PANSS scores differs Saudi patients' socio-demographic and medical characteristics. FAS and PANSS was positively correlated which means whenever the patient's symptoms increase in the intensity, the family caregivers EE will increase. In addition**,** the study findings will encourage the Health services teams to work toward increasing the awareness of all families in general & families having psychotic patients in particular by teaching them how to communicate with their patient through low of expressed emotion. Furthermore, we can make some Pamphlets containing guiding instructions sections. Also, broadcasting the awareness into media like in health magazine and newspapers. Additionally, the community awareness will decrease of readmission of patient, decrease cost of organization, and increase better prognosis.

Recommendations

- Although our results are interesting, replication and augmentation in bigger and additionally longitudinal studies are surely required; besides, with bigger sample sizes.
- Future research ought to additionally analyze EE and also inspect its distinctive segments independently (e.g., criticism, EOI).
- It will also be important to further analyze high-EE statements using different dimensions. For example, it would be useful to identify the impact of critical statements that appear purely rejecting (i.e., critical, hostile, or intrusive) versus those that are more constructive in nature (i.e., lively expressions of care and concern and/or direct and constructive feedback about patient behaviors).

- Additionally, future research should further explore how EE manifests and is perceived across cultures.
- Develop specialized nursing interventions program to care for family caregiver and mange their psychological and emotional problems that result from caring for mentally ill patients.
- Health education for patients and family caregivers about medication adherence and how to avoid relapse among mentally ill patients.
- Further research studies need to focus on caregivers certain characteristics and their association with the level of EE.

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