ORIGINAL ARTICLE

DEPRESSIVE SYMPTOMS AND ASSOCIATED SOCIO DEMOGRAPHIC FACTORS AMONG FAMILY MEMBERS OF PATIENTS ADMITTED IN ICU

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ABSTRACT

OBJECTIVE
To determine the prevalence of depressive symptoms among relatives of patients admitted in Intensive Care Unit (ICU) and analyze the associated socio demographic factors.

DESIGN
Observational study.

PLACE OF STUDY
Intensive Care Unit (ICU) CMH RWP.

SUBJECTS AND METHOD
84 relatives of patients who were admitted in ICU for more than 48 hours participated in the study. Depressive symptoms were assessed and categorized by using Beck Depression Inventory (BDI). Age of subject, monthly income, education, smoking, duration of patient in ICU, duration of illness, knowing the nature and prognosis of disease and daily briefing of patient's condition by ICU physician were recorded on a profarma.

RESULTS
42.8% of the subjects did not show any depressive symptomatology, mild symptoms were present in 39.3%, 14.3% showed moderate symptoms and 3.6% had severe depressive symptoms. Age of subject, duration in ICU, knowledge about nature and prognosis of disease, the level of family income, female gender, and duration of illness had significant associations with depressive symptoms (p-value<0.05) when the χ^2 was applied.

CONCLUSION
High prevalence of depressive symptoms was observed among family members of ICU patients. Special attention should be paid to elderly female family members or those with low socioeconomic background whose patients are admitted for longer durations or have poor prognosis.

KEY WORDS
Depressive symptoms, ICU patients, Relatives.

INTRODUCTION

Any illness which requires long admission or has poor prognosis affects the relatives of the patient[1, 2]. A review of literature in Belgium showed that relatives of patients with traumatic brain injury experience stress and anxiety for years and require medical intervention [3]. Situation in USA is similar, prevalence of psychiatric morbidity is found high among family members of critically ill patients[4-6].

Relatives of patients suffering from life threatening diseases and admitted in ICU are more prone to mental health issues. A Prospective multicenter study done in France showed that a large bulk of relatives and family members of patients admitted in ICU suffer from symptoms of depression or anxiety[7]. Complains like Fear, fatigue, sadness etc. were found high among relatives of ICU patients in a study done in US. Frequency of traumatic stress, anxiety and depression was also alarming[8].

Data collected from multiple ICUs for a multicenter research project concluded that percentage of mental health issues among relatives of ICU patients was very high and was independent of condition of patient at the end of the stay[9]. High frequency of anxiety leading to PTSD was found among next of kin of intensive care patients in a recent study done in Australia[10].

In subcontinent situation is not very different. ICU admissions in India are very high, millions of patients avail this expensive health care facility around the year [11]. Symptoms of PTSD were reported in majority of people who were taking care of a relative admitted in ICU of an Indian hospital[12]. A multi-center study done in India and USA concluded that magnitude of this problem is greater in Indian population as compared with American cohort[13]. A study done in Pakistan on family caregivers of overall admitted patients in the hospital revealed that anxiety and depression among them was very appreciable[14].

Psychological impact of admission of a family member in ICU is influenced by multiple factors related to patient, family and environment and staff of ICU[7, 15]. They include duration, severity and prognosis of illness, age of patient, being spouse of the patient or female relative, more than one patient in a room, not involving family members in decision making and the staff of ICU being perceived as non coperative[7,9,16,17].

Very little data is available about this problem in our region so this study was planned to assess the frequency and correlates of depression among relatives of ICU patients in our set up.

METHODS

Participants

Ethical approval was taken from ethical committee of CMH and this observational study was planned from March 2015 to May 2015. Family members of patients admitted in ICU for more than 48 hours were included the study. All participants were above 18 years of age and gave written informed consent. Family members with current or past history of any surgical or medical illness that is known to be associated typically with psychiatric symptoms or with any mental illness or with past or current substance use and those who could not complete the required questionnaires were not included in the study.

Instruments

Beck Depression Inventory (BDI) was used to look for the presence of symptoms of depression among the target population. The BDI-II (Beck, Steer and Brown, 1996) is a self administered standardized tool consisting of 21 items. Presence and severity of all major aspects of depression are covered by this tool. A 4-point scale (0–3) is used to rate all the items.

Procedure

All consenting participants were given complete reassurance of confidentiality. Detailed description of the study was provided to all the subjects. Inclusion was strictly based on informed written consent. Detailed history taking enabled us to exclude all the subjects with confounding variables. BDI was administered to the subjects who met inclusion criteria. The BDI scores were interpreted as follows for assessing the severity of depressive symptoms[18]: normal (0–9), mild depressive symptoms (10–16), moderate depressive symptoms (17–29) and severe depressive symptoms (30–63). The socio-demographic data of subjects was entered in a structured anonymized form.

Chi-square was used to determine the between-group variances among categorical correlates. Statistics Package for Social Sciences version 20.0 was used to perform all the statistical analysis. Differences between groups were considered significant if p-values were less than 0.05.

RESULTS

60 participants were male and 24 were female. Out of these 42.8% of the subjects did not show any depressive symptomatology, mild symptoms were present in 39.3%, 14.3% showed moderate symptoms and 3.6% had severe depressive symptoms. As shown in Table 1, duration in ICU, age of subject, knowledge about nature and prognosis of disease, the level of family income, female gender, and duration of illness had significant associations with depressive symptoms (p-value<0.05) when the χ^2 was applied.

Table 1
Comparison of socio demographic characteristics by presence and severity of depressive symptoms

Socio demographic factors	N0 depressive symptoms		Mild Depressive symptoms		Moderate Depressive symptoms		Severe Depressive Symptoms		χ2	p-value
Total	(0-9)		(10-16)		(17-29)		(30-63)			
	N	%	N	%	N	%	N	%		
	36	42.8	33	39.3	12	14.3	03	3.6		
Age										
<35	16	44.4%	15	45.4%	00	00%	00	00%	10.688	0.001
35 or more	20	55.6%	18	54.6%	12	100%	03	100%		
Education										
12 or less	18	50%	18	54.6%	06	50%	03	100%	2.859	0.261
>12	18	50%	15	45.4%	06	50%	00	00%		
Duration in ICU										
<1 week	15	41.6%	12	36.3%	06	50%	00	00%	21.571	0.009
1-2 weeks	18	50%	15	45.5%	06	50%	00	00%		
>2 weeks	03	8.4%	06	18.2%	00	00%	03	100%		
Knowledge about nature and prognosis of disease										
No	24	66.7%	12	36.4%	00	00%	00	00%	20.152	0.000
Yes	12	33.3%	21	63.6%	12	100%	03	100%		
Family income										
<Rs.15000	09	25%	09	27.3%	12	100%	03	100%		
Rs. 15000 or more	27	75%	24	72.7%	00	00%	00	00%	28.259	0.000
Tobacco smoking										
Non Smoker	21	58.4%	21	63.6%	06	50%	03	100%	2.722	0.288
Smoker	15	41.6%	12	36.4%	06	50%	00	00%		
Gender of subject										
Male	33	91.7%	24	72.7%	03	25%	00	00%	27.427	0.000
Female	03	8.3%	09	27.3%	09	75%	03	100%		
Daily briefing by ICU physician									7.382	0.010
No	12	33.3%	12	36.4%	00	00%	00	00%		
Yes	24	66.7%	21	63.6%	12	100%	03	100%		
Duration of illness										
<3months	30	83.3%	21	63.6%	06	50%	00	00%	12.310	0.004
3months or more	06	16.7%	12	36.4%	06	50%	03	100%		

DISCUSSION

Results showed that 57.2% of participants showed depressive symptoms most of which were mild but 14.3% had moderate and 3.6% had severe depressive symptoms comparable to the results of similar study done in our neighboring country[13]. Studies done in western countries also show similar results but with lower numbers[13, 19]. Multiple factors contribute to psychiatric morbidity in relatives of patients admitted in ICU. Seeing your loved one in a critical disease with very slow recovery and uncertain prognosis is a main factor especially in our setup where there is close bonding between relatives. Another key factor may be economic as in a developing country like ours where health provision is not free of cost and most of our general population cannot afford expenses of admission in ICU. Even family members of patients admitted in medicine and surgery wards are at high risk of mental health issues in our country[14].

Increase in age of relative and female gender was associated with presence of depressive symptoms. Association of female gender is in accordance with the foreign literature[8,13] while that of increasing age is reverse to it. This is may be due to more dependence in old age and if patient is earning hand of family then dependent family members including females and elderly people are affected most in our set up.

Family income and duration of illness are also associated with mental health morbidity in our study. Same is proved in studies done in past[3, 13]. As a result of care responsibilities relatives have to adjust their activities and compromise the time and attention at work place and as the disease prolongs these irregularities from work put a serious financial burden.

In our study knowledge about nature and prognosis of disease was associated with presence of depressive symptoms. This is opposite to what reported in foreign literature20. Daily briefing by ICU physician was not associated with depressive symptoms in our data set. Study done in Iran reveals this factor to be protective against psychiatric morbidity and regards it as source of hope among the relatives.

LIMITATIONS

The major limitation of our study is the use of tool for depressive symptoms without having baseline results of the study population prior to the admission of their relative to ICU. We cannot, therefore, hypothesize that the depressive symptoms were a consequence of admission of relative in ICU. The sample size and use of self-administered questionnaire pose methodological issues as well. The findings cannot be generalized as our study population was not selected from a randomized sample of all the relatives of patients admitted in ICUs of our setup. Another limitation is the chance that the subjects may underreport or over-report symptoms on self-administered questionnaire like BDI. We suggest further studies on a broader based and a more representative sample size using locally developed and standardized psychometric tools in subsequent studies on the subject.

CONCLUSION

High prevalence of depressive symptoms was observed among family members of ICU patients. Special attention should be paid to elderly female family members or those with low socioeconomic background whose patients are admitted for longer time with disease having poor prognosis. The findings of our study also call for a greater degree of social support and understanding of the psychosocial state of relatives of patients admitted in ICU.

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