ORIGINAL ARTICLE

Prevalence and nature of psychiatric referrals from Intensive Care Unit of a teaching hospital

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Abstract

Introduction: *Patients admitted to intensive care unit (ICU) are diagnosed with various disorders. There is limited literature on the prevalence of psychiatry disorders in patients admitted to ICU. The aim of the study was toestimate the prevalence and nature of psychiatric referrals from ICU.*

Material And Method: *Hundred consecutive patient admitted to the ICU (both medical ICU and CCU)in Nepalgunj Medical College Teaching Hospital (NGMCTH), Kohalpur, Nepal and referred to psychiatry department were enrolled for the study. Study was conducted from October 14, 2017 to June 14, 2018. Informed consent was taken and patients were interviewed by two psychiatrists in different occasions separately and other relevant history was obtained from next of kin. Socio-demographic variables, referring department, reason for referral, purpose of referral, major symptom for referral were the major variables. Psychiatric diagnosis was made using the ICD-10. Data was analyzed using Statistical Package for the Social Sciences (SPSS) version 21.0 for Windows.*

Results: *During the study period the total patients admitted to the ICU was 787 among which 100 were referred to psychiatry department. Psychiatry referral rate was 7.87%, average patients referred were 2.4 per day. Psychiatry morbidity was 8.11%. The mean age was 36.87+12.81 years. Most of the patients were female, and from urban background. The most common diagnosis was alcohol use disorder (AUD) followed by intentional self harm (ISH) and delirium respectively. Organic disorder and dissociative disorder were the only disorders significantly associated ($p<0.05$) with the age of the patient. AUD ($p=0.007$) and ISH ($p=0.011$) was common in female compared to males and the difference was statistically significant.*

Conclusion: *Psychiatric referral rate and psychiatry morbidity was low.*

Keywords: ICU, Psychiatry, Referral

INTRODUCTION

Intensive Care Unit (ICU) is a ward where physicians and nurses observe and treat desperately ill patients 24 hours a day and it serves patients from all branches of medicine. The primary goal of ICU is to restore and maintain the function of vital organs, enhancing the chance of survival.[1] In recent years ICU has been an integral part of multispecialty hospital where medical and surgical care can be given under constant supervision. Patient admitted to ICU generally present with chronic or life threatening physical conditions who may need various life supports and different medications including sedatives and analgesics. These days patients with psychiatric disorders are also primarily admitted to ICU for round the clock care, while on the other hand, ICU stay itself can lead to various psychiatric disorders including anxiety[2], depression[3] and post-traumatic stress disorder.[4]

Studies from all over the world have shown a direct association of mental disorders and

severity of chronic physical conditions in people of all age group.[5–7] In a multispecialty hospital, psychiatry consultations are sought by various departments including ICU. Psychiatric morbidity is common in patients admitted in ICU [8,9] and psychiatry consultations are sought for various conditions including delirium[10], substance dependence[11] and other psychiatric disorders[9]. There are only a few publications regarding studies conducted in ICU from Nepal and publications regarding psychiatric disorders in ICU patients are lacking.[12,13] Most of the studies conducted in Nepal regarding psychiatry referrals are based on patients referred from various other departments to psychiatry. We could not find any literature from Nepal related to prevalence of psychiatry disorders in ICU and nature of psychiatric referrals from ICU. Present study was undertaken to determine the prevalence and nature of psychiatric disorders in ICU.

MATERIAL AND METHOD

The study was conducted in Nepalgunj Medical College Teaching Hospital (NGMCTH), Kolhapur, Nepal. NGMCTH is situated in Banke district of Nepal and is one of the largest hospitals in West Nepal. The ICUof the hospital consists of 17 bedded Medical ICU and 6 bedded Cardiac Care Unit (CCU). Hundred consecutive patient admitted to the ICU (both medical ICU and CCU) and referred to psychiatry department were enrolled for the study. It took 240 days; from October 14, 2017 to June 14, 2018 to enroll all the patients. Informed consent was taken from the patient or next to kin. The patients were interviewed by two psychiatrists in different occasions separately and other relevant history was obtained from next of kin. Socio-demographic variables, referring department, reason for referral, purpose of referral, major symptom for referral were the major variables. Psychiatric diagnosis was made using the ICD-10.[14] Data was analyzed using Statistical Package for the Social Sciences (SPSS) version 21.0 for Windows.

RESULT

During the study period the total patients admitted to the ICU was 787 among which 100 were referred to psychiatry department. Psychiatry referral rate was 7.87%. Average patients referred were 2.4 per day. Among 100 patients referred, 97 of them had psychiatric morbidity and assuming psychiatry disorders absent in non-referred patients, psychiatry morbidity was found to be 8.11%. Table 1 shows the sociodemographic characteristics of the subjects. Male constituted 43% of the subjects while female 57%. Majority of the subjects were from urban background (59%) and 97% of the subjects were Hindu by religion. Seventy six percent of the patient had some form of education.

Table 1: Socio-demographic Characteristics Of the Patients

Characteristics		Frequency/%
Sex	Male	43
	Female	57
Place of Residence	Urban	59
	Rural	41
Religion	Hindu	97
	Muslim	3
Education	No education	24
	Some education	76

Table 2 shows the distribution of subjects based on age group and diagnosis. More than half of the patients were aged between 30 to 49 years. The mean age was 36.87+12.81 years. The most common diagnosis was alcohol use disorder(22%) followed by intentional self harm (20%) and delirium (19%) respectively. There was no statistically significant association of these three disorders with age of the patient. Organic disorder and dissociative disorder were the only disorders significantly associated ($p<0.05$) with the age of the patient.

Table 3 shows the distribution of subjects based on diagnosis and age. Alcohol use disorder (AUD) was observed in 15 males and 7 females and the difference was statistically significant ($p=0.007$). Similarly ISH was common in female compared to males and the difference was statistically significant (17 vs 3; $p=0.011$).

Table 2:Distribution of subjects according to diagnosis and age

Diagnosis	Age Range in years; N						Total (%)	p value
	10-19	20-29	30-39	40-49	50-59	≥60		
No diagnosis	2	0	0	0	1	0	3	0.021*
Organic disorder	0	0	1	0	0	2	3	0.000*
Delirium	1	2	5	4	5	2	19	0.246
Epilepsy	0	0	3	0	0	0	3	0.315
Alcohol Use Disorder	0	2	9	6	5	0	22	0.095
Opioid Use disorder	0	1	0	0	0	0	1	0.506
Cannabis use disorder	1	1	0	0	0	0	2	0.322
Psychosis	0	0	3	1	1	0	5	0.709
Depression	0	3	4	3	0	0	10	0.422
BPAD	0	0	1	1	0	0	2	0.813
Anxiety Disorder	0	1	1	0	0	0	2	0.835
Dissociative disorder	2	3	0	0	0	0	5	0.022*
Insomnia	0	0	1	0	0	0	1	0.866
Intentional self harm	4	6	5	3	1	1	20	0.106
Others	0	0	2	0	0	0	2	0.580
Total	10	19	35	18	13	5	100	

*: Statistically significant

Table 3: Distribution of subjects according to diagnosis and sex

Diagnosis	Male	Female	Total	p value
No diagnosis	2	1	3	0.401
Organic disorder	0	3	3	0.127
Delirium	8	11	19	0.930
Epilepsy	3	0	3	0.045*
Alcohol Use Disorder	15	7	22	0.007*
Opioid Use disorder	1	0	1	0.247
Cannabis use disorder	2	0	2	0.100
Psychosis	4	1	5	0.086
Depression	2	8	10	0.121
BPAD	0	2	2	0.215
Anxiety Disorder	1	1	2	0.840
Dissociative disorder	0	5	5	0.046*
Insomnia	0	1	1	0.383
Intentional self harm	3	17	20	0.011*
Others	2	0	2	0.100
Total	43	57	100	

Table 4: Purpose Of referral

Purpose of referral	Frequency/%
For psychiatry diagnosis and management	45
To rule out psychiatry d/o	18
Counselling	24
Prevent suicide	4
Evaluation of psychiatry medications	7
Associated psychiatry management	2

The most common purpose of referral was for psychiatry diagnosis and management (45%) followed by counselling (24%) and to rule out psychiatry disorder (18%). (Table 4)

As shown in table 5 the most common reason for referral was predominant psychiatry symptoms exhibited by the patient (42%) followed by psychiatric symptoms coexisting with physical illness (32%)

Table 5: Reason For Referral

Reason for referral	Frequency/%
Predominant psychiatric symptoms	42
Psychiatric/Mental symptoms coexisting with physical illness	32
No physical illness	17
Past history of psychiatric disorder	6
Organic illness	1
Others	2
Total	100

Similarly most common symptom exhibited by the patients for referral was self harm and violence (25%) followed by altered sensorium (22%) (Table 6)

Table 6: Most Common Symptom For Referral

Symptoms	Frequency/%
Irrelevant talks	7
Fainting spells	5
Altered sensorium	22
Somatic symptoms	3
Sleep disturbance	4
Suicidal ideations/acts	3
Altered mood	6
Anxiety symptoms	2
Self harm and violence	25
Seizure	4
Others	6
Disorientation	13
Total	100

DISCUSSION:

In the present study, psychiatry referral rate from ICU was 7.87% with an average of 2.4 patients referred per day. Bhogale et al.[15] found psychiatry referral rate of 1.97% which is considerably low to that of ours. Psychiatry morbidity in our study was found to be 8.11%. In a study conducted in Singapore by Sim et al.,[8] psychiatric morbidity was found to be high (36.4%) but the study methodology considerably differed from that of ours. We used ICD-10 while the said study had used General Health Questionnaire (GHQ)[16] to diagnose psychiatry disorders. It might have led to the difference in the findings of psychiatry morbidity in our study.

The mean age of the patients was 36.87 +12.81 years which was lower than the mean age of overall ICU patients of Nepal [17] and other Asian countries including India[18] and China.[19] According to World Health Organization (WHO), half of all mental illness begin by the age of 14 and three-quarters by mid-20s.[20] This younger age of onset of mental disorders might have contributed to a lower mean age in patients diagnosed with psychiatric disorders compared to that of overall patients admitted to ICU. In our study AUD and intention self harm were common diagnoses and patient of these disorders were generally younger in age. Fifty-seven percent of the patients were female. Female were more commonly diagnosed with dissociative disorder and ISH as compared to male and the association was statistically significant. Female preponderance in dissociative disorder is supported by various studies.[21,22] Majority of the Nepalese population being Hindu by religion, our finding of 91.9% of the subjects being Hindu was expected and it has been observed in almost all the studies from Nepal. Fifty-nine percent of the subjects belonged from urban background. This finding may be due to the fact that the level of urbanization is increasing in Nepal and new municipalities are added up every year.[23]

In our study AUD was the most common diagnosis seen in 22% of subjects. AUD is common disorder referred for assessment to a psychiatrist from ICU[15], emergency department[24] and from other departments.[25] Substance use disorders including alcohol are one of the common disorders that need psychiatry evaluation and treatment. AUD being the most common disorder referred shows an increased awareness among general physicians regarding assessment and treatment of AUD by a psychiatrist. ISH was the second most common diagnosis present in 20% of subjects. ISH requires thorough examination by psychiatrist to assess for any underlying psychiatry disorder, to prevent any future

attempts and for counselling purposes. It is common psychiatric disorder admitted in ICU[9] and especially in a multispecialty hospital, it is also referred for psychiatric evaluation from various departments.[25]

Forty-five percent of the patients were referred for psychiatry diagnosis and management. Similarly 'patient demonstrating predominant psychiatry symptoms' was the most common reason for referral. This shows a heightened awareness among treating doctors identifying psychiatric symptoms and need for them to be evaluated and subsequently managed by psychiatrists. Altered sensorium was the most common symptoms for which the patients were referred which could have resulted due to various disorders including substance use disorder, delirium and use of different types of medications in ICU.

As this study was conducted on ICU patients who were referred for psychiatry assessment, there were some limitations which need to be addressed. First, non-referred patients were excluded for the study who might have had psychiatry symptoms or disorder. Second, it is a single center study so its external validity is limited. Third, 100 consecutive patients referred were accessed which lacked a system of randomization of the sample.

CONCLUSION:

The present study was undertaken to determine the prevalence and nature of psychiatric disorders in ICU. Multispecialty hospitals including government hospitals, private hospitals and teaching hospitals with ICU are increasing in Nepal. Most of the cases are admitted to ICU for critical and 24 hours care. ICU admission itself may be stressful to the patient and the primary disorder with various treatment regimen and use of multiple drugs and interventional procedures can lead to various psychiatric problems which are mostly neglected. Present study tried to analyze these issues and also highlighted the importance of psychiatric evaluation in ICU. The authors hope that the present study will motivate other researchers to carry out further studies in this subject so that more can be understood about this mostly neglected field of psychiatry.

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