

ORIGINAL RESEARCH

A Prospective Analysis of Psychiatric Comorbidities in Emergency General Surgery Patients at a Tertiary Care Hospital

Pooja Singh¹, Santosh Kumar Kesharwani², Amit Kumar Singh³, Alok Tripathi⁴

¹Assistant Professor, Department of Psychiatry, Maa Vindhyavasini Autonomous State Medical College, Mirzapur, Uttar Pradesh, India

²Assistant Professor, Department of Psychiatry, Autonomous State Medical College Kaushambi, Uttar Pradesh, India

³Senior Resident, Department of Psychiatry, Maa Vindhyavasini Autonomous State Medical College, Mirzapur, Uttar Pradesh, India

⁴Professor, Department of General Surgery, Baba Kinaram Autonomous State Medical College, Chandauli, Uttar Pradesh, India

Corresponding Author

Dr. Alok Tripathi

Professor, Department of General Surgery, Baba Kinaram Autonomous State Medical College, Chandauli, Uttar Pradesh, India

Email: alok.trip99@gmail.com

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ABSTRACT

Background: The study was conducted to assess the Psychiatric comorbidity in emergency general surgery patients. **Materials and Methods:** This study comprised of 100 subjects. A member of the trained research team approached eligible individuals and provided an explanation of the methods, risks, and advantages of the study. After enrolling, participants filled out a demographic questionnaire, and a member of the research team with training completed a standardized mental diagnostic interview. Every measure was administered verbally. Age, gender, race, as well as ethnicity, alongside relationship status, education level, and history of mental treatment, were among the demographic data that was gathered. The participant's electronic medical record had the following data: dates of readmissions within 90 days after release, length of hospital-stay at baseline, and chief admission complaint. Statistical analysis was conducted using SPSS software. **Results:** Mean age of the patients was 45.3 years. There were 100 subjects out of which 40 were females and 60 were males. At least one current psychiatric diagnosis was seen in 35 percent of the patients. 22% with a major depressive episode, 12% with a substance use disorder, and 9% with post-traumatic stress disorder (PTSD). 8 percent of the patients had more than one psychiatric disorder. **Conclusion:** In particular, the EGS patient sample showed higher rates of anxiety and depression than the general population did for psychiatric disorders.

Keywords: Emergency General Surgery, Psychiatric Comorbidity.

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INTRODUCTION

Psychiatric disorders are common amongst hospitalised patients, and present as a comorbidity in an estimated prevalence of up to 44.5% in reported studies.¹⁻³ There is a relative paucity of knowledge on the effects a comorbid diagnosis of a psychiatric condition has on the outcomes of emergency general surgical patients. Of the limited literature available, studies dating back to the 1980s have demonstrated that the presence of comorbid psychiatric conditions (CPC) has an independent association with a number

of worsening outcomes in general undifferentiated patient admissions, including 30-day mortality and prolonged length of stay in hospitalised patients.⁴⁻⁶ A systematic review by Oldham and colleagues⁷ highlighted the unmet mental health needs of patients in a general hospital, many of which can have detrimental effects without proactive intervention.

Annually, >27 million individuals are admitted to US hospitals for emergency general surgery (EGS) with these admissions and costs expected to rise 45% to >\$41 billion annually by 2060.⁸ EGS patients,

compared with elective general surgery patients, carry more severe pre-existing illnesses, require more prolonged postoperative mechanical ventilation, require longer intensive care unit (ICU) stays, and have higher rates of mortality.⁹ Furthermore, approximately half of EGS patients develop postoperative complications, with 22% requiring unplanned readmission within 90 days postsurgery.¹⁰⁻¹² Increased risk for poor outcomes remains in this population even after adjusting for preoperative comorbidity and physiological status. Together, these findings underline the public health burden of disease in EGS patients as well as the need to better understand and improve factors related to effective management of this population. This study was conducted to assess the Psychiatric comorbidity in emergency general surgery patients.

MATERIALS AND METHODS

This study comprised of 100 subjects. A member of the trained research team approached eligible individuals and provided an explanation of the methods, risks, and advantages of the study. After

enrolling, participants filled out a demographic questionnaire, and a member of the research team with training completed a standardized mental diagnostic interview. Every measure was administered verbally. Age, gender, race, as well as ethnicity, alongside relationship status, education level, and history of mental treatment, were among the demographic data that was gathered. The participant's electronic medical record had the following data: dates of readmissions within 90 days after release, length of hospital-stay at baseline, and chief admission complaint. Statistical analysis was conducted using SPSS software.

RESULTS

Mean age of the patients was 45.3 years. There were 100 subjects out of which 40 were females and 60 were males. At least one current psychiatric diagnosis was seen in 35 percent of the patients. 22% with a major depressive episode, 12% with a substance use disorder, and 9% with post-traumatic stress disorder (PTSD). 8 percent of the patients had more than one psychiatric disorder.

Table 1: Gender-wise distribution of subjects

Gender	Number of subjects	Percentage
Males	60	60%
Females	40	40%
Total	100	100%

Table 2: Educational qualification

Educational qualification	Number of subjects	Percentage
Illiterate	13	13
Upto primary	25	25
Upto secondary	20	20
Graduate	25	25
Postgraduate	17	17
Total	100	100

Table 3: Psychiatric diagnosis

Variable	Generalized anxiety disorder		Generalized depressive disorder	
	Present	Absent	Present	Absent
Social support	2.95	6.21	5.96	6.21
Pain severity	6.23	5.11	5.55	4.65
Pain interference	6.95	4.82	7.95	4.82
Length of stay	6.31	4.11	5.13	4.13

DISCUSSION

For some time, health services research has focused on the issue of frequent use of the ED. This growing literature finds that smaller subgroups of patients with repeat visits use disproportionate amounts of services.^{13,14,15} From both clinical and policy perspectives, few would argue that frequent use of the ED is an optimal treatment approach. It is incumbent upon the field to identify the health and social issues driving frequent use of the ED and to identify suitable interventions to improve care and reduce the strain on scarce ED resources.

Research on frequent users of the ED find that they have fewer resources and higher rates of mortality and morbidity than non-frequent users.^{16,17} Psychiatric and substance use problems are commonly found to be contributing factors to frequent ED use.^{18,19} Little research, however, has focused on the association between substance use and psychiatric comorbidity and the frequency of ED use. A group of studies has found that comorbid substance use disorders were associated with increased ED use among persons with schizophrenia.²⁰

This study was conducted to assess the Psychiatric comorbidity in emergency general surgery patients. Mean age of the patients was 45.3 years. There were 100 subjects out of which 40 were females and 60 were males. At least one current psychiatric diagnosis was seen in 35 percent of the patients. 22% with a major depressive episode, 12% with a substance use disorder, and 9% with post-traumatic stress disorder (PTSD). 8 percent of the patients had more than one psychiatric disorder. Geier TJ et al (2023)²¹ characterized EGS (emergency general surgery) patient mental health and assessed its relationship with pain, social support, and healthcare utilization (ie, length of stay, readmission). Adult EGS patients were screened for participation during hospitalization. Inclusion criteria included: (1) 18 years or older, (2) communicate fluently in English, and (3) assessed within 7 days of admission. Participants (n=95) completed assessment, which included a structured clinical diagnostic interview. Record review captured medical variables, including length of stay, discharge disposition, narcotic prescription, and 90-day readmission rates. Ninety-five patients completed the assessment, and 31.6% met criteria for at least one current psychiatric diagnosis; 21.3% with a major depressive episode, 9.6% with a substance use disorder, and 7.5% with post-traumatic stress disorder (PTSD). Lower perceived social support and greater pain severity and interference were significantly related to more severe depression and anxiety. Depression was associated with longer length of stay, and those with PTSD were more likely to be re-admitted. The EGS patient sample exhibited psychiatric disorder rates greater than the general public, particularly regarding depression and anxiety. Screening protocols and incorporation of psychological and social interventions may assist in recovery following EGS. Chen H et al (2023)²² The Hospital In-Patient Enquiry (HIPE) system and prospectively maintained eHandover were used to identify all surgical emergency admissions to Mayo University Hospital, Ireland. Patient demographics, comorbidities, primary diagnoses, length of stay (LoS), and procedures undergone were recorded over a 12-months period. Subgroup analyses examining LoS variation in surgical presentation types were performed. 1028 admissions occurred over this one year period, amongst 995 patients, the presence of psychiatric comorbidities increased the mean LoS by 1.9 days ($p = 0.002$). Comorbid depression, dementia, and intellectual disability conferred a significant increase in LoS by 2.4 days, 2.8 days and 6.7 days respectively. Subgroup analysis revealed greater LoS in patients with CPC diagnosed with non-specific abdominal pain (1.4 days, $p = 0.019$), skin and soft tissue infections (2.5 days, $p = 0.040$), bowel obstruction (4.3 days, $p = 0.047$), and medical disorders (18.6 days, $p = 0.010$). No significant difference was observed in mortality and readmission rates. Psychiatric comorbidities significantly impact

length of hospital stay and discharge planning in surgical inpatients. Greater awareness of this can facilitate better care delivery for this population to reduce the LoS and subsequent economic burden on the healthcare system.

CONCLUSION

In particular, the EGS patient sample showed higher rates of anxiety and depression than the general population did for psychiatric disorders. Following EGS, rehabilitation may be aided by screening procedures and the integration of social and psychological therapies.

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