Original Research Article

Patterns of Mental health disorder in Emergency Department of Tertiary care hospital during Nationwide lockdown: A study from South India

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Abstract

Context: Nationwide lockdown due to COVID-19, has affected adversely on the mental health leading to emergence of new and relapse of old mental health disorders with increasing tendency towards suicide. **Aims:** Examining the impact of lockdown on mental health with objectives of understanding the patterns of mental health disorders and determinants of suicide attempts presenting to the Emergency Department. **Settings and Design:** Records of all cases reported to the Emergency Department observed retrospectively and described the incidence of mental health disorders in terms of their distribution across various sociodemographic variables along with patterns of suicide attempts using SPSS version 20. **Results:** Ninety-two cases with mental health disorders were studied in 55 days of Lockdown, of which 35% reported with suicide attempt. 16% of them had a diagnosis of ADS with Simple Withdrawal Symptoms followed by Adjustment disorder (15%). 21-40-year age group was most commonly observed with predominance of males (59%). Most common age group associated with the suicide attempt was 21-40 years (48%) with female (53%) prominence and students comprising 19%, poisoning (84%) being a common method with IPR issues (52%) as main reason. **Conclusion:** Sudden implementation of lockdown has impacted adversely on mental health with increase in frequency of stress related mental health disorders and also suicide attempts. More structured studies are needed to examine the impact of lockdown on mental health with appropriate comparator groups and correlating psychosocial factors predicting suicidal behavior, especially to study after effects of it.

Keywords: COVID-19; Pandemic; Lockdown; Mental health; Suicide attempt.

Introduction

Today the world is facing one of the biggest challenges of this century. COVID-19 which originated from clusters of unexplained cases of pneumonia and pneumonia-like illnesses in China, has now spread almost all over the world. Till date more than 4 lakh people have been affected and more than 13000 people have lost their lives in India to this pandemic. [1] On 24th March 2020, Government of India declared a nationwide lockdown for an initial period of 21 days, which was extended subsequently in a phased manner, limiting movement of 1.3 billion Indians. Apart from emergency services and purchase of essential products, all other activities were suspended.

A case in point is the unfortunate event of a 50-year-old under institutional quarantine for COVID-19 jumping to death from the fifth floor of the Emergency and Trauma Centre on Victoria Hospital campus in Bengaluru, which took everyone by surprise. [2] Suicide is the leading cause of death even amongst those without COVID-19 accounting for around 300 deaths across the country. [3] [4] [5] As the liquor shops were closed as a part of the nationwide lockdown, a sharp rise in the number of people reporting with alcohol withdrawal symptoms was noticed. Many of whom apparently attempted or committed suicide because of the non-availability of alcohol. [6] [7]

Several studies have documented that the pandemic has also impacted adversely the mental health of general population, healthcare workers and vulnerable populations by causing significant stressful situations like isolation, grief and economic hardship. [8] [9] [10-14] The current study was undertaken with the aim of examining the impact of the nationwide lockdown on the mental health of the general population with the objectives focusing on- 1) understanding the patterns of mental health disorders presenting to the Emergency department during the lockdown, and 2) to study the determinants of patients with suicide attempts presenting to the Emergency.

Methodology

This is a retrospective descriptive study involving 92 patients visiting the Emergency Department, between24th March 2020 and 18th May 2020, comprising 21 days of Phase 1 (24th March to 14th April 2020), 19 days of Phase 2 (15th April to 3rd May 2020) and 15 days of Phase 3 (4th May to 18th May 2020) lockdown. For the purpose of this study, required details of all the new patients and the old patients with relapse who visited the Emergency department after the declaration of the nationwide lockdown were taken from the case files and the hospital registry maintained at the Department. Follow-up patients who were maintaining improvement with regular medication and regular visits to the Outpatient Department were excluded from the study. Patients included in the study were diagnosed based on detailed history provided by reliable informants and clinical mental status examination using ICD 10 criteria. Distribution of these diagnoses across the sociodemographic variables were studied during different phases of the lockdown. Suicide attempts were included as self-inflicted physical harm with an intention to die. Incidence of suicidal attempts were described in terms of reason for attempt, type of attempt, method of attempt, warning signs, past history and family history of suicide attempt, comorbid substance use and psychosocial factors like IPR issues, violence, economic hardship using examiner administered subjective questionnaires. Factors related to premorbid personality were

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assessed on the basis of detailed history and objective clinical examination fulfilling ICD 10 criteria. All the sociodemographic details and other psychosocial factors related mental health disorders and suicide attempts were described using statistical software SPSS version 20.

Results

1. Sociodemographic data

Totally 92 patients were studied from the period of commencement of the lockdown to the end of Phase three of the lockdown, comprising 5% of total cases (N=1790) managed in the Emergency Department. Majority were referred from the Department of General Medicine (72%). Among those who had the first contact with the Department of General Medicine, 56% (N=40) had reported with suicide attempt as presenting complaints. Mean age of cases reported was 38 years and the predominant age group affected was between 21 and 40 years, comprising 49% (N=45) of the total population [Figure 1]. Males (59%) outnumbered females (41%). Homemakers comprised 18% of the total population followed by daily wage workers (17%) and farmers (17%). The most predominant complaint was suicide attempt (35%) [Figure 2] and Alcohol Dependence with Simple Withdrawal Symptoms was the most common primary diagnosis comprising 16% followed by Adjustment disorder (15%), Psychosis (11%), Alcohol Dependence with Delirium Tremens (9%). Substance use disorder was the most common comorbid psychiatric condition (42%). Sixty two percent of the total population had its first onset during the period of the lockdown and 5% relapsed in this period with predominant reason for non-availability of medications (75%).

Table1 shows frequency distribution of mental health disorders among v sociodemographic variables.

2. Suicide attempt

Thirty Five percent of patients reported with suicide attempt. Mean age of presentation was 29 years with Standard deviation of 14 years. Most common age group observed was between 21-40 years with female preponderance (53%). Forty five percent (N=17) of females presented with suicide attempt out of the total female patients (N=38) reported to the Emergency Department, whereas 28% (N=15) males presented out of total male patients (N=54). Age wise distribution of suicide attempt among both genders is depicted in Figure 3. Students (19%) were the predominant population, followed by homemakers (16%) and daily wage workers (16%). Figure 4 shows distribution of suicide attempt among different occupations. Most common diagnosis associated was Adjustment disorder (38%) followed by Borderline Personality disorder (13%). Majority were impulsive acts (65%) secondary to IPR issues with poisoning (52%) as a frequent method of choice. Table 2 shows frequency distribution of suicide attempts among sociodemographic variables and Table 3 shows frequency distribution of suicide attempts among different psychosocial factors.

3. Phase wise distribution of variables during lockdown

Phase 1 of the lockdown had 75% of the total cases reported. The most common primary diagnosis observed in this phase was Alcohol Dependence with Simple Withdrawal Symptoms (18%) followed by Adjustment disorder (16%) and Alcohol Dependence with Delirium Tremens (12%). This phase comprised of 87% of total suicide attempt cases. Thirteen percent patients reported in Phase 2 and 12% in Phase 3 of the lockdown.

Table 1: Frequency distribution of sociodemographic data of total population

Domain	Frequency	Percent (%)
Gender		
• Male	54	59
• Female	38	41
Socioeconomic Status		
• Mses	57	62
• Lses	35	38
Education Spectrum		
▪ Secondary	35	38
▪ Primary	27	29
▪ Illiterate	15	16
▪ Graduation	8	9
▪ Pre University	7	7
Occupation		
▪ Skilled	23	25
▪ Unskilled	17	18
▪ Homemaker	17	18
▪ Agriculture	15	16
▪ Student	8	9
▪ Unemployed	7	7
▪ Professional	5	5
Diagnostic Spectrum		
• Substance Related	26	28
• Neurotic And Stress Related	17	18
• Psychotic	12	13
• Affective	11	12
• Neuropsychiatry	10	11
• Anxiety Spectrum	8	9
• Personality	6	7
• Primary Sleep	2	2

Abbreviations: MSES- Middle socio-economic status, LSES- Low socioeconomic status

Table 2: Frequency distribution of suicide attempt among sociodemographic variables

Domain	Frequency	Percent (%)
Gender		
• Female	17	53
• Male	15	47
Socioeconomic Status		
▪ Mses	24	75
▪ Lses	8	25
Education		
▪ Secondary	14	44
▪ Primary	7	22
▪ Pre-University	5	16
▪ Illiterate	3	9
▪ Graduation	3	9
Occupation Spectrum		
▪ Skilled	9	28
▪ Student	6	19
▪ Unskilled	6	19
▪ Homemaker	5	16
▪ Agriculture	3	9
▪ Professional	2	6
▪ Unemployed	1	3
Diagnostic Spectrum		
• Neurotic And Stress Related	12	38
• Affective	6	19
• Personality	5	16
• Psychotic	4	13
• Substance Related	4	13
• Neuropsychiatry	1	3

Abbreviations: MSES- Middle socio-economic status, LSES- Low socioeconomic status

Table 3: Frequency distribution of suicide attempt among Psychosocial Factors

Factors	Frequency	Percent (%)
Reason For Attempt		
• Ipr Issues	16	52
• Marital Discord	4	13
• Financial Hardship	3	10
• Psychotic Symptoms	3	10
• Broken Romantic Relationship	2	6
• Failure In Exams	1	3
• Guilt	1	3
• Sudden Suicidal Thought	1	3
Type Of Attempt		
• Impulsive	20	65
• Planned	11	35
Method Of Attempt		
• Poisoning	26	84
• Hanging	3	10
• Jumping Into The Well	2	6
Place Of Attempt		
• Residence	27	87
• Farm Land	4	13
Warning Signs Present	9	29
Past History Of Suicide Attempt	5	16
Family History Of Suicide	3	10
Personality Factors	14	45
Alcohol Use	10	32

Figure 1: Frequency distribution of mental health disorders in different age groups and gender

Different age groups of both genders are plotted on the x-axis and a number of cases are represented on the y-axis. Kindly use the different colors for gender variables.

Figure 2: Frequency distribution of predominant complaints among cases observed

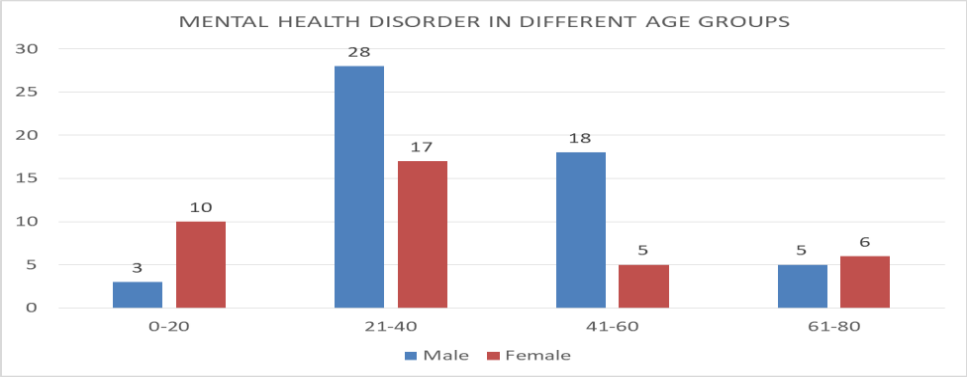
Number of cases observed represented on y-axis and predominant complaints on x-axis.

Figure 3: Frequency distribution of Deliberate Self Harm attempts in different age groups and gender

Different age groups of both genders are plotted on the x-axis and a number of cases are represented on the y-axis. Kindly use the different colors for gender variables.

Figure 4: Frequency distribution of Deliberate Self Harm attempt in different occupations.

Number of cases observed on x-axis and their occupation on y-axis.



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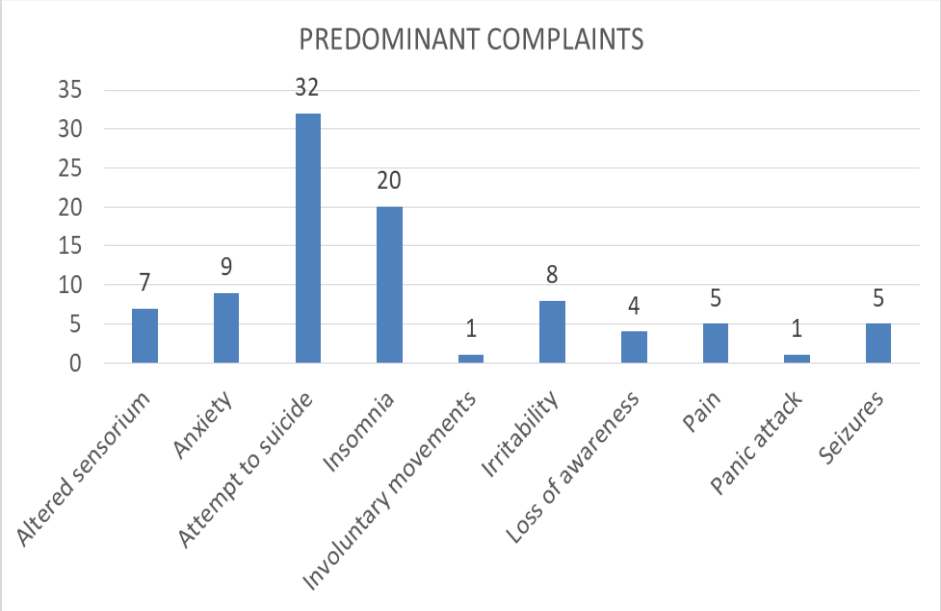

Fig 2: Frequency distribution of predominant complaints among cases observed

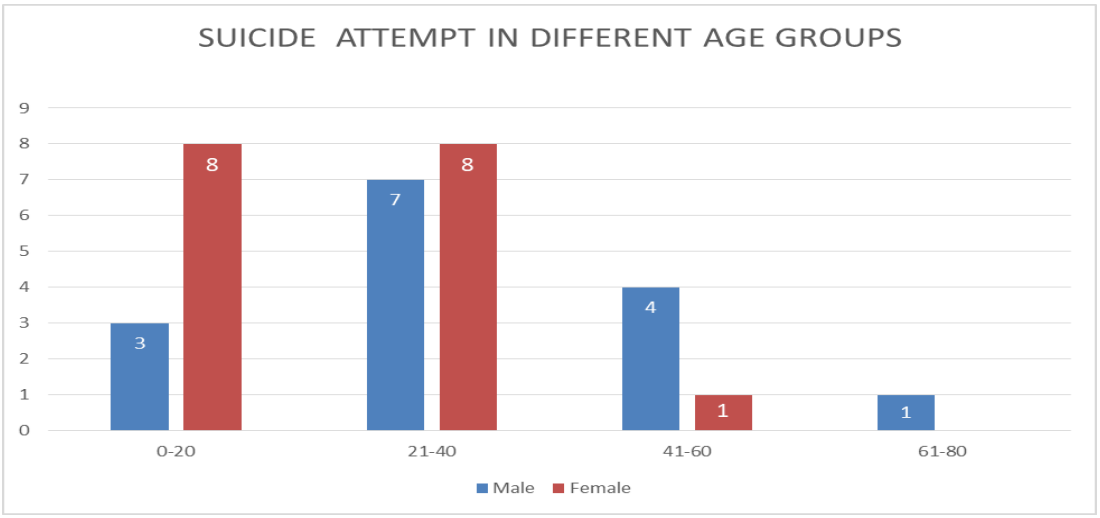

Fig 3: Frequency distribution of suicide attempts in different age groups and gender

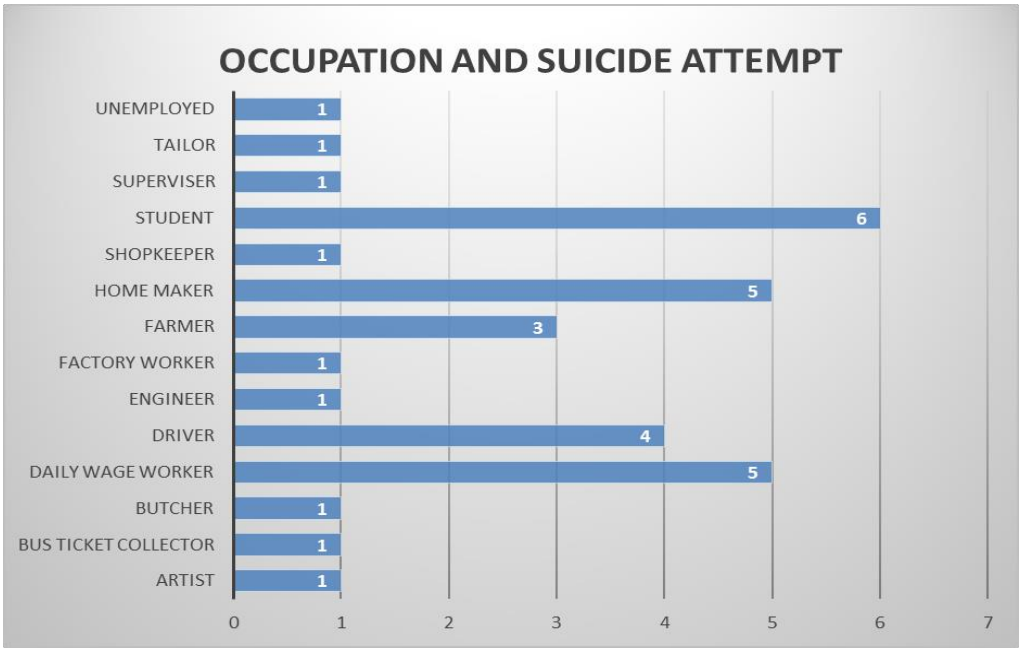

Fig 4: Frequency distribution of suicide attempt in different occupations

Discussion

It has been evident from previous studies that incidences of mental health disorders increase during economic crisis and quarantine. [15] [16] [17] Duration of quarantine itself is a significant stressor along with fears of infection, frustration, boredom, inadequate supplies and inadequate information. [15] Out of the total patients who reported to the Emergency Department, those with clear complaints suggestive of mental health disorders consisted of 5%. As most of these cases presented with either suicide attempt or Alcohol Withdrawal Symptoms including seizures, they were initially managed by the Department of General Medicine and referred to the Department of Psychiatry later. This undermines the underestimation of Psychiatric Emergencies and need for Essential Psychiatric Services in hospitalized care and community. Predominantly younger people were observed frequently with a mean age of presentation of 38 years and the age group between 21 and 40 years, explaining the possibility of the struggle of the working age group people in coping with sudden adversities in their lives. Among them, homemakers were the majority followed by daily wage workers and farmers. This finding might be due to the loss of daily wages, drop in the price and purchase of agricultural products, inadequate basic supplies and difficulty in managing household expenses. Most common diagnosis observed was Alcohol Dependence Syndrome with Simple Withdrawal Symptoms. Most of these cases were reported during the initial 1-2 weeks in Phase 1 of the lockdown, which can be explained on the basis of non-availability of alcohol during this period. Insomnia (53%) was the common presenting complaint among them followed by Withdrawal Seizures (27%). Two cases presented with comorbid Adjustment disorder and suicide attempt. Poisoning was the method of choice in both the cases. One patient attempted suicide due to the guilt associated with separation from family members secondary to family discord and the other case was due to the loss of

daily wages after the lockdown and inability to pay the loan amount and bear the pressure and violence inflicted by money lenders. Adjustment disorder was the second most common presentation. Out of the total 14 cases, 12 presented with suicide attempt and two with anxiety symptoms implying that stress had a major role to play in the rise of the cases of suicide attempt. ADS with Delirium tremens was seen in a total of eight cases and two cases of attempted suicide by consuming poison secondary to IPR issues, were also seen.

A study including suicide data from 54 countries during 2008 economic crisis has reported increased rates of suicide [18]. Our study reports 35% of suicide attempts which is more than the Global Prevalence. Tendency to attempt suicide was observed more frequently in females during the first four decades of life. However, this pattern of gender distribution of suicide attempt changes after the 4th decade onwards. Most common age group associated was between 21 and 40 years. But numbers could be misleading as the predominant age group reporting mental health disorders belonged to the same category. Students comprised the majority followed by homemakers, daily wage workers and farmers, in that order. Poisoning was the most common method of suicide attempt followed by hanging and jumping into the well or waterbody. The most common reason for the attempt was IPR issues. All these findings corroborate well with the findings of National Mental Health Survey, 2016 [19] and previous Suicide studies conducted globally [20] and in India [21-27]. The most common diagnosis associated was Adjustment disorder followed by Borderline Personality disorder. Most of the suicide attempts were sudden impulsive reactions to triggers either in familial context or broken romantic relationships. Majority of them attempted at their residence, while four did at their farm.Suicide attempt was closely associated with the implementation of the lockdown in four cases. One person who was a daily wage worker attempted suicide due to job loss and was physically assaulted by money lenders for non-repayment of the loan amount. One homemaker jumped into the well to end her life as her husband had difficulty repaying his loan due to the job loss and she had been verbally abused and humiliated by money lenders. Other two cases were associated with relapse of psychotic symptoms after stopping medications due to the non-availability of drugs during the lockdown leading to suicide attempt in response to commanding auditory hallucinations. Phase 1 of the lockdown comprised around three fourth of the total cases presented to the Emergency Department. And this is the phase when the lockdown was implemented with maximum restrictions. So, these numbers provide the estimates of the immediate effect of the implementation of the lockdown on mental health of people. As the district of Shivamogga (study site) was a safe zone with no active cases of COVID-19 until mid-Third Phase, it enjoyed the advantage of some leniency in further phases of the lockdown. Subsequently, we noticed a drop in the number of cases reporting to the Emergency Department during Phase 2 (13%) and Phase 3 (12%).

1. Strengths and limitations

It is the first descriptive study of its kind from South India during the lockdown and gives approximate information regarding the immediate impact of COVID-19 and the nationwide lockdown on the mental health condition of the general population. A diverse population with different age groups, education, occupation, socioeconomic status gives the advantage of applying results to the general population. The study has perused the reported increase in the trend of suicide attempts and completed suicides in various media reports and expert opinions. All the cases were diagnosed based on ICD 10 criteria but a structured interview or standard scales would have given a better account. Though study throws light on a relative rise in the incidences of suicide attempts and their relation to various psychosocial factors, comparator groups with standard suicide scales and correlation studies to predict the psychosocial factors responsible for suicide attempts during this period would have substantiated our observations better.

Conclusion

We observed patterns of mental health disorders during the nationwide lockdown in terms of their incidence rates. This study gives an estimate of the immediate effects of the implementation of the lockdown on mental health conditions of the general population. Based on our observations we conclude that the sudden implementation of the lockdown has impacted adversely the mental health of general population with an increase in the frequency of stress related mental health disorders and also a rise in the number of suicide attempts. Students, homemakers, daily wage workers, farmers and young adults belonging to working age group were the ones who were affected heavily by the lockdown, implying difficulty in coping with stressors in the form sudden loss of job and wages, difficulty managing household expenses etc. leading to depression, frustration, insecurities which in turn might have led to the problems in interpersonal relationships and also driving them towards suicide attempts. Personality factors might have played a role in the coping difficulties and impulsive acts of suicide attempts.

Future directions

The nationwide lockdown was implemented in response to an unprecedented event. The event and the response have destabilized the way modern world functions. However, the changed circumstances hold significant potential for many future studies, particularly on mental health. Till now the literature has attempted to give a conceptual framework of incidence and management of mental health disorders, but it lacks well systematized studies with structured interviews and comparator groups. The pandemic has gone on to show that studies addressing the predictors of suicide behavior during lockdown or quarantine or such similar circumstances are warranted. Current literature gives an account of the immediate effect of the pandemic and quarantine on the mental health conditions of the general population, health care workers and volunteer groups. There is a need for studying the after-effects of it as there are possibilities of job loss, economic insecurity and issues related to stigma in the near future. As we observed the increasing trend of suicide attempts from various studies and media reports, there is a dire need of interventions addressing this issue. Essential Psychiatric Services like emergency services, support helplines, adequate information regarding infection, community awareness to handle isolation, fear, anxiety, insecurities and issues related to stigma are the need of hour. Priority should be given to draft appropriate policies to implement these interventions to prevent and manage mental health disorders during crisis.

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