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Impact of COVID-19 lockdown on self-harm and violence among patients presenting to the emergency department

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Abstract

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Importance: Considering the resurgence of COVID-19 and the rapid spread of new and deadlier strains across the globe understanding the incidence and pattern of violence and self harm tendencies during this period might help in formulating better contingency plans for future lockdowns. A deeper look at the available data shows that there is a significant dearth of research into self-harm & violence during the COVID-19 pandemic.

Objective: To identify the incidence and sociodemographic characteristics of self-harm and violence during the COVID19 lockdown and compare with a control group from the previous year.

Design: A cross-sectional retrospective observational study.

Setting: Tertiary care teaching hospital.

Participants: All patients presenting to the emergency department (ED) with self harm and violence during the COVID-19 lockdown period between March 24–June 30, 2020 and March 24–June 30, 2019.

Exposure: The COVID-19 lockdown period.

Main outcome(s) and measure(s): The hypothesis being tested was formulated before the study. The null hypothesis tested was a decline in number of self-harm & violence cases during the lockdown.

Results: A total of 828 patients were analysed over both the time periods, out of which 30% (248) were females while 70% (580) were males. Increases in self-harm and violence were 12.71% and 95.32% respectively per 1000 ED admissions.

A significant correlation was found between the COVID-19 lockdown and the increased incidence (X2 (1, N = 828) = 9.2, p < .05). An increase of violence by known individuals and between partners was seen. Intimate partner violence also increased to 7%. X2 (3, N = 662) = 21.03, p < .05. In the self harm dataset an increase in mortality, ICU admissions and decision to leave against medical advice was noted (X2 (4, N = 166) = 24.49, p < .05).

Increase in the use of alcohol prior to acts of self harm and violence was noted.

Conclusions: Increase in the incidence of cases of self-harm and violence reported to the ED was noted during the lockdown period. Upgradation of health-care and law enforcement infrastructure maybe needed to deal with similar circumstances in a more efficient manner.

Trial registration: N/A.

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1. Introduction

1.1. Background

The COVID-19 pandemic and the ensuing lockdowns have resulted in a significant breakdown of healthcare facilities and societal infrastructures coupled with economic uncertainty and psychological distress. The World Health Organization (WHO), on the 11th of March 2020, declared the novel coronavirus (SARS-CoV-2), a global pandemic and began efforts to curtail the spread of disease through various personal protective methods and limiting contact through physical distancing. Fourteen days later, on the 25th of March the Government of India imposed a nationwide lockdown, which marked the beginning of the COVID lockdown period in the subcontinent [1]. (See Figs. 1 and 2) (See Tables 1–3).

It has been well documented by studies in the past that periods of pandemics and quarantine often lead to an increase of psychological
The ‘stay-at-home’ policy adopted worldwide, while effective in curbing the spread of the disease, has also contributed to an increment in the stress levels, intra-family disputes and intimate-partner violence. On March 27, 2020, the United Nations issued a warning statement that domestic violence may rise due to the restrictive measures implemented to control COVID-19 and called on governments to increase efforts to address the rising risk. With the entire law enforcement infrastructure being diverted to the strict enforcement of the lockdown regulations, reports of violence and self-harm were bound to have a delayed response. A steep decline in the number of people seeking medical care, during the covid pandemic, has been documented from various parts of the globe [5]. In a developing nation like India, where mental health issues are still considered a social stigma [6], the pandemic is a perfect facade for shrouding not just mental health disorders, but also child abuse, substance disorders and intimate-partner violence. The WHO and LANCET have reported a 38% increase in alcohol consumption in India, with the latest data showing a per capita consumption of 5.9 l/year [12,13].

### Table 1
Comparison of ED admissions for violence and self harm between March 24 and June 30 (n = 99 days) in 2019 (pre-COVID-19 period) and 2020 (COVID-19 period).

|                | 2020 | 2019 | Absolute difference | Percent increase (%) |
|----------------|------|------|---------------------|----------------------|
| ED Admissions  | 12,238 | 8654 | 3584                | 41.41                |
| Self Harm Cases|       |      |                     |                      |
| Total Cases    | 102  | 64   | 38                  | 59.37                |
| Case Rate per 1000 ED admissions | 8.33 | 7.39 | 0.94                | 12.71                |
| Violence Cases (A) |      |      |                     |                      |
| Total Cases    | 486  | 176  | 310                 | 176.13               |
| Case Rate per 1000 ED admissions | 39.71 | 20.33 | 19.38                | 95.32                |

### Table 2
Demographic and clinical characteristics of patients presenting to the emergency department with self-harm in the 3 months of the 2020 COVID-19 lockdown compared with those presenting in the preceding year.

| Variables                              | Period 1 (n = 102) | Period 2 (n = 64) | P value |
|----------------------------------------|--------------------|-------------------|---------|
| Sex                                    |                    |                   |         |
| Male, n (%)                            | 63 (61.8)          | 40 (62.5)         | 0.924*  |
| Female, n (%)                          | 39 (38.2)          | 24 (37.5)         |         |
| Age, y                                 |                    |                   |         |
| <20, n (%)                             | 26 (25.5)          | 17 (26.6)         | .302*   |
| 21–40, n (%)                           | 64 (62.7)          | 36 (56.3)         |         |
| 41–60, n (%)                           | 12 (11.8)          | 9 (14.1)          |         |
| >61, n (%)                             | 0 (0)              | 2 (3.1)           |         |
| Etiology                               |                    |                   |         |
| Consumption - Pharmaceutical agent     | 14 (13.7)          | 15 (23.4)         | .166*   |
| Consumption - Non-pharmaceutical agent | 57 (55.9)          | 39 (60.9)         |         |
| Drowning                               | 2 (2.0)            | 0 (0)             |         |
| Hanging                                | 8 (7.8)            | 2 (3.1)           |         |
| Physical Laceration                    | 21 (20.6)          | 8 (12.5)          |         |
| Disposition                            |                    |                   |         |
| Admission - ICU                        | 19 (18.6)          | 7 (10.9)          | <.001*  |
| Admission - Ward                       | 7 (6.9)            | 24 (37.5)         |         |
| Discharge                              | 12 (11.8)          | 6 (9.4)           |         |
| Leave against medical advice           | 59 (57.8)          | 25 (39.1)         |         |
| Mortality                              | 5 (4.9)            | 2 (3.1)           |         |
| Substance use and Psychiatric history  |                    |                   |         |
| Alcohol Use                            | 39 (38.2)          | 7 (10.9)          | <.001*  |
| Psychiatric History                    | 0                  | 8                 | <.001*  |

Significant p values are bolded. * Chi-square test.
2. Material and methods

2.1. Study design and setting

The data was obtained from the Hospital Information System (HIS) at Dr. DY Patil Medical College, Hospital and Research Centre, a tertiary care teaching hospital in Pune, India.

This was a cross-sectional retrospective observational study of all self-harm and violence cases presenting to the emergency department (ED) during the COVID-19 lockdown period in 2020 compared to a time-matched control group from 2019.

Hospital records, both electronic and physical were reviewed in detail for all patients with history of self-harm and violence presenting to the ED in between March 24–June 30, 2020 (Period 1) and March 24–June 30, 2019 (Period 2). Patients whose hospital data was incomplete or unavailable and children below 12 years of age were excluded from the study.

An analysis of this study period was done for the prevalence and the definitions of terms.

2.2. Definitions of terms

‘Self Harm’ is defined as “self-poisoning or self-injury, irrespective of the apparent purpose of the act” [15].

‘Violence’ is defined as any act or conduct which is of such a nature as to cause bodily pain, harm, or danger to life, limb, or health or impair the health or development of the aggrieved person.

‘Alcohol use’ is being defined as consumption of alcohol in the preceding six hours leading to the incident.

2.3. Methods of measurement

Patient variables (age, sex), type of injury (violence, self harm), were documented. Information on the assailant included whether the assailant was an intimate partner, family (first degree relatives) known to the victim (excluding family) or unknown. Alcohol use was also documented.

The final outcome of the patient (discharge from ED/discharge against medical advice/admission/death) were also entered. Cases of violence have been classified into grievous and non-grievous injuries as per legal definitions in Indian Law [16].

2.4. Statistical analysis

Statistical analysis was performed using SPSS for Windows, Version 16.0. Chicago, SPSS Inc. Released 2007. Mean (standard deviation) were calculated for the continuous variables. The categorical variables were expressed in frequency and percentage and continuous variables were expressed in terms of mean and standard deviation. Chi-square test or Fisher exact test was used to compare dichotomous variables.

The absolute difference was calculated as the differences between the two periods. The characteristics of self-harm and violence in subjects were compared between the two periods using chi-square tests for categorical variables, and percent difference and 95% CI were calculated. For all tests, a two-sided P < .05 was considered statistically significant.

3. Results

3.1. Incidence

During the study period a total of 20,892 patients presented to the ED with 12,238 patients during period 1 (lockdown period) and 8654 during period 2. A sum total of 864 patients were analysed from both the time periods and 36 patients were removed based on exclusion criteria and the remaining 828 patients were studied further. In the 3 months of the COVID-19 lockdown, the total ED admissions at the hospital rose by 3584 patients, a 41.4% increase compared to the previous year. This was a significant increase suggesting that the larger number of cases in 2020 was not by chance and hence could be attributed to the COVID-19 incidence, apart from other factors. χ² (1, N = 828) = 9.2, p < .05.

3.2. Demographics

The mean age (years) of the subjects was 32.39 ± 12.06 during 2020 and 32.49 ± 12.65 during 2019. Young adults in the age group of 21–40 years showed the highest incidence of both self-harm (62.7%) and violence (62.3%). Adolescents (<20 years) accounted for 25.5% of cases of self-harm and 14.8% of violence respectively. The male-to-female presentation ratio was 2.3:1 during lockdown as compared to 2.6:1 pre-lockdown. No significant change in age demographics were noted across both the study periods.

3.3. Etiology

Violence was noted as the predominant mode of injury during the lockdown period comprising 82.7% (486) in 2020 as compared to 73.3% (176) in 2019. A chi-square test showed a change in the assailants in the cases of violence in 2020. An increase of violence by known individuals was seen, from 68.8% to 78%, and intimate partner violence also increased from 4% to 7%. χ² (3, N = 662) = 21.03, p < .005.

Blunt weapons (355) were most commonly used, but there was an increase in usage of sharp weapons from 9% to 16.2% in 2020 as compared to 2019 (χ² (5, N = 662) = 12.59, p < .05). Despite this, the majority of the injuries were non-grievous in nature (90.9%).
Self Harm cases accounted for 17.3% (102) of all the study subjects in 2020 as compared to 26.7% (64) in 2019. There was a decrease of self poisoning from 84.4% to 69.6%. The decrease was greater in consumption of pharmaceuticals, than non-pharmaceutical agents. Hanging also saw an increase from 3.1% to 7.8%. Sanitiser or rubbing alcohol consumption, previously unseen in the 2019 dataset, accounted for 12.67% of all consumptions during the lockdown. These findings, were however not significant ($X^2 (4, N = 166) = 6.47, p > .05$).

Notable increase from 10.9% [7] to 38.2% [39] in the use of alcohol before an act of self harm was seen ($X^2 (1, N = 166) = 14.62, p < .05$). In cases of violence, and increase in alcohol use was seen from 22.7% [40] to 43% [209], $X^2 (1, N = 662) = 22.63, p < .05$.

3.4. Outcome and disposition

In the self harm dataset, major changes were discovered in the outcome and disposition of patients. An increase was noted with regards to ICU admissions (10.9% to 18.6%) and mortality. A noteworthy trend was more patients opting to leave against medical advice ($X^2 (4, N = 166) = 24.49, p < .05$).

In the violence subset, increases in mortality and decision to leave against medical advice was seen, however results were not significant.

4. Discussion

A substantial amount of concern has been expressed about the potential impacts of the COVID 19 lockdown on mental health and violence all across the world. In a developing country like India, where mental health awareness is considerably low, the results were expected to be much worse [17,18,19]. To the best of our knowledge, this is the first large scale retrospective study carried out in a tertiary care hospital to assess the incidences of self-harm and violence during the COVID lockdown period.

Our study has found a stark increase in the number of patients presenting to the hospital despite the global concern for reduction of hospital admissions during the pandemic. The total ED admissions at study centre increased by 41.41% from 8654 to 12,238 as compared to the preceding year. This increase could be attributed to the surge in COVID-19 related hospitalisations and further possibly augmented by the shutting down of various private hospitals and clinics that happened in the early stage of the lockdown.

4.1. Self-harm

Our study shows that there was a small overall increase from 7.39 to 8.33 cases for every 1000 ED admissions accounting for a rise of 12.71% from 24 March to 30 June 2020, compared to the same period in 2019. Self-harm cases increased in young adults (21–40 years) and the female population. There was a significant increase in the severity of presentations which also correlated with the increase of ICU admissions. There was a notable rise in alcohol abuse and its contribution to self harm.

There was a decrease of self administered toxins which was noted to be greater for consumption of pharmaceuticals, than non-pharmaceutical agents Sanitiser consumption, previously unseen in the 2019 dataset, accounted for 8% of all self poisonings in 2020. Similarly drowning was a new modality of self harm noted in 2020.

These findings are consistent with the study carried out in the neighbouring country of Nepal in early 2020 by Shrestha et al., 2021 which demonstrated a 44% increase in self harm attempts along with increased admissions and increase in in-hospital mortality [20].

An analysis from Ireland from McIntyre et al., 2020 has shown a substantial increase in the severity of presentations along with notable increase in substance misuse disorders. However, in the methodology of self harm, their findings are at odds with ours, displaying an increase in self induced toxicities and decrease in drowning respectively [21]. The increase in hand sanitisers poisonings in the pandemic is in line with the global incidence. In United Kingdom alone, sanitiser poisonings reported to the National Poisons Information Service (NPIS) increased by 157%. Similar rises have been noted in other European countries and the United States of America as well [22].

Paradoxically, it had been hypothesised by Levenkron (1998) who stated that “the fuel that drives self-injury is the way family members relate to each other.” And Selekman (2002) who agreed that self-injury is related to a person’s “disconnect” from significant others [23].

This leads to the inference that the closer living circumstances of families and couples should have helped improve an individual’s ‘connect’ with the family and in-turn helped develop a more supportive environment. Our study, though, reflects otherwise and points to the possibility of exacerbation of interpersonal problems. We believe that the strong restrictive measures which have led to unemployment, loneliness, and decreased access to healthcare may have precipitated or worsened the existing mental health problems.

4.2. Violence

The increase in violence was much greater (from 20.33 to 39.71 cases per 1000 ED admissions), a rise of 95.32%. The majority of subjects (82.65%) experienced some form of physical violence during the lockdown period. Consistent with numerous other studies, in most cases, the assailant was someone known to the victim.

In both the data sets, violence was seen more commonly among males than females, but a larger increase was noted in females during the lockdown period as compared to 2019. A uniform surge was noted in all age groups without any sizable variation though most of the cases of violence were restricted to young adults within the age group of 21–40 years.

Almost half of all the acts of violence were carried out in a state of intoxication and comparison with the preceding year shows that alcohol use had significantly increased during the time of the lockdown.

Intimate partner violence doubled in 2020 when compared with 2019, yet it comprised only 7% of the subjects. The scant number of recorded cases of intimate partner violence against women falls outside the ordinary trends and is in stark contrast to other reported studies and newspaper articles which have recorded a tremendous increase of interpersonal violence during these trying times. The UN Women has reported significant increased rates of violence against women during the COVID-19 pandemic [24]. The National Commission for Women (NCW) documented the highest number of complaints by women reporting violence against them in the first four phases of the lockdown than that have been reported in the last decade [25].

A recent systematic review and meta analysis underscored the pressing need for increasing the knowledge base on domestic violence during the lockdown period [26]. The results of our study could just be looking at the tip of the iceberg, as the true increase in cases could be masked by various underlying societal restrictions and hesitation on part of the victims. While domestic issues in India are commonly viewed as ‘internal’ family matters, and healthcare workers might be reluctant to get involved unless someone steps out to openly to lodge a formal complaint; in situations like pandemics, the health professional may be the victim’s only link to the outside world. Lack of recognition or not carrying out due diligence may be a missed opportunity in preventing further harm to the victim [27].

A startling increase in the usage of sharp weapons from 9% to 16% was documented, but most of the cases of violence were non-grievous nature in nature and could be treated and discharged directly from the ED. An unanticipated decrease in ICU admissions could be a reflection of the poor availability of hospital transport services and possible overloading of pre hospital emergency services which could have resulted in the delay of care to those whom may have required it emergently.
4.3. Limitations

Interpretations of this study are based on preliminary evidence and additional data from multi-centric studies would result in a thorough and complete picture of the study population.

A larger increase in violence and self harm could have been masked by the fear of the pandemic and the restrictions of the lockdown, like transportation and social distancing measures leading to under reporting in the results. Another factor that may have led to under estimation of the problem could be the hesitation on part of individuals to come forward. Despite awareness campaigns, mental health issues are still considered to be a taboo subject in the Indian society. Hence the authors are inclined to believe that like many epidemiological studies, the current one may also be susceptible to the ‘iceberg phenomenon’.

5. Conclusions

A marked increase in both self-harm and violence was noted in our study, however, these increments might not be a true reflection of self harm in the society, as severe financial constraints and high medical costs could have prevented many in the community from seeking medical care. The disease has imposed high direct and indirect medical costs on the patients, making it unaffordable to a large group of patients.

The COVID-19 lockdown severely restricted the way an individual lives his life, and these sudden and unexpected stressors made psychological distress related consequences inevitable.

Identifying the effects on mental health, especially the ‘how’ and ‘what’ would help us mitigate the mental health decline during the current pandemic. The resultant data will not only strengthen our capability to prepare for similar situations, but the approach that we design based on the research may also enhance our capabilities to deal with individual patient demographics that may present from similarly strenuous circumstances such as those facing incarceration or captives held against their will.

This study identifies a potential area of partnership between emergency health-care services, mental health practitioners and law-enforcement. Such partnerships will bolster the existing services available to the affected population so as to adequately provide health services during the subsequent waves that the pandemic might have or the lockdowns that maybe imposed secondary to them.

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Declaration of Competing Interest

There is no conflict of interest. A separate disclosure in accordance with the journal guidelines is provided for the same.

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References

[1] Getelman JS, Schultz K. Modi orders 3-week total lockdown for all 1.3 billion Indians. The New York times; March 24, 2020. https://www.nytimes.com/2020/03/24/world/asia/india-coronavirus-lockdown.html. Accessed August 21, 2021.

[2] Peterman A, pots A, O'Donnell M, et al. Pandemics and violence against women and children. Cgdev.org. Accessed August 21, 2021. https://www.cgdev.org/sites/default/files/pandemics-and-vawg-april2.pdf; 2021.

[3] Lee AM, Wong JC, McAlonan GM, et al. Stress and psychological distress among SARS survivors 1 year after the outbreak. Can J Psychiatry. 2007;52(4):233–40. https://doi.org/10.1177/0706743707075200405.

[4] Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet. 2020;395(10227):912–20. https://doi.org/10.1016/S0140-6736(20)30460-8.

[5] Hartnett KP, kte-Powell A, Devries J, et al. Impact of the COVID-19 pandemic on emergency department visits - United States, January 1, 2019-May 30, 2020. MMWR Mortal Wkly Rep. 2020;69(21):699–704 Published 2020 Jun 12 https://doi.org/10.15585/mmwr.mm20215.

[6] Goyal K, Sheoran S, Chauhan P, Chikkarada K, Gupta P, Singh MP. Mental health in India: neglected component of wellbeing in COVID-19 era. Asian J Psychiatr. 2020; 54:102341. https://doi.org/10.1016/j.ajp.2020.102341.

[7] Olding J, Zisman S, Olding C, Fan K. Penetrating trauma during a global pandemic: changing patterns in interpersonal violence, self-harm and domestic violence in the Covid-19 outbreak. Surgeon. 2021;19(1):e9–13. https://doi.org/10.1016/j.surge.2020.07.004.

[8] Gosangi B, Park H, Thomas R, et al. Exacerbation of physical intimate partner violence during COVID-19 pandemic. Radiology. 2021;298(1):E38–45. https://doi.org/10.1148/radiol.2020202696.

[9] Arjun KM. Indian agriculture- status, importance and role in Indian economy. Int J Agric Food Sci Technol. 2013;4(4):343–6 ISSN 2249–3050. © Research India Publications. https://www.republication.com/jafstjang/jafstv4n4pl_11.pdf. Accessed January 24, 2021.

[10] Renzetti CM. Economic stress and domestic violence. Uly.edu. Accessed August 21, 2021 https://uknowledge.uly.edu/cgi/viewcontent.cgi?article=1000&context=crvaw_reports; 2021.

[11] Rane A, Nadvani A. Suicide in India: a systematic review. Shanghai Arch Psychiatry. 2014;26(2):69–80. https://doi.org/10.3969/j.issn.1002-0829.2014.02.003.

[12] Manthey J, Shield KD, Rylett M, Hasman OSM, Probst C, Rehm J. Global alcohol exposure between 1990 and 2017 and forecasts until 2030: a modelling study. Lancet. 2019;393(10190):2495–502. https://doi.org/10.1016/S0140-6736(18)32744-2.

[13] Consumption 2016 Recorded Alcohol Per, or latest year available. Alcohol consumption: Levels and patterns. Who.int. Accessed August 21, 2021 https://www.who.int/substance_abuse/publications/global_alcohol_report/profiles/ind/pdf; 2021.

[14] Kim JT, Majid A, Judge R, et al. Effect of COVID-19 lockdown on alcohol consumption in patients with pre-existing alcohol use disorder. Lancet Gastroenterol Hepatol. 2020;5(10):866–7.

[15] National Collaborating Centre for Mental Health (UK). Self-harm: The short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care. Leicester (UK): British Psychological Society; 2004 (NICE Clinical Guidelines, No. 16). 2. Introduction to self-harm. Available from https://www.ncbi.nlm.nih.gov/books/NBK56398/.

[16] Atal DK, Nair SK, Das S. “Hurt & Grievous Hurt in Indian context” (PDF). J Indian Acad Forensic Med. April–June 2013;25(2):160–4 Retrieved 5 August 2021.

[17] Sahoo S, Rani S, Parveen S, et al. Impact of the COVID-19 pandemic on suicide and self-harm among patients presenting to the emergency department of a teaching hospital in Nepal. PLoS One. 2021;16(4). https://doi.org/10.1371/journal.pone.0250706.

[18] Bhattaram S, Bhattaram M. Humbled: life in the emergency department under the shadow of a pandemic. Eur J Emerg Med. 2021;28(3):178–89. https://doi.org/10.1097/EJM.0000000000000927.

[19] Bhattacharmand S, Bhattacharmand M. Humbled: life in the emergency department under the shadow of a pandemic. Eur J Emerg Med. 2021;28(3):178–89. https://doi.org/10.1097/EJM.0000000000000927.

[20] Sreejith R, Sivasankari S, Singh S, Sreeraju AP. Impact of the COVID-19 pandemic on suicide and self-harm among patients presenting to the emergency department of a teaching hospital in Nepal. PLoS One. 2021;16(4). https://doi.org/10.1371/journal.pone.0250706.

[21] McIntyre A, Tong K, McEloneon F, Doherty AM. COVID-19 and its effect on emergency presentations to a tertiary hospital with small-harm in Ireland. Ir J Psychol Med. 2021;38(2):116–22. https://doi.org/10.1017/ipm.2020.116.

[22] Brooks M. COVID-19: hand sanitizer poisonings soar, psych patients at high risk. Medscape. Accessed August 21, 2021 https://www.medscape.com/viewarticle/941899; December 2, 2020.

[23] Halsted RD, Pavkov TW, Hecker LL, Selinier MM. Family dynamics and self-injury behaviors: a correlation analysis. J Marital Fam Ther. 2014;40(2):246–59. https://doi.org/10.1111/j.1752-0626.2012.00336.x.

[24] Infographic: The shadow pandemic - violence against women and girls and COVID-19. Unwomen.org. Accessed July 12, 2021 https://www.unwomen.org/en/digital-library/multimedia/2020/6/infographic-covid19-violence-against-women-and-girls; 2021.

[25] Radhakrishnan Vignesh, Sen Sumant, Singaravelu Naresh, Data, The Hindu. Accessed August 21, 2021 https://www.thehindu.com/data/data/democratic-violence-complaints-at-a-10-year-high-during-covid-19-lockdown/article31885001.ece; June 22, 2020.

[26] Piquero AR, Jennings WG, jemison E, Kauklin C, Knaal FM. Domestic violence during the COVID-19 pandemic - Evidence from a systematic review and meta-analysis. J Crim Just. 2021;74:101806.https://doi.org/10.1016/j.jcrimjus.2021.101806.

[27] Krishnan TR, Hassan SH, Satyanarayana VA, Chandra PS. Domestic violence during the COVID-19 pandemic: Lessons to be learned. Indian J Soc Psychiatry. 2020;36(Suppl 1):120–5.