Depressive Disorders (K Cullen, Section Editor)

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# Covid-19–Related Suicides in Pakistan, India, and Bangladesh: Can we Rely on Reporting System? A Rapid Systematic Review

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**Abstract**

*Purpose of Review* With other life-altering changes, Covid-19 pandemic has brought a mental health crisis upon the global community. Untreated psychological disturbances can lead to tragic outcomes such as suicide. Currently, the most feasible way to know the true burden of Covid-related suicides is through media reports. However, the standards of media-reported suicide cases and their compliance to WHO checklist of suicide reporting in Pakistan, India, and Bangladesh are concerning. The question that arises here is if we can truly rely on the media reporting system of these countries to establish exposure-causality relationship. We've attempted to gather the evidence of reporting sources of Covid-related suicide cases in Pakistan, India, and Bangladesh. We've conducted a systematic review in

accordance with the PRISMA guidelines to identify the media-reported cases of COVID-related suicides.

*Recent Findings*  After compilation of the results, it was observed that most of the reported cases were from India (74.2%) whereas males died of suicide more often than females. When risk of bias was assessed using Pierson's method, it was observed that 70% of the studies had high risk of bias.

*Summary*  We've attempted to gather the evidence of reporting sources of Covid-related suicide cases in Pakistan, India, and Bangladesh and found that nearly all media reports hadn't followed the WHO reporting guidelines for suicide cases. This could lead to a false sense of panic among the general population.

## Introduction

Covid-19 pandemic has influenced the peace of human race in many ways. Deteriorating psychological health is one the devastating repercussions of the ongoing pandemic. When talking about the scientific evidence of deteriorating mental health like increasing prevalence of depression, anxiety, stress or lack of sleep, we are still short of comprehensively conducted controlled data as suggested by Meda et al. in a recently published article [1]. However, a few pooled analyses give a glimpse of bigger picture on how pandemic-related mental health trends are rising around the globe [2•, 3•]. If we talk about Covid-19–related suicide, which in fact, is the most fearsome sequelae of prevailing mental health issues, concerns about the dilemma of declining global economy due to Covid-19 pandemic and its repercussions in the face of incrementing suicidality have already been highlighted earlier [4]. However, the question here is if the numbers we are compiling with the help of media and clinical reports truly represent the actual burden of suicide. In search of an answer, we have conducted a rapid systematic review on reported cases of Covid-19–related suicide in Pakistan, India, and Bangladesh to evaluate the reporting quality, level of evidence, and characteristics of studied cases. Since financial restraint during lockdown was found to be a major cause of increasing suicide cases by ILO in the near future [4], therefore, we have selected these three countries for the review because of comparable poverty rate, Gross national income (GNI) per capita and average daily per capita, which defines the baseline financial status of general residents [5]. In this brief review, we aim to assess the source, quality and authenticity of reporting method for Covid-19 related suicide cases, utilized in these three regions.

# Methodology

## Literature search strategy

We have conducted our analysis in accordance with the PRISMA guidelines [6]. We have performed a time-sensitive data search on PubMed and Google Scholar using both MeSH and Non-MeSH terms. The key terms utilized were 'Suicide', 'Hanging', 'Self-harm', 'Pandemic', 'Covid-19', 'Coronavirus', 'Sars-CoV-2', 'Pakistan*', 'India*', 'Bangladesh*', 'Bangla'. No restriction on timeline was applied in order to include all the available data.

The command entered on **PubMed** was: (((("Suicide"[MeSH Terms] OR ("Suicide"[All Fields] OR "Hanging"[All Fields]) OR "Self-harm"[All

Fields] OR "Covid-19"[All Fields])) AND ("coronavirus"[MeSH Terms] OR "coronavirus"[All Fields] OR "Sars-CoV-2"[All Fields] OR "pandemic"[All Fields]))) AND ("Pakistan"[MeSH Terms] OR "Pakistan"[All Fields])) OR ("India*"[MeSH Terms] OR ("India*"[All Fields] OR "Bangladesh*"[All Fields]),))).

Whereas, Google Scholar was searched using following command: "Suicide" OR "Hanging" OR "Self-harm" AND "Pandemic" OR "Covid-19" OR "Coronavirus" OR "Sars-CoV-2" AND "Pakistan*'" OR "India*" OR "Bangladesh*" OR "Bangla".

The detail of searches is given as flow diagram in Fig. 1.

## Data Extraction and Inclusion criteria

Data was extracted using a pretested worksheet. Details such as author and year of publication, total number of cases, gender distribution, age (mean for case series and number for case report), suicide date (range for case series), source of reporting and the evaluation against WHO guidelines was compiled in Table 1. Studies were included if they met the following criteria:
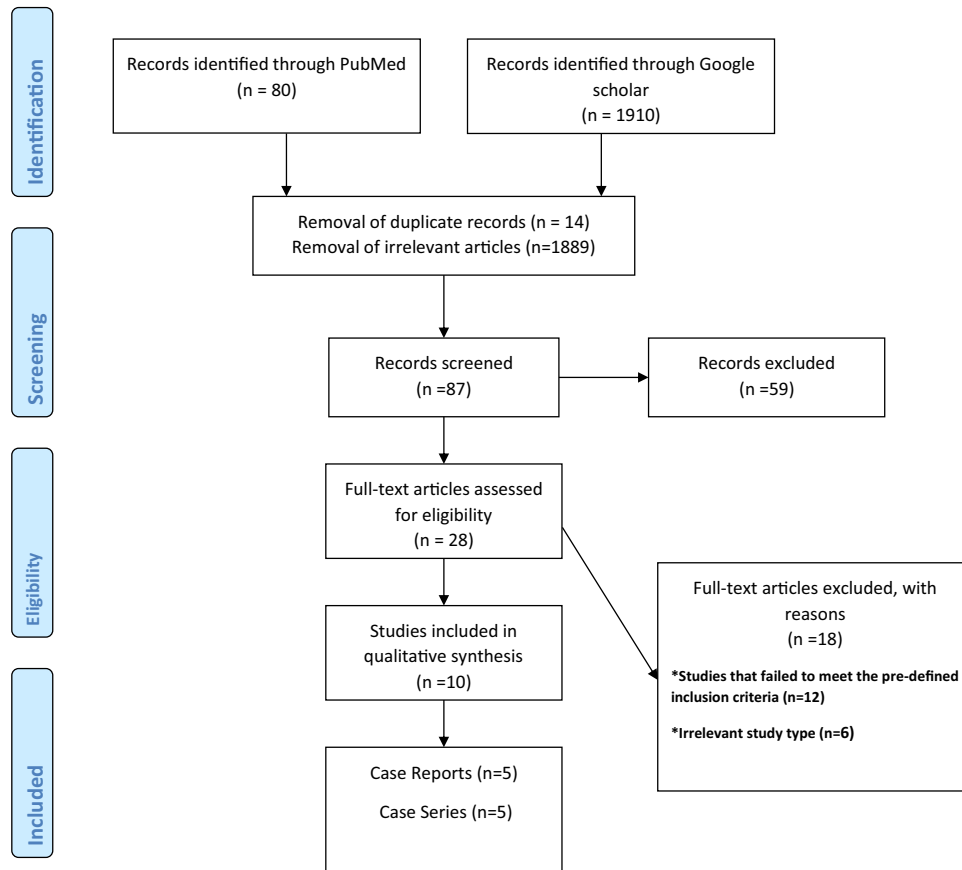


**Fig. 1** Data extraction strategy in accordance to PRISMA flow diagram for the study

**Table 1  Description of included studies along with their evaluation against WHO guidelines**

| Author and year | Country | Number of cases | Gender distribution M | Gender distribution FM | Age Mean or N | Suicide date (range) | Source of reporting | Evaluation of cases against WHO's guidelines for reporting suicide |
|---|---|---|---|---|---|---|---|---|
| Mamun MA (A) et al. 2020 | Pakistan | 16 | 12 | 4 | NR | 18 March–27 April | Electronic and print media | **Domain A:** Poor quality **Domain B:** Poor quality **Comments:** Critical aspects such as warning signs and educational aspect was overlooked in almost all collected cases. Some reports sensationalized the news more crudly. Although blurred, but some reports used the images of incident scene after headlines |
| Dsouza DD et al. 2020 | India | 63 | 55 | 8 | 39 years | 22 March–16 May | Print media | **Domain A:** Poor quality **Domain B:** Poor quality **Comments:** Too much implication on the point to prove association between covid-19 pandemic and suicide. No mentioning of expert opinion or preventive strategies. Premature assumption about the poverty being the cause of most suicide cases during pandemic |

**Table 1**  (continued)

| Author and year | Country | Number of cases | Gender distribution M | Gender distribution FM | Age Mean or $N$ | Suicide date (range) | Source of reporting | Evaluation of cases against WHO's guidelines for reporting suicide |
|---|---|---|---|---|---|---|---|---|
| Sahoo S et al. 2020 | India | 2 | 2 | 0 | 46 years | NR | Clinical reporting | **Domain A:** Medium quality **Domain B:** Medium quality **Comments:** Good study as far as the educational aspect is concerned. The evidence based details are present Precautions regarding disturbing details were taken |
| Goyal K et al. 2020 | India | 1 | 1 | 0 | 50 years | 12 February | Print media | **Domain A:** Poor quality **Domain B:** Poor quality **Comments:** Name and occupation of victim was mentioned. Reported as such that mono-causality seemed certain (which was coronaphobia). However, details of suicidal method wasn't mentioned in headlines or anywhere in the report. Interviews from bereaved was in thorough detail |

**Table 1** (continued)

| Author and year | Country | Number of cases | Gender distribution | | Age Mean or N | Suicide date (range) | Source of reporting | Evaluation of cases against WHO's guidelines for reporting suicide |
|---|---|---|---|---|---|---|---|---|
| | | | **M** | **FM** | | | | |
| Hossain M (A) et al. 2020 | India | 1 | 1 | 0 | 52 years | NR | Print media | **Domain A:** Poor quality **Domain B:** Poor quality **Comments:**Name and occupation of victim was mentioned. It was prominently pasted in initial pages of newspaper. They've simplified the cause of suicide as an understandable reason due to victim's financial constraint |
| Hossain M (B) et al. 2020 | India | 1 | 1 | 0 | 31 years | 5 May | Print media | **Domain A:** Poor quality **Domain B:** Poor quality **Comments:** Used the word 'Suicide' within their headlines. Information was provided on the method of suicide. Bereaving relatives were interviewed. No educational material or expert opinion was provided |

**Table 1** (continued)

| Author and year | Country | Number of cases | Gender distribution M | Gender distribution FM | Age Mean or *N* | Suicide date (range) | Source of reporting | Evaluation of cases against WHO's guidelines for reporting suicide |
|---|---|---|---|---|---|---|---|---|
| Rani S et al. 2020 | India | 1 | 1 | 0 | 60 years | NR | Clinical reporting | **Domain A:** Good quality **Domain B:** Medium quality **Comments:** Identity of victim was concealed appropriately. No sensationalism, inappropriate crude language or simplistic reasoning of suicide was present Additionally, supportive educational material and information about risks and warning signs was present |
| Thakur V et al. 2020 | India | 3 | 2 | 1 | 45.6 years | NR | Print media | **Domain A:** Medium quality **Domain B:** Poor quality **Comments:** All reports used the term 'suicide' within their manuscript. No explicit details about the method of suicide or victim was presented. However, the reports were lacking any educational material |
| Mamun MA (B) et al. 2020 | Bangladesh | 1 | 1 | 0 | 36 years | 25 March | Electronic media | **Domain A:** Poor quality **Domain B:** Poor quality **Comments:** Sensationalism was avoided but the term 'suicide' was used in headlines. Report was depicted as if suicide was the solution to the coronaphobia |

**Table 1** (continued)

| Author and year | Country | Number of cases | Gender distri-bution | | Age Mean or N | Suicide date (range) | Source of reporting | Evaluation of cases against WHO's guidelines for reporting suicide |
|---|---|---|---|---|---|---|---|---|
| | | | **M** | **FM** | | | | |
| Bhuiyan AI et al. 2020 | Bangladesh | 8 | 4 | 4 | 26.5 years | 6 April–24 April | Electronic and print media | **Domain A:** Poor quality **Domain B:** Poor quality **Comments:** Most studies presented an implied mono-causality. Some justified suicide as the only way out of the crisis. Strong language was also used in some reports to highlight the severity of crisis |

*NR*, Not reported; *N*, Number

- Clearly reporting an attempted or completed suicide case due to any pandemic-related stressor (including financial burden, self-isolation, living with or in close proximity to a Covid-19 patient, fighting against an active Covid-19 infection, lockdown, etc.).
- Article should be in English language.
- Only those articles which were published in a medical journal or published as a preprint were included to ensure the quality of extracted data.
- The origin of cases must be from Pakistan, India or Bangladesh.

*Risk of Bias Assessment*

Pierson's approach was used to assess the validity of case reports/series. It is a 5-component scheme which scores the quality and validity of case reports/series. Scores are assigned on the basis of 5-component domains which include; (1) Documentation; (2) Uniqueness; (3) Educational value; (4) Objectivity; and (5) Interpretation. Each domain can be scored between two points (maximum score) to zero points (minimum score) according to the defined criteria for case presentation and validity of data. Interpretation of ratings was based upon total score for an individual study. Study with the scores of 9–10 has high likelihood of valid data and appropriate reporting. Caution should be implemented about the clinical value of studies if the scores are 6–8. The scores of ≤5 validate the insufficiency of study to pertain substantial clinical evidence [7]. All the selected cases were evaluated accordingly and the results of Pierson's evaluation method for case report are presented in Table 2 for individual articles.

**Table 2  Pierson's method of assessing risk of bias in case report/series**

| Authors | Documentation | Uniqueness | Educational value | Objectivity | Interpretation | Total score |
|---|---|---|---|---|---|---|
| Mamun MA et al. 2020 | 1 | 1 | 2 | 1 | 1 | 5 |
| Dsouza DD et al. 2020 | 1 | 1 | 0 | 0 | 1 | 3 |
| Sahoo S et al. 2020 | 2 | 1 | 1 | 2 | 1 | 7 |
| Goyal K et al. 2020 | 1 | 1 | 0 | 1 | 0 | 3 |
| Hossain M et al. 2020 | 1 | 1 | 0 | 1 | 1 | 4 |
| Hossain M et al. 2020 | 1 | 1 | 0 | 1 | 1 | 4 |
| Rani S et al. 2020 | 2 | 1 | 2 | 1 | 1 | 7 |
| Thakur V et al. 2020 | 2 | 1 | 1 | 1 | 1 | 6 |
| Mamun MA et al. 202 | 0 | 2 | 1 | 1 | 1 | 5 |
| Bhuiyan AI et al. 2020 | 1 | 1 | 1 | 1 | 1 | 5 |

Scoring: 10–9 = low risk studies; 8–6 = Moderate risk studies; ≤5 = High risk studies

## Results

We have performed a time-sensitive data search on PubMed and Google Scholar using both MeSH and Non-MeSH terms. The key terms utilized were 'Suicide', 'Hanging', 'Self-harm', 'Pandemic', 'Covid-19', 'Coronavirus', 'Sars-CoV-2', 'Pakistan*', 'India*', 'Bangladesh*', 'Bangla'. No restriction on timeline was applied. After searching the PubMed and Google Scholar, we have found ten relevant articles with 97 reported cases fulfilling our inclusion criteria. Out of these 97 reports of attempted or completed suicide in ten published articles [8•, 9–17], majority of the cases (74.2% cases in seven studies) were from India, whereas Pakistan and Bangladesh had 16.4% (in 1 study) and 9.2% (in 2 studies) of reported cases, respectively. The reports had gender predilections as more men (n = 80) attempted to or unfortunately took their life as compared to females (n = 17). The earliest incident reported was back in February (12–02-2020) whereas the most recently reported case among the extracted data was on 5th of May, 2020. On calculating the per day rate of suicide for each country, it was found to be highest in India (0.85 cases/day) followed by Pakistan (0.4 cases/day) and Bangladesh (0.29 cases/day). Out of ten studies, only two studies clinically evaluated the cases of suicide whereas the rest of the researches used media sources to gather the details about the cases. The descriptive detail of included reports is given in Table 1. After assessing quality of published case reports using Pearson's method [7] (Table 2), only three studies were of moderate risk whereas all studies were high risk for bias.

The World Health Organization (WHO) guidelines [18•] for reporting suicidal cases published in 2017 was used to assess the quality of individual study. In order to conduct a quantitative assessment, we have utilized the English version of the Spanish compendium of WHO recommendations [19•]. The recommendations were divided into two domains. Domain A was comprised of 15 recommendations with one point for each. A study was said to be of good quality if fulfilling at least ≥ 11 recommended points, medium quality if it scores between 10 and 6 and poor quality if the cumulative score was ≤ 5. Similarly, using Domain B, which was comprised of 7 recommendations, the quality assessment was conducted against individual study. The study was good, medium or poor quality if it scored ≥ 6, 5–3 or ≤ 2, respectively. The detail of WHO recommendations is provided in Table 3.

Out of all the included studies assessed against the domain A, only 3 were medium or high quality reports. However, for domain B, only two reports were of medium quality. The detail of quality assessment along with the comments is provided in Table 1.

**Table 3  List of WHO recommendations disseminated to media professionals**

**Domain A:** WHAT TO AVOID

1. Do not sensationalize suicide

2. Avoid headlines containing the word "suicide" or specifying the method or location

3. Be cautious with the use of pictures or video footage. Avoid pictures or video of the deceased, of the method used, of the scene, of shocking contents (i.e. person on a ledge or similar, or elements used), and of links to social networks that contain them

4. Do not publish suicide notes in any of their forms (paper, final text messages, social media posts or emails)

5. Do not place suicide news articles prominently. Newspaper stories about suicide should be located on the inside pages

6. Avoid providing detailed information or an explicit description of the method used of a completed or attempted suicide

7. Avoid providing detailed information about the location of a completed or attempted suicide

8. Do not glorify the person who has committed suicide

9. Do not use language that normalizes suicide

10. Do not depict suicide as a solution to problems or as a means of coping with personal problems. 11. Do not provide simplistic reasons for why the suicide occurred

12. Do not use religious or cultural stereotypes

13. Avoid reporting suicidal behavior as an understandable response to social or cultural changes or degradation

14. Do not apportion blame

15. Do not unduly repeat suicide news articles

**Domain B:** WHAT TO DO

1. Refer to suicide as a "completed suicide", not as a "successful suicide"

2. Highlight alternatives to suicide, either through general information or through stories of people illustrating how to cope with adverse circumstances or suicidal thoughts, and how to get help

3. Provide information about support resources and crisis helplines

4. Provide information about risk factors and warning signs

5. Convey the message that depression is often associated with suicidal behavior and that depression is a treatable condition

6. Offer a message of sympathy to the survivors in their hour of grief and provide telephone numbers of support groups for survivors, if available

7. Educate the public about the facts of suicide and suicide prevention, without spreading myths

# Discussion

A recently published article addressed several concerns related to mental health in the post-Covid-19 era and emphasized the need for comprehensively conducted studies on the psychological aftermath of the pandemic [20]. Taking the notice of time's need, many fellow psychiatrists are putting their efforts in conducting large scale surveys on psychological consequences (e.g. depression, anxiety, sleep problems, etc.) of ongoing pandemic [21, 22]. However, the concerning paucity of controlled studies in such situation makes it problematic to estimate the true magnitude of Covid-19–related mental health issues, especially suicide. Given the fact, we have found in our review that eight studies out of ten relied on the

media sources (both print and electronic media) for reporting the case details, the question that arises here is to what extent we can count on media reporting system to evaluate the suicidal happenings due to corona virus pandemic?

Evidence from recently published literature on the quality of media reporting system of suicide in Bangladesh and India raises significant concerns about the validity and authenticity of reported content. Arafat SMY et al. evaluated the quality of suicide reporting in Bangladesh against WHO guidelines. He found that out of 199 cases, about 7% of the cases established mono-causality with suicide. Additionally, not a single report mentioned anything about statistics, research finding, and mental health illness or tried to opt for expert opinion. If we consider our results and compare it to Arafat SMY et al. report, we can easily observe the trend of poor reporting of suicide cases in these three south-Asian countries. He further concluded that WHO media reporting guidelines are not properly implied by Bangladeshi media when reporting suicide [8•]. We have also observed that only 3 studies complied with the WHO reporting guidelines. Similarly, a study on ten major Indian newspapers revealed that no single report attempted to educate their readers about the psychological aspects of suicides and its preventive strategies. About 29.8% of reports within included in their study established a commonly applicable cause of suicide to generalize its impact on the readers [23•].

## Conclusion

This evidence suggests that relying on the media reporting system to establish exposure-causality in cases of Covid-19–related suicide is not an option in Pakistan, India, and Bangladesh since the reporting system of media is skewed in many ways. Claiming an exposure-causality relationship without considering an expert opinion or statistical data is irresponsible. Sensationalizing the incident and ignoring the psychological and educative aspect as per WHO guidelines while reporting can create false sense of panic among the general population. Secondly, it is next to impossible to exclude confounders (such as pre-existing mental health illness) with these media reports. Given the scenario, we are in profound need of clinical reporting of pandemic-related suicide to identify the real burden.

## Author contribution

All authors contributed equally in data Curation, Formal Analysis, Funding Acquisition, Investigation, Methodology, Project Administration, Resources, Software handling, Writing (Original Draft Preparation) and Writing (Review & Editing). However, the project was primarily conceptualized, visualized and supervised by Syeda Beenish Bareeqa and validation of final work was done by Syed ijlal Ahmed.

## Declarations

**Conflict of Interest**
Syeda Beenish Bareeqa, Syeda Sana Samar, Gohar Javed, Syed Ijlal Ahmed, and Syed Hasham Humayun declare that they have no conflicts of interest.

**Human and Animal Rights and Informed Consent to Participate/Publication**
All authors provide the consent to participate in the submission and publication of this manuscript.

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