

Crisis Management Due to Covid-19 Pandemic in Mental Health and Its Implications

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Abstract: The literature has not given sufficient thought to crisis management of global health concerns in the wake of epidemics and pandemics. The research presented here demonstrates the importance of COVID-19 resilience in the face of crisis management issues and the opportunities that exist because of this resilience. Rapid global spread of the second wave of the contagious COVID-19 virus has sparked concerns about global mental health and crisis management. The research team hopes to use the findings to better utilize social media for public awareness and mental health prevention efforts in the wake of the current COVID-19 pandemic. Continual exposure to reports of deaths caused by the coronavirus, as has been reported in the news, has been linked to a significant increase in the risk of developing mental health issues in other countries. It important to cite this phrase. The COVID-19 caused a worldwide infodemic due to the rapid transmission of both positive and negative information throughout the internet. The public trust was damaged, and anti-virus operations were impeded for far longer than the actual duration of the coronavirus pandemic.

Keywords: Crisis Management, Covid-19, Pandemic, Mental Health

1. Introduction

There were more than 103.307 million confirmed cases of the deadly contagious disease COVID-19, with more than 2.2332 million deaths attributed to the disease, according to the dashboard on the disease that was created by the World Health Organization (WHO), which is based on the findings of national and international health expert authorities from around the world [1]. In addition to this, more than 103 307 million people lost their lives as a result of the sickness. Level two recommends a quarantine, which may include preparatory screening or the quarantining of likely cases and sick patients with an adequate diagnosis. In addition, level two suggests the introduction of certain new measures for speedy implementation. Collecting blood samples, tracking down contacts, gathering clinical data, monitoring patients as well as healthy people, and monitoring healthy subjects are the first three steps in the process [2] [3].

The aim of this research was to evaluate the psychological effects that individuals have been subjected to as a result of the rapid spread of the COVID-19 epidemic over the world. The experiences that medical professionals had during the SARS outbreak in 2003 and the impact that it had on the mental health of individuals all over the world can serve as a useful source of information for the development of these preventative measures [4]. These efforts will assist ease the strain that is being placed on healthcare systems because of the treatment of persons who are infected with the COVID-19 virus. The strain is being caused by the treatment of people who are infected with the COVID-19 virus [5]. Suspects are required to spend time in isolation as a result of their close closeness to COVID-19 patients. This time can be spent either in the suspect own home or in a hospital or another form of healthcare institution. Because of their concerns on the ongoing pandemic, it is possible that they will experience problems with their mental health during this time [6].

In order to reduce the likelihood that the coronavirus may spread to a wider population, healthcare providers ought to give priority to those patients who require rapid treatment. According to the findings of epidemiological research, individuals with COVID-19 had a greater prevalence of mental health issues and psychiatric comorbidity than was anticipated. Additional research is being conducted in various countries all over the world to learn more about this phenomenon [7].

The survey examined how the pandemic affected people access to mental health, neurological, and substance use services in these countries. The poll investigated how the

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pandemic impacted people access to treatments for mental health, neurological disorders, and substance use. According to the results of the survey, gaining access to therapies for neurological problems, mental health issues, and substance abuse was difficult in most of the member countries (MNS).

In the context of the ongoing fight against the infectious disease COVID-19, 89% of WHO member states have reported that they are addressing the mental health of individuals and providing psychological support as part of their national strategy.

On the other hand, new funding promises were made by only 17% of countries. Considering the evidence suggesting that the ongoing epidemic has had a devastating influence on the mental health as well as the general welfare of communities all over the world, the World Health Organization (WHO) has published a study in response to this evidence. Since the capacity of the world to respond to the COVID-19 epidemic has been limited, it is uncertain what actions will be made to meet the approaching crisis in mental health that is rising across the world [10].

2. Related Works

According to the findings of the research that has been carried out, epidemics and pandemics have a negative impact on the psychological well-being of populations. Previous studies on the effects of Ebola virus disease epidemics indicated that the unanticipated death of coworkers, acquaintances, and family members, as well as the social marginalization and stigmatization of survivors, were the root causes of widespread anxiety, fear, and despair. A meta-analysis found that between 33 and 42 percent of patients who were admitted to hospitals for treatment of Middle East Respiratory Syndrome (MERS) and severe acute respiratory syndrome (SARS-CoV) exhibited symptoms of anxiety, depression, memory impairment, and sleeplessness [8]. These findings were derived from the examination of patients who had been diagnosed with MERS or SARS-CoV. These symptoms were found in between 35 and 42% of patients who sought medical attention. Several people remained to feel the aftereffects of the diseases that were going around even after they had made a full recovery from the illnesses. There has been an increase in the number of reports of cases of domestic violence around the world as a direct result of the ongoing epidemic that has been triggered by COVID-19 [9].

It is vital to undertake thorough testing on suspects, pursue aggressive transmitter tracking, center emphasis on care, and diagnose patients at home to mount a successful reaction. Healthcare workers, medical professionals, and other paramedical staff have a crucial need for care and safety since they are on the front lines of the fight against this potentially fatal infectious disease all over the world. This fight is taking place in every region of the world. The rapid

spread and escalating severity of Ebola pandemic are putting the existing medical infrastructure around the world to the test. The pace that needs to be maintained to combat the outbreak looks to be orders of magnitude faster than the procedures that are followed in health bureaucracies. The state of healthcare systems all across the world is currently being evaluated as a result of this [10].

COVID-19 has expanded to every single part of the world, there needs to be a more concerted attempt performed to establish which technique will be the most efficient in confining the sickness until a vaccine can be employed to treat persons. Because of this, preventative actions in this period of public health crisis are useful. These preventative measures include minimizing the impacts of the outbreak and suppressing it [6].

The primary purpose is to suppress the COVID-19 outbreak is to put a stop to, slow down, and eventually take control of the rapid spread of the disease. The combination of stringent safety measures is helpful in reducing the rapid spread of the disease while waiting for the creation of a vaccine that can treat this pervasive and potentially fatal illness[12]. Most experts in this field agree that we should anticipate a period of at least one year and eighteen months before this may become a reality. Because they are concerned that there would be a comeback of the pandemic if limitations are not strictly maintained, public health specialists have not suggested or predicted relaxing the suppression tactics currently in place. This is since professionals in the field of public health are concerned about the possibility of a reappearance of the pandemic in the absence of limits that are strictly implemented. The findings of this research indicate that unexplained social distance is a significant risk factor that contributes to the emergence of new disease patterns. It is possible that this will make it possible for actions to be taken on a legitimate basis[11]. If there is an unanticipated rise in the number of suspicious instances, the authorities may reevaluate the situation and make adjustments to existing procedures.

Various other models involving in finding the crisis management can be found in [11]-[13]. Most of the methods focus on

3. Proposed Method

This section presents the importance of COVID-19 resilience in the face of crisis management issues.

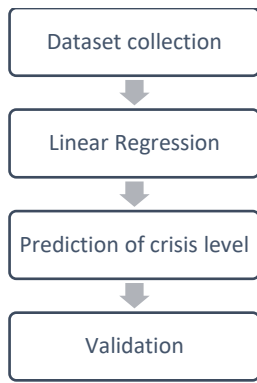


Fig 1: Proposed Workflow

Correlation analysis and multivariate analysis are highly similar in their mathematical underpinnings. Every observable characteristic can be reduced to a linear combination of the component elements that are responsible for it when it is analyzed. The amount of variation that one variable shares with all the other variables in an analysis is referred to as the variance, while another term for it is communality.

Both terms refer to the amount of variation that one variable contributes to the whole study. The co-variation between the variables can be characterized by a single component for each variable and a restricted number of problems that are shared between them. This can be done because there is only one component for each variable.

The factor model can be represented in the following manner when dealing with variables that have been subjected to normalization:

$$X_i = A_{i1} F_1 + A_{i2} F_2 + A_{i3} F_3 + \dots + A_{im} F_m + V_i$$

Where,

X_i - variable

F = Common Factor (refer table 1 and 2)

A_{ij} - multiple regression coefficient

V_i = regression coefficient

V_i = unique factor

M = common factors

There is not the slightest relationship between the factors that are specific to the situation and those that are more generic. Utilizing linear combinations of the observable variables makes it possible to formulate an expression for the shared components.

$$F_i = W_{i1} X_1 + W_{i2} X_2 + W_{i3} X_3 + \dots + W_{ik} X_k$$

Where,

F_i = i th factor Estimate

W_i = weight

K = Variables.

It is possible to adjust the weights or keep the problem score in such a way that the major worry accounts for a large share of the overall volatility in the data. A second set of weights can be chosen by hand to explain the secondary issue that is responsible for a significant portion of the residual variation that cannot be correlated with the primary issue. This secondary issue is responsible for the fact that the primary issue cannot be correlated with the residual variation.

The absence of any association between the two difficulties may be traced back to this tertiary concern, which is responsible for the situation. It is possible to put this theory into practice to provide the supplementary components with the level of significance that they warrant.

It is feasible to compute the factors to obtain a score for each factor. This is made possible by the fact that the values of the starting variables are not tied to one another in any way. The first issue, which is also the one that generates the most amount of fluctuation in the data, is followed by the second issue, which is then followed by the third issue, and so on.

With the use of a tool known as correlational analysis, the social and economic environments that influence the success of fishing endeavors may be discovered and explored. This can be done both quantitatively and qualitatively. The approach of principled analysis is mathematically satisfactory since it gives a response that cannot be reproduced in response to a component problem. This makes it a good choice for solving complex mathematical problems.

The basic component of this approach that addresses the issue of how to solve the problem is the extraction of the maximum variance at the time when the problem is being calculated. To restate this, the primary variable is the one that produces the difference that is the most significant in comparison to the differences that are produced by the other variables.

An excessive amount of the time, the findings of an investigation are of the type that are either difficult to comprehend or impossible to interpret. To accurately interpret the data, it is necessary, as stated by Thurston, to invert the issue matrices, as this is the first stage in the procedure.

The original issue matrices are impulsive because of the fact that every R matrix can be generated by a search through an infinite number of different frames of reference, he made this discovery. Investigations might be carried out utilizing a huge number of distinct strategies and methods. Despite this, the original variance rotation method is still widely utilized and can be in most of the software that is built specifically for correlational research.

4. Results and Discussion

In Table 1, the loadings for the 14 statements (variables) representing respondent views about the fishing community are shown. These statements represent the respondent perspectives on the fishing community. According to the data that is shown in Table 1, each of the 14 components can be broken down into one of the following four distinct factors: F1, F2, F3, or F4 and this includes mental health, stress level, social isolation and physical health condition.

TABLE I ROTATED FACTOR MATRIX FOR MENTAL HEALTH

| Variables | F1 | F2 | F3 | F4 | F5 |
|----------------------|-------|-------|-------|-------|-------|
| Indoor play | 0.943 | 0.865 | 0.020 | 0.109 | 0.888 |
| Online games | 0.903 | 0.145 | 0.110 | 0.767 | 0.835 |
| Yoga and Mediation | 0.881 | 0.118 | 0.486 | 0.027 | 0.775 |
| Aerobic Exercise | 0.862 | 0.742 | 0.125 | 0.203 | 0.787 |
| Prayer | 0.640 | 0.378 | 0.032 | 0.028 | 0.542 |
| Creative Activities | 0.190 | 0.782 | 0.036 | 0.192 | 0.670 |
| Positive Thinking | 0.127 | 0.702 | 0.192 | 0.256 | 0.598 |
| Installation of Hope | 0.147 | 0.696 | 0.399 | 0.504 | 0.653 |
| Reading | 0.009 | 0.001 | 0.743 | 0.341 | 0.653 |
| Music | 0.191 | 0.217 | 0.723 | 0.151 | 0.614 |
| Online Courses | 0.071 | 0.198 | 0.664 | 0.023 | 0.474 |
| Learning | 0.034 | 0.007 | 0.584 | 0.559 | 0.640 |
| Reading | 0.164 | 0.196 | 0.109 | 0.812 | 0.721 |
| Writing | 0.224 | 0.547 | 0.057 | 0.681 | 0.799 |
| Eigen value | 4.978 | 2.265 | 1.334 | 1.072 | |

| | | | | | |
|----------------------------------|--------|--------|--------|--------|--|
| Percentage of variance explained | 35.600 | 16.163 | 9.514 | 7.673 | |
| Cumulative per cent | 35.600 | 51.764 | 61.278 | 68.950 | |

TABLE II ROTATED FACTOR MATRIX FOR PHYSICAL HEALTH

| Variables | F1 | F2 | F3 | F4 | F5 |
|----------------------------------|--------|--------|-------|-------|-------|
| Indoor play | 0.953 | 0.874 | 0.020 | 0.110 | 0.898 |
| Online games | 0.913 | 0.147 | 0.111 | 0.775 | 0.844 |
| Yoga and Mediation | 0.890 | 0.119 | 0.491 | 0.027 | 0.784 |
| Aerobic Exercise | 0.871 | 0.750 | 0.127 | 0.205 | 0.795 |
| Prayer | 0.647 | 0.382 | 0.033 | 0.029 | 0.548 |
| Creative Activities | 0.192 | 0.790 | 0.036 | 0.194 | 0.677 |
| Positive Thinking | 0.128 | 0.710 | 0.194 | 0.258 | 0.604 |
| Installation of Hope | 0.149 | 0.703 | 0.403 | 0.510 | 0.660 |
| Reading | 0.009 | 0.001 | 0.751 | 0.345 | 0.660 |
| Music | 0.193 | 0.219 | 0.730 | 0.153 | 0.621 |
| Online Courses | 0.072 | 0.200 | 0.671 | 0.024 | 0.479 |
| Learning | 0.035 | 0.007 | 0.590 | 0.565 | 0.647 |
| Reading | 0.166 | 0.198 | 0.110 | 0.821 | 0.728 |
| Writing | 0.227 | 0.553 | 0.058 | 0.688 | 0.807 |
| Eigen value | 5.032 | 2.290 | 1.348 | 1.083 | |
| Percentage of variance explained | 35.983 | 16.337 | 9.616 | 7.755 | |

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|---------------------|--------|--------|--------|--------|--|
| Cumulative per cent | 35.983 | 52.320 | 61.937 | 69.692 | |
|---------------------|--------|--------|--------|--------|--|

TABLE III ROTATED FACTOR MATRIX FOR SOCIAL HEALTH

| Variables | F1 | F2 | F3 | F4 | F5 |
|----------------------------------|--------|--------|--------|--------|-------|
| Indoor play | 0.977 | 0.896 | 0.021 | 0.113 | 0.921 |
| Online games | 0.936 | 0.151 | 0.114 | 0.794 | 0.865 |
| Yoga and Mediation | 0.912 | 0.122 | 0.503 | 0.028 | 0.804 |
| Aerobic Exercise | 0.893 | 0.769 | 0.130 | 0.210 | 0.815 |
| Prayer | 0.663 | 0.392 | 0.034 | 0.030 | 0.562 |
| Creative Activities | 0.197 | 0.810 | 0.037 | 0.199 | 0.694 |
| Positive Thinking | 0.131 | 0.728 | 0.199 | 0.264 | 0.619 |
| Installation of Hope | 0.153 | 0.721 | 0.413 | 0.523 | 0.677 |
| Reading | 0.009 | 0.001 | 0.770 | 0.354 | 0.677 |
| Music | 0.198 | 0.225 | 0.748 | 0.157 | 0.637 |
| Online Courses | 0.074 | 0.205 | 0.688 | 0.025 | 0.491 |
| Learning | 0.036 | 0.007 | 0.605 | 0.579 | 0.663 |
| Reading | 0.170 | 0.203 | 0.113 | 0.842 | 0.746 |
| Writing | 0.233 | 0.567 | 0.059 | 0.705 | 0.827 |
| Eigen value | 5.158 | 2.348 | 1.382 | 1.110 | |
| Percentage of variance explained | 36.887 | 16.748 | 9.858 | 7.950 | |
| Cumulative per cent | 36.887 | 53.635 | 63.493 | 71.443 | |

The results of rotated factor matrix for social health, physical and mental health is described in terms of the factors including mental health, stress level, social isolation, and

physical health condition. The results show that the various variables performs well with the related factors in finding the well being of the patients.

5. Conclusion

The literature has not given nearly enough attention to crisis management of global health concerns in the wake of epidemics and pandemics. These findings bring into more perspective not just the significance of COVID-19 resilience in the face of the challenges associated with crisis management but also the opportunities that arise because of this resilience. Concerns about global mental health and crisis management have been triggered by the rapid global expansion of the second wave of the COVID-19 virus. The ease with which the virus can be passed from person to person is a source of concern due to the current situation. In the wake of the current COVID-19 pandemic, the study team aims to use the data so that they may better their ability to leverage social media for public awareness and preventative actions connected to mental health.

The quick transmission, via the internet, of both positive and bad information regarding COVID-19 led to the outbreak of an infodemic that affected the entire world. The length of time that confidence is reduced, and efforts are impeded was significantly longer than the actual timeframe of the coronavirus outbreak that occurred. In conclusion, gaining an appreciation for the complexity of crisis management and the challenges to global health posed by the COVID-19 pandemic can help in gaining insight into and making predictions about the outcomes, causes, and potential outcomes of such future crises. Acquiring an understanding of the complexities of crisis management and the challenges that the pandemic presents to health on a global scale is one way to attain this goal.

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