



Impact of COVID-19's Media Exposure on the Anxiety and Response Behavior of Pakistani Adults

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ABSTRACT- This study attempts to examine the impact of media exposure of COVID -19 on the anxiety and behavior of the Pakistani adults during the prevailing pandemic scenario. The main hypothesis of the study included that high media exposure related to COVID-19 leads to anxiety among people and High media exposure related to COVID-19 leads to behavioral change among people. The researchers used the quantitative method of survey and collected data from 700 respondents of Gujrat city through an online structured questionnaire. Data was analyzed through the Analysis of a Moment Structures (AMOS) software version 22 with the Structure Equation Modelling (SEM) analysis technique. The findings significantly established the structural impact of media exposure on anxiety among adults, which determined their behavior to protect themselves from the COVID-19 pandemic. Majority of the adults agree that media exposure weakens their body, and disturb sleeping time. Higher level of media exposure leads to a higher level of anxiety, which change the response behaviour towards COVID-19.

Keywords: Media Exposure, COVID-19, Anxiety, Behavior, Adults, Pakistan

I. INTRODUCTION

The occurrence of pneumonia of unknown cause has been reported from China and spread quickly worldwide (Bao et al., 2020). The first case of the COVID-19 was reported in December 2019 in Wuhan, China, and within a week, about 100,000 confirm cases and thousands of deaths were reported worldwide (Garfin et al., 2020). Pandemic worsening situation pushed the governments, hospitals, healthcare institutions, and the general public towards danger (Pan et al., 2020). It has been observed that continuous exposure to media information related to a community health emergency and terrorist attacks can lead to anxiety (Garfin et al., 2020). Ineffective communication and ambiguity in the case of H1N1 lead to anxiety and depression (Taha et al., 2014). Researchers and scientists worldwide have begun to work on the appearance, genetics, mortality, and originality of the COVID-19 (Perlman, 2020). World Health Organization declares a health emergency after the outbreak of COVID-19 worldwide and names it Global Virus, which affects the health of people of all ages (Wang et al., 2020).

In February 2020, COVID-19 started in Pakistan, and till April 2021 around 772381 confirmed cases was reported along with 16,600 deaths across the country. In Pakistani Punjab alone 276535 confirmed cases of COVID-19 were reported along with 7664 deaths and 224,029 recovered patients (National Health Services Pakistan, 2021). We live in a mediated society where most of our information about issues, politics, health, and economic comes from media. Media organizations and governments worldwide started awareness campaigns to control the spread of the corona virus, which sensitize people to stay home to overcome the intensity of the COVID-19 (Garfin et al., 2020). During the time of health crisis, war, flood, terror attack and ambiguity, people follow media news (Ball-Rokeach & DeFleur, 1976). This media dependency corresponds to increased media exposure which results in more influence of media on people's lives. Thus, we assume that public dependency and consequent exposure to media increases during uncertain times. Therefore, this study intends to investigate the following hypothesis. In this study the researchers tried to investigate the link between media exposure and behavioral change among the people of Pakistan.

H1: High media exposure related to COVID-19 leads to anxiety among people

H2: High media exposure related to COVID-19 leads to behavioral change among people

II. LITERATURE REVIEW

The quick response of the government during the time of crisis and timely dissemination of information in public may decrease the crisis's impact, whereas uncertainty among the public leads to misinformation. Chen et al. (2020) analyzed that information, discussions, content, and emotional messages on social media engage the public during the crisis of COVID-19. The Chinese government used social media platforms to engage the public on the COVID-19 issue, and researchers used the national health commission of China's official SinaWeibo account to collect data for investigation. Findings show that government social media information affects the public's engagement, as discussion forums effectively engage them. Breaking news related to COVID-19 on social media and the ways government tackles the issue has a positive impact on public engagement. Emotional content on social media depends upon other variables of the official account. In the past, governments of different countries used social media for their political agenda, but now it is converted into public communication and engagement tools (Bonson et al., 2019).

During a health crisis, a person depends on the media, get's accurate updates and makes informed decisions about health-protecting behaviour, and it is essential to utilize reliable sources to assess risk and provide recommendations (Lachlan et al., 2016). The researchers interviewed 1147 people at Riyadh's shopping malls through questionnaires to test their knowledge, attitude, and precautions related to the MERS-CoV pandemic. Most people show great concern towards pandemic and follow precautions to stay safe. Moreover, there is a significant relationship between gender and level of concern which shows knowledge is the vital interpreter for the level of concern & precautions (Almutairi et al, 2015). The evidence shows that when media inform the public about facts in an effective and informed way, people develop their minds about risk (Fischhoff et al., 2018), and dissemination of transparent health information through a television would be helpful to improve human health (Sato et al. 2019). Besides, lack of information and ambiguity can lead to an increased risk assessment, and this phenomenon observed during and after the H1N1 crisis when out-of-control emotions increased anxiety (Taha et al., 2014). In contrast, media coverage enhances knowledge about HIV and reduce stigma (Aghaei et al., 2020).

Media platforms play a serious and vigorous role during the health crisis to aware of effects, precautions, and safety measures. The free flow of media news stimulates anxiety, panic, and sadness (Garfin et al., 2020). A recent study conducted in China revealed that the majority of the health workers have sufficient awareness of the pandemic, and 89.7% pursued precise coaching about COVID-19 and risk factors at job place which prejudiced the actions and attitude of health care workers of Henan hospital, China which creates anxiety and gloominess among people (Zhou et al., 2020). Gao et al.(2020) conducted research and collects data through an online survey method from 31 provinces of China from 4872 people. The researchers tried to find out depression and anxiety levels among China people due to social media exposure about the COVID-19. The study findings show that most people use social media for COVID-19 updates daily, whereas; several respondents believe that news of COVID-19 creates depression and anxiety among people.

Media platforms effectively disseminate information and knowledge related to health issues, whereas media devices like Smartphone's increase anxiety and depression among people (Yang et al., 2020). COVID-19 is a dangerous virus that replicates very fast and forces everyone to follow social distance, wash hands, wear a mask, and stay home. The researchers investigated the relationship between problematic Smartphone use and anxiety & depression among people of China. They used the survey method and collected data from 908 respondents of eastern Chinese city to measure variables, depression, anxiety, death fear, media exposure, and Smartphone's' usages. The results show that anxiety about COVID-19 linked with the usage of Smartphone's. 12% of people have a moderate level of depression, whereas 24% of people have a moderate level of anxiety and anxiety about COVID-19 is related to problematic Smartphone use (Elhai et al., 2020). In China, different surveys showed that 17-48% anxiety rate increased and 23-28% depression increased due to COVID-19 (Gao et al., 2020), whereas 4% anxiety rate recorded in China's college students (Cao et al., 2020).

Visual and graphic representation of health crises, terrorist activities, and war zone events on media is directly associated with fear and depression. More media exposure leads to more severe anxiety in people than those who are directly affected by bomb attacks (Holman et al., 2014), repeated high media experience of bombing, health crisis, and war zones may develop a cycle of anxiety (Thompson et al., 2019). The research shows that 53.8% of respondents feel severe psychological illness due to the COVID-19 and 28.8% of respondents feel severe anxiety, whereas 16.5 % of people felt severe depression during this pandemic. The researchers collected data from 194 cities of China and filled online questionnaires from 1210 respondents. Findings show that authentic information about the treatment of COVID-19 and proper precautionary assessments lowers the depression and anxiety level among people (Wang et al. 2020). Beyond the physical health consequences of the increased stress response, media-related stress

can outweigh healthcare facilities as they address patient inflows. This happened during a previous outbreak and resulted in increased visits to the emergency department, even in communities where high media coverage levels had not experienced an increased incidence of illness (McDonnell et al., 2012). This study intends to investigate the impact of media exposure regarding the COVID-19 eruption. In light of this reviewed literature, we posed the following hypotheses.

The impact of media exposure on the attitude, thinking, and behaviour of the public is very complicated, but media effectively plays a vital role in reshaping the behaviour and disseminating awareness on public issues among people (Isernia & Marcolin, 2018). It is crucial to investigate people's behaviours, knowledge, and attitude during a pandemic outbreak by the health departments and very difficult to improve the communication process (Balkhy et al., 2010). Social distancing is an essential element to prevent COVID-19. Wolf et al. (2020) researched the awareness level, knowledge about the disease, attitude, and behaviour of the USA adults who have an infection due to age and depressing situations. The researchers select 630 respondents of age between 23 years to 88 who have one or more chronic disease. The researchers used a cross-sectional survey and collected data from three clinical trials and one cohort study to measure knowledge, attitude, and behaviour towards COVID-19. The study's findings show that 24.6% of respondents were anxious to get infected from COVID-19, whereas 28.3% of respondents could not have apparent symptoms. One respondent out often has a strong faith that the federal government will control the virus. Findings also show that respondents belonging to the black community are less worried and believe that they will not be infected with COVID-19 due to poverty and less health knowledge. 58.6% of respondents believe that the corona virus changed their behaviour and affected their daily routine, whereas 78.1% of people changed their current plans due to COVID-19.

Traditional and new media effectively sensitize the public about the current environment and threats. The public gets information and awareness through media in crises to change their behaviours, and exposure to breaking news positively relates to cooperative behaviour (Paek et al., 2010). Media play a significant role in promoting emergency awareness, disaster attentiveness amongst persons and ancestors, whereas societies play a vital role in enhancing the spirit of crisis management. Hong et al. (2019) investigated that exposure to media information effectively changes the public's behaviour towards natural crisis and human-made crisis. The researchers collected data from 688 people having age above 18 in Hangzhou, China, through a questionnaire and analyzed the data using confirmatory factor analysis, whereas tested the hypothesis through regression analysis. The study's findings approved the hypothesis that there is a positive connection between media exposure and cooperative behaviour of the public in the time of crisis, whereas, at the same time, there is also a link between media exposure and hoarding behaviour of the public. The literature shows that media exposure in the time of crisis develops positive behavior of the public towards threat awareness.

III. METHOD

The target population comprised of educated adults' respondents from the district Gujrat of Pakistan. The researchers used the quantitative method of survey, designed a questionnaire, and collected data from 700 respondents of Gujrat city. The questionnaire comprised demographic information, including age, gender, education, profession, area and marital status. Researchers inquired about the media exposure on respondents' Anxiety and Behavior regarding the corona pandemic. Respondents were asked seven questions about anxiety, five questions about behavior and three questions about media. The researchers checked the instrument's reliability, which reflected a good consistency (Cronbachs Alfa = 0.841).

The research proposal was initially discussed with a specialist in the field to review the ethical concerns and study design. The sample was raised using the snowball sampling technique from adults facing the COVID-19 crises using Google form. During the time of pandemic and lockdown, participants for the research were hard to find. That is why snowball sampling was used. Data was collected from the adult population as the potential subjects were identified through social media. The subjects were then asked to refer other people in order to collect data from them. The purpose of the present study was to explore the structural relationship among the media's exposure and Pakistani adults' anxiety and behavior.

The participants were informed regarding the purpose and significance of the research. They were advised about their involvement in the study from the ethical perspectives as well. Scale directions and responses were explicitly told. It was requested from the participants that the items must read carefully during answers. They asked to pick the correct form of answer according to their understanding. The researcher thanked the respondents for the completion of the study at the end of the data collection.

Data was analyzed using Analysis of a Moment Structures (AMOS) software version 22 with the Structure Equation Modelling (SEM) analysis technique which is a multivariate technique in analyzing the structural relationships among variables. It is a merger of multiple regression and factor analysis. SEM can be significant when used in social sciences (Shaheen et al., 2017). The Analysis confirmed on model fit

indices of chi-square/df (CMIN/DF) ratio, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA). P<0.05 was considered significant. Further, regression weights and covariance also inspected.

IV. RESULTS

The age range of the adults was 19 to 65, with a mean age of 26.95. Majority of the respondents were males (53.4%, n=374), majority having bachelor degree (44.3%, n=310) and more than half were students (59%, n=413) and unmarried (74.1%, n=519) living in urban areas (63.7%, n=446). The findings significantly established the structural impact of media exposure on anxiety among adults, which determined their behavior to protect themselves from the COVID-19 pandemic. 27.6% of the respondents agreed that media exposure of COVID-19 news weakens their body, and 29.3% agreed on disturbance of sleeping time. The majority of the respondents which is 42.1% agreed that they limited their physical contact and washed hands for 20 seconds because of the media exposure to COVID-19 related content. 38.3% of the selected sample avoided local transport, 44.1% ate hygienic food, and 44.4% of the respondents gave extra attention to cleanliness.

Table 1: Model Fit Summary of Confirmatory Factor Analysis (N=700)

P-Value	Chi-Square/df	GFI	AGFI	CFI	NFI	PDF
.000	8.900	.976	.928	.957	.952	.325

Table 1 shows the model fit summary with the p-value is .000, which significantly established the structural impact of media exposure on anxiety among adults. Further, the anxiety among adults determined their behaviour to protect themselves from the COVID-19 pandemic. The values of model fit indices were almost in the appropriate limit to confirm the model.

Table 2: Regression Estimates of media exposure, anxiety and behaviour (N=700)

Factors	Estimate	P
Anxiety<---Media Exposure	.944	.000
Behaviour<---Anxiety	.267	.000

Table 2 shows the regression estimate. The media exposure regression estimate was .944 for anxiety about COVID-19 with a p-value less than .01. It indicates that media exposure impacted the anxiety with the rate of .944, which specifies that media exposure of COVID-19 increased by 1 unit leads to an increase in the anxiety about COVID-19 by .944 units. The anxiety about the COVID-19 regression estimate was .267, with a p-value less than .01 for behaviour about COVID-19. It indicates that a 1-unit increase in anxiety about COVID-19 may affect an adult's behaviour about COVID-19 with a rate of .267.

V. DISCUSSION AND CONCLUSION

In the present study, the researchers accessed the media exposure connected to COVID-19 and examined the association between media exposure, anxiety and behavioral change. This study targeted the adults of district Gujrat, Pakistan and a sample of 700 adults was recruited for this study. The structural equation of modeling was run for the results. The researchers found that most adults were exposed to conventional and social media and used it as information sources for the preclusion of virus, symptoms, jeopardy and means of spread. Most of the adults who participated in the study expressed a high level of Corona Virus's anxiety risk due to media exposure. In contrast, due to this anxiety, most of them changed their behavior and adopted precautionary measures.

The findings significantly established the structural impact of media exposure on anxiety among adults, which determined their behavior to protect themselves from the COVID-19 pandemic. 27.6% of the respondents agreed that media exposure of COVID-19 news weakens their body, and 29.3% agreed on disturbance of sleeping time. The majority of the respondents which is 42.1% agreed that they limited their physical contact and washed hands for 20 seconds because of the media exposure to COVID-19 related content. 38.3% of the selected sample avoided local transport, 44.1% ate hygienic food, and 44.4% of the respondents gave extra attention to cleanliness. When media inform the public about facts in an effective and informed way, people develop their minds about risk (Fischhoff et al., 2018), and dissemination of transparent health information through a television would be helpful to improve human health (Sato et al. 2019).

Media platforms play a serious and vigorous role during the health crisis to create awareness regarding the effects, precautions and safety measures. The free flow of media news stimulates anxiety, panic, and sadness (Garfin et al., 2020). In the current study, the p-value is .000, which significantly established the structural impact of media exposure on anxiety among adults. The majority of the people has sufficient awareness of the pandemic and pursued precise coaching about COVID-19 and risk factors which

prejudiced the actions and attitude that creates anxiety and gloominess among people (Zhou et al., 2020). Most people use social media for COVID-19 updates daily and several respondents believe that news of COVID-19 creates depression and anxiety among people (Gao et al., 2020).

The impact of media exposure on the attitude, thinking, and behaviour of the public is very complicated, but media effectively plays a vital role in reshaping the behavior and disseminating awareness on public issues among people (Isernia & Marcolin, 2018). It is crucial to investigate people's behaviors, knowledge, and attitude during a pandemic outbreak by the health departments and very difficult to improve the communication process (Balkhy et al., 2010). In the current study, findings show that adults' anxiety determined their behaviour to protect themselves from the COVID-19 pandemic. The media exposure regression estimate was .944 for anxiety about COVID-19 with a p-value less than .01. It indicates that media exposure impacted the anxiety with the rate of .944, which specify that media exposure of COVID-19 increase by 1 unit leads to an increase in the anxiety about COVID-19 by .944 units. During a health crisis, a person depends on the media to get accurate updates and makes informed decisions about health-protecting behavior, and it is essential to utilize reliable resources to assess risk and provide recommendations (Lachlan et al., 2016). Social media messages, information and emotional content engage the public in the crisis of COVID-19 (Chen et al., 2020). Breaking news related to COVID-19 on social media and the ways government tackles the issue has a positive impact on public engagement. In the past, governments of different countries used social media for their political agenda, but now it is converted into crystal clear public communication and engagement (Bonson et al., 2019).

The findings of the current study revealed that the p-value was .000. The CMIN/DF ratio was 8.900; its value is greater than 3 crossing the best-fitted model's literature limit (Byrne, 2006). The value of GFI, AGFI and CFI was above .900. The model best fitted if these values are greater than .90 (Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999). In the case of NFI, the value was again above .900; hence the model is acceptable (Lohmoller, 1989). Here, except CMIN/DF ratio, all the indices were within the model fit's normal limits. The PGFI value was .325, whereas literature indicated that the acceptable value of PGFI was within .5 (Mulaik et al., 1989) therefore confirmed the acceptability of the model. Media played a significant role to promote emergency awareness among people and disaster attentiveness amongst persons, ancestors and societies, which is vital to enhance the spirit of crisis management.

Findings of the current study revealed that media exposure related to COVID-19 news leads to more anxiety among people. The study highlighted the impact of mass media and social media on behaviour. Broader exposure to mass media was associated with fewer barriers to precautionary measures. Exposures to media information effectively change the public's behaviour towards natural crisis and human-made crisis (Hong et al., 2019). Visual and graphic representation of health crises, terrorist activities, and war zone events on media is directly associated with fear and depression. More media exposure leads to more severe anxiety in people than those who are directly affected by bomb attacks (Holman et al., 2014), repeated high media experience of bombing, health crisis, and war zones may develop a cycle of anxiety (Thompson et al., 2019). In short, the findings of the study suggest that mass media and social media play a pivotal role in disseminating public service messages and contribute to change behavioral responses to COVID-19. A high level of media exposure leads to a high level of anxiety, leading to behavioral change in response to COVID-19.

High mass media exposure associated with the COVID-19 epidemic has increased anxiety, which led to behavioral change among the people of Pakistan. Emotional consequences and behavioral prevention barriers also reduce with high exposure to mass media. In response to findings, researchers concluded that mass media including Print, Electronic, and social media, is an essential tool for disseminating news and information related to COVID-19 and sensitize people to follow precautionary measures.

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