



IMPACT OF MASS MEDIA ON THE MENTAL HEALTH OF INDIVIDUALS DURING THE COVID-19 PANDEMIC.

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ABSTRACT

Background & Aim: Exposure to mass media influences our beliefs, social, economic and political stance and to some extent our personal relationships. This is a descriptive study about the impact of these on individual behavior and relation with mental health problems if any.

Methodology: Data collection method for this observational study was via an online survey form (google forms) by convenience sampling. For a target population of 18-65 year old age groups, Indian citizens with a sample size of 273. Psychological aspects were assessed using Public Health Questionnaire - Social Anxiety and Depressive symptoms (PHQ-SADS) and Corona Anxiety Scales. Spearman correlation was used to explore relations between different components.

Result: A statistically significant positive correlation was found between PHQ-15 scores overall and time spent with entertainment media sources daily ($r=0.349$, $p<0.01$) as well as with PHQ-9 scores ($r=0.316$, $p<0.01$). Values of statistical significance indicating positive correlation were obtained when PHQ-15 scores of females and time spent with entertainment media sources daily were compared ($r=0.38$, $p<0.01$), similarly with GAD-7 scores in females ($r=0.32$, $p<0.01$). A significant positive correlation was found between GAD-7 scores and time spent with news media sources daily in the 46-55 age group ($r=0.36$, $p<0.01$). However, anxiety on the Corona anxiety scale was much less and unrelated to PHQ and GAD.

Conclusion: This study found a positive correlation between psychological morbidity and duration of exposure to mass media. Thus it was apparent that people with anxiety and/or depression spend more time on mass media. Time spent on media was unrelated to coronavirus related anxiety as was thought of, but more related to their poor mental health, which was there perhaps, even before the onset of pandemic. Further studies can explore this domain.

KEYWORDS : Anxiety, depression, mass media, addiction, social psychiatry, mental health.

INTRODUCTION

Individuals across different age groups constantly engage in one or the other form of mass media. Media provides information over a wide range of topics like science, technology, lifestyle, crime, current events, sports, politics, history and famous personalities. People often rely on mass media for information and derive their perception of events or practices they haven't witnessed firsthand. It can be a positive and constructive source of motivation & unison and at its worst can instill a sense of disharmony, anxiety, uncertainty and chaos. This impact has probably been enhanced during COVID pandemic during the lockdown.

In a study in India (2020), 141 males & 179 females, majority of 18-38 years of age, were surveyed online to check how mass media affects the quality of life during COVID-19. 29.8% thought that the media's continuous coverage of COVID-19 is only stressful, 27.81% of the participants reported feelings of anxiety and nervousness and 26.87% reported feelings of depression, hopelessness and feeling down after watching news related to COVID-19. 38.75% of the participants found their sleep to be unsatisfactory during the COVID-19 period when physical changes were measured [1]. Other instances of media influence can be seen in a number of previous studies. Chowdhury et al. reported 18 instances of copycat suicides after media reports of a legal hanging, and 17 other similar acts in 2004, West Bengal, India [2]. It was found that broad communications including TV and radio were the most significant wellsprings of data about HIV amongst Indians [3].

Not surprisingly, The National Mental Health Program of India has endeavored to utilize media exposure to diminish the disgrace and support receiving treatment. The new Mental Health Care Act likewise expects to utilize media to disseminate the different arrangements identifying with the new law [4]. Therefore, understanding of mental health and its reception to mass media is of great relevance and importance in today's society. This study aims to work on the following:

1. To assess and evaluate different modes of mass media engagement with respect to gender and age.
2. To gain insight on public mental health in general and to understand mental health during COVID-19 pandemic.
3. To evaluate individual trust and openness to mass media sources.
4. To understand the impact of mass media on personal and social relationships.
5. To analyze reception of information gained through mass media.

MATERIALS & METHODS

We obtained permission from the Institutional ethics committee for this study. Google form was designed as per the aims of the study. Data collection method for this observational study was via an online survey/questionnaire form. The sampling method used was convenience sampling.

For a target population of 18-65 year old age groups, Indian citizens. Duration of study was from 22nd September, 2020 to 2nd November, 2020. Total samples collected were 273. The responses were compiled and analyzed using Google Sheets spreadsheets and Epi-Info software. The mode of language for the questionnaire was English.

The questionnaire was divided into the following sections:

1. Consent and basic demographic information were recorded anonymously.
2. Sources and quality of information exposure to mass media and time spent was recorded.
3. Psychological aspects: were assessed using PHQ-SADS [Patient Health Questionnaire - Somatic, Anxiety, and Depressive Symptoms] screener and Corona Anxiety Scale (CAS). The CAS is a 5 item based tool to assess fear and anxiety during the COVID-19 pandemic. This is a scale with good reliability and validity with a Cronbach alpha value of 0.92. The scoring system is 5 point based (0- not at all, 4- almost everyday). Total score more than 9 is indicative of dysfunctional anxiety due to COVID-19. The PHQ-SADS screener is based on PHQ-9, GAD-7 (Generalized Anxiety Disorder) and PHQ-15 screeners. This is a useful tool for the measurement of somatic symptoms (PHQ-15), depression (PHQ-9), anxiety (GAD-7) as well as panic symptoms. PHQ-15 has a 0-30 scoring, 15 is cut-off for high severity of somatic symptoms. PHQ-9 has a 0-27 scoring, 20 is cut-off for severe depression and GAD-7 has a 0-21 scoring with 15 cut-off for severe anxiety. All these components have good reliability and validity. Cronbach alpha values for PHQ-9 range from 0.83-0.89, GAD-7 is 0.92 and PHQ-15 is 0.80 respectively. (A value above 0.70 is a good Cronbach alpha value).[*]
4. Social aspects and reception of information: This section had 3 questions. The first question deals with personal reception of information. It is a tick list consisting of 12 items with respect to media use (4 positive, 4 negative, 4 neutral in a mixed order). The second question evaluates the trust and openness to mass media

news information. The third question deals with topics commonly discussed socially with respect to mass media engagement.

RESULT

A total of 273 participants were involved in the study. Their demographic details are as follows:

Table No.1: Sociodemographic Details

Variables	Participants: n (%) (N = 273)
Gender	
Male	120 (43.96%)
Female	153 (56.04%)
Age	
18-25	146 (53.48%)
26-35	15 (5.49%)
36-45	23 (8.42%)
46-55	75 (27.47%)
56-65	13 (4.76%)
65+	1 (0.37%)
Education	
Diploma	18 (6.59%)
PhD	2 (0.73%)
Post graduate	97 (35.53%)
Undergraduate	156 (57.14%)

Table No.2: Sources And Quality Of Information Exposure

Most common sources of information	Frequency, n (%), multiple responses
Facebook	84 (30.7%)
Family and friends	5 (1.8%)

Table no.3: PHQ-15, PHQ-9 And GAD-7 Grading Of Participants.

Grades	Overall (% of participants)	18-25 years age group (n=146)(% out of age group)	26-65 years age group (n=127)(% out of age group)	Women (n=153)(% of women)	Men (n=120)(% of men)
Under PHQ-15 section	Overall (% of participants)	18-25 years age group (n=146)(% out of age group)	26-65 years age group (n=127)(% out of age group)	Women (n=153)(% of women)	Men (n=120)(% of men)
Normal	132 (48.4%)	51 (34.9%)	81 (63.8%)		
Low somatic symptoms	94 (34.4%)	60 (41.1%)	34 (26.8%)		
Medium somatic symptoms	29 (10.6%)	23 (15.8%)	6 (4.7%)	36 (23.5%)	11 (9.2%)
High somatic symptoms	18 (6.6%)	12 (8.2%)	6 (4.7%)		
Under PHQ-9 section					
Normal	155 (56.8%)	58 (39.7%)	97 (76.4%)		
Mild depressive symptoms	61 (22.3%)	40 (27.4%)	21 (16.5%)		
Moderate depressive symptoms	30 (11%)	23 (15.8%)	7 (5.5%)	44 (28.8%)	13 (10.8%)
Moderately severe depressive symptoms	16 (5.9%)	14 (9.6%)	2 (1.6%)		
Severe depressive symptoms	11 (4%)	11 (7.5%)	0		
Under GAD-7 section					
Normal	131 (47.9%)	53 (36.3%)	78 (61.4%)		
Mild anxiety symptoms	78 (28.6%)	43 (29.4%)	35 (27.6%)		
Moderate anxiety symptoms	39 (14.3%)	27 (18.5%)	12 (9.4%)	46 (30.1%)	18 (15%)
Severe anxiety symptoms	25 (9.2%)	23 (15.8%)	2 (1.6%)		

Under CAS section, 3 participants had a score of more than 9 which indicates Dysfunctional Covid related anxiety. 2 participants had high scores in individual questions indicating problematic symptoms pertaining to that question. Rest of the participants had Normal scores.

For panic symptoms, (This segment of the questionnaire was optional.) 24.6 % responders had significant panic-like symptoms causing distress. These need to be clinically evaluated further for presence of panic disorder.

Statistical Analysis

Spearman correlation test was done to identify the relation between hours of mass media exposure and depression (PHQ-9 scores), somatic symptoms (PHQ-15) and anxiety (GAD-7) during the pandemic. A statistically significant positive relationship was found between PHQ-

Instagram	122 (44.6%)
Newspaper	126 (46.2%)
Online news portals	144 (52.7%)
TV	153 (56.04%)
Twitter	52 (19.04%)
Whatsapp	132 (48.4%)
Youtube	105 (38.5%)

Sources And Quality Of Information Exposure

Most common sources were found to be TV (n=153), Online news portals (n=144) and Whatsapp (n=132). (Multiple responses were permitted.)

Time spent with media resources during the pandemic was divided into two categories, news/ information and entertainment.

39.2% participants rated their time spent with news/information media sources daily to be less than one hour, 43.6% rated 1-2 hours, 14.7% rated 2-3 hours, 1.1% rated 3-4 hours and 1.5% rated more than 4 hours respectively.

28.2% participants rated their time spent with entertainment media sources daily to be less than one hour, 32.6% rated 1-2 hours, 20.5% rated 2-3 hours, 8.4% rated 3-4 hours and 10.3% rated more than 4 hours respectively.

Psychological And Physical Aspects

Data Collected

Out of 273 participants 9.9% admitted to having pre-existing mental health conditions. Following part was based on PHQ-15, PHQ-9, GAD-7 questionnaires and CAS. [*]

15 scores overall across all age groups and time spent with entertainment media sources daily (r=0.35, p<0.01), PHQ-9 scores and time spent with entertainment media sources daily (r=0.316, p<0.01) and a weak positive correlation (r=0.29, p<0.01) with GAD-7 scores and time spent with entertainment media sources daily.

Additionally, slightly higher values of statistical significance indicating positive correlation were obtained between PHQ-15 scores of females and time spent with entertainment media sources daily (r=0.38, p<0.01) and between GAD-7 scores of females and entertainment media exposure (r=0.32, p<0.01). A weakly positive relation was found between PHQ-15 scores as well as PHQ-9 scores in 46-55 age group and time spent with news media sources daily (r=0.30, p<0.01). In the same age group, a significant positive correlation (r=0.36, p<0.01) for GAD-7 scores and time spent with news media sources daily was obtained.

DISCUSSION

Social Aspects And Reception Of Information

Four positive, negative and neutral statements were placed in a random order and were evaluated. Multiple choices were permitted.

Table No.4: Social Aspects And Reception Of Information

Appreciated the portrayal of an individual/group/event/topic in any fictional form of mass media.	23%, n=63
Appreciated the portrayal of an individual/group/event/topic in any non-fictional form of mass media.	35.2%, n=96
Considered supporting/volunteering for a social cause due to a piece of information you viewed through any form of media.	38.5%, n=105
Used a source of mass media for the purpose of productivity or relaxation.	49%, n=134
Find it difficult to accept news reports that favor views different to that of yours.	13.5%, n=37
Found graphic/violent content on a mass media platform disturbing or stressful.	37.4%, n=102
Had a dispute regarding a piece of news information with a family member or friend.	31.8%, n=87
Were a victim to threats, abuse or violence (physical/online) because of sharing your views online about a current event.	3.2%, n=9
Cross-verify news information before sharing with others.	68.1%, n=186
Have had a change of opinion due to a piece of news information, in agreement with the information.	34.1%, n=93
Often forward messages or share posts regarding news information with the people you know.	45.8%, n=125
Were able to take a significant amount of break-time away from one/ multiple sources of mass media consumption.	35.5%, n=97

Positive statements were 35.11% of all the responses chosen (n=1134), while negative statements were 20.71%. Mass media is useful and essential. It plays an important role in healthcare today, but should be used judiciously.

Health and hygiene (n=193) were most discussed topics post use of mass media within the last week before filling the online questionnaire followed by Medications/vaccinations (n=175), Mental health (n=153), Gadgets and technology (n=132) and Shopping habits ie. Groceries/fashion/commodities (n=128).

Perception About Social Media

Several worldwide examinations have discovered that females who see more family planning messages on TV, or have radio and print media exposure are bound to utilize contraceptives than the ones who see less messages [5], mass media exposure to TB-related health campaigns was found in the 3 months preceding the date of the survey[6]. Impact studies have reported the use of social media interventions to promote original research articles published in academic journals in the subject areas [7]Mass media provides people with clinically relevant and quality information that enables them to make more informed and practical decisions[8]. In a review study assessing the impact of social media on caregivers, the most common intended use of social media was for caregiver satisfaction. A majority of studies with the objectives of improving health literacy, self-care, patient safety or caregiver satisfaction, reported a statistically significant positive effect. However, the content does affect interpersonal relations as well.[9, 10,11].

Mass Media And Mental Health

Overall, the mental health of the group of population studied was compromised.17.2% had somatic symptoms, 23.5% had anxiety symptoms and 20.9% had depressive symptoms of more than mild level, more so in female participants (see table no.3). Moreover, these were not directly related to having Covid infection as CAS scores were not raised among these participants. Thus other causes like effects of lockdown, financial problems, interpersonal stresses and unidentified psychiatric morbidities are likely. These can be explored further by a two stage study, including further diagnostic assessment by a psychiatrist. Positive and negative effects of mass media are likely in the overall course of these problems.

A study found that media portrayals of psychological sickness are incredible to the point that they can supersede individuals' very own encounters according to how they see dysfunctional behavior[12]. News stories were found to have subtly implied psychological illnesses as a result of poor socio- economic standing in a Canadian study[13]. Inaccurate depictions in TV, films and gaming media have been found to make consumers less accepting of mental health conditions as well as the medical help associated with psychiatric illnesses, while simultaneously also fueling conditions like body dysmorphia, aggressive behavior, apathy, desensitization to violence and antisocial behavior [14][15][16][17]. Studies show that time students spend with social media can influence their sleeping habits and productivity [18]. In a study amongst cancer patients it was observed that there was a significant difference between social network users and non-users wherein users were found to be less depressed[19].

COVID-19 And Media

Although correlation between CAS scores and hours of media exposure were not very significant in our study, a significant positive correlation was found between GAD-7 scores and time spent with news media sources daily ($r=0.36$ and $p<0.01$) in 46-55 year olds (n=75). The average time of news media exposure was found to be higher in this age group as well (2-3 hours).

One study states that in some countries, social media seems to have influenced the buying crisis, when many people rushed to buy toilet paper and other items because of the hysteria on social media due to COVID-19[20]. In a study in Jordan, the results indicated a significant and positive indirect effect of social media platform use on health protection against COVID-19 through public health awareness and public health behavioral changes[21]; similar results were obtained in a study testing how protective behaviors, public perceptions and attitudes, and support toward public health measures taken by the Belgian government evolve over time during the COVID-19 pandemic, while accounting for one's exposure to different news media channels[22]. Univariate analysis in a study in China during the pandemic, found that the proportion of frequent SME (social media exposure) among men (78.4%) was lower than among women (83.8%), the proportion of frequent SME among youngsters (aged less than 30 years) was higher than among elders (aged more than 41 years)[23]. This is in accordance with this study where average time of entertainment media exposure in more than 35 year olds was 1-2 hours and average time of exposure in 18-35 year olds was 2-3 hours respectively and also exposure among females (2-3 hours) was found to be slightly greater than males.

Limitations

As this is a cross-sectional study, it is difficult to accurately mark causal relationships between exposure to mass media and mental health during the pandemic. There is a great potential for longitudinal studies in the future. The survey was conducted online, which is useful for rapid analysis, although some participant bias may have affected the results. Additionally, we cannot exclude the possibility of some residual confounding caused by unmeasured factors.

CONCLUSION

One should be aware of increased time spent with the media and watch for any mental health problems. Anxious people may be more susceptible to excessive use, and those with depression may try to seek pleasure by remaining engrossed in media. During the pandemic, the average hours of entertainment media exposure were higher in women and a slightly higher correlation between PHQ-15 and GAD-7 scores to the same was found here, indicative of anxiety and somatic symptoms. Overall a significant correlation to entertainment media exposure and PHQ-15 and PHQ-9 scores was obtained across all age groups pointing towards depressive symptoms. Similarly, although CAS scores were normal in most of the participants, hours of news media exposure were found to be slightly higher in the 46-55 age group, which can also be reflective of its positive correlation to GAD-7 scores in that age group indicating anxiety symptoms.

Mass media is pivotal in shaping the world view of an individual. Balanced and responsible circulation of information can potentially lead to progressive communication and resultant personal growth as well as growth of the society. Findings in this study highlight the participants' openness to media sources and are speculative of the true scope of mass media and its impact on mental health. Further studies

can boost the related health education and help in discovering necessary interventions in this domain.

Legend

*These tools were open in public domain and were available for use with proper citation.

- Lee, S. A. (2020). Coronavirus Anxiety Scale (CAS): A brief mental health screener for COVID-19 related anxiety, Death Studies.
- Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues (For Patient Health Questionnaire- Somatic Anxiety Depressive symptoms scale) (PHQ-SADS) <https://www.phqsreeners.com/>

All tables in the article document contain original data.

REFERENCES

1. Sharma P, Gupta S, Kushwaha P et.al. Impact of mass media on quality of life during COVID-19 pandemic among Indian population. *International Journal of Science & Healthcare Research*. 2020; 5(3):260-267.
2. Chowdhury AN, Brahma A, Banerjee S, Biswas MK. Media influenced imitative hanging: A report from West Bengal. *Indian J Public Health* 2007; 51:222-4.
3. Shrotri A, Shankar AV, Sutar S, Joshi A, Suryawanshi N, Pisal H, et al. Awareness of HIV/AIDS and household environment of pregnant women in Pune, India. *Int J STD AIDS* 2003; 14:835-9.
4. Narayan CL, Narayan M, Shikha D. The ongoing process of amendments in MHA-87 and PWD Act-95 and their implications on mental health care. *Indian J Psychiatry* 2011; 53:343-50.
5. Olenick I. Women's exposure to mass media is linked to attitudes toward contraception in Pakistan, India and Bangladesh. *Int Fam Plan Perspect* 2000; 26:48-50. Bankole A, Biddlecom A, Guiella G, Singh S, Zulu E. Sexual behavior, knowledge and information sources of very young adolescents in four Sub-Saharan African countries. *Afr J Reprod Health* 2007; 11:28-43.
6. A. K. Sharma, R. Sharma. Impact of mass media on knowledge about tuberculosis control among homemakers in Delhi *INT J TUBERC LUNG DIS* 11(8):893-897 © 2007 The Union.
7. Marco Bardus et al. The Use of Social Media to Increase the Impact of Health Research: Systematic Review. *J Med Internet Res*. 2020 Jul; 22(7): e15607.
8. Kaye Rolls, Margaret Hansen. How Healthcare Professionals Use Social Media to Create Virtual Communities: An Integrative Review *J Med Internet Res*. 2016 Jun; 18(6): e166. Published online 2016 Jun 16. doi: 10.2196/jmir.5312
9. Cherak SJ, Rosgen BK, Amarbayan M, Plotnikoff K, Wollny K, Stelfox HT, et al. (2020) Impact of social media interventions and tools among informal caregivers of critically ill patients after patient admission to the intensive care unit: A scoping review. *PLoS ONE* 15(9): e0238803.
10. Margaret M. Thomas et al. A review of the impact of physical activity mass media campaigns on low compared to high socioeconomic groups *HEALTH EDUCATION RESEARCH* Vol.33 no.5 2018.
11. Sandeep Lahiry, Shouvik Choudhury, Avijit Hazra. Impact of social media on academic performance and interpersonal relation: A cross sectional study among students at a tertiary medical center in East India. *J Educ Health Promot*. 2019; 8: 73. Published online 2019 Apr 24. doi: 10.4103/jehp.jehp_365_18
12. Philo, G. (1993). Mass media representations of mental health: A study of media content. *Glasgow: Glasgow University Media Group*. Rose, D. (1998). Television, madness and community care. *Journal of Community & Applied Social Psychology*, 8(3), 213-228. <http://www3.interscience.wiley.com/cgi-bin/abstract/5654/ABSTRACT>.
13. Olstead, R. (2002). Contesting the text: Canadian media depictions of the conflation of mental illness and criminality. *Sociology of Health & Illness*, 24(5), 621-643.
14. Blowers LC, Loxton NJ, Grady-Flessner M, Ochipinti S, Dawe S. The relationship between sociocultural pressure to be thin and body dissatisfaction in preadolescent girls. *Eat Behav* 2003; 4:229-44. Grabe S, Ward LM, Hyde JS. The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychol Bull* 2008; 134:460-76.
15. Gabbard GO, Gabbard K. *Psychiatry and the Cinema*. Washington DC, US: American Psychiatric Pub; 1999. p. 408.
16. Granello DH, Pauley PS, Carmichael A. Relationship of the media to attitudes toward people with mental illness. *J Humanist Couns Educ Dev* 1999; 38:98-110
17. Craig A. Anderson, Brad J. Bushman, Bruce D. Bartholow, Joanne Cantor, Dimitri Christakis, Sarah M. Coyne, Edward Donnerstein, Jeanne Funk Brockmeyer, Douglas A. Gentile, C. Shawn Green, Rowell Huesmann, Tom Hummer, Barbara Krahé, Victor C. Strasburger, Wayne Warburton, Barbara J. Wilson and Michele Ybarra. *Screen Violence and Youth Behavior*. *Pediatrics* 2017; 140; S142 DOI: 10.1542/peds.2016-1758T.
18. Kadavala BN, Tiwari DS, Patel VK, Chanpa NB, Patel NL, Shah V. Pattern of social media use and social anxiety among the undergraduate health professionals with social media addiction. *Ann Indian Psychiatry* 2021; 5:18-23.
19. Hamid Reza Farpour et al. Positive Impact of Social Media Use on Depression in Cancer Patients. DOI:10.22034/APJCP.2017.18.11.2985 Social Media Use in Cancer Patients
20. Hernandez S. Panic spreads fear especially on social media, local doctor says. 2020. [2020-03-20]. <https://tinyurl.com/y736nqo7>. Cited in Ahmad, A. R., & Murad, H. R. (2020). The Impact of Social Media on Panic During the COVID-19 Pandemic in Iraqi Kurdistan: Online Questionnaire Study. *Journal of medical Internet research*, 22(5), e19556. <https://doi.org/10.2196/19556>
21. Hani Al-Dmour et al. Influence of Social Media Platforms on Public Health Protection Against the COVID-19 Pandemic via the Mediating Effects of Public Health Awareness and Behavioral Changes: Integrated Model. *J Med Internet Res*. 2020 Aug; 22(8): e19996. Published online 2020 Aug 19. doi: 10.2196/19996.
22. Frissen T, De Coninck D, Matthys K and d'Haenens L (2020) Longitudinal Evidence of How Media Audiences Differ in Public Health Perceptions and Behaviors During a Global Pandemic. *Front. Public Health* 8:583408. doi: 10.3389/fpubh.2020.583408.
23. Gao J, Zheng P, Jia Y, Chen H, Mao Y, Chen S, et al. (2020) Mental health problems and social media exposure during COVID-19 outbreak. *PLoS ONE* 15(4): e0231924. <https://doi.org/10.1371/journal.pone.0231924>.
24. Padhy S K, Khatana S, Sarkar S. Media and mental illness: Relevance to India. *J Postgrad Med* 2014; 60:163-70.
25. Dara Roth Edney, MSW. *Mass Media and Mental Illness: A Literature review*. Canadian Mental Health Association, Ontario January 2004.