British Journal of Psychology Research
Vol.8, No.2, pp. 1-7, May 2020
Published by ECRTD-UK
Print ISSN: 2055-0863(Print), Online ISSN: 2055-0871(Online)

PSYCHOLOGICAL EFFECT OF PANDEMIC COVID-19 ON FAMILIES OF HEALTH CARE PROFESSIONALS

Paschal Chiedozie Amakiri,[1] Chidimma Florence Chude,[2] Sylvester Uchenna Oradiegwu[3], Ipsita Pramanik[1], Kennedy Chijioke Anoka[4], Queendaline Amarachi Ezeoke[5]

1. Chester medical school University of Chester England United Kingdom
2. Department of Zoology Nnamdi Azikiwe University Awka, Anambra State, Nigeria.
3. Department of Psychology Nnamdi Azikiwe University Awka, Anambra State, Nigeria.
4. Department of Environmental Sciences University of Koblenz Landau Germany
5. Institute of Plant Genetics and breeding, Leibniz Universität, Germany.

Corresponding author: Oradiegwu Sylvester Uchenna. Department of Psychology Nnamdi Azikiwe University Awka. **Tel:** +2348062744661

ABSTRACT: *Background: The Pandemic COVID-19 disease is of great public health concern to the world. Its impact is globally felt in all sectors. There is need to measure the level of psychological impact the virus has on families of health care professionals. Method: Online survey was conducted to collect the demographic data from participants. Statistical analysis was conducted using R statistical package to determine Psychological impact of COVID-19 on the respondents. Results: The study included 324 respondents from different countries. Panic effect was the most strongly agreed (54.9%) and thus impacts more on the respondents. Depression was experience by 49.7% of the respondents' while 44.4% experience anxiety. The least strongly agreed was suicidal effect (13.9%) and divorce (18.2%).Conclusion: Pandemics such as COVID-19 has psychological impact on families of health care professionals' pandemics cannot lead to divorce easily but can lead to panic, anxiety and depression*.

KEYWORDS: Covid-19, pandemic, psychological, virus, outbreak, panic, depression, divorce

INTRODUCTION

When viral pandemics occur, its impacts are felt in numerous ways. Apart from patients and healthcare professionals, families are also affected by outbreaks directly or indirectly (Li *et al.*, 2020). One of such viral pandemics that could affect families is the covid-19 virus. Covid-19 is a viral disease that was first discovered and identified in pneumonia cases that occurred in Wuhan province China (Nkwoemeka *et al.,* 2020). It was named and declared a pandemic by WHO in February 2020 due to its high transmission and mortality rate across the globe (Nkwoemeka *et al*., 2020). Currently, there are over 2.5 million cases with global deaths amounting to 200000 (WHOa, 2020).The mortality rate of Covid-19 virus is close to that which was recorded during the influenza virus pandemic in 1968 (Morens and Fauci, 2007). As a

precautionary measure to reduce transmission of this virus, jobs , airports and many schools have closed down with a few that resorted to online studies (World Health Organization, 2020b). A larger percentage of people were advised to sit at home, but health care professionals were exempted because of the great role they play towards the treatment and management of infected patients. These roles played by medics makes them susceptible to viral pandemics and may have psychological effects on their direct family. Based on these, this study was conducted to measure the psychological effects of Covid-19 viral pandemic on the families of health care professionals. The specific objective of this study is to determine the type of psychological effect and level of impact the pandemic has on the families of medics at the frontline of corona virus control.

MATERIALS AND METHOD

The survey contained 20 general questions and was designed to elicit the response on some of the psychological effect of corona virus on families of health care professionals across Africa, Europe, America and Asia. The questionnaire combined open-ended questions and multiple-choice questions with predefined answers offering respondents to choose and rank among several options or the possibility to grade on a "strongly agree" to "strongly disagree" scale.

The questionnaire was prepared and evaluated to ensure that the respondents understanding of the question and the questions itself was in line with our goal and targeted the objective of the research. The next step was the data preparation which was collected online. The evaluation of the data was based on the content validity. The Analysis was done using R studio statistical package. The gender and the average age of the respondent were analysed. A bar chat was used to show the ratio of those related to the health care personnel and those not related directly. The psychological effect was analysed based on the respondent's response and rated in percentage. The Fishers exact test was used to identify the statistical difference between those related to the health care personnel and those not related directly, terms of psychological effects. The table one below shows the relative frequency of the relationship with the health care personnel

Table 1: Relative frequency of the Relationship with the health care personnel

Relationship With The Personnel	Percentage
Spouse	5%
Parents	9%
Child	2%
Siblings	20%
Others	36%
None	28%

RESULTS

Sample charactristics

The survey presented a sample of 324 valid responses. Regarding the gender, n = 177 males, n = 150 females and n = 1diver participated in the study. Most participants were from Nigeria.

The average age was 28 with a range below 18 to 60 and above. Ninety one (91) participants had no relationship with health workers while 237 had a relation in health sector. Figure 1 presents a bar chart showing the number of people with and without relations in health sector.

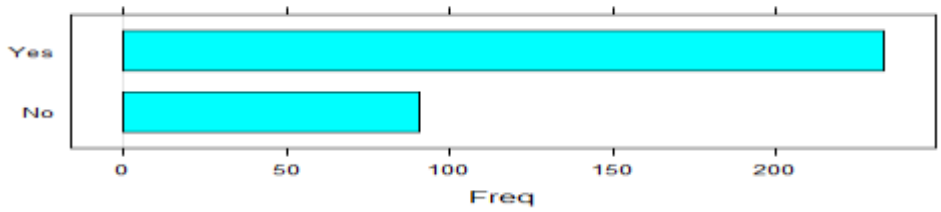

Fig 1: Bar chart of participants with and without health relations. Frequency of Participants with health relations is denoted as "Yes" while frequency without health relations is denoted as "No".

Frequency Analysis

Amongst all the psychological effect, panic effect was the most strongly agreed with. 54.9% strongly agreed that panic effect was on the rise in their families with just 0.9% who disagreed. Also, suicidal effect was the least strongly agreed with coming up with 13.9% and 23.5% who disagreed. 49.7% strongly agreed depressive effects in their homes as against 3.7% who disagreed. Below is a table showing the several responses to psychological effects.

Table 2: Summary of the Percentage level of respondents to psychological effect

Psychological effects	Strongly agree [%]	Agree [%]	Neutral [%]	Disagree [%]	Strongly disagree [%]
Depressive effect of covid19	49.7	42.6	4	3.7	0
Minimal family time effect	41.7	43.8	9.6	3.7	1.2
Family lifestyle change	50.3	41.4	5.2	2.8	0.3
Loneliness	31.8	47.5	12.7	8	0
Suicidal effect	13.9	36.7	21	23.5	4.9
Anxiety effect	44.4	49.7	4.9	0.6	0.3
Frustrative effect	39.2	51.2	7.4	2.2	0
Feeling of Sadness	41.4	50.3	4.9	3.4	0
Feeling of optimism	40.4	52.2	6.2	1.2	0
Panic effect	54.9	42	2.2	0.9	0
Feeling of insomnia	25.6	46	17.3	10.2	0.9
Feeling of uncertainty	28.1	55.6	11.1	4.9	0.3
Divorce	18.2	32.4	27.5	19.8	2.2

Hypothesis testing

We used the fisher exact test to study if there is a statistical difference in psychological effect between respondents who have family relations in the health sector and participants who do not have. The significance level is $p < 0.05$. Below is the table showing the above information

Table 3: Display of p value results using the fisher exact test

Psychological Effects	p Values
Depressive effect of covid19	0.3837
Minimal family time effect	0.3236
Family lifestyle change	0.3593
Loneliness	0.002557
Suicidal effect	0.7856
Anxiety effect	0.4714
Frustrative effect	0.6066
Feeling of Sadness	0.9822
Feeling of optimism	0.2451
Panic effect	0.9456
feeling of insomnia	0.2729
feeling of uncertainty	0.01205
Divorce	0.7029

From the results above, there is a significance difference in the feeling of uncertainty (p value of 0.01205) and the feeling of loneliness (p value of 0.002557) between participants who have families in the health sector and those who do not have.

DISCUSSION

Research has discussed earlier that a disease outbreak could impose significant psychological effect, more precisely mental distress in people depending on various demographic elements and their understanding of the epidemic or pandemic (Peng *et al*., 2010). Our study has demonstrated that families of health care professionals are psychologically impacted as a result of COVID-19 pandemic. The findings of this study corresponds with that of studies that measured impact of COVID-19 Virus outbreak in China (Li *et al*., 2020).The hypothesis tested in the study was level of psychological distress of family members of health care professionals with their counterparts (Fig1) (Table3). The result showed that uncertainty and loneliness were significant (Table 3). This finding complies with report of studies conducted to ascertain respondents feeling of stress and apprehensiveness in a SARS outbreak affecting the social life

among a majority of healthy family members (Lau *et al.*, 2005). Furthermore , another study in Sydney during the H1N1 pandemic found a significant percentage of residents were not well informed about the situation projecting uncertainty among them (Seale et al., 2009). This could be due to lack of uniform perception on the duration and awareness of the pandemic and can be managed through proper awareness. More so, studies have revealed that quarantine and isolation can lead to loneliness and can increase negative effects within families (Brooks *et al*., 2020).

Pandemics and epidemics has been identified as an initiator of panic and fear among people globally (Gilman, 2010). It has put forth the concept that such a feeling can be generated effortlessly in population not only from the spread of the disease but also from the perception of the crisis depending on the propagation of true information to public (Gilman, 2010). The results of the study as shown in (Table 2) revealed that panic effect was the greatest psychological impact of COVID-19 on the participants compared to other effects measured 54.9% of participants strongly agreed that panic effects occur, 42% agreed while the no one disagreed. Such high panic rate could be traced down to the information and facts obtained from the media. Research has shown that social media can escalate panic and anxiety and other negative effects during pandemics (Chan *et al.*, 2018)

The second negative effect as shown in (Table 2) was depression, of which 49.7% of participants strongly agreed, 42.6% agreed while no participant disagreed. This finding of high depression or depressive effect on medics families was in line with findings of previous studies that measured general psychological impact of COVID-19 pandemic on Americans within these weeks of lockdown and reported a high negative effects such as stress, anxiety and depression (Erin, 2020). Significant moderate to severe depression has also been observed as one of the major psychological impacts in another study in China which included non-affected community population during the Covid-19 outbreak (Wang *et al*., 2020) . Furthermore, more that 70 % of the respondents were worried about their family being infected, which could be a key factor for the development of depression (Wang *et al*., 2020).

Suicidal thoughts were the least likely negative effect of COVID -19 on families of health care professionals with a 4.9% of participants strongly disagreeing, 23.5% disagreeing and 21% were neutral as shown in (Table2). This implies that a suicidal thought by family members of healthcare professionals is less likely to occur.

Divorce is also unlikely to occur based on the participants' response. 2.2% strongly disagreed, 19.8% disagreed while 27.5% were neutral (Table 2) Studies have shown that divorce is usually triggered by lack of trust and infidelity as stated by(oppawsky, 2008). Covid-19 impact on families of health care professionals may less likely be related to infidelity and lack of trust and such may less likely affect families of healthcare personnel. More so, this psychological effect affects spouses of healthcare professionals and not their children or parents.

CONCLUSION

This research has demonstrated that family members of health care professionals are psychologically impacted by COVID-19. Safeguarding families of these health care professionals should be made a priority because their mental health and wellbeing are on the

line. Special psychological interventions to reduce panic, depression and anxiety and improve mental and emotional well-being should be put into action.

References

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N. and Rubin, G. J. (2020, March 14). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*. Lancet Publishing Group. https://doi.org/10.1016/S0140-6736(20)30460-8

Chan, M. pui S., Winneg, K., Hawkins, L., Farhadloo, M., Jamieson, K. H., & Albarracín, D. (2018). Legacy and social media respectively influence risk perceptions and protective behaviors during emerging health threats: A multi-wave analysis of communications on Zika virus cases. *Social Science and Medicine*, *212*, 50–59. https://doi.org/10.1016/j.socscimed.2018.07.007

Erin Connors. (2020). New Poll: COVID-19 Impacting Mental Well-Being: Americans Feeling Anxious, Especially for Loved Ones; Older Adults are Less Anxious. Retrieved April 22, 2020, from https://www.psychiatry.org/newsroom/news-releases/new-poll-covid-19-impacting-mental-well-being-americans-feeling-anxious-especially-for-loved-ones-older-adults-are-less-anxious

Gilman, S. L. (2010, May). Moral panic and pandemics. *Lancet*. Elsevier. https://doi.org/10.1016/S0140-6736(10)60862-8

Lau, J. T. F., Yang, X., Pang, E., Tsui, H. Y., Wong, E., & Yun, K. W. (2005). SARS-related perceptions in Hong Kong. *Emerging Infectious Diseases*, *11*(3), 417–424. https://doi.org/10.3201/eid1103.040675

Li, S., Wang, Y., Xue, J., Zhao, N., & Zhu, T. (2020). The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users. *International Journal of Environmental Research and Public Health*, *17*(6), 2032. https://doi.org/10.3390/ijerph17062032

Morens, D. M., & Fauci, A. S. (2007). The 1918 Influenza Pandemic: Insights for the 21st Century. *The Journal of Infectious Diseases*, *195*(7), 1018–1028. https://doi.org/10.1086/511989

Nkwoemeka, N. E., Okwelogu, I. S. and Amakiri, P.C. (2020). A Scoping Review on Epidemiology, Etiology, Transmission, Clinical Presentation, Treatment and Management of Coronavirus Disease(COVID-19). *European Journal of Biology and Medical Science Research,* 8(2):45-54.

Oppawsky, J. (2008). Childhood Depression a Latency-Age Response to Divorce. *Journal of Divorce and Remarriage*, 195:206-27.

Peng, E. Y. C., Lee, M. B., Tsai, S. T., Yang, C. C., Morisky, D. E., Tsai, L. T., … Lyu, S. Y. (2010). Population-based post-crisis psychological distress: An example from the SARS outbreak in Taiwan. *Journal of the Formosan Medical Association*, *109*(7), 524–532. https://doi.org/10.1016/S0929-6646(10)60087-3

Seale, H., McLaws, M., Heywood, A. E., Ward, K. F., Lowbridge, C. P., Van, D., and

MacIntyre, C. R. (2009). The community's attitude towards swine flu and pandemic influenza. *Medical Journal of Australia, 191*(5), 267–269. https://doi.org/10.5694/j.1326-5377.2009.tb02781.x

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *International Journal of Environmental Research and Public Health*, *17*(5), 1729. https://doi.org/10.3390/ijerph17051729

World Health Organization. (2020a). Advice for public. Retrieved April 22, 2020, from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

World Health Organization. (2020b). Global research on coronavirus disease (COVID-19). Retrieved April 22, 2020, from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov