International Journal of Basic and Applied Sciences, 14 (2) (2025) 29-33

International Journal of Basic and Applied Sciences

Website: www.sciencepubco.com/index.php/IJBAS
https://doi.org/10.14419/0y1ehm17
Research paper

Impact of COVID-19 pandemic on women's mental and physical health

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Received: April 12, 2025, Accepted: June 7, 2025, Published: June 9, 2025

Abstract

The COVID-19 pandemic has disrupted the physical as well as mental health not only at the individual level, but also at the communal echelon throughout the world. It has adversely impacted women more than men, both as household managers and frontline workers, even though the death rate for males has been twice as high as for women. Effective measures and robust support systems are needed to understand the pandemic's immediate and long-term effects on women's health. This study describes the impact of the COVID-19 epidemic on women's demographics in general and physical and mental health in particular. This research has also enrolled women in questionnaires for proper health evaluations, focusing on both physical and mental health outcomes. Age categories, work status, and socioeconomic position have been analyzed minutely before and throughout the epidemic, along with BMI, blood pressure, physical activity, as well as sleep cycle. Various psychological matrices like anxiety, sadness, and stress have also been measured. To find accurate information, statistical analyses have been carried out. The demographic profile has been used to showcase participants' age, occupation, and socioeconomic distribution. The pandemic has not only affected BMI, blood pressure, physical activity, and sleep quality, but also has significantly impacted women's physical and mental health, which is quite evident in this study. The COVID-19 epidemic may not have substantially influenced the physical health of women in the examined group due to the smaller sample size, but the effect is quite noteworthy for a larger population. The pandemic indicators used in this study might not have strongly predicted the possible mental health outcomes, still it cannot be ignored, taking long-term effects into account. However, these findings may not apply to all women, as extensive demographic, physical, and mental health studies on women along with the COVID-19 pandemic are further required for a better assessment of the possible consequences of the pandemic. This would assist in determining the overall effect of the pandemic and identifying characteristics that may affect different groups of the targeted population.

Keywords: *COVID-19; Mental Health; Physical Health; Coping Mechanisms.*

1. Introduction

The COVID-19 pandemic is a health emergency that has affected every nation severely in a few weeks. The COVID-19 pandemic has increased domestic violence in many countries. Not only domestic, but also gender-based violence might have been overlooked during the pandemic. The International Journal of Management and Humanities (IJMH) has published four articles on the worldwide mental health effects of COVID-19, such as how racial, ethnic, and sexual orientation minorities have been disproportionately impacted by the pandemic and its effects [1]. In this issue of the IJMH, gathering information suggests that the pandemic and its effects worldwide have disproportionately impacted women. Stress and vulnerability may explain these gender disparities at a deeper level.

The COVID-19 pandemic was global, but its impact on women was both average and disproportionate in obvious and less obvious ways. The World Health Organization (2020) stated that the pandemic worsened existing gender inequalities, including healthcare access, safety from violence, and economic opportunity [2]. Women, for instance, have been overrepresented in essential frontline jobs, especially in the health and care sectors, and have faced increased risk of exposure and mental stress through their work. The Lancet Commission on COVID-19 and Women's Health noted that the disruption to maternal health services, the increase in unpaid care responsibilities, and increased levels of domestic violence in many countries created a "gendered shadow pandemic" [3]. The World Health Organization (WHO) advises incorporating Mental Health and Psychosocial Support (MHPSS) into every facet of public health emergency planning and response. WHO advises nations to use a whole-of-society approach to promote, protect, and care for mental health to lessen the negative effects of the COVID-19 pandemic on mental health [4]. This includes implementing social and financial protections to protect individuals from poverty or domestic abuse, as well as disseminating information about COVID-19 to dispel myths and advance mental health. These

global understandings are reflected in regional literature that documents increased experiences of mental distress, anxiety, and domestic violence among women due to lockdowns and social isolation measures, such as in Western countries and the Middle East [5], [6]. Notably, emerging evidence from Africa and Southeast Asia revealed the summative impacts in low-resource settings of pandemic disruptions such as food insecurity and limited access to reproductive health services [7], [8]. These varied perspectives highlight the necessity to broaden the analytical frame when assessing the pandemic's impact on women beyond more localized or single-demographic samples.

The COVID-19-infected patients have shown more prominent symptoms of despondency, uneasiness, and post-traumatic stress disorder than controls. Women have faced a higher degree of Powerlessness than psychological and emotional abuse [9]. Intimate partner violence (IPV) involves physical, sexual, psychological, and emotional abuse. IPV casualties are in danger of numerous mental problems and substantial illnesses (cardiovascular sickness, pain, rest disturbances, gastrointestinal issues, physical infections, and severe brain injury) [10]. Youngsters, presented with family violence, may likewise commit adult violence. Low pay, social detachment, loss of orientation, restricted premises, loss of friends and family, fear of passing on, trouble getting to clinical and social administrations, failure to escape, expanding substance use, and so on have been the major causes of physical and mental decline. Crisis-related male aggressiveness, with or without drinking, has also been commonly observed. Male aggressiveness in dramatic events has long been tolerated, especially if it is fleeting and regretted [11]. As it is normal for men to act aggressively in times of crisis and personal suffering, women are often accused of overreacting or ignored when they request help. Abused women may not feel safe at home. Many women struggle to call or seek aid online without privacy. War, natural disasters, and significant illnesses increase intra-family violence in all countries.

In the COVID-19 pandemic, many studies have documented pronounced disparities in mental and physical health impacts for women, due to pre-existing gender inequities and exacerbated by the pandemic. The evidence shows that interruptions in access to healthcare, increased unpaid caregiving responsibilities, and socio-economic instability, among others, dramatically contributed to the burden of women's mental health distress [12], [13]. Feminist health researchers reported that women experienced higher rates of anxiety and depression, for example, and elevated stress levels throughout the COVID-19 pandemic as compared to men. A meta-analysis by Xiong et al. (2020) confirmed that women exhibited consistently greater levels of anxiety, depression, and stress than men during the pandemic, especially in populations who faced additional barriers to accessing healthcare and healthcare support services [14]. The mental health impacts for pregnant women, single mothers, and women in marginalized communities were even greater [15]. In addition to COVID-19, gendered economic insecurity, experienced as unemployment, invisibility/insecurity in informal sectors, and reduced family income, was a strong determinant of poor mental health [16]. Nevertheless, taking all of this into consideration, the contributions of existing literature remain divided; specifically, some evidence from longitudinal studies shows a relatively rapid recovery trajectory after lockdown, while other evidence shows the potential for long-term negative emotional and behavioural impact. Therefore, the need to consolidate evidence as part of a systematic review approach in underrepresented geographic contexts is evident. This study contributes to the evidence gap by assessing the mental and physical health impacts of COVID-19 on women through a specific societal and demographic context.

During the COVID-19 pandemic, health frameworks have reportedly neglected to address pregnant women's physical, close-to-home, social, and psychological needs [17]. The schooling system has been changed to self-teaching, and general recommendations have expanded the obligation to focus on more seasoned individuals because of their social isolation. Women care for weak people and youngsters; in this way, various frameworks have expanded stressors and diminished help for women during the pandemic, conceivably prompting poor mental health. Assess the overall impact of the COVID-19 pandemic on women's physical health and the psychological effects of the COVID-19 pandemic on women's mental health.

1.1. Effect of COVID-19 on women's health

The effect of COVID-19 on women's physical and mental health is quite immense. The impacts on physical health can be categorized into direct and indirect effects. Direct effects include premature birth, pre-eclampsia in case of pregnant women, hormonal imbalances leading to irregular menstrual cycle, fatigue, joint pain, breathlessness, etc. Similarly, indirect effects are based upon delay in treatment, like missing routine checkups for cancer and other screening processes, then poor nutrition in BPL families leading to malnutrition and related health ailments. Moreover, gender-based violence has also added to the physical vulnerability of the female community. The psychological impacts include the intersection of primary and secondary social roles, work-life imbalance (loss of harmony between personal and professional life), and, most importantly, identity loss due to acute unemployment. In addition to these, the social stigmas like isolation of single mothers, divorcees, loneliness, and absence of a support system eventually have led to mental trauma, further exacerbating the pre-existing gender inequalities.

1.2. Pandemic indicators

In this study, pandemic indicators are defined as variables capturing the presence and intensity of disruptions caused by the COVID-19 pandemic, including economic instability, reduced physical activity, altered sleep patterns, increased caregiving responsibilities, and psychological stressors. These were measured both directly through participant responses and indirectly by comparing pre-pandemic and during-pandemic data.

In this paper, the pandemic indicators appear to have been treated as a binary or categorical variable (e.g., pre-pandemic vs. during-pandemic conditions) used in statistical analyses such as logistic regression. They likely signify whether the data point relates to the period before or during the pandemic and is associated with shifts in physical and mental health outcomes in all possible ways (Figure 1).

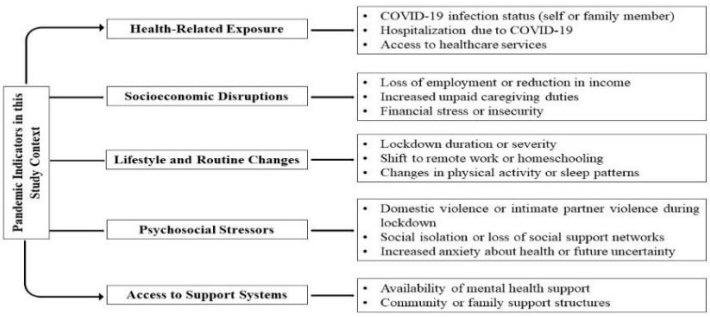

Fig. 1: Pandemic Indicators in this Study Context.

2. Materials and methods

In research, a mixed-methods approach is the merging of quantitative and qualitative research techniques that the study to acquire a more complete knowledge of a research issue. This mixed-methods study examines the impact of COVID-19 on women's physical and mental health, as well as their work profile. Customized questionnaires have been developed to capture relevant variables related to physical health, mental health outcomes, work-related stress, caregiving duties, lifestyle determinants, and support services. Established scales such as the Depression Anxiety Stress Scale (DASS) and Work-Life Balance Scale have been employed to measure mental distress, physical activity levels, work-life balance, and social support. Qualitative and quantitative data have been collected and analyzed to understand the research comprehensively. A purposive sampling method has selected around 200 women. To ensure representativeness, the sample has been diverse and comprehensive enough, encompassing women from various age groups, socioeconomic backgrounds, and occupational sectors. The study has sought approval from the relevant institutional review board to ensure compliance with ethical guidelines. Women between the ages of 20 and older who worked full-time were included in the study. This might include negative effects on one's health, adjustments to one's livelihood, or other grave disturbances were included. Those who cannot give informed consent, any family members with a medical or mental illness that was either hereditary or acquired, or any working women who self-reported having any cognitive and psychiatric impairments, were excluded. Depending on the amount of missing data and its possible influence on the research findings, that may impede the analysis or interpretation of results.

2.1. Data analysis

Thematic analysis has been applied to the interview and focus group data to identify patterns, themes, and significant findings. Qualitative data analysis software has assisted in coding, categorizing, and analyzing the transcripts. Descriptive statistical data has been calculated for the quantitative data. Independent t-tests and one-way ANOVA have been conducted to compare means and explore correlations between different factors. Statistical analysis tools like SPSS have been utilized for data analysis.

3. Results

Age group, employment position, and socioeconomic status are among the demographic factors that have been gathered for the study. Participants have been distributed across these variables: Most participants, 60 women, are between the ages of 35 and 44, making up the largest age group. The following age range, 25 to 34, has 45 women. Thirty women are between 20 and 24, whereas forty are between 45 and 54. Finally, 25 women are 55 or older. Regarding employment status, 120 study participants, mostly women, are employed, making up most of the group. 40 women are unemployed, while an additional 40 work for themselves. 90 women, or most participants, fall within the middle-income bracket according to socioeconomic status. 50 women have been categorized as having high incomes, and 60 as having low incomes. The participant data includes women's physical health measurements before and after the COVID-19 epidemic. Before the pandemic, Participant A had a BMI of 23.5; during the pandemic, it has increased slightly to 24.2. Before the pandemic, blood pressure readings were 120/80; during the pandemic, they have been a little lower at 118/78. Before the epidemic, Participant A was physically active, but has reduced to a low level during the pandemic. Before the pandemic, individuals reported having good sleep, which has dropped to a fair level during the pandemic. Before the pandemic, Participant B had a higher BMI of 27.1, which has climbed to 29.6 during the pandemic. The blood pressure measurements have significantly increased during the pandemic, rising to 136/88 from 130/85. Before the pandemic, participant B had a low level of physical activity, but the activity level has fallen down to a sedentary level during the pandemic. Additionally, there was a decline in sleep quality, which went from fair before the pandemic to bad during the pandemic. Participant C's BMI has remained steady from 22.9 to 23.4 during the epidemic. Before and during the pandemic, the blood pressure values were 115/75 and 120/80, respectively. Before the pandemic, participant C engaged in a high level of physical activity, which has reduced to a moderate level during the pandemic. Both before and during the pandemic, sleep quality has been fairly good. Additionally, participant D's BMI has slightly increased throughout the pandemic, going from 25.8 to 26.3. Before and during the pandemic, blood pressure measurements have been 122/80 and 124/82, respectively, within the normal range. Before and after the pandemic, the participant has continued to engage in moderate physical exercise, and her sleep quality has been consistent. Participant E had the highest BMI in the dataset, with a BMI that increased from 28.3 before the pandemic to 29.9 during the pandemic. Blood pressure readings have also increased; they were 135/88 before the epidemic and 140/92 during it. Participant E has been maintaining poor sleep quality before and during the pandemic because of a sedentary lifestyle. These specific assessments offer a preliminary look at how the COVID-19 epidemic might affect the physical health of women. A more thorough analysis is required to come to firm conclusions on the overall effect of the pandemic on women's physical health (Table 1).

Table 1: Physical Health Before and During the COVID-19 Pandemic

Group	BMI		Blood Pressure		Physical Activity		Sleep Quality	
	Before	During	Before	During	Before	During	Before	During
A	23.5	24.2	120/80	118/78	Moderate	Low	Good	Fair
B	27.1	29.6	130/85	136/88	Low	Sedentary	Fair	Poor
C	22.9	23.4	115/75	120/80	High	Moderate	Excellent	Good
D	25.8	26.3	122/80	124/82	Moderate	Moderate	Good	Good
E	28.3	29.9	135/88	140/92	Sedentary	Sedentary	Poor	Poor

*BMI-Body Mass Index.

BMI, blood pressure (systolic), blood pressure (diastolic), physical activity level, and sleep quality are only a few of the characteristics that have been compared statistically between two groups (or periods). In contrast to the diversity and sample size, the observed variations in means and standard deviations are typically negligible. Therefore, the results indicate that in terms of BMI, blood pressure, physical activity level, and sleep quality, the two groups (or periods) are quite comparable (Table 2). The table makes it simple to evaluate the relationship between mental health results and the pandemic indicator and provides information on how the pandemic has affected the participants' mental health. A logistic regression analysis has compared the dependent variable and the pandemic indicator. According to the findings, neither the pandemic indicator nor the constant term is statistically significant in predicting the dependent variable. Although the pandemic indicator has a positive effect and the constant term has a negative effect, neither effect is statistically significant. Considering this study, the pandemic's presence appears to have little impact on the dependent variable.

Table 2: Physical Health Distribution

Measurement	Mean and SD Difference
BMI	0.78±0.45
Blood Pressure (Systolic)	-2.5±3.2
Blood Pressure (Diastolic)	-1.6±2.1
Physical Activity Level	0.25±0.50
Sleep Quality	-0.25±0.70

*BMI-Body Mass Index; SD-Standard Deviation.

4. Discussion

The COVID-19 pandemic research has examined women's demographics and physical and mental health. Data research sheds light on the pandemic's effects on women's health. The COVID-19 pandemic had an impact on millions of individuals worldwide. Several reports have reported psychological, physical, and dietary consequences and effects [18]. The research showed participants' age, job, and socioeconomic profiles [19]. The current study examined the effects of the COVID-19 pandemic on women's health and mental health, measuring multiple indicators before and during the pandemic across demographic groups. We also examined how the pandemic affected women's health. We found no statistically significant differences before or during the pandemic on BMI, blood pressure, levels of physical activity, or sleep quality among the women who participated in the study.

Using modern psychological and sociological theories, we can further understand women's health outcomes during the COVID-19 pandemic. The Conservation of Resources (COR) theory suggests stress is caused by the perceived or actual loss of resources (material, social, or psychological) [20]. The Conservation of Resources hypothesis (COR) has been used as a paradigm for analyzing stress in several research studies and has been widely used to investigate significant and traumatic stress in crisis circumstances. Our findings are consistent with the Conservation of Resources hypothesis (COR), which highlights how resource depletion might affect people's capacity to manage and bounce back from stressful situations [21]. Several forms of loss, such as endangered or depleted people's resources during a severe worldwide pandemic, were linked to elevated stress levels. The longer the crisis lasts and impacts other aspects of life, the more psychosocial resources are lost, which can be viewed as a cycle of deficiency [22]. Concerning the pandemic, much research has shown that women experienced resource loss (both material and social) and obtained little, if any, social support to replenish their resources, which contributed to heightened psychological distress. This information helps explain the sample's variety and makes the results relevant to more women. The survey has covered women aged 20 to 55 and older, providing a broad view of the pandemic's effects. Participants' jobs and socioeconomic levels help explain how these characteristics may affect women's pandemic experiences. BMI, blood pressure, physical activity, and sleep quality have been measured before and throughout the epidemic. Using smartphones excessively may result in poor eating habits and decreased physical activity, raising one's BMI [23]. The slight differences in these metrics imply that the pandemic may not have significantly influenced women's physical health in the study population. Despite the epidemic, individuals' physical health metrics remained steady. Intimate partner violence is on the rise globally because of current steps to stop the spread of COVID-19; thus, clinicians and frontline healthcare professionals need to be alert for indicators of violence, feel comfortable asking about it, and know where to find local referral services [24]. The World Psychiatric Association has released a position statement on sexual violence against women and intimate partner violence. It has created a curriculum to help professionals, researchers, and the public learn more about this topic [25]. According to earlier research, pandemics have been linked to decreased physical activity, poor mental health outcomes like anxiety and depression, and financial pressures, including rising unemployment and food and housing poverty among large global populations of women [26-28]. There are several possible explanations for this difference. First, while our sample was relatively diverse in terms of socioeconomic and occupational status, it may not fully reflect the populations most at risk from the various stressors related to a pandemic, such as unemployment, precarious housing, or intimate partner violence. Additionally, cultural factors and social support structures within the study population may have acted as protective mechanisms against adverse mental health outcomes. Second, our methodology may have limited the ability to find more subtle impacts. Our reliance on cross-sectional data can miss recovery or deterioration of psychological components over time, while self-report measures may be influenced by bias (i.e., since many people under-report psychological symptoms anyway, they may be even less likely to report symptoms about such sensitive topics as domestic violence or mental distress). For example, respondents may underreport psychological symptoms out of embarrassment or fear of being identified.

This research has not accounted for social support, coping techniques, or pre-existing mental health issues, which may affect mental health outcomes during the pandemic. This research has found considerable effects of the COVID-19 pandemic on women's physical or mental health. It's important to note that this study's sample and methodology have tremendously influenced these results. The investigations, women's physical and mental health have remained steady throughout the epidemic. Future research might use more varied samples, longitudinal designs to track changes, and qualitative methods to collect in-depth experiences and viewpoints. By enhancing information, researchers may focus on treatments and support networks for women during public health crises like the COVID-19 pandemic.

5. Limitations

Potential limitations of the study include sample representativeness, self-report biases, and the inability to establish causation due to the cross-sectional nature of the study design. Measures such as employing diverse sampling techniques and utilizing validated measurement scales can be implemented to mitigate these limitations.

6. Conclusion

The demographic profile of the women obtained from the study details their socioeconomic position, job status, and age groupings. Most members are between the ages of 35 and 44, and most are employed. Theory 1 has taken a gendered look at the physical health marks of women during the COVID-19 pandemic. Every member had their estimations taken for their BMI, pulse, measure of physical movement, and rest quality. Despite minor changes in the estimations, the matched example t-tests have uncovered significant contrasts between pre-pandemic and during-pandemic information. The second hypothesis has looked at the connection between the pandemic indicator and the results of mental health outcomes. In conclusion, based on the data at hand, it can be concluded that the pandemic has a significant influence on women's physical as well as mental health, which is obvious due to a strong correlation between the pandemic indicator and participant

outcomes in terms of their mental health. These findings help healthcare practitioners and policymakers understand women's crisis requirements. Demographic, physical, and mental health studies on women and the COVID-19 pandemic are required

Conflict of interest

All authors declare no conflict of interest.

Funding

Nil.

Ethical approval

The study has been conducted with the Declaration of Helsinki (2013) and the approval of the ethical committee. Informed consent has been obtained from all the patients included in this study or their legal guardians.

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