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An Assessment of the Stress and Fatigue Levels of Caregivers in Jamaica during the COVID-19 Pandemic

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Abstract

Introduction: *S*tress is defined as pressure or strain resulting from adverse or demanding circumstances, which can be physical, emotional, or psychological constantly. Hence, irrespective of one's knowledge or lifestyle, stress and fatigue are unavoidable presents in humans.

Objective: This study seeks to assess the stress and fatigue levels of caregivers in Jamaica and determine whether these have changed due to the COVID-19 pandemic.

Method and Materials: A descriptive research design was used to carry out this study, with a sample of 403 caregivers across Jamaica. A standardized questionnaire was designed, and the internet was used to collect the data via Google Forms.

Findings: Of the sample respondents, majority were females (88.0%, n = 353), between the ages of 45-54 years (29.1%, n = 116) and have been caregivers for at least 10 years (24.8%, n = 99). The sample respondents have revealed that since the pandemic, their workload hours have increased (58.3%, n = 233). Furthermore, during COVID-19, the majority of the respondents indicated feeling stress and fatigue reasonably often (37.5% n.150) to very often (32.5%, n = 130) compared to 17.5 and 3.8%, respectively before COVID-19.A significant statistical relationship existed between an increased or decreased workload and stress and fatigue levels ($\chi 2(1) = 31.609$, $P < 0.0001$). Almost 77% of those who indicated that their workload has increased were experiencing fair-to-very frequent stress and fatigue.

Conclusion: Due to the increase of COVID-19 cases, respondents have reported working more than 60 hours per week, which will be a potential public health challenge for society.

Keywords: Caregivers, COVID-19, fatigue, Stress, and Jamaica**.**

Introduction

*S*tress can be defined as pressure or strain resulting from adverse or demanding circumstances. Stress can be physical, emotional, or psychological. (Berjot and Gillet, 2011; Lazarus and Folkman, 1984; McEwen & Sapolsky, 2006). Does COVID-19 influence the stress and fatigue levels of caregivers in Jamaica? This research aims to investigate this phenomenon. This study aims to identify factors that affect caregivers' stress and fatigue levels in Jamaica and determine the stress and fatigue levels of caregivers before and during COVID-19 in Jamaica. This research paper is a descriptive study based on a quantitative design. Everyone is exposed to stress or a stressful situation in their lives; stressful situations affect our sense of wellbeing and quality of life. According to Lazarus's cognitive-transactional model of stress, stress is the dynamic relationship between an individual and the environment in which a stimulus disturbs an individual's homeostasis, causing him/her to respond to the situation with all available resources (Lazarus and Folkman, 1987).

The outbreak of the Novel Coronavirus disease 2019 (COVID-19) has influenced some people's stress (Center for Disease Control and Prevention, 2020). The Center for Disease Control and Prevention (2020) indicated infectious disease outbreaks might influence stress because of the fear and worry it causes. The CDC continued that among the issues that emerged during an infectious disease pandemic are a modification of sleeping and eating patterns, worsening of physical health conditions, worsening of psychological dysfunction (mental health conditions), and loss of financial security that health challenges (Cohen and Williamson, 1991; Salleh, 2008). The association between stress and the outbreak of infectious disease influences the general population and affects healthcare workers (McAlona, Lee, Cheung, et al., 2007). There are quantitative studies that have to assess the stress and burnout levels of caregivers (Bevans and Sternberg, 2012), but what of these healthcare professionals' stress and fatigue levels in the COVID-19 pandemic? Within the context of McAlona, Lee, Cheung, et al.'s study, the purpose of this study is to empirically examine the stress and fatigue levels of caregivers in Jamaica during the COVID-19 Pandemic. Based on vulnerable individuals' susceptibility rate, giving care can become more taxing and stressful for caregivers. The fear and anxiety associated with this disease can be overwhelming, causing heightened stress and fatigue levels. This research was done in Jamaica; questionnaires were done online by 403 participants, and the data collected was then examined and presented in quantifiable data.

Review of Literature

When caregivers are so busy caring for others, they often neglect their self-care. During the COVID-19 pandemic, individuals continue to care for their loved ones. Whether they are caring

for someone who has a mild illness or a severe illness, COVID-19 can lead to caregivers feeling more stressed and fatigued in this unprecedented time. Caregivers need to take care of themselves physically, mentally, and emotionally, and as hard as that may be to do right now in the pandemic, it is a necessity. High Stress and fatigue levels can contribute to mistakes and reputational damage along with diminishing outcomes and diminished quality of care. What to do about caregiver burnout during COVID-19?

Amanda Senior-Care stated some factors, such as the to-do list are too long, changes to daily routines, and no longer finding satisfaction in caregiving, are factors that hinder caregiving and cause a shift in stress and fatigue levels. Jamaica caregivers are not to be exempted; as of March 10, 2020, Jamaica confirmed its first imported case, and by September 2, 2020, Jamaica declared community transmission of the COVID-19 virus. "The uncontrolled spread of this disease, in addition to all those health conditions, will place our health system under severe stress," noted Jamaica's Prime Minister, The Most Hon. Andrew Holness at a COVID-19 press conference (Stewart, 2020). With this being said, it was referring to the fact that the stress and fatigue levels of Caregivers, in general, could increase, which could lead to a decrease in the way care is supposed to be given. Caregivers will also be challenged by many different stress factors (stressors) never yet experienced due to the COVID-19 environment and changes. Stress factors include concerns about exposure for the individual themselves, their children being at home when they would typically be in school (if they have any), and the patient outcomes that have to change for the patient to be okay.

Additionally, Caregiver respondents wrote of their challenges with COVID-19 closures in the survey presented by Us Against Alzheimer's. One caregiver stated, "I am a care partner for my sister who has been diagnosed with cognitive impairment, heading into week 6, 24/7, with her has been challenging for both of us. She doesn't attend the Senior Center, nor does she engage with the people there, and I have lost some 'me time." This caregiver stated how hard it could be caring for her sister and having to get things done for herself at the same time. It has caused her to spend less time thinking about her care (health). Another caregiver went on and stated, "As my spouse's caregiver, I do not get a break from his confusion and repeating questions. Working to stay patient with him, also keeping him occupied is a challenge." This caregiver is expressing how stressful it is to keep up with the care of her beloved husband and having to be finding the time to do all that is necessary for his care and being healthy but doesn't get a break from it, causing her also being confused about his questions and the things to say and even do (Us Against Alzheimer's, 2020). Even though this survey was done in the USA, Jamaican caregivers are experiencing similar problems. Director of Mental Health and Substance Abuse in the Ministry of Health & Wellness, Dr. Kevin Goulbourne, states caregivers are at an increased risk of suffering from mental health disorders due to the increased demand for their services due to the coronavirus (COV-ID-19) pandemic. He said that there is also the fear of contracting the virus and/or passing it on to their loved ones in addition to long working hours. Dr. Goulbourne was addressing a virtual caregivers' symposium hosted by the University of Technology's (Utech College of Health Sciences on Thursday, September 17) when he shared this information on the risk of suffering from mental health disorders such as depression as a result of the changes in

fear, anxiety and limited social interaction especially in the work field for caregivers during the pandemic (Williams, 2020).

Caregivers fall into two main categories: clinicians and trained individuals and informal caregivers. The clinician/trained caregivers are considered individuals who receive compensation to provide random (intermittent) and or continuous in-home services. They go into the individual's home and provide care. While on the other hand, informal caregivers are those individuals that are formally trained in caring and care for ailing family members and/or friends. Sometimes these caregivers are not given compensation. (Williams, 2020).

To conclude, COVID-19 has majorly impacted the world, especially the healthcare system, healthcare workers, and Caregivers who care for someone who needs help taking care of themselves. COVID-19 has elevated their stress and fatigue level; their mental health may be at risk, but the patent's illness does not cause this, for example, diabetes, hypertension, cancer, stroke, etc. Still, it has been elevated due to increasing workloads, anxiety, less time in taking care of themselves, being burned out, and the list goes on. According to (Relias Media, 2020), The extreme stress brought on by the healthcare industry's response to the COVID-19 pandemic has highlighted what should always be a concern: the need to care for physicians' psychological well-being, nurses, and caregivers. The pandemic response has taken stress and fatigue to a new level in many facilities and communities.

Theoretical Framework

Lazarus Transactional Model of Stress and Coping (1987) is when a person perceives that the "demands exceed the personal and social resources the individual can mobilize." The model highlights that neither the environmental event nor the person's response defines stress, but rather the individual's perception of the psychological situation. According to Lazarus, the effects of stress on a person are based on the individual's feelings of threat, vulnerability, and ability to cope rather than on the stressful event itself. Throughout the research, we could see where individuals saw COVID-19 as a significant stressor, while some perceived it as a chronic illness that can be cured. Many believe that the resources are enough, while others believe that the resources are limited, thus endangering their wellbeing. (Holtam, 2020)

Stress becomes more intense when the individual views the stressor as fatal. Due to the uprising of COVID-19, the government established mandatory approaches of how we go about our day-to-day activities, for example, the appropriate wearing of masks, frequent hand sanitizing, and social distancing, also the fact that the elderly and individuals with comorbidities suffer the most from the disease. The cybernetic model was developed by Jeff Edwards (1992). Edwards proposed that employees compare their current work situation with what they desire their work situation to be. If the current situation is not what the employee wants it to be, the employee experiences the job as stressful. However, the model goes further and describes the process by which employees attempt to change negative discrepancy. In light of the pandemic, caregivers have to adjust their day-to-day activities from the Pre-COVID era because of the associated high-risk occupation. In studying work-related stress, social researchers realize that some professions

carry a higher risk of depression than others. The highest worker depression rates are found in the childcare, food service, health care, and nursing home and social work industries, per a 2010 CNN article "Why Your Job Is Making You Depressed" (Heibutzki, 2020; Worth, 2010).

Material and Methods

This study employs an objectivistic epistemology and surveyed research to understand the phenomenon comprehensively. There was a sample size of 403 caregivers across Jamaica. Participation in the survey was voluntarily done online. Participants were informed that all data collected would be confidential.

The instrument being used was a questionnaire that asked caregivers about their stress levels before and during the COVID-19 era. The questionnaire was designed with three sections. One section highlights the demographic history of the caregiver and patient, the second section highlights the stressor COVID-19, and the third section highlights the effects of that stressor. To achieve the objective, both primary and secondary sources of information were relied upon. Primary Data through Questionnaire. Secondary Data through Internet, Magazine, Journals, Books and other reading materials.

Findings

Demographic Characteristics of Sampled Respondents, n=403. Of the sampled respondents, the majority indicated being female (88.0%, n = 353), and the minority being male (12.0%, n = 48).

Table 1.Demographic Characteristics

Detail	**% (N)**
Gender	
Female	88.0 (353)
Male	12.0 (48)
Age Cohort	
18-24 years	19.0 (76)
25-34 years	19.1 (77)
35-44 years	23.8 (95)
45-54 years	29.1 (116)
55-65 years	8.3 (33)
Over 65 years	.5 (2)
Years of Service as a caregiver	
6 mths-< 1 year	18.3 (73)
1-< 3 years	18.0 (72)
3-<5 years	18.0 (72)
5-<10 years	21.0 (84)
10+ years	24.8 (99)

Most of the respondents indicated being in the 45-54 years category (29.1%, n = 116). The second-highest number of respondents indicated being in the 35-44 years category (23.8%, n = 95). The least number of respondents meant being in the over 65 years category (.5%, n = 2).

Of the total number of respondents, the majority indicated giving service as a caregiver for over ten (10) years (24.8%, n = 99), the second-highest number of respondents indicated providing service for 5 to less than 10 years (21.0%, n = 84). The least number of respondents suggested giving service for 1 to less than 3years (18.0%, n = 72).

Table 2: Presents health conditions of the sampled respondents. Of the sampled respondents, the majority indicated their clients as being diagnosed with Diabetes Mellitus (37.7%, n=151). The remaining respondents indicated the following diagnoses: Hypertension (36.2%, n = 145), CVA/Stroke (19.0%, n = 76), Cancer (17.0%, n = 68), Mental Illness (16.5%, n = 66), Kidney Disease (13.0%, n = 52), Asthma (11.2%, n = 45), Blindness (9.2%, n = 37). The least number of respondents indicated their clients as being diagnosed with Cognitive Impairment (9.0%, n = 36).

Table 2.Health Conditions of Clients

Details	**No**	**Yes**
	% (N)	**% (N)**
Diabetes Mellitus	62.3 (250)	37.7 (151)
Hypertension	63.8 (256)	36.2 (145)
Kidney Disease	87.0 (349)	13.0 (52)
Blindness	90.8 (364)	9.2 (37)
Asthma	88.8 (356)	11.2 (45)
Cancer	83.0 (333)	17.0 (68)
Cognitive Impairment	91.0 (365)	9.0 (36)
Cerebrovascular Accident (CVA)/(Stroke)	81.0 (325)	19.0 (76)
Mental Illness	83.5 (335)	16.5 (66)

Cross Tabulation

Table 3: Presents a cross-tabulation between self-reported Hypertension and self-reported Diabetes Mellitus. The cross-tabulation revealed a statistical relationship between the two variables ($\chi 2(1) = 82.722$, P <0.0001). Of those who reported Diabetes Mellitus, 64.2% (97) indicated having hypertension.

Table 3.Hypertension*Diabetes Mellitus Cross Tabulation

Details	**Diabetes**	
	No	**Yes**
	% (N)	**% (N)**
Hypertension No (% with Diabetes)	80.8 (202)	35.8 (54)
Yes (% with Diabetes)	19.2 (48)	64.2 (97)
Total	n = 250	n = 151
Pearson Chi-Square	82.722	

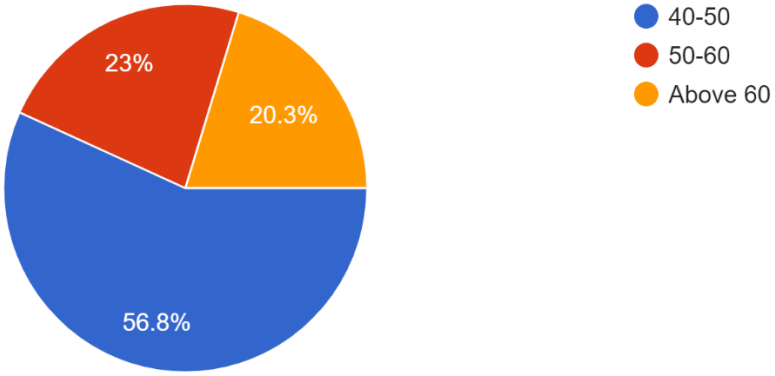


Figure 1.Hours of work each week

Figure 1: Presents the number of hours worked by the sampled respondents before COVID-19 (n = 400). Of the sampled respondents majority indicated that they worked (56.8%, n = 227), followed by the respondents reporting (23.0%, n = 92) and the least number of respondents reported (20.3%, n = 81).

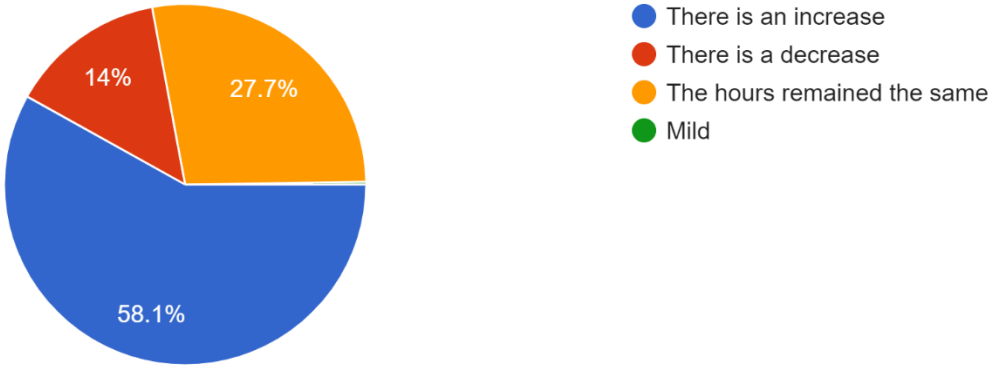


Figure 2.COVID-19 effects on work hours

Figure 2: Presents how COVID-19 affects the work hours of sampled respondents (n = 403). Of the sampled respondents, a majority indicated that their works hours increased (58.3%, n = 233. Respondents followed this reported their work hours remained the same (27.8 %, n = 111), and the least number of respondents reported their work hours decreased (14.0%, n = 56)

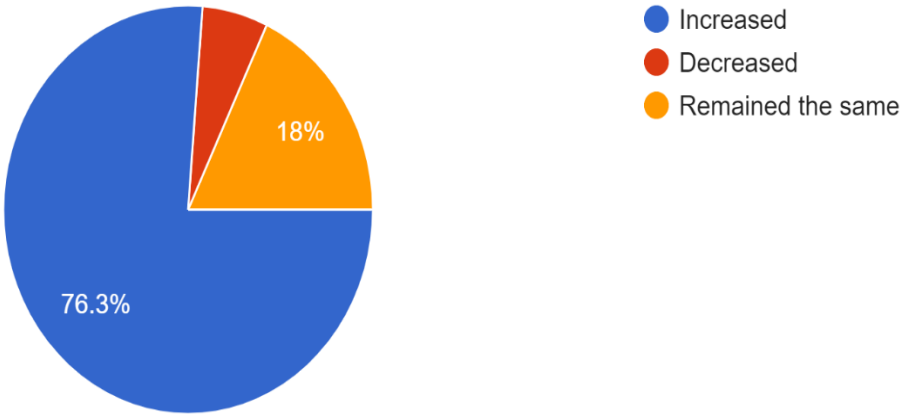


Figure 3.Workload since COVID-19

Figure 2: Presents how the workload of the sampled respondents was affected since COVID-19 (n = 400). Of the sampled respondents, the majority indicated that their workload increased (76.3%, n = 305). Respondents followed this reported their workload remained the same (18.0%, n = 72), and the least number of respondents reported their workload decreased (5.8%, n = 23)

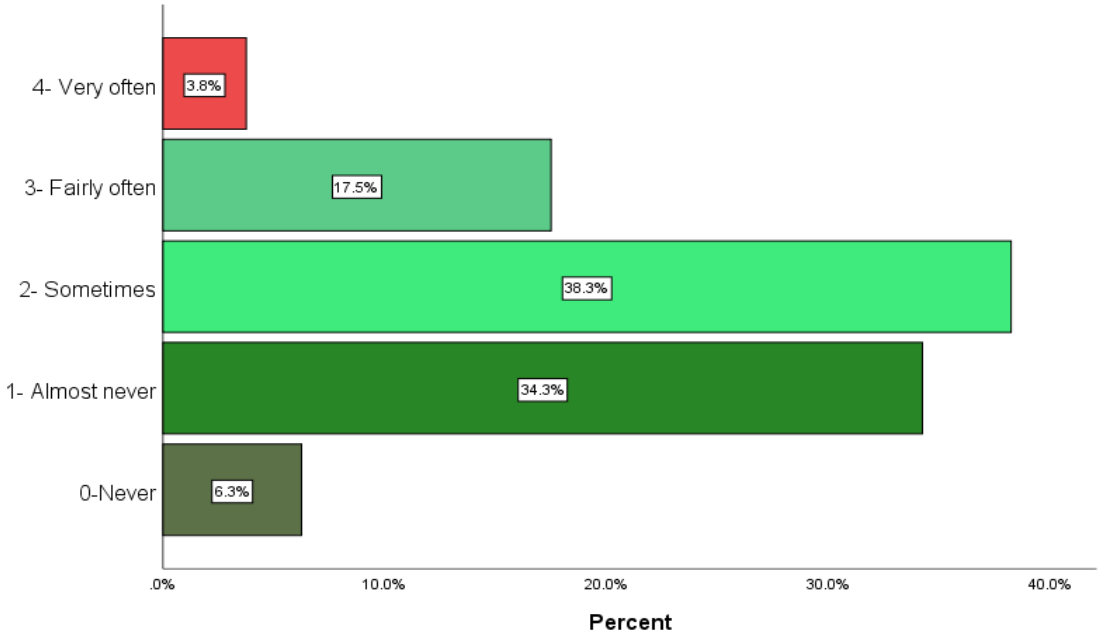


Figure 4.Frequency of Stress and Fatigue before COVID-19

Figure 3: Presents the frequency of stress and fatigue before COVID-19 of sampled respondents (n = 400). The sampled respondents indicated feeling stress and fatigue rarely (34.3%, n = 137) and (6.3%%, n = 25) had never experienced stress and fatigue.

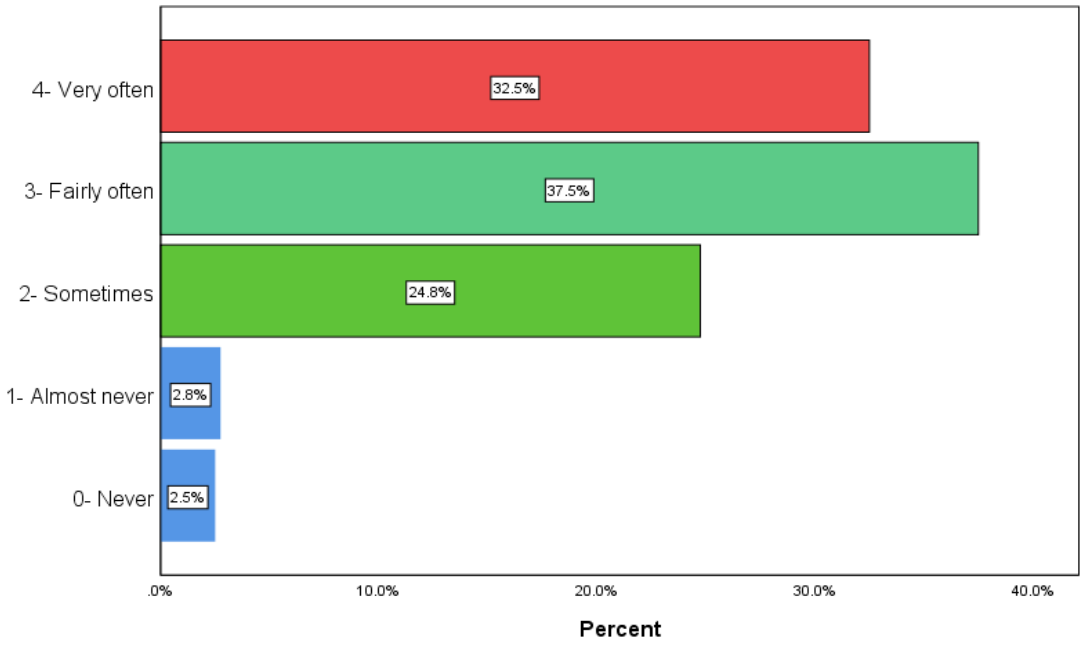


Figure 5.Frequency of Stress and Fatigue during COVID-19

Figure 4: Presents the frequency of stress and fatigue during COVID-19 of sampled respondents (n = 400). The majority indicated feeling stress and fatigue fairly often 37.5% n.150) and very often (32.5%, n = 130) of the sampled respondents.

Cross Tabulation

Table 4: Presents a cross-tabulation between the frequency of stress and fatigue since COVID-19 and caregiver workload. The cross-tabulation revealed a statistical relationship between the two variables ($\chi 2(1) = 31.609$, P <0.0001). Of those who reported an increased workload, 37.0% (113) indicated experiencing stress and fatigue since COVID-19 very often.

Table 4.Frequency of stress and fatigue since COVID-19*Caregiver workload

Details	Caregiver workload		
	Increased	Decreased	Remained the same
Frequency of stress and fatigue since COVI-19	% (N)	% (N)	% (N)
Never	2.0 (6)	0.0 (0)	5.6 (4)
Rarely	2.0 (6)	4.3 (1)	5.6 (4)
Sometimes	19.7 (60)	43.5 (10)	40.3 (29)
Fairly often	39.3 (120)	21.7 (5)	34.7 (35)
Very often	37.0 (113)	30.4 (7)	13.9 (10)
Total	n= 305	n= 23	n= 72
Pearson Chi-Square	31.609		

Cross Tabulation

Table 5: Presents a cross-tabulation between the frequency of stress and fatigue since COVID-19 and estimated hours of work. The cross-tabulation revealed a statistical relationship between the two variables ($\chi 2(1) = 48.512$, P <0.0001). Of those who reported working more than 60 hours per week 56.8%, (46) indicated experiencing stress and fatigue since COVID-19 very often.

Table 5.Frequency of stress and Fatigue since COVID-19*Estimated hours of work

Details	Estimated Hours of work		
	40-50	50-60	Above 60
Frequency of stress and fatigue since COVI-19	% (N)	% (N)	% (N)
Never	3.5 (8)	2.2 (2)	0.0 (0)
Almost Never	3.1 (7)	3.5 (3)	1.2 (1)
Sometimes	34.4 (78)	14.1 (13)	9.9 (8)
Fairly often	33.9 (77)	51.1 (47)	32.1 (26)
Very often	25.1 (57)	29.3 (27)	56.8 (46)
Total	n= 227	n=92	n=81
Pearson Chi-Square	48.512		

Cross Tabulation

Table 6: Presents a cross-tabulation between the frequency of stress and fatigue since COVID-19 and clients' self-reported health conditions. The cross-tabulation revealed that there is no statistical relationship between the two variables ($\chi 2(1) = 5.579$, P >0.0001). Of those reported clients with health conditions, 33.7% (118) indicated experiencing stress and fatigue since COVID-19 very often.

Table 6.Frequency of stress and Fatigue since COVID-19* Clients Health Conditions

Details	**Diabetes**	
	No	**Yes**
Frequency of stress and fatigue since COVI-19	% (N)	% (N)
Never	0 (0)	2.9(10)
Rarely	4 (2)	2.6 (9)
Sometimes	22 (11)	25.1 (88)
Fairly often	50 (35)	35.7 (125)
Very often	24.0 (12)	33.7 (118)
Total	n=50	n=350
Pearson Chi-Square	5.579	

Discussion

This study was conducted to determine what the stress and fatigue levels of caregivers were before COVID-19 compared to during the pandemic. An online survey was conducted with a sample size of 403 caregivers; the data was compiled and analyzed using the SPSS statistical software. Table 1 gives the demographical data of the sampled respondents (n=403). Of the sampled respondents, the majority indicated being female (88.0%, n = 353), and the minority being male (12.0%, n = 48). Most of the respondents indicated being in the 45-54 years category (29.1%, n = 116). The second-highest number of respondents indicated being in the 35-44 years category (23.8%, n = 95). The least number of respondents indicated being in the over 65 years category (.5%, n = 2). Of the total number of respondents, a majority indicated giving service as a caregiver for over ten (10) years (24.8%, n = 99), the second-highest number of respondents indicated giving service for 5 to less than 10 years (21.0%, n = 84) and the least number of respondents indicated giving service for 1 to less than 3years (18.0%, n = 72).

Table 2 presents the clients' various illnesses being cared for by our sample respondents; Diabetes Mellitus and Hypertension were the two most prevalent illnesses reported. Based on this analysis, a cross-tabulation was done to show the relationship between persons diagnosed with Diabetes also having Hypertension. Researchers realized that the cross-tabulation revealed a statistical relationship between the two variables ($\chi 2(1) = 82.722$, P <0.0001), which means that there is a significant relationship between the two variables (64.2%, n = 97) of the clients who reported having diabetes also had hypertension. (see table 3). Other research further highlights the incidence of both diseases in the same (Gurushankar, James R, & Craig S, 2006).

Figure 1 represents the respondent's hours of work before COVID-19 (n = 400). It was revealed that before the pandemic (56.8%, n = 227) of the sampled respondents indicated that they worked 40-50 hours per week. Figure 2 showed the effects of COVID-19 on work hours (n = 403), and the sampled respondents revealed that since the pandemic hours of work have increased. The sample respondents' workload (n = 400) since the pandemic also showed that (76.3%, n = 305) reported an increase in their workload. (see figure 3). A comparison was then made between the frequency with which caregivers experience stress and fatigue before and during COVID-19 (see Figures 4 & 5). This comparison revealed that (34.3%, n = 137) of the sampled respondents rarely experienced stress and (6.3%%, n = 25) never experience stress before COVID-19. However, during the pandemic, the responses showed that 37.5% n.150) of the respondents experienced stress fairly often and (32.5%, n = 130) had stressful experiences very often.

The factors mentioned prompted the researchers to carry out a cross-tabulation between the frequency of stress and fatigue since COVID-19* Caregivers workload; the cross-tabulation revealed a statistical relationship between the two variables ($\chi 2(1) = 31.609$, $P < 0.0001$), interpreted to mean the stress and fatigue levels of caregivers were increased during the pandemic due to the increase in caregiver's workload. The cross-tabulation of the frequency of stress and fatigue since COVID-19* caregivers' work hours revealed a statistical relationship between the two variables ($\chi 2(1) = 48.512$, $P < 0.0001$). This means that increased works hours for caregivers have increased their stress and fatigue levels since the pandemic (see tables 4 & 5). This can be emphasized in previous studies, which outlined that additional workload can add to the increasing levels of psychological maladies, including stress (Shoja & Esmail Shoja, 2020). Researchers were also interested in knowing whether the caregiver's clients' health conditions affected their stress levels. It was revealed that there was no significant relationship between the two variables ($\chi 2(1) = 5.579$, $P > 0.0001$) (see table 6).

Limitations

After concluding this study, the researchers found that the study had some limitations that are worth mentioning. The sample size (403) for this study was too small. Therefore generalizations should not be made hastily. The questionnaire was limited. There needed to be more follow-up questions to gather more detailed data to allow the researchers to carry out a more in-depth analysis.

Conclusion

National Center on Caregiving (2003) stated that of the individuals that required care giving services in the US, approximately 65% depended on family and friends to offer such support. It was affirmed that this was a major factor in influencing the procurement of caregivers and determining if those elderly persons remained at home. The author indicated that roughly 30% of those requiring care giving services complemented family care with compensated caregivers. The author explained that a whopping 50% of aged individuals with "long-term care needs" and no family assistance were confined to nursing homes or other government facilities established for the indigent.

As expected in our Jamaican study, the female-dominated domain of the caregiver role, it was not surprising to identify only 12% male were distributed among the sample of participants. National Center on Caregiving (2003) strongly communicated that female participation in care giving services was pivotal in society's contribution towards assistance in elderly care and emerged globally as the mainstay of those activities.

The informal care value that women provide ranges from $148 billion to $188 billion annually.4 Women provide the majority of informal care to spouses, parents, parents-in-law, friends, and neighbors, and they play many roles while caregiving-hands-on health provider, care manager, friend, companion, surrogate decision-maker and advocate"(National Center on Caregiving, 2003).

National Center on Caregiving (2003) alluded to numerous research that assessed and evaluated women's engagement in household caregiving and found that they emerged as the popular choice in informal care for the elderly and other family services. The author indicated that "female caregivers may spend as much as 50% more time providing care than male caregivers". Given this data, it is therefore conceivable that caregivers, on the whole, are prone to stress and fatigue conditions that will likely impact their health. The National Center on Caregiving (2003) assessed that about 66% of caregivers in the US are female. The typical caregiver is middle-aged or older who has an occupation external to the home and contributes more than "20 hours a week of unpaid caregiving" to family.

The demographic age of persons that participated in caregiving services from the sample was 45 -54 years. This metric was closely in line with research studies previously undertaken within Jamaica which indicated that many middle-aged persons were engaged in caregiving activities (James, 2020).

Given the study's findings, it can be deduced that the stress and fatigue levels of caregivers have significantly increased during the COVID-19 pandemic compared to the Pre-COVID-19 era. The main contributing factors to this increase are the increase in workload and hours of work. Working under the current conditions resulting from the worldwide pandemic is naturally stressful; having additional contributing factors can cause a significant increase in stress and fatigue levels.

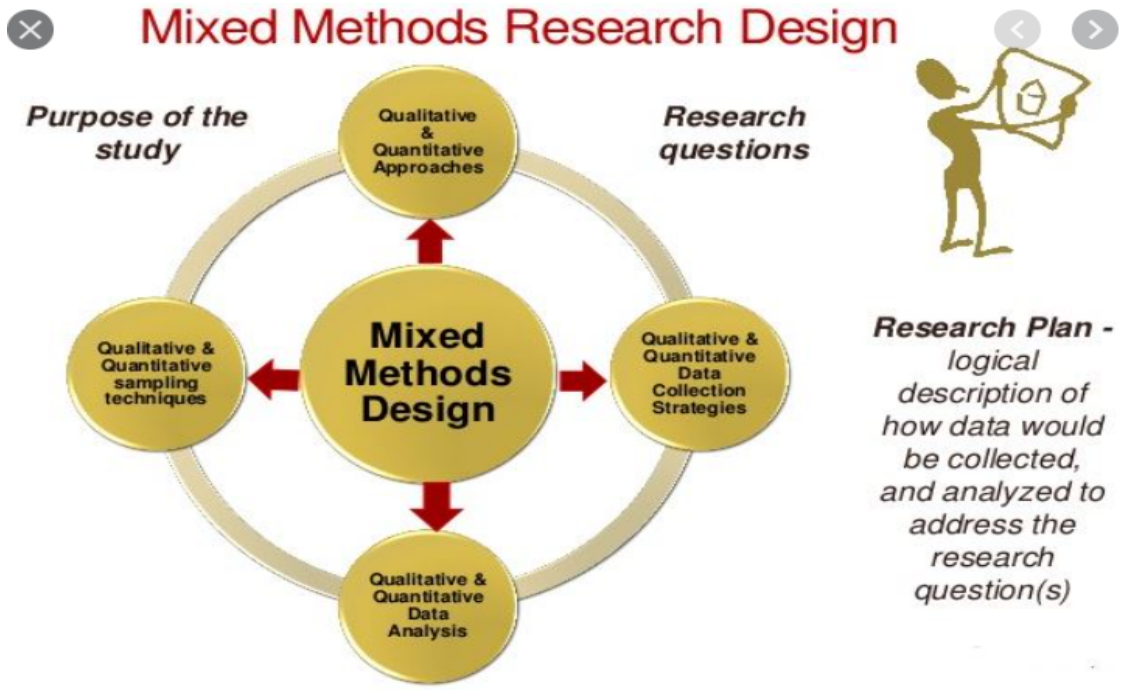
Recommendations

We recommend that the study's limitations, as expressed, be corrected as these constrained the findings as unearthed from the analysis. Table R1 illustrates the primary suggestions to improve the research effort's reliability and validity as outlined in the identified limitations.

Table R1.Recommendations to Improve Research Study

Criteria	Challenge/Risk	Mitigation/Solution/Remarks
Sample Size	The sample size was too small. Given the small sample size extracted for the study, this factor decreased the magnitude, scope, and legitimacy of the research, thereby escalating the variance in some of the calculated and derived statistics. As a result of these circumstances, this may cause the research study to be misleading and worthless due to the reduction in statistical power.	Increase the sample size substantially to have a more representative and appropriate population for analysis. Expand stakeholder participation to include caregivers from across the 3 counties of Jamaica.
Depth of Questionnaire	The reduced variability and content of the research instrument through the limited range of questions could restrict more significant and meaningful insights from the research study. *"In a survey, the researcher uses a questionnaire to gather information from the respondents to answer the research questions. A questionnaire is a very convenient way of collecting information from a large number of people within a period. Hence, the design of the questionnaire is of utmost importance to ensure accurate data is collected so that the results are interpretable and generalizable. A bad questionnaire renders the results uninterpretable, or worse, may lead to erroneous conclusions*" (Jenn, 2006).	
Type of Research Method	A qualitative research method was used in the study, and this process does not allow for a comprehensive investigative platform to be analyzed concerning the health of caregivers. Incorporating a qualitative only	Recommendation for the use of a mixed-methods process to carry out the study to allow both qualitative and quantitative data to be collected and analyzed

	study using a non-numerical construct for the data collected has a narrow focus. Though well suited to identify the state and perception of the caregiver's stress and fatigue levels does not allow for effective validation of other medical research efforts.	



Source: (Jones, n.d.).

Figure R1.Mixed Method Research Design

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Appendix

Survey Questionnaire

Instructions: Place a tick () in the box for the response

1. What is your gender?

- Male
- Female

2. Which age group do you belong to?

- 18-24 years
- 25-34years
- 35-44 years
- 45-54 years
- 55-65years
- Over 65 years

3. How long have you been providing care?

- 6mths-I year

1- 3 years

- 3-5 years
- 5-10 years
- More than 10 years

4. Which age group does your patient belong?

- Under 18 years
- 18-24 years
- 25-34years
- 35-44 years
- 45-54 years
- 55-65years
- Over 65 years

5. What is the nature of your client's illness?

- Cancer
- Diabetes
- Hypertension
- Cerebrovascular Accident (Stroke)
- Blindness
- Kidney Disease
- Cognitive impairment

- Mental illness
- Other _____

6. What is the severity of the illness?

- Mild
- Moderate
- Severe

7. Estimate the average number of hours you work each week

- 40-50
- 50-60
- Above 60

8. How has COVID-19 affected these hours

- There is a decrease
- There is a decrease
- The hours remained the same

9. How would you rate the occurrence of your stress and fatigue levels before COVID-19 pandemic?

- 0-Never
- 1-Seldom
- 2-Sometimes
- 3-Fairly often
- 4-Very often

10. How would you rate the occurrence of your stress and fatigue levels since the COVID-19 pandemic?

- 0-Never
- Rarely
- 2-Sometimes
- 3-Fairly often
- 4-Very often

11. How often do you google search COVID-19 and its symptoms?

- Never
- Seldom
- Sometimes
- Fairly often
- Very often

12. Is there any difference in your approach care for your patients since the presence of COVID-19?

- No
- Yes

13. Do you go out as often compared with Pre COVID-19 era?

- Yes
- No

14. Do you fear you will contract the illness and pass it on to your patient?

- Yes
- No

15. Have you noticed any changes in your desire to give care and perform your task as usual since COVID-19?

- No
- Yes

16. Do you find yourself eating less since COVID-19?

- Yes
- No

17. Before COVID-19 were you able to get out of bed easily and show up for work on time?

- No
- Yes

18. Since COVID-19 are you able to get out of bed easily and show up for work on time?

- No
- Yes

19. Since COVID-19 has your workload?

- Increased
- Decreased
- Remained the same

20. Has COVID-19 affected your interest in giving care?

- Disagree
- Agree
- Strongly agree
- Strongly disagree

