Has the Health Status of Jamaicans worsened since the Outbreak of Covid-19?

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Abstract
Introduction: *Health is a crucial component in human development and existence. The Coronavirus (COVID-19) pandemic has changed the mortality statistics of the human race, but there is no current assessment of the self-reported health status of Jamaicans as this is important in national planning.* ***Objective:*** *To assess whether the health status of Jamaicans has worsened since the outbreak of COVID-19.* ***Methods & Materials:*** *A descriptive research design was used to examine the objective. A cross-sectional survey was carried out in November and December 2020 of some 634 Jamaicans. A non-probability sampling approach was used to collect data using Google Forms. The data were later stored, retrieved, and analysed using the Statistical Packages for the Social Sciences, Version 27.0.* ***Findings:*** *Majority of sampled respondents general health status has remained the same as before the COVID-19 outbreak (73.8%, n=468). A moderate significant statistical association emerged between the self-reported health status and age (($\chi2(6)$ =26.020, P < 0.0001, CC= 0.216). Almost 66% (n=352) of those 18-35 years old indicated that their current physical health status had remained the same 0.4% of those 72+ years, 12.0% of those 36-43 years old, and 5.7% of those ages 54-71 years.* ***Conclusion:*** *The current study highlights that the COVID-19 pandemic has worsened the health status of one in every four Jamaicans, and this requires policy changes to address the present health challenges of the people.*
Keywords: *COVID-19, Depression, Health care, Health status, Mental health, Wellbeing*

I. INTRODUCTION

Health status is defined in terms of a person's body structure and function and the presence or absence of disease or signs of lifestyle and other social illnesses (Blackwood & Currie, 2018). To determine one's health status, the perception of how one interprets "Health" is important in properly understanding. In 1948, the World Health Organization (WHO) defined health as "a state of complete physical, mental and social well-being, and not merely the absence of disease". (Blackwood & Currie, 2018). What determines whether a person is in good health one may ask? The extent, to which the condition affects the person's normal life, is defined as the "Quality of Life". (Blackwood & Currie, 2018). "Health care is the prevention, treatment, and management of illness and the preservation of health through the services offered by health care organizations and professionals. It includes all the goods and services designed to promote health, including "preventive, curative and palliative interventions, whether directed to individuals or to populations". (Blackwood & Currie, 2018). To maintain a health status that is optimum for survival, health care is an important component that should be considered by everyone. The quality of life may be used to determine the health status of individuals.

A "health risk" is the chance or likelihood that something will harm or otherwise affect your health." (NIH Office of Communications and Public Liaison, 2016). Being able to achieve the highest level of wellness can allow an individual to maintain optimal health. However, there are risks that limit an individual from achieving their highest level of wellness thus not being able to maintain optimal health. Risk does not mean that

something bad will definitely happen, it is just a possibility. Several characteristics, called risk factors, affect whether your health risks are high or low. (NIH Office of Communications and Public Liaison, 2016)

"Based on the risk one is predisposed to, there are terminologies used to distinguish this difference. Personal health risk factors include your age, sex, family health history, lifestyle, and more. There are risk factors that cannot be changed, such as your genes or ethnicity as well as there are those that are within your control, like your diet, physical activity, and whether you wear a seatbelt." (NIH Office of Communications and Public Liaison,2016). "Understanding health risks is key to making your own health care decisions," says Dr. William Elwood, a psychologist and behavioural scientist at NIH. "It gives your perspective on potential harms and benefits, so you can make smart choices based on facts and not fears." (NIH Office of Communications and Public Liaison,2016). When one speaks about health status, a holistic approach should be considered to thoroughly determine the status. The dimensions of health that will be focused on in the research are Physical Health and Mental Health and the influence of COVID-19 pandemic.

Theoretical Framework

Theories are created to explain, predict, and understand events as well as to challenge and extend existing knowledge within the limits of critical bounding assumptions. A theoretical framework is the structure that can hold or support a theory of a research study. It introduces and describes the theory that explains why the research problem that is being studied exists. (Abend,2008).

There are several theories that can be used to guide research relating to public health. The theoretical framework used to pilot this research is the Illness-Wellness Continuum. "It was Dr. John Travis in 1972 who developed the Illness-Wellness Continuum which ranges from optimal health to premature death.
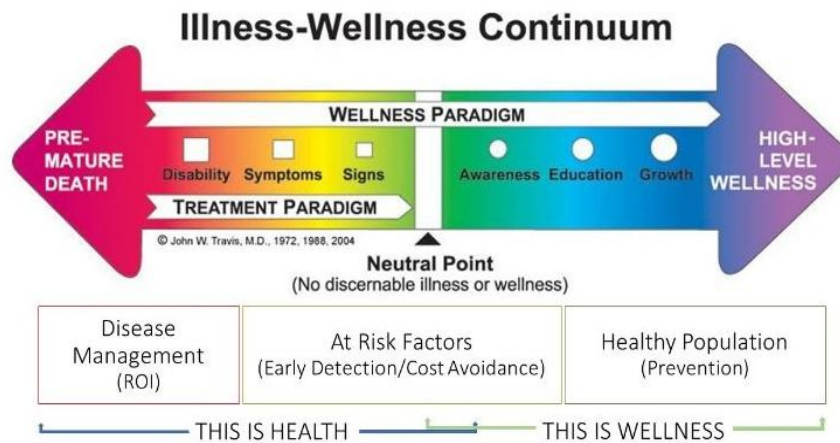

Figure 1: Image of The Illness/Wellness Continuum
Source: (Gillespie, 2017).

Figure 1-3, and Table 1 illustrates different aspects of the illness-Wellness continuum and provides a comprehensive visual of the variables and components involved.
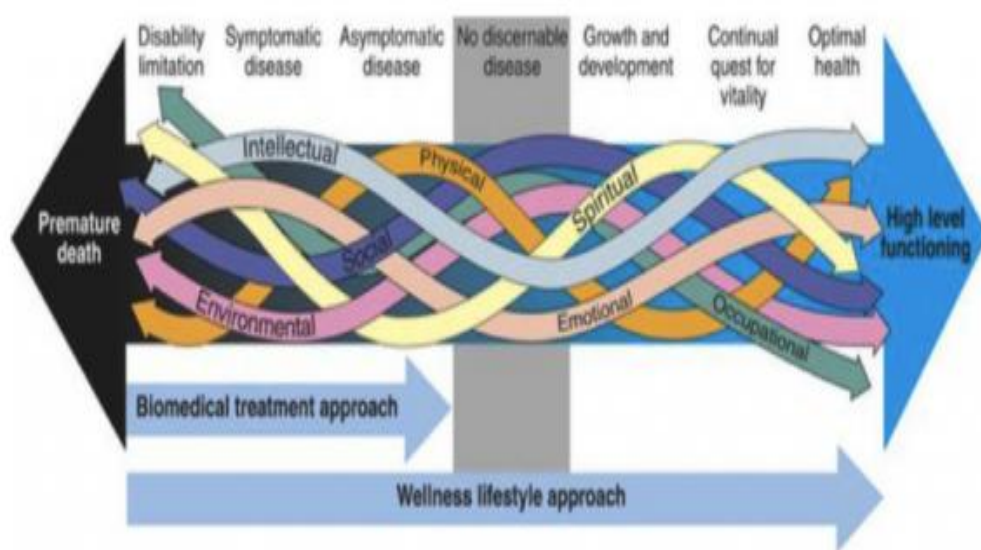
Figure 2: Dimensions of The Illness/Wellness Continuum

Source: (ddsara, 2015).

The model demonstrates arrows pointing in opposite directions and joins at a neutral point. Movement to the right of the neutral point shows increasing levels of health and wellness for an individual. This may be achieved through knowledge of health, disease prevention, health promotion, and positive attitude. In contrast, movement to the left of the neutral point shows decreasing levels of health. One's health is ever changing so there is no distinct boundary in which a person moves from illness to wellness or from wellness back to illness."(Anspaugh, et al, 2011).

Table 1: Dimensions Concerning The Illness/Wellness Continuum

Dimension	Description
Physical	Relating to the diet, exercise, relaxation & sleep patterns.
Psychological	Managing our emotions, building awareness of ourselves and others, while defining our perceptions and building on the self-image – Emotional Intelligence
Education	Where mental development is a focus & the skills levels & memory are nurtured and grown.
Ecological	Where we become one with nature, utilising its resources in a pure and environmentally friendly way. Understanding the aspects of geophysical stresses and reducing the negative impact on the planet.
Spiritual	Through transcendental prayer, or meditation we are able to develop our own personal spiritual journey and core.
Government / Legal	Having the ability to respect the laws and the legal / governmental framework within which we live. We may not always agree but a level of respect is required to remain a law abiding citizen.
Relationships	To continue nurturing and growing the relationships we have within our family, friends and work colleagues – as this creates a more harmonious environment in which we live and participate daily
Economic	Where we are able to have an ability to support ourselves financially to be able to sustain a comfortable lifestyle – reducing the burden of financial strain & debt.

Source: (ddsara, 2015).

This theory was used as this research was solely based on the reports of the respondents on their perceived belief of their health status. Therefore, placing themselves at one end of the illness to wellness continuum or another.

II.   LITERATURE REVIEW

Literature Rethinking health care delivery in Jamaica in a post-COVID-19 world (part 4) (Madu & Edwards, 2020)

In recognition of the potential health threats to the region, the Caribbean Community (CARICOM) Heads of Government asserted in their Nassau Declaration of 2001 that "The Health of the Region is the Wealth of the Region", fully cognisant of the critical relationship between the population's health status and economic growth.

In 2003 a mandate from the CARICOM Head of Government, a task force, the Caribbean Commission on Health and Development (CCHD), was established to formulate a framework and a set of strategies to actualize the 2001 Nassau declaration. The task force report recognized the chronic noncommunicable disease (NCDs) as the main contributors to the overall mortality and morbidity in the Caribbean. According to the report, cardiovascular diseases (high blood pressure, coronary heart disease, and stroke), diabetes and cancer accounted for 51% of the deaths in the region in the latter part of the 1990s. The rise in cardiovascular diseases is not restricted to the elderly.

The 2006 CCHD report showed that the cost of hypertension and diabetes in Jamaica for the year 2000 alone was estimated to be about US$ 58.5 million, without including the economic value of the premature death that these diseases cause. The economic cost associated with the cardiovascular diseases has continued to escalate.

According to the report, noncommunicable diseases such as cardiovascular diseases, diabetes, hypotension, and certain cancers now account for 70 percent of total deaths in Jamaica. To date, Jamaica has not taken the necessary bold steps to restructure the health care delivery systems to meet the needs of today.

To properly position Jamaica to take advantage of the various opportunities that exist to improve access and quality of health care for all Jamaicans, we must evolve an approach that places a premium on health equity, Utilizing inherent capacity in both public and private sectors to ensure equal access to optimal services for all Jamaicans, and to establish surveillance systems to effectively monitor lifestyle or behaviour risks to inform policy making as well as public education and prevention campaigns for a better outcome of the healthcare system in the island.

III.   METHODS AND MATERIALS

This study is based on the epistemology of objectivism. A survey research was conducted using a standardized questionnaire to evaluate the health status of Jamaicans before and during COVID-19. The sample size for this study was calculated by using a 95% confidence interval, a population of 2, 726, 667 (Jamaica's population for 2018), and a 3.5% margin of error. The calculated sample size was 784. The actual number of sampled respondents used were 634 individuals throughout the island (response rate was 80.9%). Persons were chosen at random with all participants being over the age of 18 years.

An online process was used to formulate and carry out the survey whereby a link was available for each respondent to access the questions including WhatsApp. An update was then made each time a survey was completed of which the researchers used to track the progress. All individuals who participated remained anonymous; therefore, confidentiality was maintained throughout the research process. This research topic was chosen through a number of other research topics where the research team found it necessary to carry-out such study in order to view the different challenges Jamaicans are facing during this deadly pandemic.

A series of 23 questions were used to assess the demographic, physical state, mental state, and financial state of the respondents. Demographic data had 2 questions, Physical health and Health measures 11 questions, Emotional/ mental state 5 questions and financial state had 5 questions (Appendix). A Likert scale and analogue scale was used to measure the responses. This survey took a little over 4 weeks from November 9 to December 5th, 2020.

Conceptual definitions

COVID-19 – this is an infectious disease caused by a newly discovered coronavirus (Coronavirus, 2020).

Depression – this is a common and serious medical illness that negatively affects how you feel, the way you think, and the way you act (What is depression, 2020).

Health care – this refers to the organized provision of medical care to people and communities (What is Healthcare?, 2020).

Health status – refers to your medical conditions (both physical and mental), claims experience, receipt of health care, medical history, genetic information, evidence of insurability, and disability (Health Status, 2020).

Mental health – this includes our emotional, psychological, and social well-being. It affects how we think, feel, and act (What is Mental Health, 2020).

Findings
Table 2 presents the demographic characteristics of the sampled respondents. Of the sampled respondents, the majority were females (76.6%) and ages 18-35 years (74.2%, n=470), with the response rate being 99.7% and 99.8% respectively.

Table 2:
Demographic Characteristics of the Sampled Respondents, n=634

Details	% (N)
Gender	
Female	76.6 (484)
Male	22.9 (145)
Prefer not to say	0.5 (3)
Age Cohort	
18-35 years	74.2 (470)
36-53 years	16.1 (102)
54-71 years	8.1 (51)
72+ years	1.6 (10)

Tables 3 and 4 present the health status of Jamaicans before and during COVID-19. The findings revealed that 73.8% of the sampled respondents indicated that their general physical health has remained in the same, with 10.5% indicating a lower of their health during COVID-19. This denotes that COVID-19 has a marginal influence on the general physical health status of Jamaicans.

Table 3:
Past Health Status (before March 10, 2020)

Details	% (N)
Past Physical Health Status	
Excellent, no sickness	47.5 (301)
Fair health, only sick once	33.4 (212)
Poor health, was sick less than 5 times	16.1 (102)
Poor health, was sick many times	2.8 (18)

Table 4:
Current Physical Health Status

Details	% (N)
Current Physical Health Status	
About the same	73.8 (468)
Somewhat worse	8.4 (53)
Much, much worse	2.1 (13)
Somewhat better now	15.6 (99)

Table 5
Hypothesis 0: The health status of Jamaicans has worsened since the pandemic (March 10, 2020)
Hypothesis 1: The health status of Jamaicans has not worsened since the pandemic (March 10, 2020)
Table 5 represents a cross tabulation between the health status of persons in 2019 leading up to January 2020 and their current physical health status. From the sampled respondents consisting of (n=634), a response rate of 99.8% (n=633) was recorded. The results revealed that there is a moderate relationship between the two aforementioned variables where the ($\chi 2(9)=109.213$, P < 0.0001). Of the sample, (73.9%) 468 of the respondent's health status remained the same as it was in 2019 leading up to January 2020. Because the P value is <0.05, we reject the null hypothesis.

Table 5:
Cross tabulation between past physical health status and current physical health status

Health status in 2019 leading up to January 2020	Physical health status now % (N)				
Details	About the same	Somewhat the same	Much, worse	Somewhat better now	Total
Excellent, no sickness	40.3 (255)	2.2 (14)	0.3 (2)	4.7 (30)	47.6 (30)
Good health, only sick once	23.9 (151)	3.0 (19)	0.5 (3)	6.2 (39)	33.5 (212)
Fair health, was sick less than five times	9.2 (58)	2.4 (15)	0.5 (3)	4.1 (26)	16.1 (102)
Poor health, was sick many times	0.6 (4)	0.8 (5)	(0.8 (5)	0.6 (4)	2.8 (18)

Hypothesis 0: There is not a relationship between physical health status now and gender since the outbreak of COVID-19.

Hypothesis 1: There is a relationship between physical health status now and gender since the outbreak of COVID-19.

Table 6 represents a cross tabulation between current physical health status now and gender. Of the sampled respondents (n=634), 99.6% (n=632) were used for this analysis. The results revealed that there is a weak correlation between the two variables where ($\chi 2(6) =10.708$, $P = 0.098$). This means that irrespective of one's gender his/her current physical health status now remains the same, with 73.9% (467) respondents saying their health is the same and 15.7% (99) respondents saying they feel somewhat better now. 8.4% (53) say they feel somewhat worse, and only 2.1% (13) say they feel much, worse. Therefore, the alternative hypothesis is accepted, however, the causal relationship that exist is not significant enough to bring about a change.

Table 6:
Cross tabulation between current physical health status and gender

Detail	Gender			
Current Physical health status	Female	Male	Prefer not to say	Total
About the same	56.0 (354)	17.5 (110)	0.5 (3)	73.9 (467)
Somewhat worse	5.5 (35)	2.8 (4)	0.0 (0)	8.4 (53)
Much, worse	1.4 (9)	0.6 (4)	0.0 (0)	2.1 (13)
Somewhat better now	13.6 (86)	2.1 (13)	0.0 (0)	15.7 (99)

Hypothesis 0: There is no relationship between age and physical health status now since the outbreak of the pandemic.

Hypothesis 1: There is a relationship between age and physical health status now since the outbreak of the pandemic.

Table 7 represents a cross tabulation between current physical health status now and age of respondents. Of the sampled respondents (n=634), the response rate for this analysis is 99.8% (n=633). A moderate significant statistical association emerged between the two aforementioned variables (($\chi 2(6) =26.020$, $P < 0.0001$, CC= 0.216). Almost 2% (n=7) of those 18-35 years old indicated that their current physical health status had become worse compared to 0.5% of those 36-53 years old, 0.3% of those 54-71 years old, and 0.2% of those 72+ years old. The alternative hypothesis is therefore accepted.

Table 7:
Cross tabulation between current physical health status and age cohort

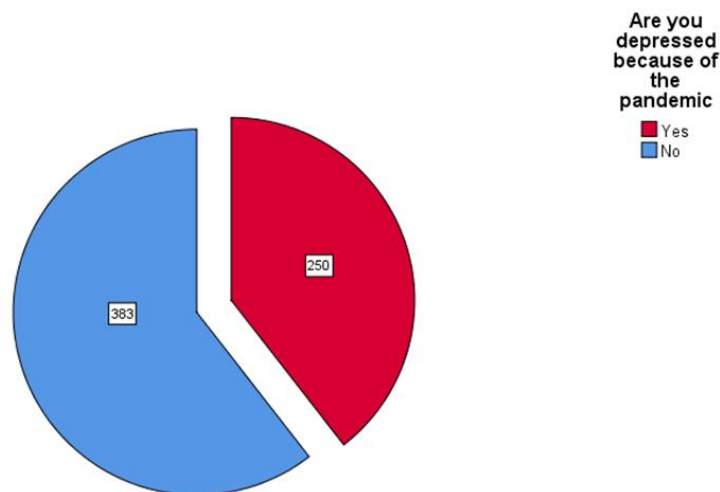| Details	Age Cohort				
Current Physical Health Status	Age 18-35	Age 36-53	Age 54-71	72+	Total
About the same	65.6 (352)	12 (76)	5.7 (36)	0.6 (4)	73.9 (468)
Somewhat worse	5.6 (35	0.9 (6)	1.1 (7)	0.8 (5)	8.4 (53)
Much worse	1.1 (7)	0.5 (3)	0.3 (2)	0.2 (1)	2.1 (13)
Somewhat better now	12 (76)	2.7 (7)	0.9 (6)	0 (0)	15.6 (99)

Figure 4: Pie chart showing the number of respondents that stated whether or not they are depressed due to the pandemic.

Of the number of sampled respondents (n=634), with a response rate for this analysis is 99.8% (n=633) who answered the question are you depressed because of the pandemic; (n=383) indicated no they are not depressed while (n=250) said yes, they are depressed because of the pandemic.

H0: There is no relationship between depression caused by COVID-19 and physical health status now for the respondents.
H1: There is a linear relationship between depression caused by COVID-19 and physical health status now for the respondents.

Table 8 represents a cross tabulation between are you depressed because of the pandemic and current physical health status of respondents. Of the sampled respondents (n=634), the response rate for this analysis is 99.8% (n=633). A moderate statistical association emerged between the two variables (($\chi 2(3)$ =16.753, *P* < 0.0001, CC= 0.161). Of the sampled respondents 39.5% (n=250) said yes, they were depressed however from that number when asked about their physical health status now 27.8% (n=176) selected about the same, 5.1% (n=32) selected somewhat worse, 1.45 (n=9) selected much worst and somewhat better was chosen by 5.2% (n=33). 60.5% (n=383) of the sampled respondents selected no they were not depressed because of the pandemic 46.1 (n=292) indicated their physical health is about the same, somewhat worse was selected by 3.3% (n=21), 0.6% (n=4) indicated physically they were much worse and 10.4% (n=66) selecting somewhat better now.

Table 8:
Cross tabulation between current physical health status and depressed since COVID-19

Details	Depressed since the COVID-19 pandemic		Total
	No (n=383)	Yes (n=250)	
	% (N)	% (N)	% (N)
Current Physical Health Status			
About the same	46.1 (292)	27.8 (176)	73.9 (468)
Somewhat worse	3.3 (21)	5.1 (32)	8.4 (53)
Much worse	0.6 (4)	1.4 (9)	2.1 (13)
Somewhat better now	10.4 (66)	5.2 (33)	15.6 (99)

Table 9
Hypothesis 0: There is not a relationship between age related depression and the COVID-19 pandemic.
Hypothesis 1: There is a relationship between age related depression and the COVID-19 pandemic.
Table 8 represents a cross tabulation between depression because of pandemic and age of respondents. Of the sampled respondents (n=634), the response rate for this analysis is 99.8% (n=633). A moderate statistical association emerged between the two aforementioned variables (($\chi 2(3)$ = 16.209, *P*= 0.001). Of the sample, 41.9 % (n=197) of those 18-35 years old indicated that their current depression is due to the pandemic when compared to 23.5% of those 36-53 years old, 43.1% of those 54-71 years old, and 70.0% of those 72+ years old. It can be concluded that the alternative hypothesis can be accepted, and the null hypothesis rejected.

Table 9:
Cross tabulation between age and depressed since the COVID-19 pandemic

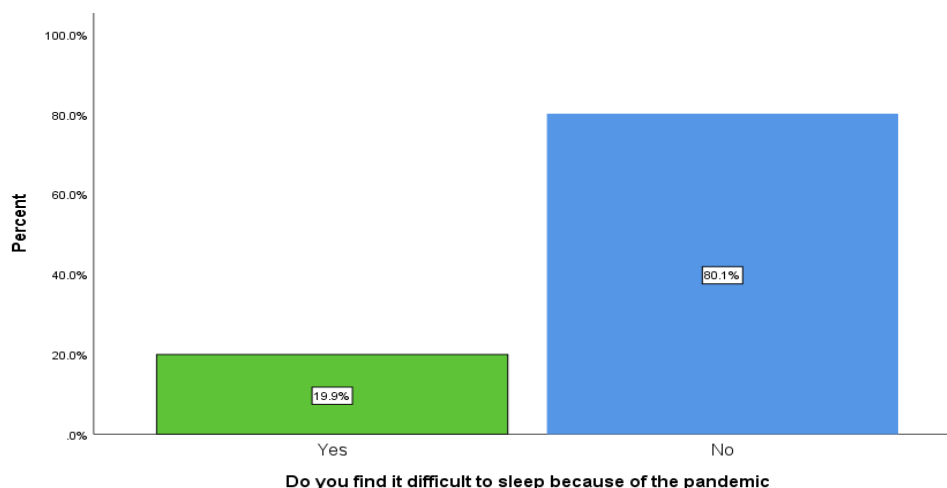| Details	Depressed since the COVID-19 pandemic		Total
	Yes (n=250)	No (n=383)	
	% (N)	% (N)	% (N)
Age Cohort			
18-35 years old	41.9 (197)	58.1 (273)	74.2 (470)
36-53 years old	23.5 (24)	76.5 (78)	16.1 (102)
54-71 years old	43.1 (22)	56.7 (29)	8.1 (51)
72+ years old	70.0 (7)	30.0 (3)	1.6 (10)

Figure 5: Bar Chart showing the number of respondents that find it difficult to sleep due to the pandemic.

Of the number of sampled respondents (n=633), majority stated that they do not find it difficult to sleep (80.1 %,), while 19.9% of respondents stated that yes, they do find it difficult to sleep due to the pandemic.

Of the eleven variables used in this regression model, three emerged as factors of current physical health status of Jamaicans (Table 10). The three factors (healthcare seeking behaviour, following COVID-19 protocols, and past physical health status) account for Pseudo R-Square = 10.3% (-2LL=795.284, χ^2=53.291, *P* < 0.0001; Goodness of fit—χ^2=1220.085, *P* < 0.0001). An inverse relationship exists between 1) healthcare seeking behaviour and current good health status, 2) past physical health status, and a direct statistical association between following COVID-19 protocols and current good physical health status.

Table 10:

Ordinal Regression Parameter estimates on Current Physical Health Status of Jamaicans

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	P value	Lower	Upper
Threshold	[Physical_health_rate = 1.00]	-1.857	.796	5.443	1	0.020	-3.416	-.297
	[Physical_health_rate = 2.00]	-1.314	.794	2.740	1	0.098	-2.871	.242
	[Physical_health_rate = 3.00]	-1.157	.794	2.122	1	0.145	-2.713	.400
Variables	Age	-.108	.145	.554	1	0.457	-.393	.177
	Gender	-.365	.237	2.368	1	0.124	-.830	.100
	Experienced_symptoms	-.331	.230	2.078	1	0.149	-.781	.119
	Healthcare seeking behaviour	-.348	.137	6.428	1	0.011	-.617	-.079
	Physical_health_on_social_activities	-.176	.105	2.822	1	0.093	-.382	.029
	Following COVID-19protocols	.621	.281	4.878	1	0.027	.070	1.173
	Depressed	.066	.213	.095	1	0.757	-.352	.484
	Difficulty_sleeping	-.087	.247	.126	1	0.723	-.571	.396
	Fear_of_leaving_home	-.267	.238	1.254	1	0.263	-.734	.200
	Inability_to_relax	.179	.242	.543	1	0.461	-.296	.654
	Past Physical Health Status	-.889	.226	15.513	1	<0.0001	-1.332	-.447

Link function: Logit.

IV. DISCUSSION

The purpose of this research paper was to assess whether the health status of Jamaicans has worsened since the outbreak of COVID-19. The main approach of this study was to view the different challenges Jamaicans were facing during this deadly pandemic and if it impacted their health status. Some of the challenges identified were related to the physical, mental, and financial aspects of each individual. The health status of respondents was measured using four (4) options: excellent, good, fair, poor. The main findings between health status of persons in 2019 leading up to 2020 and their current health status revealed, 73.9% (n=468) of the sampled respondents' health status remained about the same. However, there was not sufficient literature to prove that the health status of Jamaicans has worsened since the outbreak of COVID-19 although, 8.4% (n=53) of the sampled respondents got somewhat worse, 2.1% (n=13) got much worse and 15.6% (n=99) is somewhat better now. Thus, further research is still needed to gain greater insights in the impact of the pandemic on general health concerns. The Pearson Chi Square test results were ($\chi^2(9)$ =109.213, P=0.000), this means the results were highly significant (very unlikely to have occurred by chance alone). Also, because the P value was less than the significance level (<0.05), we rejected the null hypothesis and accepted the alternative hypothesis.

The findings of physical health status now and gender indicated in table 5 found that majority of persons (female, male and prefer not to say) stated that they feel about the same during the pandemic, that is, 73.9% (467), with majority being female (56.0% n=345) and 17.5% (110) being male. 15.7% (99) of all the genders stated they had felt somewhat better now since the outbreak, and only 2.1% (13) stated they feel much worse, with the majority being female respondents (1.4% n=9), followed by male respondents (0.6% n=4) and 0% were noted for the category of respondents that prefer not to say. These variables show a weak relationship based on the Pearson Chi Square test with the results: ($\chi2(6)$ =10.708, P = 0.098). With the p value being (>0.05), this indicates that there is a relationship; however, there is not an adequate correlation that would bring about change between the variables. Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted.

According to the literature review (Madu & Edwards, 2020), the task force report recognized that chronic noncommunicable diseases (NCDs) are the main contributors to the overall mortality and morbidity rate in the Caribbean. According to the report, cardiovascular diseases (high blood pressure, coronary heart disease, and stroke), diabetes and cancer accounted for 51% of the deaths in the region in the latter part of the 1990s. The rise in cardiovascular diseases is not restricted to the elderly. Additionally, as people age, their immune system gradually loses its resiliency, meaning that they are more susceptible to infections of any kind, especially a new one such as COVID-19 (NWHN, 2020). Based on table six, it shows that there is a change in physical health status related to age. It is observed that there is a constant decline in physical health status of 60% (n=6) for the population 72+ years, who reported that their physical health status now was somewhat worse or much worse. It is believed that being an older adult is a risk factor for contracting COVID-19. A fluctuation is observed in the somewhat worse response. Of the 634 samples, there were 633 respondents. 470 respondents were between the ages 18-35, 102 respondents were between the ages 36-53, 51 respondents were between the ages 54-71, and 10 respondents were over the age 72. The Pearson Chi Square tests results revealed (($\chi2(6)$ =26.020, P < 0.0001, CC= 0.216) which proved a moderate correlation between physical health status now and age. The acceptable p value is <0.05, the results showcase a p value of 0.0001 which means there is a level of association between the variables. This result can then rule out the null hypothesis while the alternative hypothesis is therefore accepted.

Another dimension of health, that is, mental health of the population was considered when the question asked, "Are you depressed because of COVID-19?". The American Psychiatric Association defines Depression as "a common and serious medical illness that negatively affects how you feel, the way you think and how you act." (Felix Torres, 2020). This is an area of consideration that the government should address in order to eliminate the mental health challenges that are expected to arise during this pandemic due to drastic changes in life. The findings as shown in the cross tabulation represented in table 7 indicates there is a statistically significant relationship between both variables however the measure of association between depression and physical health status now, is weak based on the Contingency coefficient being 0.161. Majority of the respondents 60.5% (n=383) said they were not depressed, of this number 292 indicated their physical health status is around the same, 66 of the respondents who said they were not depressed suggested that their health was somewhat better now as opposed to pre-COVID-19. Combined number of 25 of the respondents who selected no to the depression question indicated a decline in their physical health status now, 21 selected somewhat worse now while 4 selected much worse. Two hundred and fifty of the respondents said yes, they are depressed because of the pandemic. However, 176 of these respondents indicated their physical health status now is about the same, 33 chose somewhat better now, 32 selected somewhat worse now and only 9 selected their physical health was much worse now. A greater percentage of the total respondents(n=634) indicated their physical health now was about the same or somewhat better giving a combined percentage of 89.5%. However, it is seen that 41 of the respondents who indicated that they are depressed because of the pandemic, physical health has been altered with 32 selecting somewhat worse now and 9 selecting much worse to the physical

health status now question. The p value which is p < .001 indicates that there is less than .001 (almost zero) chance of getting these results if the null hypothesis was accurate.

The findings as shown in the crosstabulation represented in table 8 indicates there is a statistically significant relationship between both variables however the measure of association between age related depression and COVID-19 can be deemed as moderate on the basis of deriving at a value of $\chi2(3) = 16.209$, the p value of 0.001 which indicates that there is indeed an association between the variables. Of the sampled respondents (n=634), the response rate for this analysis is 99.8% (n=633). Of the sample, 41.9 % of those 18-35 years old indicated that their current depression is due to the pandemic when compared to 23.5% of those 36-53 years old, 43.1% of those 54-71 years old, and 70.0% of those 72+ years old. These findings suggest that two hundred and fifty of the sampled respondents agreed that their depression was due to the COVID-19 pandemic. It was noticed that age 72+, representative of the elderly population, was the largest population sampled whose depression was influenced by COVID-19 which accounts for 70% of the sampled respondents. This suggested that depression has worsened since the pandemic which can be supported by a literature "Jamaica Health and Lifestyle Survey III (2016-2017), preliminary key findings Jamaica 2018" which states "the highest prevalence of depression was seen in Jamaicans 75 years and older with a national estimate of 20.8%." (Ministry of Health, 2018). The population in their late teens to mid- 20's which was represented by the age group 18-35 years accounted for a 41.3% rate of depression which can be supported by the literature "What is Depression?" which suggested that "Depression can occur at any time, but on average, first appears during the late teens to mid-20s." However, there is no literature to indicate that the findings were worsened since the pandemic which suggests the need for further research. These findings suggest that the population of the teens to mid-20s and the elderly are those who are most prevalent to be depressed.

Limitations

This study proved that there were 2 limitations present in this research which could be addressed in future research. First, the study focused on the physical health status and mental health status of Jamaicans in 2019 leading up to 2020 before the start of the pandemic. However, there were little to no sources on this topic, therefore, the sources used were dated from 2016 to 2018.

The second limitation was due to the pandemic, it was difficult to get respondents to participate in the study as the medium of collection was online and persons found it time consuming, thus the expected outcome was not as expected or wanted.

V.   CONCLUSION

The research question "Has the Health Status of Jamaicans Worsen Since the Outbreak of COVID-19?" was proposed. It was the researchers' duty to ascertain data to determine if COVID-19 has compounded the health status of the sampled respondents. Throughout the research categorical variables were established, physical health status now was a constant and was tested against other variables such as gender and age to note if there was a relationship. There was not a significant relationship existing between gender and the constant as the relationship was weak to the point where a causal relationship could not be ascertained. On the other hand, a causal relationship could be ascertained between age and the constant as the relationship was of a moderate significant association. Another dimension of health was examined, mental health in the form of depression. There was a level of significance that occurred between physical health status and depression, a weak relationship that is. Also, it was determined that there was a significant relationship between age related depression and COVID-19, a moderate one that is, where based on the findings and inferences from credible literature one was able to derive such conclusions.

As it stands, a healthy and active lifestyle can play a major role in one's physical health status. Therefore, it is important for people to indulge in activities that will maintain not only physical health, but mental health as well. Some major tips persons can implement during the pandemic include staying active-aerobic exercise can be done at home, also, going for walks and jogs outdoors in non-crowded areas. Adequate sleep- sleep plays an important role in overall health and helps to improve the body's immune system. Diet and Nutrition- Whole Foods such as dark, green leafy vegetables, oranges and tomatoes are filled with vitamins, fibres, and minerals. Coping with stress and anxiety- meditations, reading or further developing a hobby can play a positive role in developing new or better routines while enjoying doing so during the pandemic. Lastly, staying connected with loved ones during isolation- this can reduce feelings of anxiety and stress (Jones, 2020).

The Ministry of Health and Wellness can implement a COVID-19 Mental Health Response Program aimed at mitigating the progression of mental health issues that have or are otherwise anticipated to emerge, resulting from COVID-19 (Linton, 2020). This strategic move by the government can counter any acute mental health challenge that may arise due to the drastic change in way of life caused by the pandemic.

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Appendix
Questionnaire

Health Status of Jamaicans since COVID-19

This survey is being done to aide in a research assignment that is required for partial fulfilment of the course Nursing Research. The survey is being done to ascertain information on the self-reported health status of Jamaicans since COVID-19. The participants name or address is not required and will only be identified by numbers, leaving respondents anonymous.

Demographic /Social
1.	How old were you on your last birthday?
a.	18 - 35
b.	36 -53
c.	54 – 71
d.	72 or older

2. What gender are you?
a.	Female
b.	Male
c.	Prefer not to say

Physical Health and Health Measures
1.	What was your health status in 2019 leading into January of 2020?
a.	Excellent, no sickness
b.	Good Health, only sick once.
c.	Fair health was sick less than 5 times.
d.	Poor health was sick many times.
2.	Compared to 2019 leading up to January how would you rate your physical health now?
a.	Somewhat better now

b.   About the same
c.   Somewhat worse now
d.   Much worse now

3a. Over the past **8 months**, have you experienced any of the following: a new or worsening   cough, fever, shortness of breath, sore throat, sneezing and runny nose, or temporary loss of smell?
o Yes
o No
 3b. If **yes**, did you:
o Call the designated COVID-19 Healthline number
o Called or visited your doctor or health centre
o Went to hospital or the emergency department
o Stayed at home
o None of the above

4.   In the last 4-8 months have you visited a health care facility due to an alteration to your physically health?
a. Yes, I had to visit the hospital
b. Yes, I had to see a private practitioner
        c. No, I did not have to have to seek health care.
d. No, I had resorted to home remedies.

5. How much time during the last 4-8 months have you felt worn out/tired?
a.   All of the time
b.   Most of the time
c.   Some of the time
d.   None of the time
6.   Have your physical health limit your work or the activities of your daily living since the last 4-8 months?
a.   Yes, limited a lot
b.   Yes, limited little
c.   No, not limited at all

7.   During the past 4-8 months, how much has physical health interfered with your social activities such as church/ dining at restaurant with relatives and friends?
a.   All of the time
b.   Most of the time
c.   Some of the time
d.   None of the time

8.   Do you expect your physical health to get worse because of COVID- 19?
a.   Definitely
b.   Don't know
c.   No, I expect to remain the same
d.   No, I expect to be better
9.   Over the past **8 months**, have you been doing any of the following to stay well or manage your health?
Select all that apply:
●   Exercise
●   Eating healthy food
●   Getting enough sleep
●   Practice relaxation techniques (e.g. meditation, yoga, deep breathing, music therapy)
●   Connecting with family and/or friends
●   None of the above
10. Since the outbreak of COVID-19, how often have you been doing the following: washing your hands or using hand sanitizer, wearing a mask, maintaining social distance, staying home?
o Regularly
o Sometimes
o Not frequent

Mental/Emotional State

1. Are you stress out about Covid-19? If yes, rate from 1-4 with 4 being the highly stressed and 1 being the no stress.
1.   No Stress
2.   Minimal Stress
3.   Moderate Stress
4.   Highly Stressed

2. Do you think you are depressed due to pandemic?
a. Yes
b. No
3. Are you having difficulty sleeping or falling asleep since the pandemic has started?
a. Yes
b. No
4. Do you experience fear of leaving your home due to the pandemic?
a. Yes
b. No
5. Do you experience an inability relax when outside and close to others due to the pandemic?
a. Yes
b. No

Financial

1.   Are you an essential worker?
□ Yes
□ No
□ Prefer not to say
2.   Are you the main "bread winner" in your family?
□ Yes
□ No
□ Prefer not to say
3.   Have you lost your income since March 2020?
□ Yes
□ No
□ Prefer not to say
4.   Since COVID-19 have you struggled to provide basic needs for your household?
□ Yes
□ No
□Sometimes
□ Prefer not to say
5.   Do you receive any financial assistance from family/friends abroad?
        □ Yes
        □ No
        □Sometimes
        □ Prefer not to say