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PSYCHOLOGICAL FACTORS IN ADHERENCE TO COVID-19 PROTOCOL: THE PANACEA TO ITS CONTAINMENT

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ABSTRACT

Covid-19 is a viral infection caused by severe acute respiratory syndrome coronavirus-2 (SARS-COV-2). The capacity of the SARS-2 to spread across the globe stem from its air borne nature. The virus is transmitted through the air contaminated by droplets and air borne particles containing the virus. In an attempt to ascertain possible factors that inhibit and factors that promote adherence to Covid-19 protocols, this study investigated psychological factors in adherence to covid-19 protocol: The panacea to its containment. A total of 621 participants within the age range of 18 and 61 years comprised of 372 males and 249 females were used for the study. They were drawn from the population of residents in Enugu metropolis, Enugu State using availability sampling technique. A 12-item and a 6-item questionnaires designed by the researchers were used for data collection. The design was cross sectional survey design while descriptive statistics was used to analyze the data obtained from the participants using SPSS version 23. The results showed that factors militating against adherence to covid19 pandemic protocol include: participants believed that our immunity is stronger than the Covid-19 538(78.9%); God protects His people 581(85.3%);social interaction is our culture 606(89.0%);government is deceiving people 611(89.7%); Covid does not exist with 527(77.4%), government is insincere about the covid-19 pandemic 611(90.5%) people are afraid of stigmatization/isolation 521(76.5%)and Covid-19 is avenue for making money for government 612(89.9%). On factors to facilitate adherence most participants agreed that transparency on the part of government, sensitization on the prevalence and dangers of Covid-19; government should provide the protocol items in public place and stiff penalty for defaulters are imperative even during future pandemics should there be any. The researchers therefore recommended that for people to adhere strictly to Covid-19 protocols, effort should be made to adopt measures as identified in this study.

Introduction

Covid-19 is a viral infection caused by severe acute respiratory syndrome coronavirus-2 (SARS-COV-2). It was discovered in Wuhan, a city in China on 8 December, 2019. In this city exists a business hub where seafood, live animals like frogs, bats, snakes, maggots among others are sold. The outbreak resulted in lockdown in Wuhan and other cities in China but could not be contained hence its spread across the globe. The disease killed more than 1,800 people and infected over 70,000 individuals within the first 50 days (Shereen, et al, 2020). By December 2019, Chinese government reported to World Health Organization about several cases of pneumonia, its etiological factor was not known. Early in 2020, the National Health Commission of China released more details about the pneumonia and following sequence-based analysis of isolated patients, the virus was identified as a novel corona virus and was named Wuhan corona virus, and 2019 novel corona virus (2019-ncov) by Chinese researchers. Later in the year, International Committee on Taxonomy of virus (ICTV) named the virus severe acute respiratory syndrome corona virus-2 (SARS-cov-2) and the disease as corona virus disease 2019 (Covid-19) (Shereen, et al 2020.)

On 30th January, 2020, World Health Organization declared it a Public Health Emergency Concern (PHEC) the highest level of emergency of international concerns (Cao et al 2020), and a pandemic on 11th March, 2020 (WHO, 2020). The declaration of covid-19 as a pandemic resulted in a number of precautionary measures like quarantine and lockdown of interstate/region/country movements. Virtually all aspects of daily life weredestabilized hence tremendous changes took place in all spheres of life: schools were shutdown, people worked from their homes, movements were restricted, social gatherings were prohibited, online therapy became prominent among other changes / adjustments. Since the outbreak in 2019, the virus has undergone mutation hence, there are many variants such as Alpha Beta, Delta, Gamma and Omicron as found in many countries. These variants appear to be most virulent. It has been recorded that as at 15thOctober, 2021, there were more than 239 million cases with 4.88 million deaths. From records America had 91,875,767 confirmed cases, Europe had 72, 855 confirmed cases, South Asia had 43,523, 205 confirmed cases but Africa had 6,102,082 confirmed cases (WHO, 2021).

The presence of the virus in Nigeria was traced to the arrival of an Italian citizen in Lagos on 27th February 2020. The man tested positive with the virus and on 9th March, 2020, a second case was recorded at Ewekoro, Ogun State on an individual who had contact with the Italian and was infected with the virus (Nigerian Centre for Disease Control & Prevention, 2020). The spread has increased across the Nigerian states (Amzav2020) and Nigeria is designated as the 13th highest risk country in Africa with the weak health care system making the effect worse. The NCDC (2021) noted that since the presence of covid-19 in Nigeria, 208,797 persons were affected out of which 196,425 were discharged, 9603 were active and 2769 died as at October, 2021. The capacity of the SARS-2 to spread across the globe stem from its air borne nature. The virus is transmitted through the air contaminated by droplets and air borne particles containing the virus. There is high risk of infection when there is closeness with the infected person. The transmission could be through coughing, sneezing or being splashed with contaminated fluid from the eyes, nose or mouth of the infected person. The incubation period of the virus is between 2 to 14 days and symptoms may manifest typically 5 days from the day of infection.

Covid-19 has been associated with such medical symptoms as fever, tiredness, cough, loss of speech, mobility, anosmia, myalgia, acute respiratory disease, kidney failure, rhinorrhea among others (Thevarajan, et al, 2020; WHO, 2020). These symptoms operate along a continuum from asymptomatic stage which could last up to 20 days though capable of infecting others; through mild, moderate and severe levels of effect. At the level of severity, death is likely to be the outcome. The people presenting with covid-19 are also robbed of social support from their loved ones hence, they have to contend with isolation, loneliness, stigmatization and helplessness. World Health Organization (2020) noted that the pandemic has negative impact on mental health which manifests in form of anxiety, psychotic symptoms, trauma, stress, panic, fear and suicidal tendencies. These associated psychological symptoms were confirmed by Kelly (2020) and Wang et al (2020). Jankowicz (2020) noted that the impact is worse in regions under lockdown. The stress arising from the covid-19 pandemic has also been linked to increase in

domestic violence and child abuse worldwide (Taub, 2020). The devastating effect of covid-19 necessitated the efforts to government in conjunction with World Health Organization to tackle the menace, researches were carried out to discover potent drugs and vaccines against the virus. Some of the vaccines include BioTech Pfizer, Moderna, Oxford AstraZeneca, Johnson and Johnson and Sputnik but controversy surrounding their efficacy has made people to become skeptical about it especially when it was observed that the virus undergoes mutation resulting in variants as Alpha (B.1.17) of United Kingdom, Beta (B.1.351) of South Africa, Delta (B.1.617.2) of India and Gamma (P.1) of Brazil and Omicron known as EG.5 and BA. 2.86 which is a descendant of X BB.1.9.2.The use of the vaccines does not guarantee safety or non infection even with the vaccine, there is likelihood that one will be infected. To contain the spread and tame the tide of infection, World Health Organization outlined behaviours that people must exhibit. This is based on the outcome of research on mode of transmission. The behaviours are identified as covid-19 protocol and they include: keeping a distance of at least 6 feet/ 1 metre apart, washing of hands for at least 20 seconds with soap, use of alcohol-based hand sanitizer, wearing of mask to cover mouth and nose, avoid touching of nose, eyes and mouth, avoid handshake and maintain social distancing (physical distancing). It is believed that keeping these rules or adhering to these protocols will stop the spread of the virus since it is air borne. Thus, it could be deduced that adherence to the protocol is sine qua non to preventing the spread in order to contain the disease.

Adherence/compliance is a human behaviour which could be defined as the extent to which a patient's behaviour corresponds with prescribed dosage regimen including time interval, medication intake (Urijens et al, 2012). Non adherence is a crucial point for the success and safety of many therapies and is determined by many factors. The factors include social, economic, therapy-related, disease-related and health care system factors. Based on these factors, many theories have been proposed to explain adherence. The theories include: self efficacy theory which contends that adherence depends on confidence in one's ability to adhere to the prescribed behaviours; Health belief model which identifies perceived barriers, benefits, severity and susceptibility as determinants of adherence.

Information motivation theory posits that providing patients with information that encourages health promoting behaviour, facilitates motivation which eventually results in more positive health behaviour skills; Self regulation theory holds that patients who have expectations of positive outcome from treatment will have better adherence to treatment. There are also theories of reasoned action, planned behavior and hierarchical model medication adherence. This research is anchored on hierarchical model medication adherence.

Deriving from Maslow hierarchy of needs, hierarchical model medication adherence (HMMA) posits that adherence passes through five hierarchical stages namely:

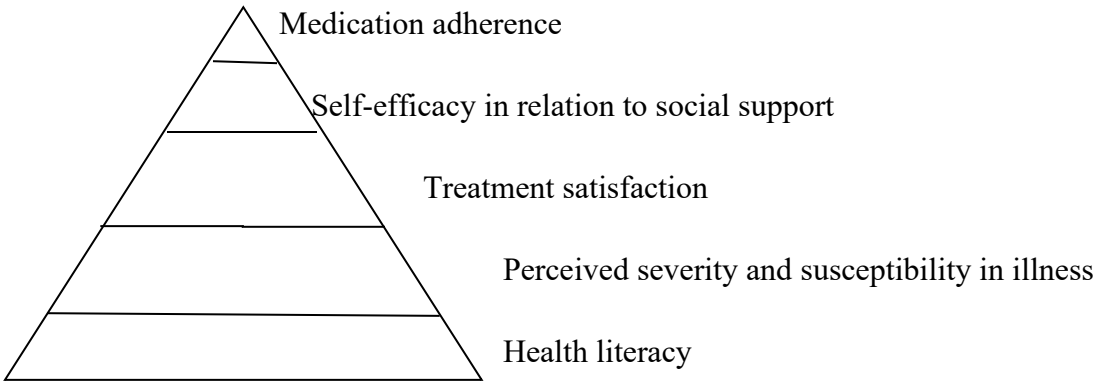


Fig. 1. **Hierarchical Model Medication Adherence**

The HMMA, (Unni and Bae, 2022) model posits that every person should have adequate health literacy that is, information or knowledge about the disease in this case Covid-19. This is the beginning of efforts to achieve adherence behaviour to the protocol. Without adequate knowledge, individuals may not bother to adhere to the precautionary measures that is, Covid-19 protocols. The theory holds that once adequate knowledge is acquired, the individuals' illness beliefs come into play. Do people believe that covid-19 is real? How severe it is? Can it be contacted and other such questions. If the person is convinced about the reality of the disease, its severity and susceptibility, adherence is possible. This phase is followed by belief in medication (the protocols) efficacy in protecting individuals from the infection and self-efficacy which is the confidence one has in adhering to these measures to prevent disease as well as the affordability of the materials: (mask, sanitizers) and ability to keep distance from loved ones. If the person has positive belief in medication and high self efficacy with social support adherence follows.

On the other hand, if individuals have no health knowledge, negative illness belief (covid-19 does not exist), ineffectiveness of the protocols and lack of self-efficacy, adherence becomes impossible, hence noncompliance. In order words, applying the Hierarchical Model Medication Adherence model to adherence to covid-19 protocols, it could be proper to explore the five conditions that make adherence to the protocols possible or impossible.

Everyday observations seem to show that people especially in the eastern part of the country do not adhere to the protocols hence containment of the disease seems to be compromised. Azene et al (2020) noted that globally, people were reluctant to adhere to the protocols. Sarla (2020) noted that many people did not perceive the virus as a threat to health. Therefore, since adherence to the protocols appears to be the only effective means since even the vaccines do not guarantee infection-free status. As well as controversies surrounding its existence which bother on Zoonotic theory or biological warfare created in the laboratory, effort is required to explore factors that militate against adherence to the protocols as well as factors that could facilitate adherence to covid-19 protocols in order to provide evidence-based policies on measurement of covid -19 containment.

Objectives of the study

To explore the factors that militate against adherence to covid-19 protocols in Enugu metropolis, Enugu state

To find out factors that could facilitate adherence to covid-19 protocols in Enugu metropolis..

Method

Participants:

A total of 621 participants within the age range of 18 and 61 years comprised 372 males and 249 females were used for the study. Out of 621, 373 were single, 239 married, 4 divorced, and 5 separated; 289 of them were civil servants, 53 students, 218 business men/women, and 61 unemployed; 595 of them were Igbos, 12 Yorubas, 1 Idoma, 2 Calabars, 3 Ijaws, 1 Itsekiri, 4 Hausas, and 3 Fulanis; Also, 602 were Christians, 15 Muslins, and 4 traditionalists. They were drawn from the population of residents of Enugu metropolis, Enugu State using available sampling technique. The minimum educational qualification possessed by the participants was Senior Secondary School Certificate, while 43 of them had Ph.D as highest educational qualification.

Instruments

Two sets of questionnaire were used for the study. They include a 12-item and a 6-item questionnaire designed by the researchers to explore factors that militate against adherence and those that could enhance it respectively.. The items were generated through literature review and focus group discussion with 12 persons (4 university lecturers; 3 health workers; 3 religious priests; and 2 businessmen) to explore possible factors that militate against the adherence to covid-19 protocols and the possible factors that could facilitate adherence to covid-19 protocols respectively. It was rated in the yes or no dichotomous response format.

Design/Statistics A Cross sectional survey design was adopted while descriptive statistics was used to analyze the data obtained from the participants using SPSS version 23.

Results

Table I: Factors that inhibit adherence to covid-19 protocols

S/N	ITEMS	YES	%	NO	%	Total	Total %
1	Our immunity is stronger than COVID	536	78.9	85	12.3	621	100
2	God protects His people	581	85.3	40	5.9	621	100
3	Social interaction is our culture	606	89.0	15	2.2	621	100
4	Government is deceiving people	611	89.7	10	1.5	621	100
5	COVID does not exist	527	77.4	94	13.8	621	100
6	COVID is pursuit of economic activities for survival	518	76.5	103	14.7	621	100
7	Government is insincere about the COVID-19 pandemic	616	90.5	5	.7	621	100
8	Mask suffocate people	470	69.0	151	22.2	621	100
9	Those that violate the COVID-19 protocols are not punished	513	75.3	108	15.9	621	100
10	COVID is same as malaria	484	71.1	137	20.1	621	100
11	People are afraid of stigmatization/isolation	521	76.5	100	14.7	621	100
12	COVID -19 is avenue for making money for government	612	89.9	9	1.3	621	100

Histogram on Factors That Inhibit Adherence to Covid-19 Protocols

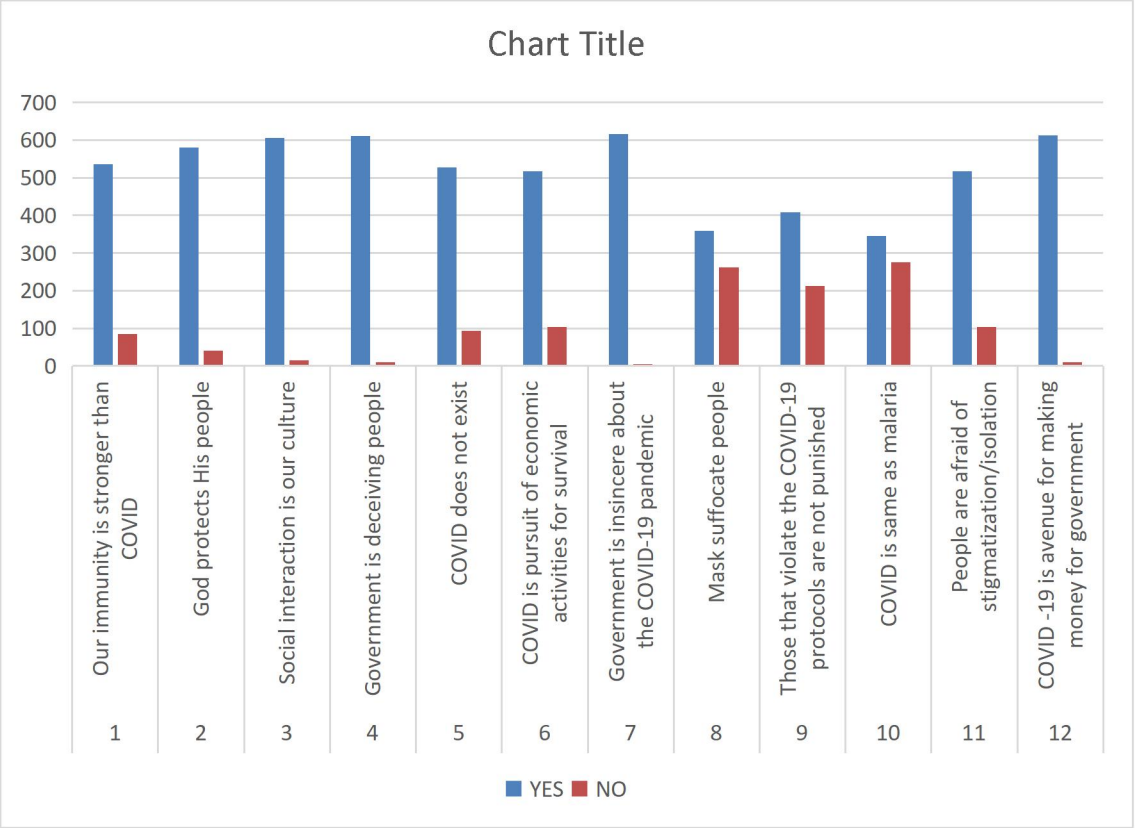
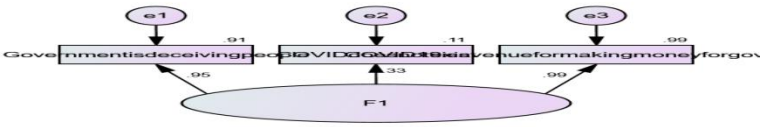


Fig I: The diagram above illustrated participants' responses on factors that inhibit the covid-19 protocols

From the fig 1 above , the result shows that participants agreed that our immunity is stronger than the Covid-19 with 536(78.9%) responses, God protects His people with 581(85.3%) responses, Social interaction is our culture with 606(89.0%) responses, Government is deceiving people with 611(89.7%) responses, Covid does not exist with 527(77.4%) responses, Covid is pursuit of economic activities for survival with 518(76.5%) responses. Government is insincere about the covid-19 pandemic 616(90.5%) responses, People are afraid of stigmatization/isolation 521(76.5%) responses and COVID -19 is avenue for making money for government with 612(89.9%) responses.

CFA Result on factors That Inhibit the Covid-19 Protocols



Model	NFI	RFI	IFI	TLI	CFI
Default model	.995	.986	.997	.990	.997

>.9

RMSEA= .059 at < .08, with chi square= .035 at P< .05 (Omeje et al., 2022) indicated a satisfactory value which shows that the three items (Government is deceiving people, **Government is insincere about the COVID-19 pandemic and COVID does not exist**) were able to measure the people's perception of covid-19.

Table II: Factors that facilitate adherence to Covid-19 Protocols

S/N	ITEMS	YES	NO
1	**Transparency on the part of government**	**591**	**30**
2	**Sensitization on the prevalence and dangers of COVID-19**	**302**	**319**
3	**Government should provide the protocol items in public places**	**294**	**327**
4	**Stiff penalty for defaulters**	**286**	**335**
5	**Government' sincerity about the COVID-19 pandemic**	**615**	**6**
6	**Vaccination against COVID-19 should be made compulsory for all**	**231**	**390**

Histogram on Factors That Facilitate Adherence to Covid-19 Protocols

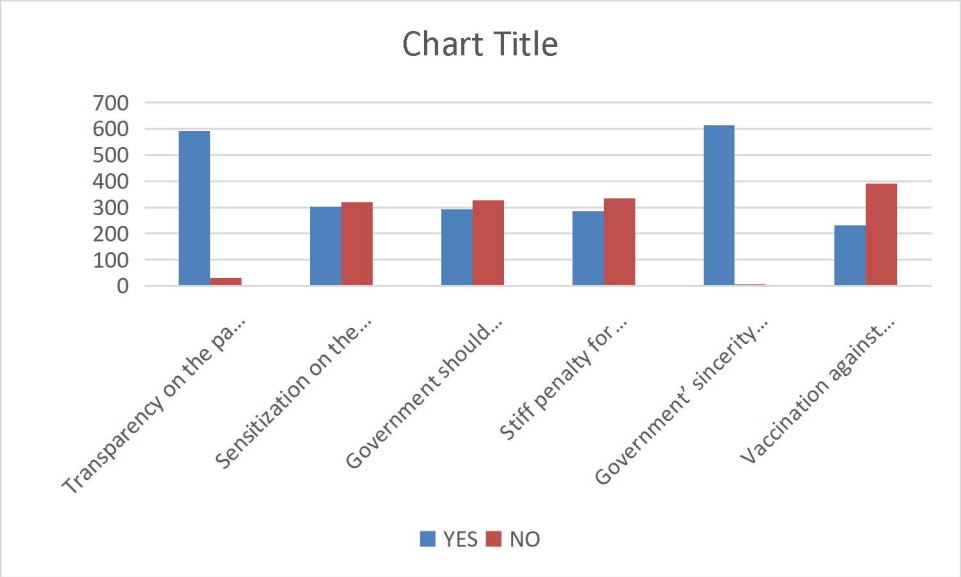


Fig II: The histogram above explained factors that facilitate adherence to Covid-19 Protocols

The table above shows that 591 participants agreed that transparency on the part of government is the main factor that would make people adhere to adhere to covid-19 protocol while 30 participants disagreed with the statement. 319 participants disagreed that sensitization on the prevalence and dangers of COVID-19 can help to prevent the pandemic, while 302 participants said yes to the statement. 327 participants disagreed to the statement that government should provide the protocol items in public places, while 294 participants said yes to it. 335 participants disagreed to the statement that stiff penalty for defaulters can help in handling covid-19 pandemic, while 286participants said yes to it. 615 participants agreed that government' sincerity about the COVID-19 pandemic will help to prevent it and other pandemic, while 6 participants said no to the statement. 390 participants disagreed that vaccination against COVID-19 should be made compulsory for all, while 231 participants said yes to the statement.

Discussion

From the results above, more participants agreed that our immunity is stronger than the Covid-19. To them with African belief system, our immunity is stronger than Covid-19. Also, more participants subscribed that God protects His people hence no affliction can befall God's people. Also, more participants agreed that social interaction is our culture hence do not subscribe to social distancing (physical distancing) as part of Covid-19 protocols. Similarly, almost all participants agreed that government is deceiving people with Covid-19 and that Covid-19 does not exist. Similarly, almost all the participants agreed that government is insincere about the covid-19 pandemic. In the same vein, most participants believed that people are afraid of stigmatization/isolation, while almost participants subscribed that Covid -19 is avenue for making money for government

On the factors that could facilitate adherence to covid-19 protocol,the participants agreed that transparency and sincerity on the part of government are the key factors that can help to win the fight against covid-19 and any another pandemic that could occur in the future. Majority of the participants disagreed that sensitization on the prevalence and dangers of Covid-19, government should provide the protocol items in public places, stiff penalty for defaulters and that vaccination against Covid-19 should be made compulsory for all could facilitate adherence to the protocol.

Recommendations

Based on the findings above, the researchers hereby recommend that government should endeavor to organize public enlightenment programmes to educate the public on the nature of covid-19 virus, mode of spread, its virulent potency and the need to adhere to the protocols. This is very crucial since vaccines are not protective enough and it is airborne. The only way to eradicate it is to contain its spread through adherence to the protocols.

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