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## NOSOPHOBIA, HYPOCHONDRIASIS AND HEALTHCARE SEEKING BEHAVIOUR OF PEOPLE IN CALABAR METROPOLIS, CROSS RIVER STATE, NIGERIA: COVID-19 EXPERIENCE

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### ABSTRACT

The study investigated nosophobia, hypochondriasis and healthcare seeking behaviour of people in Calabar Metropolis of Cross River State, Nigeria: The Covid-19 experience. A cross-sectional descriptive survey design and questionnaire was used to collect data from 200 respondents randomly sampled. Data were sorted, cleaned, coded and analyzed using SPSS version 20 software and hypotheses tested using Chi-square significant at 95% CI (0.05). Results presented in descriptive and inferential statistics. Respondents presented nosophobia and hypochondriasis 182(91.0%), slightly more in women 92(46.0%) as compared to men 90(45.0%), progresses with age and educational level. Phobia was more from Covid-19 48(24.0%) and HIV/AIDS 40(20.0%). Majority 157(78.5%) will never want to seek healthcare. Gender (P = .621) and education (P = .150) were not significant while Age (P = .001\*) was significant. Nosophobia, hypochondriasis and healthcare seeking behaviour was significant (P = .001\*). Continuous increase in peoples' awareness was recommended among others.

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## Introduction

Nosophobia is the extreme or irrational fear of developing or having a specific disease. This is otherwise known as disease phobia. It is sometimes referred to as medical students' disease. This is because it is assumed that nosophobia tends to mostly affect medical students surrounded by information about different about different diseases (American Psychiatric Association, 1994). Nosophobia involves the fear of developing a specific disease, while hypochondria (illness anxiety disorder) involve more general worries about illness. In other words, nosophobia is fear of diseases while hypochondriasis is the fear of illness or illness anxiety disorder (Luo, Shi, Li, Liu & Du, 2016). The fear of contacting or contracting a particular disease has over time influenced healthcare seeking behaviour. On the other hand, this fear has also prevented people from accessing healthcare for routine health checks for the fear of being diagnosed of such ailments with the reason that 'it is better not to know than to know and live in continuous fear of dying of it'. These diseases range from Covid-19, HIV/AIDS, Tuberculosis (TB), Sexually Transmitted Infections (STIs) to cancers of different types and many Non-Communicable Diseases (NCDs).

Hypochondriasis is a preoccupation with having a serious disease based on a misinterpretation of bodily symptoms (Meng, Gao, Tang, Wang & Tao, 2019). The diagnosis of hypochondriasis in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), includes four symptoms: preoccupation with or fears of having a serious disease, preoccupation or fears persist after medical reassurance, preoccupation or fears interfere significantly with functioning, and the symptoms last more than six months (American Psychiatric Association, 2013). The DSM-V replaced hypochondriasis with illness anxiety disorder and somatic symptom disorder, which broaden the description of hypochondriac symptoms to include behavioral and distress symptoms and are more reliable and clinically useful in identifying hypochondriasis as

well as nosophobia (American Psychiatric Association, 2013).

The prevalence of nosophobia and hypochondriasis cannot be over-emphasized. In seven cross-sectional studies involving 6,217 respondents, Meng et al. (2019) found out that the pooled prevalence of hypochondriac symptoms among the respondents was 28.0% (95% CI = 19.0%–38.0%) and the symptoms were a little more common in females (30.0%, 95% CI = 19.0%–42.0%) than in males (29.0%, 95% CI = 16.0%–42.0%), but the difference was not significant.

Many studies have examined barriers to health care utilization, with the majority conducted in the context of specific populations and diseases. Less research has focused on why people avoid seeking medical care, even when they suspect they should go. In understanding this, Taber, Bryan and Alexander (2014) did a qualitative study using a national data to understand why people avoid medical care. Data were collected as part of the 2008 Health Information National Trends Survey, a cross-sectional national survey. Data were collected from 1,369 participants (40% male; and mean age = 48.9). Responses were coded using a general inductive approach. Their study showed that a total of 58.4% of the participant gave their reason to avoiding healthcare as fear of being diagnosed of diseases other than the signs they presented (Taber et al. 2014).

It is no doubt that singles and youths get more worried about STIs due to their life style while the elderly get more worried about NCDs. This is a reflection of the fact that this fear varies according to the type of diseases in question. The study of Awang, Mansor and Osman (2018) found out that age is not significant in terms of nosophobia as it varies depending on the diseases in question. Ageing is often associated with deteriorating mental and physical health and the need for long-term care, creating a fear of ageing. To be detailed, Awang et al. (2018) investigated what people fear most in terms of disabling chronic diseases and their

concerns regarding having long-term illnesses. Data were obtained from an online survey of 518 respondents aged 40 years and older residing in Malaysia, which was based on a convenience sample collected in May 2015 to January 2016. Data were analyzed using chi-squared tests and multinomial logistic regression. Their results showed that of the most dreaded diseases, heart disease and cancer are life-threatening; however, dementia, diabetes, and hypertension persist and have a disabling effect for a long time. While there were variations in the diseases feared most across gender, ethnicity, and place of residence, the biggest worry for all respondents with regard to having a long-term illness was that they would become a burden to their family, a concern that superseded fear of dying. They recommended that there is a need to provide motivation for people to adopt a healthy lifestyle, to remain healthy.

Rheumatic diseases and inflammatory joint disease (e.g. arthritis) were found to be most feared by the aged and translates to the fear of death which by extension make the elderly scared of accessing healthcare (Oliveira, do Céu Sá & Freitas, 2013). Roest, de Jonge, Lim, Stein, Al-Hamzawi, Alonso, et al. (2017) found out that poor healthcare seeking behavior was associated with the fear of being diagnosed of heart diseases and other NCDs. Choudhary (2016) found a good proportion of men who were scared of being diagnosed of infertility, and accepting vasectomy as a family planning method which as such prevented them from seeking healthcare. The fear of HIV/AIDS is not different which still lingers till today where people hardly give themselves for voluntary testing to know their status (Bati, Mandiracioglu, Govsa & Cam, 2018). According to Ola, Olalekan and Oluwagbemiga (2013), the fear of testing positive to HIV/AIDS has affected healthcare seeking behaviour in Nigeria.

In March 2014, the outbreak of Ebola was reported by World Health Organization (WHO) and was later reported in Nigeria in August 2014. The fear this outbreak awakened proper hygiene practices amongst

citizens globally and Nigeria in particular. It increased consciousness on self hygiene but did not increase healthcare seeking behaviour. According to Umeora, Emma-Echiegu, Umeora and Ajayi (2014), Ebola conjured palpable fear on Nigerians and triggered better self hygiene but did not really solve the problem of better healthcare seeking behaviour. In an article on 'long shadow of fear in an epidemic: fearonomic effects of Ebola on the private sector in Nigeria', Bali, Stewart and Pate (2016) highlighted that Ebola was worsened by a fear of contagion that aggravated the health crisis. Their study findings reveal that the fearonomic effects of Ebola included health service outages and reduced healthcare usage as a result of misinformation and aversion behaviour by both patients and providers.

This is not different from the current Covid-19 pandemic where globally, people are scared of the pandemic and has triggered better personal hygiene and healthy social behaviours but rather worsens people access to healthcare because of the fear of being diagnosed of Covid-19, isolation, stigmatization, etc. On Feb 27, 2020, the first official case of COVID-19 in Nigeria was announced. The patient was an Italian citizen, who had recently arrived in Lagos from Europe and who, a few days later, tested positive for the disease (Kalu, 2020). Since then, Nigerian States have been recording high prevalence of this pandemic and as such has put great fear on both healthcare teams and patients. This fear has affected healthcare seeking behaviour of Nigerians. However, since then till the time of this study, Cross River State as one of the States in Nigeria has been the only State in Nigeria that has not recorded any case of Covid-19. Though, Cross River State has not recorded any case, her citizens are scared and this has resulted to poor and decline in healthcare seeking behaviour in the people and has aggravated the practice of self medication. It was based on this background this study was instigated.

## Statement of problem

It is no doubt that government, educators and researchers are making tangible efforts to increase awareness on the need for better healthcare seeking behaviour but the fear of being positive a certain diseases has prevented people from constantly presenting themselves for health screenings. It is a common belief that it is better to live without knowing your status of any diseases especially the ones without symptoms and those without found cure than knowing it then continue to live with the fear of dying from it one day. This fear has been displayed by respondents in the area of HIV/AIDS, certain cancers, TB, STIs, Ebola, Covid-19 and many others. The researchers observed that the fear of these diseases has over time negatively affected healthcare seeking behaviour coupled with the current global outbreak of Covid-19 pandemic which has currently made every Nigerian and Cross Riverians in particular to refrain from healthcare. There is really a gap in knowledge about these diseases and trust on healthcare providers which has to be bridged. It was based on this observed problem the researchers were interested in study.

## Objective

This study investigated the prevalence of nosophobia/hypochondriasis and the healthcare seeking behaviour of the residence in Calabar Metropolis of Cross River State, Nigeria: The Covid-19 experience.

**Hypotheses:** The following hypotheses were tested:

**Ho<sub>1</sub>:** There is no association between demographic variables and nosophobia/hypochondriasis.

**Ho<sub>2</sub>:** There is no association between nosophobia/hypochondriasis and healthcare seeking behaviour.

## Methods

The study adopted a cross-sectional descriptive survey design. The study area was the Canaan City the

capital of the Cross River State. It has an area of 406km<sup>2</sup> and population of 461,796. It is adjacent to the Calabar and Great Kwa Rivers and creeks of the Cross River. Administratively, the metropolis is divided into Calabar Municipal and Calabar South Local Government Areas and it is located between Latitude 4<sup>o</sup>48 North and Longitude 8<sup>o</sup>17 East. The study area has a total of 137 healthcare facilities (44 private, 16 public and 77 Primary Healthcare Centers). National population commission (2015) revealed that there are about 74,580 households in the metropolis as projected and there are even (11) wards in Calabar Municipality Local Government Area and thirteen (13) wards in Calabar South Local Government Area. In the North, Calabar Metropolis is bounded by Odukpani and Akamkpa Local Government Areas, at the East by the Great Kwa River, at the South it is bounded by the Calabar River. The study area has one federal university, one state university, one private university, one college of health technology and various secondary and primary schools. The main dwellers are; the Efiks, the Efuts, and the Quas whose major widely and common spoken language is Efik and Ejagam. They as well speak English as means of communication.

Multi-stage sampling technique was used in the study. Systematic sampling techniques was used to sample a total of 200 (100 males and 100 females) respondents according to the number of wards and households in the study area. A sampling frame for the total streets and households was used and a total of 100 households were sampled from 15 wards. After the first household was sampled, the next followed the interval of four until a total of 200 respondents were sampled. Two respondents each were sampled from each household through simple random sampling technique. Instrument used for data collection was questionnaire designed by the researchers. The questionnaire had two parts: Part A focused on respondents consent while Part B focused of respondents' socio-demographic characteristics and assessment of nosophobia/hypochondriasis and

healthcare seeking behaviour. Respondents' verbal and written consent was sought before data was collected. Confidentiality of respondents was assured and freedom to participate or withdraw from the study was guaranteed. Data were collected from respondents in their places of residence. Data collected were sorted, cleaned, coded and analyzed using Statistical Package for Social Sciences (SPSS) version 20 software and hypotheses were tested and cross tabulated using Chi-square. Results were significant at 95% CI (0.05). Results are presented using descriptive like frequencies, percentages, charts, tables and inferential statistics for easy interpretation and comprehension.

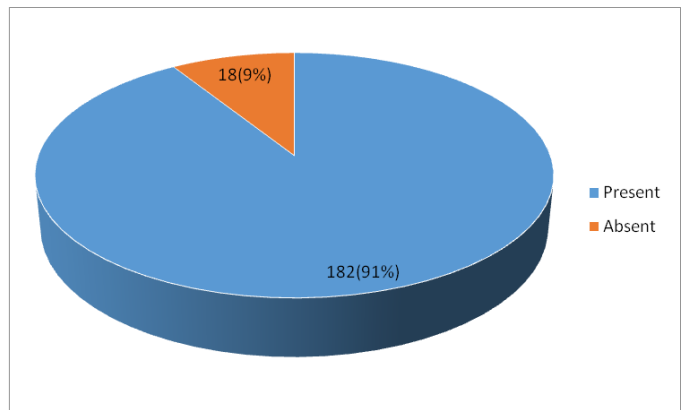
### Results and discussion of findings

Data were collected from 200 respondents (100 males and 100 females). Majority were aged 50 years and above (32.5%) while few were below 18 years. Most of the respondents had tertiary education 64(32.5%) while the least proportion 40(20.0%) had no formal education (Table 1).

**Table 1:** Demographic data of respondents

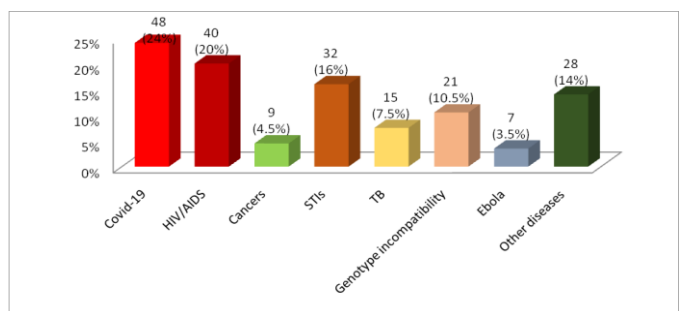
Variables	Frequency (%)
<b>Gender</b>	
Males	100(50)
Females	100(50)
<b>Age</b>	
Below 18 years	11(5.5)
18-25 years	12(7.0)
26-33 years	24(12.0)
34-41 years	31(15.5)
42-49 years	55(27.5)
50 years and beyond	65(32.5)
<b>Education</b>	
No formal education	40(20.0)
Primary education	45(22.5)
Secondary education	51(25.5)
Tertiary education	64(32.5)

On the proportion of people with such disease fear, almost all the participants 182(91.0%) reported to have nosophobia or hypochondriasis (Fig. 1). This is corroborated with Taber et al. (2014) whose study showed that a total of 58.4% of the participant gave their reason to avoiding healthcare as fear of being diagnosed of diseases other than the signs they presented.



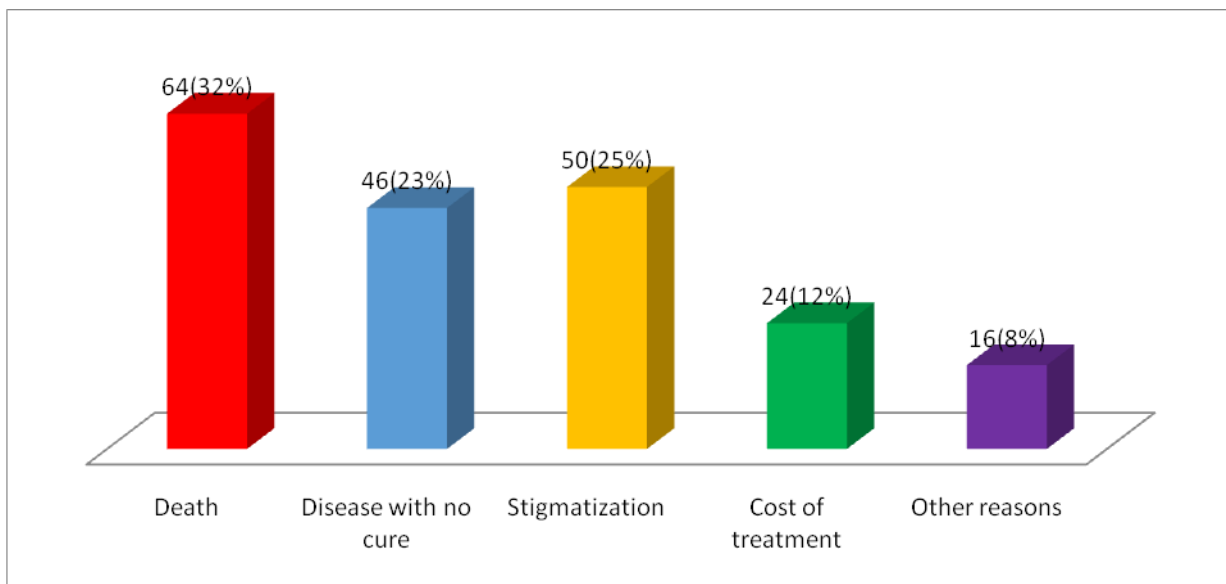
**Fig.1:** Prevalence of nosophobia/hypochondriasis among respondents

The diseases which exerted most fear on the residents were Covid-19 [48(24.0%)], followed by HIV/AIDS [40(20.0%)] and STIs [32(16.0%)] while the least most feared disease from our data was Ebola 7(3.5%) as shown in Figure 2: the reported most feared diseases/illnesses by respondents.



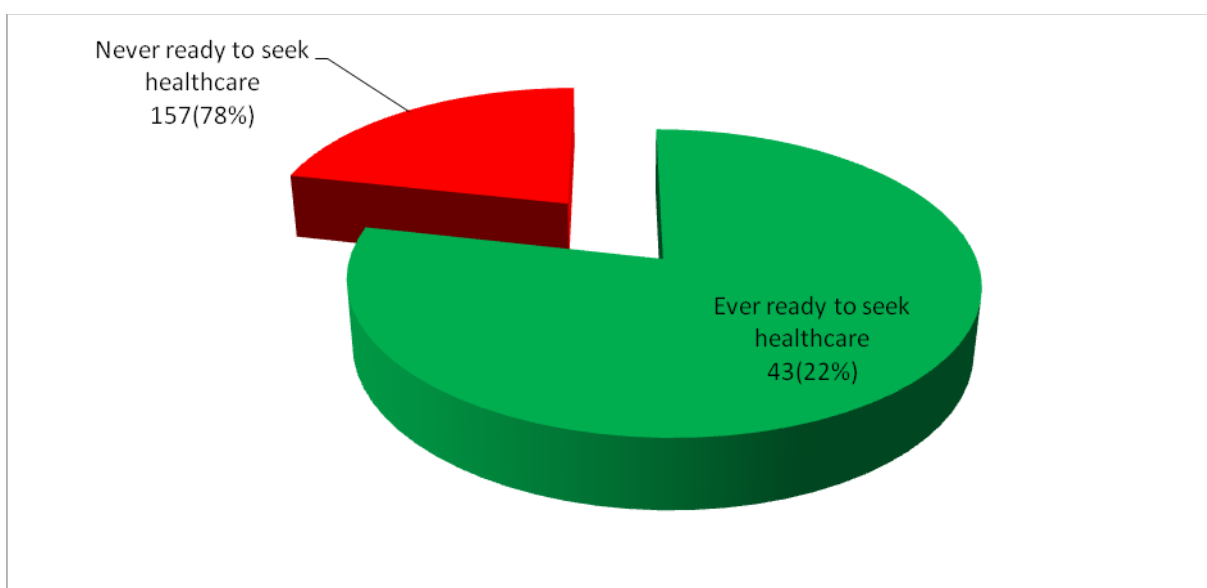
**Fig. 2:** The reported most feared diseases/illnesses by respondents

A greater proportion of the respondents 64(32.0%) reported fear of death a major reason to their phobia while 50(25.0%) said fear of stigmatization and 46(23.0%) said disease that has no found cure triggers more fear in them (Fig. 3).



**Fig. 3:** Respondents' reasons behind nosophobia/hypochondriasis

Majority 157(78.5%) will never want to seek healthcare for routine checks except very ill while only 43(21.5%) admitted ever ready to seek healthcare often even when no signs or symptoms (Fig. 4). This is corroborated by Awang et al. (2018) that the most feared diseases were that of NCDs and fear of dying which caused people to avoid healthcare.



**Fig. 4:** Healthcare seeking behaviour of respondents who display nosophobia/hypochondriasis

**Hypothesis one (H<sub>01</sub>):** There is no association between demographic variables and nosophobia or hypochondriasis. Though there is a slight difference in the prevalence of nosophobia or hypochondriasis among females 92(46.0%) than men 90(45.0%), analysis using Chi-square test showed that the association was not statistically significant (P = 0.621; df = 1; Chi-square =

0.244). The null hypothesis was therefore not rejected and then concluded that there is no statistically significant association between gender of an individual and nosophobia or hypochondriasis in the study area. This further implies that being a male or female is not tied to nosophobia or hypochondriasis. This means that, it can be present in an individual despite the gender

(Table 2). This is not too different from Meng et al. (2019) who found out that the pooled prevalence of hypochondriac symptoms among respondents was 28.0% (95% CI = 19.0%–38.0%) and the symptoms were a little more common in females (30.0%, 95% CI = 19.0%–42.0%) than in males (29.0%, 95% CI = 16.0%–42.0%), whose difference was not significant.

The analysis on age showed that nosophobia or hypochondriasis is associated with age where older persons showed more symptoms and analysis using Chi-square test showed that the association was statistically significant ( $P = 0.001^*$ ;  $df = 5$ ; Chi-square = 20.077).

Therefore, the null hypothesis was rejected to imply that there is association between age and nosophobia or hypochondriasis in the study area. This further means that fear of diseases increases as one gets older (Table 2). This is in tandem with Oliveira et al. (2013) that rheumatic diseases and inflammatory joint disease (e.g. arthritis) were found to be most feared by the aged and translates to the fear of death which by extension makes the elderly scared of accessing healthcare. On the other hand, this is different from the study finding by Awang et al. (2018) that age is not significant in terms of nosophobia.

**Table 2:** Association between demographic variables and nosophobia/hypochondriasis

Test variables	Nosophobia/hypochondriasis		Chi-square	P-value
	Not scared	Scared		
<b>Gender</b>				
Male	10(5.0%)	90(45.0%)	.244	.621
Female	8(4.0%)	92(46.0%)		
Total	18(9.0%)	182(91.0%)		
		<b>Total</b>		
<b>Age</b>				
Below 18 year	4(2.0%)	7(3.5%)	20.077	.001*
18-25 years	4(2.0%)	10(5.0%)		
26-33 years	1(0.5%)	23(11.5%)		
34-41 years	1(0.5%)	30(15.0%)		
42-49 years	5(2.5%)	50(25.0%)		
50 years and above	3(1.5%)	62(31.0%)		
Total	18(9.0%)	182(91.0%)	200(100%)	
<b>Education</b>				
No formal education	7(3.5%)	33(16.5%)	5.321	.150
Primary education	3(1.5%)	42(21.0%)		
Secondary education	5(2.5%)	46(23.0%)		
Tertiary education	3(1.5%)	61(30.5%)		
Total	18(9.0%)	182(91.0%)		

\*Statistically significant only when  $P$ -value < 0.05 or Chi-square > Critical value ( $C_v$ ).

( $df_{Gender} = 1$ ;  $Cv_{Gender} = 3.84$ ); ( $df_{Age} = 5$ ;  $Cv_{Age} = 11.07$ ); ( $df_{Education} = 3$ ;  $Cv_{Education} = 7.81$ )

Although the prevalence of nosophobia or hypochondriasis was more among people with tertiary education, the analysis on education was not found significant ( $P = 0.150$ ;  $df = 3$ ; Chi-square = 5.321). Therefore, the researchers failed to reject the null hypothesis by concluding that there is no association

between education and nosophobia or hypochondriasis in the study area. This further implies that, no matter your educational level, one may be susceptible to nosophobia or hypochondriasis (Table 2).

**Hypothesis two (Ho<sub>2</sub>):** There is no association between nosophobia or hypochondriasis and healthcare seeking behaviour. Of all the 182(91.0%) respondents who display nosophobia or hypochondriasis, only 38(19.0%) admit having better healthcare seeking behaviour while 144(72.0%) will not want to seek healthcare except in critical conditions. Analysis using Chi-square test showed that the association was statistically significant (P = 0.001; df = 1; Chi-square = 7.82). Based on this, the researchers rejected the null

hypothesis thereby concluding that there is association between nosophobia or hypochondriasis and healthcare seeking behaviour among residents in the study area (Table 3). This is supported by Roest et al. (2017) that poor healthcare seeking behaviour is associated with the fear of being diagnosed of heart diseases and other NCDs. To further support this finding, Ola et al. (2013) established that the fear of being tested positive to HIV/AIDS has affected healthcare seeking behaviour in Nigeria.

**Table 3:** Association between nosophobia/hypochondriasis and healthcare seeking behaviour of respondents

Test variables	Healthcare seeking behaviour (people willing to seek health care amidst the fear)		Total	Chi-square	P-value
	Will not	Will seek			
<b>Nosophobia/hypochondriasis</b>					
Not scared	13(6.5%)	5(2.5%)	18(9.0%)		
Scared	144(72.0%)	38(19.0%)	182(91.0%)	7.82	.001*
Total	157(78.5%)	43(21.5%)	200(100%)		

\*Statistically significant at P-value < 0.05 (df = 1; Critical value = 3.84)

### Summary/conclusion

This study focused on prevalence of nosophobia and hypochondriasis as it influences healthcare seeking behaviour. This was carried out in the midst of the Covid-19 pandemic which made people to avoid health care services. Almost all the respondents presented nosophobia or hypochondriasis 182(91.0%) and was more prevalent in women 92(46.0%) as compared to men 90(45.0%), increases with age and educational level. Covid-19 48(24.0%) and HIV/AIDS 40(20.0%) exerted more phobia than other diseases. Majority 157(78.5%) will never want to seek healthcare. Looking at association of nosophobia with socio-demographics, gender (P = .621) and education (P = .150) were not statistically significant while only age (P = .001\*) was statistically significant. However, the association between nosophobia, hypochondriasis and healthcare seeking behaviour was statistically significant (P = .001\*)

### Recommendations

The researchers recommend the following based on the key findings from the study:

- i. There is need for continuous increase in awareness creation on the essence of regular health checks by stakeholders like healthcare workers, researchers, Non Governmental Organizations (NGOs), government, academia, religious leaders, and health educators to prevent diseases in its primary phase.
- ii. Since the prevalence of nosophobia/hypochondriasis progresses with age, intervention focus should be more on adults and the elderly for it to be effective.
- iii. Taking healthcare to where people live and work is another way forward. In other words, strengthening of Primary Health Care (PHC) services is important.
- iv. To contain with the Covid-19 pandemic and reduce its phobia, house to house screening or collection of samples for Covid-19 test

will help in better investigation while those tested positive should be treated with dignity, privacy and respect as this will allow people to willingly give themselves for health screenings knowing too well that whether tested positive or negative, they will be handled with utmost confidentiality.

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### Conflict of interest

The authors have no conflict of interest or competing interest

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