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Awareness, Attitudes, and Practices towards COVID-19; a population of Older Clinic Attendees with Psychiatric disorders and their caregivers in Southwestern Nigeria

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Abstract

Background: Due to prevailing low levels of formal education and access to information, older Nigerians with mental illness may constitute a potentially neglected population in efforts to mitigate the spread of the novel Coronavirus Disease 2019 (COVID-19).

Methods: A cross-sectional study using a mixed-method approach to assess 173 patient-caregiver dyads attending an outpatient mental health clinic for older people in Nigeria. A purpose-designed semi-structured questionnaire was used to assess the awareness, atitudes and practices(AAP) of older adults with psychiatric disorders and their caregivers towards COVID 19 pandemic. Key informant interviews (KII) were carried out with 10 patients'-caregivers' dyads to further explore participants' awareness about the pandemic and their perspectives towards the lockdown.

Results: Majority (96.5%) of the patients and all caregivers were aware of the existence of the COVID-19 pandemic. However, many of the patients were unaware of the cause (71.7%), mode of transmission (85.0%), symptomology (63.0%) and 75.2% were indifferent towards the pandemic. Female patients compared to the males had higher odds of poor awareness about COVID-19 (O. R=2.6, 95% C. I=1.4-4.9). Responses from the KII showed that participants were either indifferent, surprised or afraid of the lockdown.

Conclusion: The poor awareness of thecause, modes of transmission,symptomatology of COVID-19 as well as the indifferent attitude towards the pandemic amomg majority of the older adults with psychiatric disorder underpina need for health education activities, targeted at improving their AAP towards COVID-19 and its related public health concerns.

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Keywords: caregivers, COVID-19, mental health, older adults, precautionary measures, psychogeriatric

Abstrait

Contexte: En raison des faibles niveaux d'éducation formelle et d'accès à l'information, les Nigérians âgés atteints de maladie mentale peuvent constituer une population potentiellement négligée dans les efforts visant à atténuer la propagation de la nouvelle maladie à coronavirus 2019 (COVID-19).

Méthodes: Une étude transversale utilisant une approche à méthodes mixtes pour évaluer 173 dyades patient-soignant fréquentant une clinique ambulatoire de santé mentale pour personnes âgées au Nigeria. Un questionnaire semi-structuré spécialement conçu a été utilisé pour évaluer la sensibilisation, les attitudes et les pratiques (AAP) des personnes âgées atteintes de troubles psychiatriques et de leurs soignants à l'égard de la pandémie de COVID 19. Des entretiens avec des informateurs clés (KII) ont été menés auprès de 10 dyades patients-soignants afin d'explorer davantage la sensibilisation des participants à la pandémie et leurs perspectives à l'égard du confinement.

Résultats: La majorité (96.5%) des patients et tous les soignants étaient au courant de l'existence de la pandémie de COVID-19. Cependant, de nombreux patients ignoraient la cause (71.7%), le mode de transmission (85.0%), la symptomatologie (63.0%) et 75.2% étaient indifférents à la pandémie. Les patients de sexe féminin, par rapport aux hommes, présentaient un risque plus élevé d'être mal informés du COVID-19 (O. R = 2.6, 95% C. I = 1.4-4.9). Les réponses du KII ont montré que les participants étaient soit indifférents, soit surpris, soit effrayés par le confinement.

Conclusion: La faible connaissance de la cause, des modes de transmission et de la symptomatologie du COVID-19 ainsi que l'attitude indifférente à l'égard de la pandémie de la part de la majorité des personnes âgées atteintes de troubles psychiatriques sous-tendent la nécessité d'activités d'éducation à la santé,

visant à améliorer leur PAA face au COVID-19. 19 et les problèmes de santé publique qui y sont liés.
Mots-clés: aidants, COVID-19, santé mentale, personnes âgées, mesures de précaution, psychogériatrie

Introduction

Corona Virus Disease 2019 (COVID-19) infection among the elderly is associated with severe symptoms and high mortality [1,2]. As a highly infectious disease, preventive measures such as social distancing [3], use of face mask or face shield [4,5], isolation and quarantine [6], regular washing of hands and lockdown of affected geographical locations [6] were recommended as means of curtailing the spread of the infection. According to the Knowledge, Attitudes and Practice (KAP) model, level of knowledge influences behaviour [7], so it is presumed that compliance to these preventive measures will be affected by knowledge about COVID-19 infection.

Although some studies have sought to examine the awareness,attitudes and practices of the general populace towards COVID-19 [8–11], only a few have been conducted among the older population despite being one of the high-risk groups [12]. In addition, mental health problems among the aging population could pose challenges in terms of comprehending and remembering instructions that relate to preventive measures, further increasing their susceptibility to the infection [13]. In this setting, most patients have either a formal or informal caregiver who provides daily care and support [14]. It is important that these caregivers have knowledge about COVID-19, including its transmission, symptoms, and preventive measures. Having this knowledge will play a significant role in helping them understand the risks associated with COVID-19, inform their provision of adequate care with the aim of reducing the risk of contracting the virus. [15] Considering the high vulnerability of the elderly population to COVID-19, there is a need to examine the awareness and attitudes towards COVID-19, as well as that of their primary caregivers who most times provide information, care and supervisory roles to the patients. Findings could help inform the development of health education programmes that promote the right attitude and practices.

Hence, this study was conducted to understand and examinethe awareness and attitudes of older adults and their caregivers towards the COVID-19 pandemic, awareness of prevention of COVID-19, difficulties encountered with adhering to precautionary directives and their view about the lockdown as a precautionary measure.

Methodology

A cross-sectional, mixed-method study adopting the KAP model to examine the awareness and attitudes of older adults and their caregivers towards the COVID-19 pandemic. The study was conducted at the psychogeriatric clinic of the Geriatric Centre located within the University College Hospital, Ibadan. The study population were older patients attending the outpatient psychogeriatric clinic with their primary caregivers. According to a local registry at the psychogeriatric clinic, the total number of patients attending the psychogeriatric clinic regularly as of January 2021 was 381. Of this population, 306 had caregivers that were residents with them and responsible for their care.

Sample size calculation

Sample size for a given population size was used to determine the minimum required sample size [16]. Confidence interval of 95% and margin error of .05 was assumed. The sample size was calculated as follows:

Minimum sample size; $n = \frac{N}{1+Ne^2}$

N= Number of total population
n= the size of the sample
e= margin of error set at .05

$$\frac{260}{1+(260 \times 0.05^2)} = \frac{260}{1+(260 \times 0.0025)}$$

Therefore, $n = \frac{260}{1.65} = 157$

To compensate for non-response rate of 10% (which is H”16) the sample size was taken to be 173. Consecutive patients with their caregivers attending the clinic were recruited until the desired sample size of 173 patient/caregiver dyads was obtained. Patients recruited were those with a psychiatric diagnosis; cognitive disorder, mood & anxiety disorder, psychotic disorder who could communicate. Caregivers must have been the primary caregiver of the patients for, at least, a month and consented to participate in a telephone interview to be included in the study. Participants who did not have capacity to communicate or consent were excluded.

Data collection

Quantitative

A purpose-designed questionnaire was used to extract the socio-demographic and clinical characteristics of

the patients, and their mobile telephone contact from existing records archived at the psychogeriatric clinic. The socio-demographic characteristics include: age, gender, education which was categorized into educated (at least 1 year of formal education) and no formal education while the clinical profile include their diagnosis. Participants' diagnoses were classified into 3 major groups: cognitive disorder, mood & anxiety disorder and psychotic disorder). A semi-structured questionnaire was developed by the authors using the list from WHO on the cause, mode of transmission and symptoms of COVID-19 as a guide. As at the time when this study was conducted, there were no standardized questionnaires on the subject of COVID-19.

Each questionnaire comprised questions related to the socio-demographic, clinical characteristics of the patients, awareness about the ongoing pandemic and their attitude towards the pandemic. The closed-ended questions assessed for participant's awareness of COVID-19 while the open-ended questions assessed their awareness of the cause, mode of transmission, symptoms of COVID-19, their disposition/attitudes towards the pandemic as well as the precautionary methods they practiced in preventing themselves or their wards from contracting the infection. They were encouraged to list as many responses as possible to the open-ended questions. To determine the attitude of the participants towards the ongoing pandemic grouped the participants' attitudes into three categories: Afraid (Feelings of fear and anxiety towards the pandemic), Indifferent (not bothered about the pandemic) and Happy (Feelings of pleasure about the pandemic).

In the first phase of the study, semi-structured questionnaires were administered to the patients and caregivers via the telephone. The mobile telephone contacts of participants from the existing psychogeriatric records were used in reaching the patients and the caregivers. At the psychogeriatric clinic, telephone contact of the patient and his/her caregiver as well as a relative/next of kin are routinely obtained at first contact and stored in the database to ensure that such patient can be subsequently contacted for routine telephone reminders of clinic appointments. We leveraged on this existing structure for the purpose of this study. In situations when the patient cannot be contacted using the records of three telephone contacts, the next eligible participant was contacted. The aim and objectives of the study were explained to the participants in full and thereafter verbal consent was obtained.

Qualitative

Key Informant Interviews

In the second phase of the study, Key-Informant Interviews (KIIs) involving both patients and their caregivers were conducted. Individual interviews were conducted for patients and caregivers separatelyusing an interview guide purposely designed for the study. This was used to further obtain narratives and in-depth perspectives on their AAP towards COVID- 19. The interview guide consisted of questions assessing both the patient and caregivers' awareness about COVID-19 and adherence to the precautionary measures. For both participants(patient and caregiver), interview guide included questions exploring awareness about COVID-19 pandemic; the cause of COVID-19, its modes of transmission, the common symptoms and description, the preventive measures and those adopted, source of participant's information about COVID 19, perspective towards the lockdown, and a further exploratory question on how the patients adhered to the precautionary measures which the caregivers only were meant to respond to on behalf of their patients. Using purposive sampling method, we recruited 20 participants (10 patients and 10 caregivers who had previously participated in the first phase of the study (quantitative aspect), and subsequently showed up for their scheduled routine follow-up clinic as well as consented to a physical interview.

Data Analyses

Quantitative data

Descriptive statistics were used to analyze the socio-demographic and clinical characteristics of the participants. For the quantitative aspect of the study, list of answers obtained in relation to the open-ended questions on the cause, mode of transmission, symptoms of COVID-19 infection, and precautionary measures against contracting COVID-19 were considered correct or incorrect using the information provided by the World Health Organization as a reference [17]. The correct responses were categorized as "aware" while those that were incorrect or not in keeping were categorized as "not aware" after a consensus was reached by the authors. The data obtained after categorization were summarized using descriptive statistics. Chi-squared test was used to determine the association between participants' socio-demographic characteristics and

their awareness about the knowledge of COVID-19. Binary logistic regression analysis was used to ascertain factors predictive of lack of awareness of the awareness of COVID-19. The p-value of <0.005 was considered significant. The analysis was done using SPSS version 23.0 for windows.

Qualitative data

All recordings from the qualitative data (KIIs) were transcribed verbatim and a back translation into English language was done for interviews conducted in the local language by an experienced linguist who did not participate in the study. The lead author and aco-author reviewed the transcripts, identified the core set of codes and developed the primary themes that emerged. Identification of other sub-themes and searches for outlier answers were also carried out and triangulated with information from the WHO website on COVID-19 [17]. The data was reconciled by the authors and a consensus opinion on the issues in the discussion with specific quotes from the participants were reported.

Ethics Approval: This study was conducted in compliance with the standard requirements of the institution and followed the revised Helsinki Declaration principles. Approval was obtained from the University of Ibadan/University College Joint Ethical Committee (UI/EC/20/0241) and verbal consent was obtained from all participants prior to the study.

Results

Socio-demographic, clinical characteristics and KAP of patients towards COVID-19

The mean age of the patients was 72.1 (±7.5) with 62.4% being female and 80.3% educated. The most common clinical diagnosis was mood disorder (40.5%). Among the patients, 71.7%, 85.0% and 63.0% were unaware of the cause, mode of transmission and symptomatology respectively. In this cohort, 75.2% of the patients were indifferent about the news of the pandemic. Washing of hands (74.0%) and use of face mask (63.6%) were the most mentioned preventive measure among the patients (Table 1).

Table 1: Patients' socio-demographic characteristics, awareness, attitude towards COVID-19 and preventive measures carried out, N=173

Characteristics		n (%)
Age	60-69	68 (39.3)
	70-79	74 (42.8)
	> 80	31 (17.9)
	Mean (±S.D)	72.1 (±7.5)
Gender	Male	65 (37.6)
	Female	108 (62.4)
Educational status	No formal education	34 (19.7)
	Educated	139 (80.3)
Diagnosis	Cognitive disorder	54 (31.2)
	Mood & Anxiety disorder	70 (40.5)
	Psychotic disorder	49 (28.3)
Aware of the existence of COVID-19	Yes	167 (96.5)
	No	6 (3.5)
Awareness of COVID-19		
Cause	Aware	49 (28.3)
	Not aware	124 (71.7)
Mode of transmission	Aware	26 (15.0)
	Not aware	147 (85.0)
Symptoms	Aware	64 (37.0)
	Not aware	109 (63.0)
Attitude towards COVID-19	Afraid	39 (22.5)
	Happy	4 (2.3)
	Indifferent	130 (75.2)
Precautionary measures	Washing of hands	128 (74.0)
	Use of facemask	110 (63.6)
	Staying indoor often	103 (59.5)
	Sanitizer	92 (53.2)
	Social distance	54 (31.2)
	Others	19 (11.0)

Patients' characteristics and knowledge of COVID-19

In testing the proportion of patients' characteristics and their awareness of COVID-19, 77.8% of those with cognitive disorder were unaware of the cause, 75.8% of those without formal education, of the mode of transmission, and the female gender (71.3%) of the symptomatology (Table 2).

Table 2: Patients' characteristics and awareness of COVID-19

Characteristics	Cause			Mode of transmission			Symptoms		
	Aware n=49	Not aware n=124	P-value	Aware n=26	Not aware n=147	P-value	Aware n=64	Not aware n=109	P-value
Age									
60-69	21(30.9)	47(69.1)	0.697	11(16.2)	57(83.8)	0.328	25(36.8)	43(63.2)	0.797
70-79	21(28.4)	53(71.6)		13(17.6)	61(82.4)		29(39.2)	45(60.8)	
≥ 80	7(22.6)	24(77.4)		2(6.5)	29(93.5)		10(32.3)	21(67.7)	
Gender									
Male	23(35.4)	42(64.6)	0.110	13(20.0)	52(80.0)	0.156	33(50.8)	32(49.2)	**0.004**
Female	26(24.1)	82(75.9)		13(12.0)	95(88.0)		31(28.7)	77(71.3)	
Education									
No formal education	8(24.2)	25(75.8)	0.563	4(12.1)	29(87.9)	0.603	9(27.3)	24(72.7)	0.198
Educated	41(29.3)	99(70.7)		22(15.7)	118(84.3)		55(39.3)	85(60.7)	
Diagnosis									
Cognitive disorder	12(22.2)	42(77.8)	0.199	7(13.0)	47(87.0)	0.800	18(33.3)	36(66.7)	0.603
Mood & Anxiety disorder	25(35.7)	45(64.3)		12(17.1)	58(82.9)		29(41.4)	41(58.6)	
Psychotic disorder	12(24.5)	37(75.5)		7(14.3)	42(85.7)		17(34.7)	32(65.3)	

Table 3: Caregivers' socio-demographic characteristics, awareness, attitude towards COVID-19 and preventive measures carried out, N=173

Characteristics		n, (%)
Age	<40	47 (27.2)
	40-49	55 (31.7)
	50-59	36 (20.8)
	60-69	20 (11.6)
	70-79	10 (5.8)
	> 80	5 (2.9)
	Mean (S.D)	48.2 (±13.8)
Gender	Male	83 (48.0)
	Female	90 (52.0)
Education	No formal education	2 (1.2)
	Educated	171 (98.8)
Aware of the existence of COVID-19	Yes	173 (100.0)
	No	0 (0)
Awareness of COVID-19		
Cause	Aware	107 (61.8)
	Not aware	66 (38.2)
Mode of transmission	Aware	44 (25.4)
	Not aware	129 (74.6)
Symptoms	Aware	94 (54.3)
	Not aware	79 (45.7)
Precautionary measures	Washing of hands	150 (86.7)
	Use of facemask	160 (92.5)
	Staying indoor often	34 (19.7)
	Sanitizer	122 (70.5)
	Social distance	52 (30.1)
	Others	22 (12.7)

Socio-demographic characteristics and AAP Caregivers towards COVID-19

The mean (±SD) age of the caregivers was 48.2 (±13.8). All the caregivers (100%) were aware of the COVID-19 pandemic, 61.8% and 54.3% were aware of the cause and symptomatology respectively, however, a high percentage (74.6%) were unaware of the mode of transmission. Washing of hands (86.7%) and use of face mask (92.5%) were the most mentioned preventive measure (Table 3).

Caregivers' characteristics and knowledge of COVID-19

Regarding the knowledge of the caregivers on the cause, mode of transmission and symptomatology, 57.1% of those aged 60years and above, 61.4% of those educated and 63.3% of the female gender were aware of the cause while 80.9% of those <40 years old and 74.9% of those educated were unaware of the mode of transmission (Table 4).

Table 4: Caregivers' characteristics and knowledge of COVID-19

Characteristics	Cause			Mode of transmission			Symptoms		
	Aware n=107	Not aware n=66	P-value	Aware n=44	Not aware n=129	P-value	Aware n=94	Not aware n=79	P-value
Age									
<40	36(76.6)	11(23.4)	**0.051**	9(19.1)	38(80.9)	0.167	26(55.3)	21(44.7)	0.927
40-59	51(56.0)	40(44.0)		22(24.2)	69(75.8)		50(54.9)	41(45.1)	
≥ 60	20(57.1)	15(42.9)		13(37.1)	22(62.9)		18(51.4)	17(48.6)	
Gender									
Male	50(60.2)	33(39.8)	0.676	20(24.1)	63(75.9)	0.698	43(51.8)	40(48.2)	0.521
Female	57(63.3)	33(36.7)		24(26.7)	66(73.3)		51(56.7)	39(43.3)	
Education									
No formal education	2(100.0)	0(0.0)	0.264	1(50.0)	1(50.0)	0.422	1(50.0)	1(50.0)	0.901
Educated	105(61.4)	66(38.6)		43(25.1)	128(74.9)		93 (54.4)	78(45.6)	

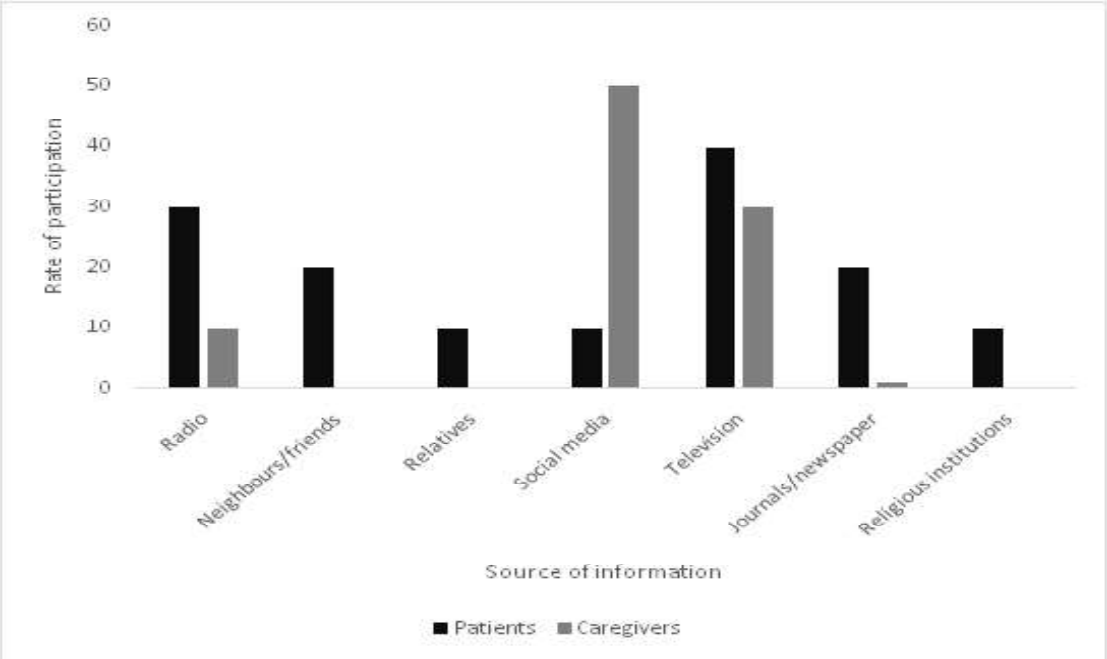

Figure 1: Sources of information about COVID-19

Sources of information about COVID-19

Majority of the patients in this study indicated that they got their information about COVID-19 from the television (80%) while majority of the caregivers got their information from the social media (99%) (Figure 1).

Regarding predictors of lack of awareness concerning COVID-19,female gender predicted lack of awareness of the symptomatology (OR=2.56, 95% CI=1.35-4.86, p=0.004) whilst for caregivers, age ranging from 40 to 60 (OR=2.49, 95% CI=1.13-5.46, p= 0.024) and greater than 60 years (OR=2.70, 95% CI=1.01-7.17, p=0.047) were predictive of the lack of awareness of the cause of COVID-19. (Table 5)

Table 5: Predictors of the participants' unawareness of the knowledge about Covid-19

Patients	Cause Odds ratio (95% CI)	P Value	Mode of transmission Odds ratio (95% CI)	P Value	Symptoms Odds ratio (95% CI)	P Value
Gender						
Male	Ref		Ref		Ref	
Female	1.727(0.881-3.386)	0.112	1.827(0.789-4.231)	0.160	**2.561(1.350-4.860)**	**0.004**
Caregivers						
Age						
<40	Ref		Ref		Ref	
40-60	**2.485 (1.130-5.464)**	**0.024**	0.701 (0.296-1.658)	0.418	0.981 (0.486-1.982)	0.958
>60	**2.695 (1.014-7.166)**	**0.047**	0.431 (0.153-1.211)	0.110	1.321 (0.532-3.279)	0.549

Qualitative Findings

Participants were aware of COVID-19; however, they were less knowledgeable about the cause, symptomology and mode of transmission of the virus.

Knowledge of COVID-19 by patients and caregivers

Accurate knowledge

COVID-19 as stated by WHO was said to be caused by a virus and can be said to be a highly infectious disease. A few of the patients and caregivers were able to accurately mention the cause, mode of transmission and symptomatology.

> "*COVID-19 is a viral infection caused by a virus. I think the particular virus was first found in China in 2019."* (72-year old patient with generalised anxiety disorder).
>
> *"I know that it can be contracted through touch, air and touching surfaces that the infected person has touched before."* (45-year old female caregiver)
>
> *"Some symptoms that an infected person can have are headache, increase in body temperature, breathing problem, sore throat* (72-year-old patient with generalised anxiety disorder).

Inaccurate knowledge

On the other hand, some participants stated that it was caused by the sin of man.Others believe that eating of bats and inability of humans to love one another were the cause of COVID-19.

> *"Corona virus came because some people were eating bats in China" (25-year old caregiver)*

Many of the patients could not mention any of the modes of transmission rather,theymentioned non-observance of precautionary measures as their answers.

> *"When you are not washing your hands with soap and water and you are relating with people"* (73-year old patient with depression).

Some had misconceptions about factors protective against contracting the virus

> *'I don't have it and my children I live with do not have it. My son told me we cannot have it because AA cannot catch Coro and our blood group is AA".*(72-year old patient with dementia)

Attitudes to the ongoing pandemic

We observed varying attitudes towards the news of the pandemic.

Surprised

The news of the pandemic came as a shock to some of the participants. Other participants expressed shock on the complacency of some Nigerians in accepting the existence of the virus and adhering to the preventive measures.

> *'...In short, this Coro news is a shocker to all of us*(35-year old female caregiver)
> *I am even surprised that people are not practicing social distancing generally. Some will even say there is no corona virus at all* (65-year old patient with insomnia)

Indifferent

Some patients and caregivers were less bothered about the ongoing pandemic despite being aware.

> *"...I don't pay attention to it. I know there is something like COVID but it's just there, but I don't care most of the time*". (73-yearold patient with depression)

Some vividly expressed their disbelief at the existence of COVID-19 which resulted into an indifferent attitude toward the virus

> *'...I don't believe COVID exists so I don't care.* (44-year old male caregiver)

Afraid

Some participants expressed fear of contracting the virus. For some, the news of the pandemic incited fear such that even after the lockdown was relaxed, they were still afraid of coming to the hospital.

> *"I am afraid of catching COVID* (63-year old patient with Schizophrenia)
> *"...Even with this lockdown relaxed, I am afraid of going to the hospital, even if the number of people are limited."*
> (72-year old man with primary insomnia)

Themes from interviews with participants about their perspectives toward the lockdown

The lockdown was one of the preventive measures introduced by the government to curtail the spread of the COVID-19 virus. All participants adhered to this measure; however, there were varying opinions on the lockdown compared to the other preventive measures.

Three themes concerning the participants' perspectives about the lockdown were identified, which include: beneficial in reducing spread of virus, barrier to accessing medical care, and source of financial stress

Beneficial in reducing spread of virus

Although generally practiced, the lockdown imposed by the government due to the COVID-19 pandemic was seen by very few participants as a good idea to minimize and curtail the spread of the COVID-19 virus.

> *It is a good idea, it is for the benefit of everybody so we don't catch the virus, see the way people are dying even people who are supposed to be very rich. So, I make sure I observe it to the letter.* (72-year old patient with primary insomnia)

Barrier to accessing medical care

Many participants perceived that the lockdown wasa barrier to accessing health services. The participants expressed their feelings how several health services were scaled down to the barest minimum and stringent measures were put in place before having access to health personnel.

> *Do you know what people were going through? You bring your patient to the clinic; they have to do series of scrutiny. That day when I was coming, I came with a cab, they told us we cannot enter the emergency because of the virus that the doctor will see us in the cab. We had to wait for one hour and pay extra money for the cab to wait* (35-year old female caregiver)

Source of financial stress

The participants reported that the lockdown affected commerce and economy; thereby, cutting off their sources of livelihood. It resulted in financial constraints without adequate strategy by the government to mitigate the financial impact of the lockdown on the populace. One particpant clearly described how the lockdown had negative financial impact on the general public

> *'...The government says - stay indoors but they have not been able to provide daily necessities for the people. For example, someone who needs to hawk pure water before he can eat, and you lock the person down is death. Even the so-called palliatives they provided never got to the poor masses.* (35-year old female caregiver)

Discussion

The result of our study has shown that despite the high awareness of the ongoing COVID 19 pandemic, many older persons with mental illness are lacking, in specific, awarenessof the cause, modes of transmission and symptomatology of COVID-19. The general awareness of the ongoing pandemic could be a reflection of the constant information provided by the government through several media platforms[18, 19]. Several participants attested to obtaining information about the pandemic from television and radio news. Moreover, several precautionary steps into day-to-day routines, as well as the lockdown which had a wide coverage across the country could have also contributed to sensitization on the pandemic. Unfortunately, this degree of sensitization did not translate to enough awareness about the cause, modes of transmission and symptoms of the virus.

This could be due to several misconceptions propagated about COVID-19. Some of the patients interviewed expressed some myths and misconceptions similar to those reported in previous studies[15, 27]. For example, some participants believed that COVID-19 was caused by some Chinese eating bats that were carriers of the virus and having a particular blood genotype naturally immunes an individual from contracting the coronavirus. Some of these misconceptions could have originated from rumors, where information is passed on through word of mouth and some social media platforms without proper verification contributing to the poor awareness of the cause of COVID-19.

Other factors that could have contributed to the poor awareness include sociodemographic characteristics such as age, gender and education. Amidst the patients, we observed that gender was a factor associated with awareness of COVID 19 symptoms with the female gender predicting lack of awareness of the symptoms of the virus. Similar findings were reported by Pinchoff *et al*. (2020) in a study conducted in India that assessed gender differences in the knowledge and behaviour towards COVID-19 among adolescents and adults. In their study gender was significantly related to the knowledge of the major symptoms of COVID-19, and in comparison with females; they found out that males had better knowledge of the symptoms of COVID-19 [22]. They proposed that the higher knowledge among the male cohorts might have been influenced by the combination of a higher level of literacy and socialization among the males. Likewise, in our study, males were more educated than females. Being educated influences knowledge as education enlightens and increases the ability to access and comprehend information [23,24].

Compared to the patients, caregivers performed better in their awareness of COVID-19 which could be as a result of their younger age when compared to the elderly patients. Reinforcing this is the observation that the younger caregivers performed better than the older ones as age 40 years and above was predictive of lack of awareness of the cause of COVID-19. Most youths are more digitally active than older adults [25,26] and easily access information through the internet/social media [27]. From our findings, most of the caregivers got their information about the virus through social media. Moreover, most of the caregivers were formally educated and this could have possibly contributed to their better performance in comparison to the patients. Lack of formal education has been reported to be significantly associated with poor knowledge [11,28]. For example, Bawazir*et al*. (2018) in their study on the knowledge of COVID-19 among the adult population in Riyadh found that not having a tertiary education independently predicted poor epidemiological knowledge. Thus, subsequent intervention to handle similar infectious public health challenges must be able to sensitize the uneducated older populace about important information.

A good number of our participants (patients) had diagnoses of dementia, depression and schizophrenia which affects cognitive functioning. Decline in cognitive functioning has been associated with poor knowledge [29]. However, having a diagnosis of dementia and other cognitive related problems was not associated with awareness in our study. This finding is in keeping with the report from a study conducted by Zipprich *et al*. (2020) who assessed the knowledge, attitude, perception and the burden of COVID-19 in people with Parkinson's disease in Germany. Although there were underlying mental problems among their subjects, cognitive impairment did not correlate with their cohorts' knowledge of COVID-19. Awareness about COVID-19 may not be directly influenced by an individual'smental health status, however, could have been primarily influenced by access to accurate information from reliable sources. Additionally, social determinants of health, such as education level [12] could have influenced their awareness of COVID-19, regardless of their psychiatric diagnosis.

In terms of attitudes towards the pandemic, most of the patients were indifferent. Indifference in

this context meant being less bothered about the virus which was obviously demonstrated during the key informant interviews as some participants expressed the belief that COVID-19 does not exist.While some participants believed the virus existed, they still disregarded the news and were less bothered about the pandemic. A posssible explanation for this attitude could be the garmut of misinformation and fake messages driven by several platforms at the onset of the pandemic. [31] In Nigeria, many have adopted the notion that the pandemic was not as serious as the media portrayed and that the rate of deaths announced by the government could not be trusted [31,32]. On the other hand, some participants were afraid as the elderly were listed as being at higher risk of morbidity and mortality. For example, even after the lockdown was relaxed, some participants were still afraid of coming to the hospital. Some were concerned about the risk of COVID-19 transmission in healthcare settings, as hospitals are considered high-risk areas for exposure to the virus. However, few were happy about the pandemic as it provided a substantive amount of time to spend with their caregivers and loved ones, especially during the lockdown which has been reported to have availed the opportunity of building stronger family bonds and companionship [33].

We hypothesized that the patients might have difficulty adhering to precautionary/preventive practices against contracting the virus. Interestingly and contrary to our postulations, the caregivers interviewed reported that their patients adhered without difficulty to the precautionary measures to protect them. We observed a striking pattern in poor awareness about the cause, mode of transmission and symptomatology of COVID-19 but adherence to preventive practices. The expected pattern would have been a gap in knowledge, translating to poor adherence to preventive practices. This finding of ours could be due to higher level of persistency in disseminating information related to precautionary measures compared to those related to cause, symptoms and mode of transmission. Information provided by the media about the precautionary measures was commonly illustrated graphically making it easy to understand and practicable [34]. For example, in most public places, posters were emphasizing more of the precautionary steps; indicating a need to use the face mask, wash hands and maintain social distance. Moreover, adherence to the preventive measures was strictly enforced, especially in public places.

In the overall assessment, we observed that poor awareness, particularly with the awareness of the modes of transmission of COVID-19. This is precarious to public health as unclear ideations could contribute to misconceptions about the transmission of COVID-19. Accurate awareness of the modes of transmission of a disease incites the means of limiting its spread which is pertinent in curtailing a pandemic [35].

Limitation

We did not screen the caregivers for mental health problems which could possibly have affected their performance as well.

Conclusion

There is a gap in the knowledge of the cause, symptomatology and mode of transmission of COVID-19 among this cohort. The lockdown measure was considered beneficial in reducing the spread of the virus but was also perceived as a barrier to accessing health services and finances. This study supports the need for dissemination of accurate information about the ongoing COVID-19 pandemic and subsequent public health disease outbreaks among the older population who are at higher risk of morbidity and mortality.

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