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## Participants reported COVID-19 knowledge and prevalence of symptoms of COVID-19 among hospital pharmacists in a tertiary hospitals in Bayelsa state

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### Abstract

**Purpose:** This study investigated participants reported COVID-19 knowledge and prevalence of symptoms of COVID-19 among hospital pharmacists in Bayelsa State, Nigeria.

**Method:** A random simple sampling techniques was employed with 136 questionnaires were distributed among the hospital pharmacists.

**Results:** A total of 120 out of 136 questionnaires were retrieved from the participants cutting across all the pharmacists. Participants reported that they had adequate knowledge of COVID-19 signs and symptoms. The male participants were more. Those with age range of 36-45 years were most common. Participants most reported signs and symptoms of COVID-19 during the peak, last one month and in the last week were loss of taste, loss of appetite, and loss of smell. The majority of the participants reported adequate knowledge of COVID-19, origin as China, and causative agent as a virus with incubation period from 3 -14 days, often treated with antibiotics. Participants revealed that cancer patients and those above 50 years were most affected. Also, participants had adequate knowledge of COVID-19 as contagious, worst in patients with weak immune system. Participants reported that they had adequate knowledge of COVID -19 signs and symptoms. Most reported were symptoms of fever, cough, and sore throat among the participants.

**Discussion:** Most of the participants reported adequate knowledge of COVID-19, means of transmission of COVID-19, side effect with COVID-19. Also, the clearly identify adequate knowledge means of COVI D-19 transmission sign and symptom. There was no statistically significant difference ( $P = 0.085$ ) on knowledge of COVID-19 among the pharmacist's population.

**Keywords:** COVID-19, knowledge, Bayelsa state, hospital pharmacists, symptoms, signs, and transmission

### Introduction

COVID-19 infections usually come with acute respiratory syndrome. This was first discovered in Wuhan, Hubei Province, China <sup>[1, 2]</sup>. It is a virus infection and spread rapidly mostly by contact through person to person. It is a major public health disease globally and WHO has declared it a global disease. Its treatment is undergoing scientific research at the moment but vaccines has been produced to reduce the rate of infection <sup>[3, 6]</sup>. WHO and other health agency such as Nigeria centre for disease control has been educating health care professionals and the citizens on the preventive measure of COVID-19. Although pharmacists working in hospitals may also have adequate knowledge and positive attitudes related to COVID-19. They function as health partners with local residents to assist them with COVID-19-related issues. Although, studies have not shown knowledge attitude practice (KAP) data regarding COVID-19 that was compiled among community pharmacists working in HSPs in Japan <sup>[4, 5]</sup>. This study aimed to evaluate participants reported COVID-19 knowledge and prevalence of symptoms of COVID-19 among Hospital Pharmacists in a Tertiary Hospitals in Bayelsa State.

### Method

**Study Location/Setting:** The study was conducted among hospital pharmacist in tertiary hospitals in Bayelsa State, Nigeria

### Study Design and Sample Size

A cross-sectional study design using a validated questionnaire was employed in this study. The population studied was 375 pharmacists across the hospitals in Bayelsa Stte. There was no bias for ethnicity, age, religion, marital status.

### Sampling Technique

A random simple sampling techniques was employed with 136 questionnaires were distributed among the hospital pharmacists. A total of 120 questionnaires were retrieved from the participants (n = 136) cutting across all the hospitals. About 16 questionnaires were rejected due to incompleteness.

### Instrument for Data Collection

Data was collected using a well-structured questionnaire which was given to all students that participated. The questionnaire comprises of three sections, namely: demographic data, knowledge of COVID-19, knowledge of COVID-19 sign and symptom.

### Method of Data Collection

The questionnaire was administered to 136. Some of the respondents did not complete their questionnaire. Most of the respondents did not need much assistance while filling the questionnaire.

### Method of Data Analysis

Retrieved questionnaire was analyzed using SPSS version 27 and Graph pad. The data was represented percentages, mean as descriptive data with few inferential statistics analyses.

### Inclusion criteria

All students volunteer participated in the study.

### Ethical Approval

Ethical approval was gotten from the Bayelsa State Ministry of Health Ethics committee.

### Results

A total of 136 participant participated in the study. Of the total population, 120 participants completed the self-report questionnaire, and the remaining 15 questionnaires were rejected due to incompleteness. The male participants were slightly higher than the female counterpart. Those who were married, within the age group of 36 to 45 years were more common in the study. The majority of the participants were Federal medical Centre (FMC) staffs with grade level 13 and reported to be Christian worshippers. See details in Table 1.

**Table 1:** Socio-demographic Data

S/N	Variables	Frequency N=120	Percentage 100%
1.	<b>Gender</b>		
	Male	67	55%
	Female	53	44%
2.	<b>Age</b>		
	46-55	13	10%
	56-65	47	39%
	18-25	53	44%
	26-35	7	5%
3.	36-45	-	
	<b>Grade Level</b>		
	Grade 9	12	10%
	Grade 12	20	16%
	Grade 13	40	33%
	Grade 14	33	27%
	Grade 15	5	4%
	Grade 16	5	4%
4.	<b>Marital Status</b>		
	Single	40	33%
	Married	70	58%
	Divorced	10	8%
	Widowed	-	-
5.	<b>Religion</b>		
	Christian	120	100%
	Muslim	-	-
	Free Thinker	-	-
6.	<b>Hospital</b>		
	FMC	60	50%
	NDUTH	50	41%
	Others	10	8%
7.	<b>Place Of Residence</b>		
	Yenagoa	80	66%
	Others	40	33%

Most reported signs and symptoms of COVID – 19 during the peak, last one month and in the last week were loss of taste, loss of appetite, and loss of smell. In between were diarrhea, feverish, oral fever nasal congestion, cough, sore

throat, and unusual headache. There was no statistically significant difference ( $P = 0.075$ ) on signs and symptoms of COVID – 19 among the pharmacists population Find details in Table 2.

**Table 2:** Participants reported Prevalence of signs and symptoms of COVID-19

S/N	Signs and Symptoms	During the Peak	In the last one Month	In the last Week
		N=120	N=120	N=120
1	Feverish	80(66%)	30(25%)	10(8%)
2	flu-like chills	40(33%)	60(50%)	20(16%)
3	Fever with an oral temperature of 38.1C or higher?	70(58%)	30(25%)	20(16%)
4	sudden loss of smell	85(71%)	20(16%)	15(13%)
5	nasal congestion (stuffy nose),	80(66%)	30(25%)	10(8%)
6	loss of taste	100(83%)	17(14%)	3(2%)
7	a cough or a chronic cough that gets worse	50(41%)	45(38%)	25(21%)
8	trouble breathing or shortness of breath	30(25%)	10(8%)	80(66%)
9	a runny nose or nasal congestion of unknown cause	67(55%)	13(10%)	40(33%)
10	sore throat	50(41%)	30(25%)	40(33%)
11	stomachache	-	-	-
12	Diarrhea	65(54%)	35(29%)	20(16%)
13	unusual intense fatigue for no obvious reason	-	-	-
14	significant loss of appetite	84(70%)	16(13%)	20(16%)
15	unusual or unexplained muscle pain or stiffness (not related to physical activity)	-	-	-
16	unusual headache	50(41%)	20(16%)	50(41%)

The majority of the participants reported adequate knowledge of COVID – 19, mostly in the areas of its origin from China, causative agent as virus with incubation period from 3 -14 days, often treated with antibiotics, cancer patients were most affect, were 50 years and above. Also,

participants had adequate knowledge of COVID – 19 as contagious, treated with antibiotic, was worst in patients with weak immune system. There was no statistically significant difference ( $P = 0.085$ ) on knowledge of COVID – 19 among the pharmacists population (Table 3).

**Table 3:** Reported knowledge of COVID -19

S/N	Knowledge of COVID-19	Frequently N=120	Percentage (100%)
1.	<b>I have heard of COVID-19</b>		
	Yes	120	100%
	No	-	-
2.	<b>COVID-19 originated from</b>		
	China	110	91%
	Europe	-	-
	Africa	-	-
3.	<b>COVID-19 is contagious</b>		
	Yes	120	100%
	No	-	-
	Don't know	-	-
4.	<b>Which can cause COVID-19</b>		
	Bacteria	20	16%
	Fungi	-	-
	Virus	85	71%
	Parasite	15	13%
5.	<b>Incubation period of COVID-19</b>		
	Don't know	-	-
	Less than 2 days	-	-
	2-5 days	-	-
	3-14 days	116	96%
6.	<b>Treatment for COVID-19</b>		
	Don't know	4	3%
	Symptomatic therapy	-	-
	Antibiotics	85	71%
7.	<b>Age group where COVID-19 is more dangerous</b>		
	No treatment	5	4%
	Don't know	30	25%
	15 years	4	3%
7.	15-30 years	16	13%
	30-50 years	-	-

	Above 50 years	95	79%
	Don't know	5	4%
	<b>More prevalence in old individual</b>		
8.	Yes	105	85%
	No	15	13%
	Don't know	-	-
	<b>More dangerous in people with weakened immune system</b>		
9.	Yes	75	63%
	No	65	54%
	Don't know	-	-
	<b>More dangerous in people with Cancer</b>		
10.	Yes	70	58%
	No	40	33%
	Don't know	10	8
	<b>More dangerous in pregnant women</b>		
11.	Yes	55	46%
	No	45	38%
	Don't know	20	16%

Participants reported that they had adequate knowledge of COVID-19 signs and symptoms. Most reported was knowledge of fever, cough, headache, and in-between was sore throat (Table 4).

**Table 4:** Knowledge of COVID – 19 signs and symptoms

S/N	Signs/Symptoms of COVID-19	Agree N=120	Disagree N=120	Neutral N=120
1.	Fever is a symptom of Covid-19	120(100%)	-	-
2.	Cough is a symptom of Covid-19	95(79%)	10(8%)	5(4%)
3.	Sore throat is a symptom of Covid-19	60(50%)	15(13%)	45(38%)
4.	Body pain is a symptom of covid-19	-	80(66%)	40(33%)
5.	Diarrhoea or constipation is a symptom of Covid-19.	5(4%)	105(85%)	10(8%)
6.	Head ache is a symptom of Covid-19	89(74%)	20(16%)	1(0.8%)

Most of the participants reported adequate knowledge of how Covid – 19 can be transmitted. Most reported were sneezing, coughing avoid infected person, handshaking, touching face, eyes, mouth, contacted with infected surface, through public transport, and poor hygiene (Table 5).

**Table 5:** Knowledge of Covid -19 Transmission

S/N	Covid-19 can be transmitted	Agree N=120	Disagree N=120	Don't know N=120
1.	through sharing of towel	-	120(100%)	-
2.	through household Pets to humans	10(8%)	110(91%)	-
3.	through touching my face unnecessarily	120(100%)	-	-
4.	through touching my eyes unnecessarily	120(100%)	-	-
5.	through touching my mouth unnecessarily	120(100%)	-	-
6.	through sharing eating utensils like fork/knife/plates	-	-	-
7.	through going out of my home unnecessarily	95(79%)	15(13%)	-
8.	through unnecessary vacations	103(85%)	17(14%)	-
9.	through handshaking	120(100%)	-	-
10.	through kissing	15(13%)	95(79%)	-
11.	through hugging	67(55%)	-	13(10%)
12.	through going to work/Class	45(38%)	45(38%)	30(25%)
13.	Through public transportation (Taxi, buses).	120(100%)	-	-
14.	through consuming outdoor food	84(70%)	36(30%)	-
15.	through poor personal hygiene	120(100%)	-	-
16.	Through sneeze and cough	120(100%)	-	-
17.	through contact with infected surfaces	120(100%)	-	-
18.	To avoid contacting Covid-19, I avoid contact with individuals suspected to be infected	120(100%)	-	-
19.	Washing of hands with soap and water can eliminate the disease cause	84(70%)	36(30%)	-
20.	The disease can be transmitted directly through cough	120(100%)	-	-
21.	The disease can be transmitted directly through the consumption of contaminated diary and meat.	70(58%)	50(41%)	-

## Discussion

The pharmacists that participated were likely male compared to the female counterpart and were, within the age group of 36 – 45 years were more common in the study. The

majority of the participants were FMC staffs, with grade level 13 and reported to be Christian worshippers.

Most reported signs and symptoms of COVID – 19 during the peak, last one month and in the last week were loss of taste, loss of appetite, and loss of smell. In between were

diarrhea, feverish, oral fever nasal congestion, cough, sore throat, and unusual headache. There was no statistically significant difference on signs and symptoms of COVID-19 among the pharmacist's population. This might be due to their professional training as a pharmacist. This has not been widely researched at the time of undertaking this study. Although Huang *et al.*, (2021) [8] has reported that pharmacists' knowledge of COVID-19 transmission, symptom and prevention was good. Also growing body of literatures has reported Pharmacists involvement in COVID-19 prevention and treatment. Pharmacists' knowledge was significantly associated with age, education level, and residence ( $p < 0.001$ ). This finding agreed with Maha *et al.*, (2021) [9] study conducted in Japan.

Participants reported that they had adequate knowledge of covid -19 signs and symptoms. Most reported was knowledge of fever, cough, headache, and in-between was sore throat. There was no statistically significant difference on knowledge of COVID-19 among the pharmacists population. These findings were consistent with a study conducted in Saudi Arabia hospital during lockdown starting from June 2020 reporting adequate knowledge of pharmacist on COVID-19 signs and symptoms. Most of the participants reported adequate knowledge of how Covid – 19 can be transmitted. Most reported were touching face, eyes, mouth, contacted with infected surface, sneezing, coughing avoid infected person, handshaking, through public transport, and poor hygiene. A survey, in Pakistan was indifferent with this study findings reporting adequate knowledge of COVID-19 (Hussain *et al.*, 2022) [11]. Also, Muhammed *et al.*, (2021) study carried out in Parkistan and another study in Indonesia by Surya *et al.*, (2021) reported that pharmacist had good knowledge of COVID-19. Furthermore, a study done by Zeenny *et al.* (2021) [14] in Lebanon also reported good knowledge of COVID-19 protocol measures. In Vietnam, despite difficulties in speaking English, 98.8% of pharmacists said that they sought and updated information on COVID-19 on a daily basis. Pharmacist gathered information mostly through social mass media, online newspapers as the main sources to seek COVID-19 information (Houng *et al.*, 2021). In Jordan, Indian, Turkey, Ethiopia and Cairo pharmacist sources of information were from general media, WHO reports, published research papers, and social networks. Mass media (television, radio), the internet, and social media (Facebook, WhatsApp). Information on COVID-19 were often shared in these online groups to all pharmacists. In addition, Government and the ministry of health disseminate correct information about COVID-19. It was also translated and propagandized through national news on television. In Nigeria, study conducted by Ihenacho *et al.*, (2021) revealed that healthcare frontliners (Pharmacist inclusive) reported good knowledge and practice of COVID-19 protocols.

### Recommendation

Despite the reported attitude on COVID-19 among the hospital pharmacists, there is still need to enlighten the hospital pharmacists on COVID-19 on the COVID-19 prevention measures, vaccination and Government recommendation on COVID-19.

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questionnaire. All authors read and approved the final manuscript and declared no conflict of interest.

### Conclusion

The study investigated pattern of management and knowledge of COVID-19 among Hospital Pharmacist. Participants had good attitude towards COVID-19. Most of the Pharmacist complied with COVIDs-19 prevention measures and complied to Government restriction protocol on COVID-19. The study clearly revealed that hospital Pharmacist complied with COVID-19 vaccination protocols.

### References

- Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, *et al.* Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet*. 2020;395:497-506. doi: 10.1016/S0140-6736(20)30183-5 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19—11 March, 2020 [cited 2021 July 1]. Available from: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19—11-march-2020>
- World Health Organization. Weekly Operational Update on COVID-19, 28 June 2021 [cited 2021 June 30]. Available from: [https://www.who.int/docs/default-source/coronaviruse/weekly-updates/wou\\_2021\\_28-june\\_cleared\\_1.pdf?sfvrsn=a894cff4\\_3&download=true](https://www.who.int/docs/default-source/coronaviruse/weekly-updates/wou_2021_28-june_cleared_1.pdf?sfvrsn=a894cff4_3&download=true)
- Saadatjoo S, Miri M, Hassanipour S, Ameri H, Arab-Zozani M. Knowledge, attitudes, and practices of the general population about Coronavirus disease 2019 (COVID-19): A systematic review and meta-analysis with policy recommendations. *Public Health*. 2021;194:185-195. Doi:10.1016/j.puhe.2021.03.005 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- White EM, Santostefano CM, Feifer RA, Kosar CM, Blackman C, Gravenstein S, *et al.* Asymptomatic and presymptomatic severe acute respiratory syndrome coronavirus 2 infection rates in a multistate sample of skilled nursing facilities. *JAMA Intern Med*. 2020;180:1709–1711. doi: 10.1001/jamainternmed.2020.5664 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- Bhatraju PK, Ghassemieh BJ, Nichols M, Kim R, Jerome KR, Nalla AK, *et al.* Covid-19 in critically ill patients in the Seattle region. *Case Series. N Engl J Med*. 2020;382:2012–2022. doi: 10.1056/NEJMoa2004500 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- Yang X, Yu Y, Xu J, Shu H, Xia J, Liu H, *et al.* Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: A single-centered, retrospective, observational study. *Lancet Respir Med*. 2020;8:475–481. doi: 10.1016/S2213-2600(20)30079-5 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- Huong TN, Dai D, Van MN. Knowledge, attitude and practices of community pharmacists regarding COVID-19: A paper-based survey in Vietnam Published: July 29, 2021 <https://doi.org/10.1371/journal.pone.0255420>



9. Maha, *et al.* Knowledge, Attitude, and Practice Towards COVID-19 Among Pharmacists: A Cross-Sectional Study. *Risk Manag Healthc Policy*. 2021;14:3079–3090.
10. Wakui, *et al.*, Survey of Pharmacists' Knowledge, Attitudes, and Practices (KAP) concerning COVID-19 Infection Control after Being Involved in Vaccine Preparation: A Cross-Sectional Study. *Int. J. Environ. Res. Public Health*. 2022;19:9035. <https://doi.org/10.3390/ijerph19159035>.
11. Hussain, *et al.*, A national study to assess pharmacists' preparedness against COVID-19 during its rapid rise period in Pakistan. Published: November 5, 2020. <https://doi.org/10.1371/journal.pone.0241467>
12. Mohammed, *et al.*, Knowledge, Attitude, and Practices (KAPs) of Community Pharmacists Regarding COVID-19: A Cross-Sectional Survey in 2 Provinces of Pakistan. *J Disaster Medicine and Public Health Preparedness*. 2022.
13. Pradipta, *et al.*, Knowledge, attitude and practice of community pharmacy personnel in tuberculosis patient detection: A multicentre cross-sectional study in a high-burden tuberculosis setting. *BMJ Open* 2022;12:e060078. doi:10.1136/bmjopen-2021-060078
14. Zeenny, *et al.*, A cross-sectional survey on community pharmacists readiness to fight COVID-19 in a developing country: Knowledge, attitude, and practice in Lebanon. *Journal of Pharmaceutical Policy and Practice*. 2021;14:51.