

Knowledge, Attitudes and Perception in Regard to COVID-19 Pandemic in Nigerian Military Population

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ABSTRACT

The study assessed the knowledge, attitudes and perception of Nigerian Military population towards the coronavirus outbreak. A web-based cross-sectional survey was used to collect from 216 data from military officers from the Nigerian Army, Nigerian Air Force and the Nigerian Navy. Majority of the study sample were males, 88.4% (n = 191) and more than half the respondents were between 21 to 30 years old (50.5%). Also, 82.4% of the sample were graduates and 54.2% married. 82.9% were from Nigerian Army and 57.9% were commissioned officers with 6-10 years' work experience 49.5 (n=107). Results show that there was no significant correlation between demographic factors of gender, age, military type, religion, education and marital status and knowledge of COVID-19 ($p>.05$). Results further show that there was no significant correlation between demographic factors and perception of COVID-19 ($p>.05$), meaning there was no significant difference in perception of COVID-19 based on demographic factors. Finally, the results showed that there was no significant correlation between demographic factors and attitude to COVID-19 ($p>.05$). Irrespective of gender or age for example, knowledge, attitude, and perception of COVID-19 was good among the military population. Despite high level of awareness among the study population, it was recommended that the military authorities in Nigeria further strengthen their health systems, as well as the knowledge of infectious diseases and pandemics which will help them to assist the government and in educating the general populace through their military-civilian interface.

Keywords: Knowledge, Attitudes, Perception, COVID-19, health communication, public health, primary prevention

BACKGROUND TO THE STUDY

Since the outbreak of the COVID-19 pandemic as announced by the World Health Organization (WHO) (1), on December 31, 2019, in Wuhan, China, the world was never the same. It is disheartening to note that the mortality and morbidity due to this disease has resulted in serious

public health emergencies and other attendant consequences ranging from psychological to economic challenges (2). It has been called novel coronavirus disease (abbreviated COVID-19) by the World Health Organization (3).

As at Thursday, 8th September, 2020, the cases recorded was 36,574, 082 with 1,062,658 deaths across 188 countries as reported by the Johns Hopkins University Corona Virus Resource Center. This is an indication that the Coronavirus disease has overcome geographical barriers which demands worldwide attention and cooperation. As a result, different countries started public health protocols to control the spread of the virus, much of them related to social distancing, hand wash, and lockdown the cities (4).

Also, the increasing rate of infection of COVID-19 on the African continent is alarming, with Nigeria being adversely affected in many facets. As of October 08, 2020, there were 545,364 tested samples with 59,841 confirmed cases and 7,177 active cases, meaning 51,551 recovered and were discharged and 1,113 confirmed death, (5). To this end, it has become an imperative to institute effective infection prevention and control practices globally, nationally, and at the community level, but first, the level of awareness or knowledge, attitudes and perception of the general populace becomes crucial. Furthermore, it is urgent to understand the public knowledge, reactions, adherence to, and acceptance of such measures that affect their daily life in several ways, especially psychologically, socially, and physically. This could be achieved through knowledge, attitude, and practice (KAP) studies (6).

Recent studies analyzing attitudes and knowledge, about Coronavirus carried out conclude that attitudes towards government measures to contain the epidemic are highly associated with the level of knowledge about Covid-19 (7). It has been shown that the higher the level of information, and education, the more the individuals would maintain a positive attitude towards Covid-19 preventive practices (7,8).

Lack of adequate knowledge of infectious diseases had caused a lot of damages in the past. for example, it was found that during the isolation stage to prevent contagion by the Ebola virus, the poor understanding of the disease and its airborne infection process contributed to the increase in case rates (9). Though recent findings on Knowledge, Attitudes and Practics towards COVID-19 in North Central Nigeria by Reuben, Danladi, Saleh, and Ejembi, (10) showed improved knowledge in the COVID-19 pandemic in Nigeria, their results showed that respondents had good knowledge (99.5%) of COVID-19, which was gained mainly through the internet/social media (55.7%) and Television (27.5%). Reuben, et al., (10) also showed that the majority of the respondents (79.5%) had positive attitudes toward the adherence of government measures with 92.7, 96.4 and 82.3% practicing social distancing/self-isolation, improved personal hygiene and using face mask respectively. However, they showed that 52.1% of the respondents perceived that the government is not doing enough to curtail COVID-19 in Nigeria. Their result further showed a significant relationship between knowledge of COVID-19 and attitude towards preventive measures ($r = 0.177$, $p = 0.004$, $r = 0.137$, $p = 0.001$). Although 61.8% of the respondents have no confidence in the present intervention by Chinese doctors which the Federal Government accepted their intervention, only 29.0% were found to accept COVID-19 vaccines when available. It is imperative to note that majority of the researches done on COVID-19 in Nigeria was among the civilian population (10,11,12) with none among the military population. As such, the need for understanding the

knowledge level of the public with particular reference to the Nigerian Military Forces who appeared to play and is still playing significant roles in the education and active participation in the treatment process.

The coordinator of the Defence Media Operations Major General John Enenche on 20th of April, 2020, in a press release said the national response to the fight against COVID-19 was challenging, “ranging from a thorough understanding of the disease to the astronomically high demand for personal protective equipment, mechanical ventilators and other materials to manage the Pandemic” (13).

The military forces, since the inception of the dreaded COVID-19 have articulated strategic intervention to support the Federal Government of Nigeria (FGN) fight against the COVID 19 Pandemic. For example, the Defence Industries Corporation of Nigeria (DICON) provided a local content driven response to address the shortage of Personal Protective Equipment (PPE). He also reported that the military have succeeded in diversifying its human, equipment, machinery as well as research and development capacity, to support a much-needed strategic intervention to cushion the effects of the highly dreaded COVID 19 in the country. This active participation of the military in these hard times has played significant roles in not only helping the government of Nigeria but the general public. Notwithstanding, to ascertain the efficacy of the intervention of the military, it has become pertinent to also study their level of awareness in respect to knowledge, attitude and perception which is the main aim of the study. This, according to the best knowledge of the authors, is a first report on the knowledge, attitude, and perception of military population with a scope covering the Nigerian Army, Air Force and Navy. Findings from this study would be of great significance through its contribution to Nigerian and global efforts to control the scourge of the COVID-19 pandemic.

The Nigerian Military and Response to COVID-19

The effort of the Nigerian Military Forces cannot be overemphasized as the government and general public is benefiting from them not only through the enforcement of the laws that pertains to COVID-19 guidelines and ensuring adheres to these guidelines put in place for safety but also, their active participation in the production of relevant equipment and treatment processes. It has been reported by the defence media section that over 300 medical personnel were dispatched to assist the government to treat and prevent the spread of the deadly virus across the nation. Also, additional personnel in selected hospitals were further trained to boost the capacity of medical personnel in the management of COVID-19.

The Armed Forces of Nigeria COVID-19 case management/IPC training was also conducted in 8 designated military centres across the country; Headquarters 1 Division Kaduna, 6 Division Port Harcourt, 7 Division Maiduguri, 81 Division Lagos and Headquarters 82 Division Enugu. “Others are Headquarters Eastern Naval Command Calabar, Headquarters Tactical Air Command Makurdi and Headquarters Guards Brigade Abuja (13).

The Nigerian Military have also earlier intervened in the containment of COVID-19 pandemic, by making available, 21 medical facilities to be used as isolation and treatment centres. Additionally, 80 medical personnel were concentrated in Abuja and trained on COVID-19 case

Management/Infection Prevention and Control, who were thereafter deployed to different geopolitical zones of the Country and the FCT.

The Defence Headquarters had also announced the mobilization of its management and staff to research, develop, produce and produce several COVID-19 essential and lifesaving equipment which has led to the production of over 1500 dozens of DICSanz, a high-quality hand sanitizer produced under very strict environmental conditions, requested by the Chief of Army Staff (COAS), Lt Gen TY Buratai, for supply to troops of the Nigerian Army.

In addition to these, DICON engineers, consultants and medical teams have successfully produced a digital mechanical ventilator known as DICOVENT. The newly designed low-cost machine is a simple mechanical ventilator that can deliver positive pressured ventilation using a volume-controlled ventilation (VCV) system which has undergone thorough scrutiny and assessment by specialists from top ranging hospitals and experts in the country including Cedar crest Hospital Abuja, 44 Nigerian Army Reference Hospital Kaduna amongst others (13).

The Nigerian Air Force has also played similar roles through the production of her own version of ventilators in late May, 2020, Kaduna as reported by the Director of Public Relations and Information, Nigerian Air Force, Air Commodore Ibukunle Daramola on the 5th of August, 2020. Researchers from the Air Force Research and Development Center and the Air Institutes of Technology, Kaduna, developed the technology in partnership with the faculty of Veterinary Medicine, Ahmadu Bello University, Zaria. The NAF director of research and development, said the development of the machines, known as NAF-Events, represents the Air Force's shift toward homegrown solutions to national problems. Other important contributions of the Nigerian Air Force in the COVID-19 periods is the airlifting of essential medical materials procured by the West African Health Organization (WAHO) distributed to 14 member nations of the Economic Community of West African States (ECOWAS). The Chief of Air Staff (CAS), Air Vice Marshal Sadique Abubakar, through the Chief of Training and Operations, Air Vice Marshal (AVM) James Gwani, noted that in line with the NAF's responsibility of providing military aid to civil authority, the service considered the airlifting of the items a great privilege and worthy contribution to a noble cause and pledged the commitment of the Service to a successful operation.

The Nigerian Navy was not left out in the fight of COVID-19 pandemic. Although the Nigerian Navy's primary responsibility is protecting the nation's maritime domain, the service is also at the forefront of championing the fight against the COVID-19 pandemic by distributing palliatives and personal protective equipment to disadvantaged communities, as well as the construction of an isolation center (14). The Nigerian Navy recently championed the cause in its respective communities across the country. As directed by the Chief of Naval Staff (CNS), Vice Admiral Ibok-Ete Ibas, these were an integral part of the activities carried out by the navy to mark its 64th anniversary. From sharing palliatives, Personal Protective Equipment (PPEs), as well as hand sanitisers, at their host communities in Abuja Municipal Councils to those around the Eastern and Central, Naval Commands as well as other units of the navy across the country, they also shared at Nigerian Navy Provost and Regulatory School, Makurdi, Benue State and the Nigerian Navy School of Armament Technology, Kachia, Kaduna, among other schools under the NAVAL Training Command (NAVTRAC).

It is therefore, worthy of note that the inventions by Nigerian Army alongside, Nigerian Air Force as well as Nigerian Navy have given bright hope to Nigeria healthcare infrastructure on the fight against COVID 19.

MATERIALS AND METHOD

Participants

This is a descriptive, cross-sectional study through survey (15), conducted between April 20th and August 30th, 2020. An initial sample of 216 Military personnel participated. The mean age was 31.34, ranged from 20 to 55 years old, 82.4% had tertiary education, 54.2% were married, 82.9% were Army, 8.8% were Airforce, and 8.3% were Navy. 57.9% were officers, 33.8% were Non Commissioned Officers and 8.3% were Senior Non Commissioned Officers. 88.4% were males and 49.5% had 6-10 years work experience. The survey questions were adapted and modified from previously published literature regarding viral epidemics (4). The test respondents commented that the questions were easily understood, and the average completion time was 10 min. Informed consent was obtained before starting the survey. Respondents were assured that their responses would be confidential and reminded that their participation in the survey was voluntary. Their knowledge was evaluated against facts published by the World Health Organization (1).

Instrument: Knowledge, perception and response questionnaire against COVID-19

Subjects responded to 6 sections of the questionnaire adopted from Zegarra-Valdivia et al., (4): knowledge about coronavirus (COVID-19) infection, transmission, and perception of disease severity, perceived susceptibility, prevention attitudes, and behavioral response to COVID-19 infection.

The sequence in which tests were administered identical for all subjects. In the knowledge assessment section of the questionnaire, a score of 1 was given for each correctly identified symptom of COVID-19. The subsequent knowledge questions (14 items) were posed in which the answers were either Yes, No, or don't know. In the transmission section (10 items), a similar scoring was given for each correctly identified transmission mode of COVID-19. A score of 1 was assigned to a correct answer and a value of 0 to an incorrect answers or do not know responses. In the section about the perception of disease severity, participants indicated the severity of COVID-19 in their community context and in relation to other viral infections such as influenza.

A three-point Likert type scale (agree, not sure/maybe, and disagree) was used. Questions on perception were divided into five parts. The first part explored perceived susceptibility towards COVID-19 (six items), in which participants indicated their level of susceptibility by either Yes, No, or don't know. A score of 1 was assigned to a correct answer and a value of 0 to an incorrect answers or do not know responses. The second part examined COVID-19 related fear (four items), with answers that were similar to the previous one. The third and fourth parts, the susceptibility of getting contagious and contagious places, have 10 and 5 items, respectively. Participants select one of 3 possible answers (very likely, probable, and unlikely). The last part has 4 items (high, middle, low), and measure the probability of different things related to COVID-19. In the section about the prevention attitude (21 items), participants indicated which behavior is more likely to prevent COVID-19.

A three-point Likert type scale (agree, not sure/maybe, and disagree) was used. Finally, behavioral response to COVID-19 infection, explore the attitudes and perception about quarantine (3 and 6 items, respectively), in which the answers were either Yes, No, or do not know. Each section has a total score.

In the case of knowledge sections, a higher score indicates better knowledge. In the perception and behavior score, a higher score indicates increase vulnerability perception. Ethical Statement All participants were informed about the aims of this study and gave written informed consent.

DATA ANALYSIS

Socio-demographic characteristics of the participants included in the study sample were compared with Chi Square (X) tests. The percentages of answers were compared by Chi Square (X) test. The effect of age, gender, marital status, and education was assessed with a linear regression analysis using the total punctuation of the 6 previous sections. Statistical analysis was performed through the SPSS software, version 23.

RESULTS

Table 1. Socio-Demographic Presentation of Data

SOCIO-DEMOGRAPHIC DATA	FREQUENCY	PERCENT %
Gender		
Female	25	11.6
Male	191	88.4
Total	216	100.0
Age		
20 Years&<	2	.9
21-30 Years	109	50.5
31-40 Years	93	43.1
41-50 Years	10	4.6
51-60 Years	2	.9
Total	216	100.0
Educational Qualification		
Secondary School	38	17.6
Tertiary	178	82.4
Total	216	100.0
Marital Status		
Divorced	2	.9
Married	117	54.2
Single	97	44.9
Total	216	100.0
Military Type		
Nigerian Navy	18	8.3
Nigerian Air Force	19	8.8
Nigerian Army	179	82.9
Total	216	100.0
Rank		
Non Commissioned Officer	73	33.8
Senior Non Commissioned Officers (SNCO)	18	8.3
Officers	125	57.9
Total	216	100.0
Years of service		
1-5 Years	75	34.7
6-10 Years	107	49.5
11 Years & Above	34	15.7
Total	216	100.0
Religion		
Christianity	167	77.3
Islam	49	22.7
Total	216	100.0

The study sample included 216 subjects. The majority of the study sample was male, 88.4% (n = 191) and, it is found a statistically significant difference between age groups by gender ($p < 0.000^{**}$) with more of male military personnel who are older. More than half respondents were between 21 to 30 years old (50.5%). The 82.4% of the sample are graduates, (54.2%) were married and 82.9% were from Nigerian Army and 57.9% commissioned officers. For years of service, majority, 49.5 (n=107) had 6-10 years' work experience with 77.3% of the participants being Christians.

RESEARCH QUESTION 1

What is the Knowledge about symptoms and transmission ways in COVID-19 disease?

A. Knowledge about COVID-19 symptoms

Table 2: Most frequent symptoms of coronavirus (COVID-19)

S/N	SYMPTOMS	YES		NO		I DON'T KNOW	
		F	%	F	%	F	%
1.	Fever	184	85.2	18	8.3	14	6.5
2.	Runny nose	123	56.9	66	30.6	27	12.5
3.	Sore Throat	189	87.5	16	7.4	11	5.1
4.	Joint and muscle pain	109	50.5	60	27.8	47	21.8
5.	Shaking Chills	76	35.2	70	32.4	70	32.2
6.	Shortness of breath	196	90.3	15	6.9	6	2.8
7.	Diarrhea	64	29.6	103	47.7	49	22.7
8.	Fatigue	146	67.6	39	18.1	31	14.4
9.	Dry Cough	187	86.6	16	7.4	13	6.0
10.	Nasal Congestion	140	64.8	36	16.7	40	18.5
11.	Weight Loss	72	33.3	76	35.2	68	31.5
12.	Stomach discomfort	44	20.4	94	43.5	78	36.1
13.	Difficulty to sleep	94	43.5	62	28.7	60	27.8
14.	Incubation period is 5–14 days	174	80.6	14	6.5	28	13.0

The sample does not discriminate between the most frequent symptoms of the disease and includes other manifestations of the disease. Thus, more than half of the study sample correctly identified the most frequent symptoms like fever (85.2%), fatigue (67.6%), and dry cough (86.6%) along with others as just as sore throat (87.5 %), runny nose (56.9%), difficulty to sleep (43.5%), nasal congestion (64.8%) joint and muscle pain (50.5%). A certain consensus is also observed among the subjects in recognizing as a manifestation of the disease the shortness of breath/shortness of breath (90.3%), though has not been confirmed as part of the diagnosis. Diarrhea (47.7%), Stomach Discomfort, (43.5%), and weight loss (35.2%) were not recognized as part of the disease. The majority of the population (80.6%) knew the incubation period and the combination of those that disagreed with shaking chills (32.4%) and those that don't know, (32.2%) forms the majority.

B. Knowledge about COVID-19 Transmission**Table 3: Means of transmission / spread of Corona Virus (COVID-19)**

S/N	SYMPTOMS	YES		NO		I DON'T KNOW	
		F	%	F	%	F	%
1.	Coughing or sneezing near people infected with the coronavirus (COVID-19)	160	74.1	50	23.1	6	2.8
2.	Going to areas / countries affected by coronavirus (COVID-19)	185	85.6	22	10.2	9	4.2
3.	Touching objects or surfaces that have been in contact with someone who has the virus	201	93.1	9	4.2	6	2.8
4.	Shake hands with someone who has an active case of coronavirus (COVID-19)	198	91.7	13	6.0	5	2.3
5.	Being on the same plane with someone with coronavirus (COVID-19)	158	73.1	39	18.1	19	8.8
6.	Eating food prepared by someone infected or exposed to the coronavirus (COVID-19)	126	58.3	60	27.8	30	13.9
7.	Participate in blood transfusions	115	53.2	63	29.2	38	17.6
8.	By relating to people who were in a hospital or emergency room	86	39.8	94	43.5	36	16.7
9.	Relating to cases identified by doctors	134	62.0	49	22.7	33	15.3
10.	For relating to cases identified during evaluations at entry points to my country	123	56.9	48	22.2	45	20.8

In the same way, the situations considered means of transmission/ spread of COVID-19, include in order of importance: Touching objects or surfaces that have been in contact with someone who has the virus (93.1%), shake hands with someone who has an active case of coronavirus (91.7%), go to areas/countries affected by COVID-19 (85.6%), coughing or sneezing near people infected with the coronavirus (COVID-19), (74.1%), being on the same plane with someone with coronavirus (COVID-19), (73.1%) and relating to cases identified by doctors, (62.0%) as the most important. Also, subjects identified situations unrelated to contagion: participate in blood transfusions (53.2%).

RESEARCH QUESTION 2

What is the Attitudes of Military Officers towards severity of COVID-19 and prevention measures?

A. Knowledge about COVID-19 Severity

Table 4: Severity of COVID-19

S/N	SEVERITY	AGREE		DISAGREE		NOT SURE	
		F	%	F	%	F	%
1.	Can be cured	136	63.0	19	8.8	61	28.2
2.	Is highly contagious	196	90.7	4	1.9	16	7.4
3.	mortality rate is worse than influenza or tuberculosis	121	56.0	42	19.4	53	24.5
4.	causes permanent physical damage to patients	29	13.4	110	50.9	77	35.6
5.	You have symptoms similar to common flu and influenza	152	70.4	29	13.4	35	16.2
6.	My community / country does not have a coronavirus vaccine	149	69.0	25	11.6	42	19.4
7.	My community / country does not have adequate medicine or treatment for the disease	55	25.5	22	10.2	139	64.4
8.	Hospitals in my community / country have not taken adequate infection control measures	106	49.1	53	24.5	57	26.4
9.	Coronavirus impact is worse compared to influenza or common flu	161	74.5	8	3.7	47	21.8
10.	The authorities of my country are prepared to face the disease	73	33.8	56	25.9	87	40.3
11.	The response of the health authorities of my country / community is effective	87	40.3	46	21.3	83	38.4

Regarding the severity of the disease, 90.7% consider COVID-19 as highly contagious, with symptoms similar to flu and influenza (70.4%). The mortality rate is worse than influenza or tuberculosis, (56.0%). However, when comparing the impact of COVID-19 with influenza or the common cold, more than half of the participants indicated that the coronavirus would cause a greater impact (74.5%). The results also revealed that corona virus can be cured, (63.0%), majority were sure that their community/country does not have a coronavirus vaccine (69.0%), while 64.4% were unsure if their community / country does not have adequate medicine or treatment for the disease, 49.1% agreed that the hospitals in their community / country have not taken adequate infection control measures, and majority (40.3%) were unsure if the authorities of their country are prepared to face the disease. Finally, the difference between those that agreed (40.3%) and those were not sure, (38.4%) were slightly different on as of the response of the health authorities of their country/community as being effective, though majority believed the response is effective. The results evidence appropriate understanding of the precautionary measures among the military.

B. Attitudes of Military Officers on Contagion, Prevention / Precaution Measures**Table 5: Attitudes on Contagion and Prevention/Precautions**

S/N	SEVERITY	AGREE		DISAGREE		NOT SURE	
		F	%	F	%	F	%
1.	Washing hands vigorously (soap / water) for 20 seconds helps prevent / transmit disease	206	95.4	2	.9	8	3.7
2.	Special care should be taken if a person has symptoms of coronavirus (COVID-19) in my community.	211	97.7	2	.9	3	1.4
3.	Personal hygiene	212	98.1	1	.5	3	1.4
4.	Healthy life style	212	98.1	1	.5	3	1.4
5.	Daily temperature monitoring	200	92.6	3	1.4	13	6.0
6.	Avoid traveling abroad	173	80.1	17	7.9	26	12.0
7.	Use of face mask	205	94.9	5	2.3	6	2.8
8.	Clean environment	202	93.5	3	1.4	11	5.1
9.	Stay home if feeling unwell	196	90.7	17	7.9	3	1.4
10.	Seek medical attention if not okay	207	95.8	4	1.9	5	2.3
11.	Avoid crowded places	213	98.6	1	.5	2	.9
12.	Separation / isolation of patients with coronavirus (COVID-19)	214	99.1	1	.5	1	.5
13.	Sending passengers with coronavirus symptoms (COVID-19) to a hospital or referral center for examination	192	88.9	12	5.6	12	5.6
14.	You used a disinfectant at home or at work.	205	94.9	1	.5	10	4.6
15.	Check symptoms on websites	170	78.7	13	6.0	33	15.3
16.	Objects that may have come in contact with someone with coronavirus (COVID-19)	178	82.4	10	4.6	28	13.0
17.	Avoid Asian restaurants or shops	79	36.6	80	37.0	57	26.4
18.	Avoid public transportation	161	74.5	15	6.9	40	18.5
19.	Antibiotics are the first-line treatment for the management of coronavirus (COVID-19)	72	33.3	34	15.7	110	50.9
20.	Preparation of raw meats and other foods with different knives	54	25.0	87	40.3	75	34.7

While Separation / isolation of patients with coronavirus (COVID-19) has been recognized as the most efficient form of prevention among respondents (99.1%). All the other important measures were considered by participants such as avoiding crowded places, (98.6%), personal hygiene, (98.1%), healthy lifestyle, (98.1%), special care should be taken if a person has symptoms of coronavirus (COVID-19) in the community (97.7%), washing hands vigorously (soap / water) for 20 seconds helps prevent / transmit disease (95.8%), seeking medical attention if not okay, (95.8%), use of face mask (94.9%) and others as identified in the table above.

Furthermore, antibiotics are not recognized as the first line of action against the disease (50.9%), preparation of raw meats and other foods with different knives, (40.3%), and avoiding Asian restaurants (37.0%), which is an indication of the population's knowledge of the treatment.

RESEARCH QUESTION 3

What is the Nigerian Military's Perceived Susceptibility to COVID-19

A. Perceived Susceptibility to COVID-19

Table 6. Perceived Susceptibility (1)

S/N	PERCEIVED SUSCEPTIBILITY	YES		NO		MAYBE	
		F	%	F	%	F	%
1.	Do you think there is a stigma related to the coronavirus (COVID-19)	131	60.6	35	16.2	50	23.1
2.	Thinking that I could become infected with coronavirus (COVID19) makes me nervous / anxious	139	64.4	48	22.2	29	13.4
3.	Nothing I do can stop the risk of catching me	25	11.6	165	76.4	26	12.0
4.	If I contracted the coronavirus (COVID-19), it will have serious consequences for me or my relatives	150	69.4	30	13.9	36	16.7
5.	I get upset when I think about the coronavirus (COVID-19)	114	52.8	73	33.8	29	13.4
6.	Coronavirus (COVID-19) problems will pass quickly	64	29.6	49	22.7	103	47.7
7.	Do you have fear of being in contact with people with flu symptoms (eg cough, runny nose, sneezing, fever)	147	68.1	36	16.7	33	15.3
8.	Fear of eating out (for example, street vendor centers, food courts)	139	64.4	54	25.0	23	10.6
9.	Fear of being in contact with people who have just returned from abroad	152	70.4	49	22.7	15	6.9
10.	Fear of visiting hospitals	133	61.6	58	26.9	25	11.6

On the other hand, around 70.4% consider fear of being in contact with people who have just returned from abroad as a perceived susceptibility. 69.4% agreed that if they contracted the coronavirus (COVID-19), it will have serious consequences for them or their relatives while 68.1% had fear of being in contact with people with flu symptoms (eg cough, runny nose, sneezing, fever). 64.4% believed thinking they could become infected with coronavirus (COVID19) makes them nervous / anxious and 64.4% had fear of eating out (for example, street vendor centers, food courts) and 29.6% value that the problems derived from the pandemic will pass quickly compared to the 47.7% who do not know about it.

B. Perceived Susceptibility to Coronavirus Infection (COVID-19)**Table 7. Perceived Susceptibility (2)**

S/N	Evaluate the possibility of contracting the disease:	VERY LIKELY		UNLIKELY		PROBABLY	
		F	%	F	%	F	%
1.	Oneself	31	14.4	122	56.5	63	29.2
2.	My Relatives	39	18.1	85	39.4	92	42.6
3.	People over 60 years	109	50.5	24	11.1	83	38.4
4.	Adults	80	37.0	21	9.7	115	53.2
5.	Children	75	34.7	60	27.8	81	37.5
6.	Medical services personnel	163	75.5	10	4.6	43	19.9
7.	Food vendors	101	46.8	13	6.0	102	47.2
8.	Food handlers	96	44.4	13	6.0	107	49.5
9.	General public	143	66.2	6	2.8	67	31.0
10.	Taxi drivers	142	65.7	4	1.9	70	32.4

Concern for the medical services personnel as the possible contacts to contract the disease is evident (75.5%), followed by general public, (66.2%), taxi drivers, (65.7%), and people over the age of 60 years (50.5%). Participants considered themselves in the last place of the possible infected subjects with only few likely cases (14.3%) followed by participant's relatives (18.1%) children, (34.7%) adults, (37.0%), food handlers, (44.4%) and food vendors (46.8%).

C. People are likely to get coronavirus (COVID-19) at:**Table 8: Possibility of contracting COVID-19**

S/N	Evaluate the possibility of contracting the disease:	VERY LIKELY		UNLIKELY		PROBABLY	
		F	%	F	%	F	%
1.	Home	14	6.5	152	70.4	50	23.1
2.	Health Institutions	125	57.9	15	6.9	76	35.2
3.	Public transport	157	72.7	4	1.9	55	25.5
4.	Markets or shops	157	72.7	6	2.8	53	24.5
5.	Countries affected by the coronavirus	167	77.3	3	1.4	46	21.3

Countries affected by the coronavirus (77.3%), markets or shops (72.7%), public transport (72.7%) and health institutions, (57.9%) were considered places of infectiousness; with the home as the least likely (70.4%) infectious place..

Table 9. Concerns and Prevention

S/N	What do you think:	HIGH		LOW		MEDIUM	
		F	%	F	%	F	%
1.	is the percentage of efficacy of treatments for coronavirus (COVID-19)	40	18.5	67	31.0	109	50.5
2.	is the likelihood of having a major outbreak of coronavirus (COVID19) from person to person in my community	101	46.8	27	12.5	88	40.7
3.	is the concern that you or your family members will get the virus?	29	13.4	120	55.6	67	31.0
4.	of the percentage of having an effective medications or remedies available	37	17.1	58	26.9	121	56.0

In addition, the likelihood of having a major outbreak of coronavirus (COVID19) from person to person in participant's community was considered to be high, (46.8%) while the effectiveness of available medication or remedies against the disease (56%) pose a high-risk vulnerability.

Table 10. Chi Square presentation for Knowledge and Demographic Data

		KNOWLEDGE		Total	X	DF	P
		Yes	No				
Gender	Female	22 (88.0%)	3 (12.0%)	25 (100.0%)	1.582 ^a	1	.158
	Male	147 (77.0%)	44 (23.0%)	191 (100.0%)			
Age	Younger Personnel	90 (81.1%)	21 (18.9%)	111 (100.0%)	1.082 ^a	1	.191
	Older Personnel	79 (75.2%)	26 (24.8%)	105 (100.0%)			
Military Type	Nigerian Navy	12 (66.7%)	6 (33.3%)	18 (100.0%)	1.547 ^a	2	.461
	Nigerian Air Force	15 (78.9%)	4 (21.1%)	19 (100.0%)			
	Nigerian Army	142 (79.3%)	37 (20.7%)	179 (100.0%)			
	Commissioned Officers	95 (76.0%)	30 (24.0%)	125 (100.0%)			
Rank	Non Commissioned Officers	74 (81.3%)	17 (18.7%)	91 (100.0%)	.875 ^a	1	.222
	Christianity	133 (79.6%)	34 (20.4%)	167 (100.0)			
Religion	Islam	36 (73.5%)	13 (26.5%)	49 (100.0%)	.847 ^a	1	.232
	Secondary Sch.	32 (84.2%)	6 (15.8%)	38 (100.0%)			
	Tertiary	137 (77.0%)	41 (23.0%)	178 (100.0%)			
Educational	Married	92 (77.3%)	27 (22.7%)	119 (100.0%)	.965 ^a	1	.225
	Single	77 (79.4%)	20 (20.6%)	97 (100.0%)			
Marital Status							

Results show that there was no significant correlation between demographic factors and knowledge of COVID-19. This simply implies there was no significant difference in knowledge dependent on demographic factors such as gender, age, military type, religion, education and marital status. Irrespective of gender or age for example, knowledge of COVID-19 is high.

Table 11. Chi Square presentation for Perception and Demographic Data

		PERCEPTION		Total	X	DF	P
		Good	Poor				
Gender	Female	23 (92.0)	2 (8.0%)	25 (100.0)	1.040 ^a	1	.279
	Male	184 (96.3%)	7 (3.7%)	191 (100.0%)			
Age	Younger Personnel	108 (97.3%)	3 (2.7%)	111 (100.0%)	1.226 ^a		
	Older Personnel	99 (94.3%)	6 (5.7%)	105 (100.0%)		1	.222
Military Type	Nigerian	12 (66.7%)	6 (33.3%)	18 (100.0%)	1.547 ^a	2	.461
	Navy	15 (78.9%)	4 (21.1%)	19 (100.0%)			
	Air Force	142 (79.3%)	37 (20.7%)	179 (100.0%)			
Rank	Nigerian Army	95 (76.0%)	30 (24.0%)	125 (100.0%)	.875 ^a	1	.222
	Commissioned Officers	74 (81.3%)	17 (18.7%)	91 (100.0%)			
Religion	Non Commissioned Officers	160 (95.8%)	7 (4.2%)	167 (100.0%)	.001 ^a	1	.667
	Christianity	47 (95.9%)	2 (4.1%)	49 (100.0%)			
Educational	Islam	37 (97.4%)	1 (2.6%)	38 (100.0%)	.272 ^a	1	.509
	Secondary Sch.	170 (95.5%)	8 (4.5%)	178 (100.0%)			
Marital Status	Tertiary	112 (94.1%)	7 (5.9%)	119 (100.0%)	1.953 ^a	1	.145
	Married	95 (97.9%)	2 (2.1%)	97 (100.0%)			

Results show that there was no significant correlation between demographic factors and perception of COVID-19. This simply implies there was no significant difference in perception dependent on demographic factors such as gender, age, military type, religion, education and marital status. Irrespective of gender or age for example, perception of COVID-19 is good.

Table 10. Chi Square presentation for Attitude and Demographic Data

		ATTITUDE		Total	X	DF	P
		Poor	Good				
Gender	Female	7 (28.0%)	18 (72.0%)	25 (100.0%)	.251	1	.400
	Male	63 (33.0%)	128 (67.0%)	191 (100.0%)			
Age	Younger	39 (35.1%)	72 (64.9%)	111 (100.0%)	.776	1	.231
	Older	31 (29.5%)	74 (70.5%)	105 (100.0%)			
Military Type	Personnel						
	Nigerian	5 (27.8%)	13 (72.2%)	18 (100.0%)	2.221	2	.329
	Navy						
	Nigerian	9 (47.45)	10 (52.6%)	19 (100.0%)			
Rank	Air Force						
	Nigerian	56 (31.3%)	123 (68.7%)	179 (100.0%)			
	Army						
	Commissioned Officers	37 (29.6%)	88 (70.4%)	125 (100.0%)	1.068a	1	.188
Religion	Non Commissioned Officers	33 (36.3%)	58 (63.7%)	91 (100.0%)			
	Christianity	57 (34.1%)	110 (65.9%)	167 (100.0%)	.999a	1	.206
	Islam	13 (26.5%)	36 (73.5%)	49 (100.0%)			
	Sch.	12 (31.6%)	26 (68.4%)	38 (100.0%)	.014a	1	.534
Education	Tertiary	58 (32.6%)	120 (67.4%)	178 (100.0%)			
	Married	33 (27.7%)	86 (72.3%)	119 (100.0%)	2.645	1	.070
Marital Status	Single	37 (38.1%)	60 (61.9%)	97 (100.0%)			

Results show that there was no significant correlation between demographic factors and attitude to COVID-19. This simply implies there was no significant difference in attitude dependent on demographic factors such as gender, age, military type, religion, education and marital status. Irrespective of gender or age for example, attitude of COVID-19 is good.

DISCUSSION

Considering the spread out of COVID-19 in Nigeria, the aim of this study was to measure the level of knowledge, perceived vulnerability and attitude of the military population against COVID-19. Although different public health policies were implemented in the last months, and the mandatory nature of these protective measures. The adherence of Nigerians to each of them was limited. Unlike previous reports that shows psychological adherence to protective measures and the level of information and education to be related to a positive attitude toward COVID-19 preventive practices (7), the findings in this study shows that among the military population, both the well-educated and the average educated were well informed about COVID-19. COVID-19 has a higher rate of contagious properties than previous coronaviruses and affects multiple organs.

In addition, psychological elements such as fear-induced behavior, misinformation, and economic - related concern would be exerting significant pressure on the population limiting compliance with these government measures (Bali, Stewart, & Pate, 2016). It is worthy of commendation to note that the behavioral response of the military population in Nigeria appears to be sufficient. The findings identify that as long as there is knowledge about how to deal with the epidemic, the degree of susceptibility to infection is lower.

Understanding the people's perception of risk is critical to ensure efficient health protection practices during virus outbreaks (18). Regarding knowledge, perhaps some symptoms are recognized as COVID-19 related (fever, sore throat, shortness of breath), our participants do not discriminate correctly other important symptoms usually more frequent in initial states as nasal congestion, runny nose, dry cough, or diarrhea. The incubation period is well recognized in majority of the population. Routes of transmission of COVID-19 are well recognized (viral droplets in a sneeze, or touching infected objects, shake hands with people infected, etc.).

Nevertheless, other medical circumstances were identified, relating increase perception vulnerability to a specific context and medical conditions (for example, majority believe that COVID-19 spread is related to people who were in a hospital or emergency room). This affirmation can promote stigma to sanitary personal. 5 - 25% of participants are not sure or recognized transmission routes. Additionally, perception of COVID-19 severity in the community showed that majority of the population believes that the authorities are not prepared to face the disease, and they also think that the response of the authorities is not effective. This may be related to less participation in dictated measures by the government such as social isolation, and gender segregation. Different preventive measures are well recognized by participants, such as personal hygiene, washing hands, or a clean environment. Notwithstanding, other effective measures such as the use of a mask or social distancing is taken into consideration. About perceived susceptibility, majority believe that "Nothing I do can stop the risk of catching me". This defenselessness state, maybe related to poor participation in ineffective measures to avoid contagious, like social distancing or use of mask faces. On the other hand, majority believe that "If I contracted the coronavirus (COVID-19), it will have serious consequences for me or my relatives". Different epidemiological studies point out that mortality is low in Nigeria, and that recovery is one of the highest across Africa.

Finally, we concluded that sufficient understanding of COVID-19 disease seems to mediate safe behaviors, leading to effective prevention measures, reducing the rate of people infected. Moreover, the perception of vulnerability is high towards certain risky behaviors regardless of other possible routes of transmission.

LIMITATIONS

The possibility of selection bias is eminent since it only focused on the outbreak of COVID-19, using a web-based survey method to avoid possible transmission, causing the sampling of our study to be voluntary and conducted by an online system.

Additionally, much of the samples have access to the internet connection in their computers or cellphones. Because of this, participants may have higher income or better educational access (majority of the personnel were graduates).

Thirdly, due to the sudden occurrence of the pandemic, we were unable to assess other socio-psychological conditions of the participants before the outbreak.

CONCLUSION

The negative effects of the COVID-19 pandemic on Nigeria and the world at large has been of great concern. Many have lost their lives with other attendant consequences which are profound to the nation's economy, medical sector, individual's psycho-social factors and host of others areas, and with over 1,113 lives lost in the nation, assessing the Knowledge, Attitude and Perception (KAP) of the military population is needed. This will help in the proper utilization of the military in situations like the COVID-19 pandemics in helping the military population and the general public to have a good knowledge of the pandemic and have a satisfactory attitude and perceptions towards the global response, despite the great success achieved through the contribution of the military and the high level of knowledge and satisfactory attitudes and perception towards the response to COVID-19.

RECOMMENDATIONS

The following are identified as appropriate suggestions to facilitate compliance with control measures by the population:

First, we recommend increased adherence to the health regulations as proposed by the Presidential Task Force on COVID-19 as well as further education among the military population in case of unforeseen future pandemics. Mental health support should be made more readily available to the populace; with the rise of public concern, anxiety, and the stigmatized look and treatment the patients may face, as such, the need to engage more of mental health practitioners.

Second, consideration should be given to providing guidance to the military population on how to protect their mental health by limiting the time they are exposed to information related to Covid-19.

Third, it is crucial to encourage proper dissemination of information as related to the military population and also, with the good knowledge, attitude and perception as found in this study among the military population, they can also play significant role in helping the general populace to be better equipped to manage the scourge of the Virus.

Finally, the military authorities need to further strengthen their health systems, and improve their surveillance activities, as well as knowledge of infectious diseases and pandemics which will help them to assist the government in enforcing the law and educating the general populace.

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