On Curtailing the Spread of SARS-CoV-2 Pandemic Among Religious Followers in Nigeria: An Empirical Study

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Abstract

Controlling religious gathering during the time of rapid spread of COVID-19 pandemic becomes a serious problem faced by governments at all levels. In fact, all other areas of human endeavor where large gatherings could take place in Nigeria such as club houses, beer parlors, ceremonial gatherings, schools and institutions, market places including kiosks and shops, airports and motor parks, commercial and other money-deposit banks, private and public offices, etcetera were kept under perfect control by government except the religious centers. The global trend of COVID-19 pandemic has become more worrisome as the incidence keeps increasing every day. Curtailing its spread among the human race should be a responsibility to be performed by every individual not only in Nigeria but also in the whole world. However, the influence of religious organizations can never be overlooked in dealing with societal attitude towards curtailing the outbreak of the pandemic. Therefore, the data used for this study were sourced via an online survey designed from Google account with a link. Having expunged incomplete information from the responses received, two thousand, three hundred and sixty useful ones were analyzed using R software. Descriptive statistics such as frequency, percentages and graphics were employed alongside chi-squared test as statistical tools. Empirically, results reveal that it's the responsibility of everyone to encourage curtailing the spread of COVID-19 pandemic. Also, it's established that religious followers do not fear the pandemic; they only obeyed government's lock-down directive. Though majority of the citizens (84%) consider this policy as punishment, people prefer worshipping their God (gods) at home, if possible from home while engaging with their daily commercial activities. Hence, the study also reveals that most of the religious teachings during the pandemic were meant to publicly sensitize citizens about how dangerous COVID-19 is. This was supported by approximately 73% of the respondents. We therefore recommend that representatives of religious leaders and organizations should be involved during policy formulation, especially health-related policies as evidenced from the study.

Key words: COVID-19 pandemic; Government; Religion; Religious followers

1. INTRODUCTION

The 'severe acute respiratory syndrome coronavirus 2' (SARS-CoV-2), popularly known as coronavirus disease with an abbreviation of COVID-19, was named and declared pandemic by the world health organization when it became international concern (Ayinde, *et. al.*, 2020; Bedford, *et. al.*, 2020; WHO, 2020A; Xiang, *et. al.*, 2020). It appeared to human race with a lot of fears and shocks. Even some members of the public formulated a slogan that reads as follow: ''*The fear of coronavirus is the beginning of the fear of God''*. Very tiny and invisible with ordinary eyes, from the look of the existing scenario, one could conclude by saying that coronavirus is the most

dreaded disease in the world of today (Cohen, 2020). It is estimated that more than two hundred countries have been infected by the pandemic globally (WHO, 2020B). In Nigeria, southern parts are more affected by the virus than the north (Ogunleye & Bamidele, 2020).

Controlling religious gathering happened to be a serious problem faced by government during the time of rapid spread of COVID-19 pandemic. In fact, all other areas of human endeavour where large gatherings could take place such as markets, club houses, beer parlors, ceremonial gatherings, schools and institutions, airports and motor parks, commercial and other money-deposit banks, private and public offices, and etcetera were placed under perfect control of government except the religious centers. Governments at all levels found it very difficult to control most of these religious gatherings especially personally-owned churches.

This, however, could be reasoned from the fact that some church owners considered their churches as business firms from where income was generated. For instance, how could government control a religious gathering of large multitude designated inside the bush where vigil took place at the mountain? Surprisingly, you won't believe that educated ones were found among this particular gathering. Contrarily, most of the organized churches in Nigeria submitted totally their loyalty to government with a view to curbing the spread of this pandemic. Each time government issued directive on matters relating to COVID-19 pandemic, the authorities of these organized churches always complied.

In all honesty, the influence of religious organization, be it structured or unstructured, can never be overlooked in dealing with societal attitude towards curtailing the outbreak of the new coronavirus disease. In Nigeria, there are three prominent religions: Christianity, Islam, and African Traditional Religion. This study is not in any way meant to delve deeper into discussing any of these religions but to examine the impact of COVID-19 pandemic with respect to religious activities in Nigeria. Unfortunately, in the context of COVID-19 mitigation, religious communities are the most vulnerable to coronavirus transmission as it spread faster amongst the religious followers (WHO, 2020A; Ogunleye & Bamidele, 2020).

However, it's believed that the spread of COVID-19 pandemic could be mitigated through the support of religious leaders but not all these religious leaders cooperate with the government; of course, we are not interested to investigate this but just to briefly say something in relevance to the current study. Acquisitively, many people go into religious activities as a result of their egocentric interests. Therefore, asking members to stay at home during the pandemic period is like placing a knife on the neck of many religious leaders because followers are considered as source of income.

Considering the fact that the emergence of this new coronavirus disease came as a shock to many, since 27th February, 2020 till date, Nigeria is still struggling to cope in curtailing its spread beyond normal (NCDC, 2020:1-4). Vociferously, in a bid to curb its transmission among humans, the government of the Federal Republic of Nigeria pronounced lockdown directives on four different occasions, most especially to more risky states such as Lagos, Ogun, Kano, and the nation's Federal Capital Territory – Abuja (Presidential Addresses A&B, 2020). Along the line, most of the state governors played the same music by pronouncing lockdown / curfew in their states.

Meanwhile, the lockdown orders are meant to restrict both human and vehicular movements in the country. During these periods, only those on essential duties such as security personnel, health workers, media workers (radio and television staff), and the likes were allowed to move freely from one place to another. Though many citizens who hustle for their daily bread found it very difficult and, as such they perceived government's COVID-19 policy in respect of total lock-down as punishment. On the contrary, some percentages of citizenry, who are government workers but not on essential duties perceived it as a period of rest.

In the same vein, some who worked with private organizations lost their jobs at a point in time when the lock-down directive lingers beyond normal. The rate of social vices and societal criminal activities increase; many parents could no longer provide necessities for their wards, many house wives become prostitutes, many religious leaders, who collect titles on weekly and monthly basis, begin to tell lies and false prophesies to their followers with a view to getting money in order to feed their immediate family members, the rate of refusal on the part of children obeying their parents increases, many business owners run into loss, and so on. All these and many more are the consequences of the pandemic.

In summary, this study intends to investigate the implications of COVID-19 pandemic on some religious related activities. This research is not in way self-opinionated but considered opinions of the general public across all the six geo-political zones in Nigeria on how religious activities are affected by the pandemic. This and many questions calling attentions of the researchers are discussed extensively in this paper. The first chapter talked about introduction while the second discussed the materials and methods used. The third chapter went deep into the results and discussions while the last chapter, the fourth one, discussed the conclusion of the research with a little note on recommendations.

2. MATERIALS AND METHODS

2.1 Participation

In this study, a cross-sectional survey comprising two sections was employed. The survey was conducted between August and November, 2020. It's conducted

online because there was no way we could get across to all participants due to sporadic increase in the number of infected personalities among the populace, and also to reduce cost of administration of questionnaire, if hardcopies are used.

However, a questionnaire link https://docs.google.com/forms/d/e/1FAIpQLSeBTYFDzZ3lIynN4r-DbuVnqgnAjTuv6vVaFwFe46Kvnh-43w/viewform?usp=sf_link designed from Google was sent to participants through WhatsApp contacts and groups, Facebook page, Instagram, twitter page, and telegram. The questionnaire link contained an appealing introduction as to why it's helpful to fill out the form. None of the participants was forced to fill out the form, that is, receiving responses was non-coercive to allow dependable precision.

However, participation in the survey was restricted to only those whose ages were twenty years and above; this was done to create chances of receiving mature responses. Therefore, the survey was open to all the existing religions in Nigeria and their neighboring countries. Further to this, no sex was disallowed to participate in the survey. Thus, the link captured all categories of marital status, different levels of educational attainments, employment status, and so on. We try to leave no stone unturned as far as demographics are concerned. With a single click on the link, and within a twinkle of an eye, participants are done with filling out the questionnaire.

2.2 Questionnairing Process and Contents

The process of collecting and collating data for this study was completely electronic. This was preferred because of the current global health situation. The electronic (online) survey method provides its users with the most costless means of data gathering both on the parts of the respondents and the enumerators. When the link is clicked and the form is filled out, responses would automatically go to the Google account to which the questionnaire link is attached.

The questionnaire, however, was sectioned into two parts. The first section was tagged Section A: Demographic Data, which comprises sex, age, marital status, religious involvement, level of education, employment status, nationality, state of residence, and geo-political zones. Based on the main motive behind the study, the second section was tagged Section B comprising questions that were related to impacts of coronavirus emergence on religion. How influenced was the practice of various religions with respect to COVID-19 pandemic? Frankly speaking, this section was used to provide answers to questions on citizens' attitudes, views, and perception towards religious practices in the situation of COVID-19 outbreak in Nigeria.

2.3 Statistical Analysis

Approximately, two thousand, four hundred and seventeen (2,417) responses were received. We expunged those with incomplete information (responses)

to barricade the outliers. Having done this, two thousand, three hundred and sixty (2,360) responses scaled through representing approximately 98%. These data were obtained across all the six geo-political zones in Nigeria with respect to the three prominent religions. All computations were done within the environment of R statistical package version 4.0.3 (R Core Team, 2020). In a bid to have beautiful statistical graphics, the same R engine was used to achieve this. All programming codes were written to run within the environments of both Python and R programming languages.

Meanwhile, the demographic aspect of our questionnaire was analyzed descriptively by frequency, percentages, and statistical graphics such as pie and bar charts. Chi-squared test statistics were applied on the responses received as per section B of the questionnaire. Though, all calculations were performed electronically, we could still show some procedural steps involved in obtaining results for the applications of chi-squared tests. These are tailored below:

Step I: We formulated hypotheses based on each statements of interest. We used null hypothesis as the basis for judgment.

Step II: The test statistic was computed by the formula (1), though electronically.

$$\chi_{cal}^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \left[\frac{(o_j - e_j)^2}{e_j} \right], \qquad (1)$$

where o_j is the observed frequency, e_j is the

expected frequency, *r* is the number of rows, while *c* is the number of columns. This was obtained for each statement of interest.

Step III: The application of R software produced the *p-value* for each operation performed. We made use of the *p*-value such that the null hypothesis would be rejected if the *p-value* was less than or equal to the chosen level of significance, which is usually 5%. If otherwise, the null hypothesis would not be rejected.

2.4 Data Graphics

It has been reported by Ogunleye, *et. al.* (2014) that the preliminary examination of most data is facilitated by the use of diagrams. Thus, diagrams prove nothing but bring outstanding features readily available to the eyes (Ogunleye, *et. al.*, 2014). Several methods of data graphics are available in the literature but only two of them, which are presumably suitable, were employed. These include pie and bar charts.

3. RESULTS AND EMPIRICAL EXPLANATIONS

3.1 Demographic Information

The demographic characteristics of the two thousand, three hundred and sixty respondents are presented in Table

1. Empirical analyses on each of the respondents' socio-economic statuses in connection with sex, age, marital status, religion, level of education, employment status, and geo-political and regional zones are explained.

Table 1
Results of the Respondents' Demographic Information

| Characteristics	Frequency	Approximate percentage (%)
Sex		
Male	802	34
Female	1558	66
Age Distribution (in years)		
20 – 29	543	23
30 – 39	1109	47
40 – 49	496	21
50 – 59	165	7
60 – Above	47	2
Marital Status		
Single	755	32
Married	1416	60
Divorced	71	3
Widowed	118	5
Religious Involvement		
Christianity	1062	45
Islam	944	40
African Tradition	354	15
Level of Education		
No Formal Education	47	2
Primary	142	6
Secondary	236	10
Tertiary	1935	82
Employment Status		
Not Employed	425	18
Employed by Self	472	20
Employed by Government	1109	47
Employed by Private Sector	354	15
Nationality		
Nigerian	2360	100
Non-Nigerian	0	0
Geo-political Zone		
South-West	708	30
South-East	330	14
South-South	472	20
North-West	283	12
North-East	189	8
North-Central	378	16

Source: Online Survey (2020). Total Number of Responses = 2360

Sex is an important variable in any social situation, and as such, it's investigated in this study. It's quite clear that out of the total number of respondents investigated for this study, more than half of the respondents were females (66%) while the remaining respondents were males (34%). Since online survey was conducted, realization of larger female percentage could be attributed to the fact that higher percentages of social media users are women. As we all know, men could be very busy to attend to online request of this nature.

Age could be regarded as one of the most important characteristics in understanding the relationship between religion and pandemic. If one is not of mature age, he/she might take the issue of COVID-19 pandemic as a child-play matter, most especially in connection with religious activities. While computing descriptive statistics for age as a variable of interest, we obtained the average age of respondents to be approximately 36 years with a standard deviation of 9 years. This indicates that those who responded to our questionnaire were mature enough to differentiate between right and left. From the available records, the range was found to be 41 years, indicating that the least age was 24 years while the highest age was 65 years. Besides the tabular results in Table 1, figure 2 also presents further details about respondents' age distribution.
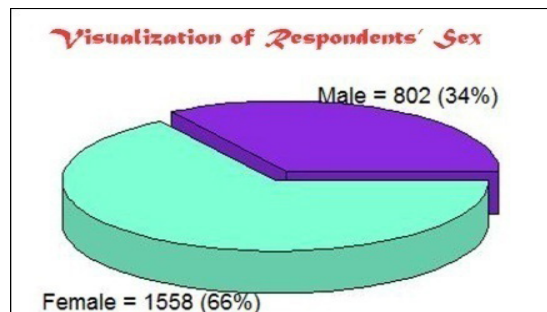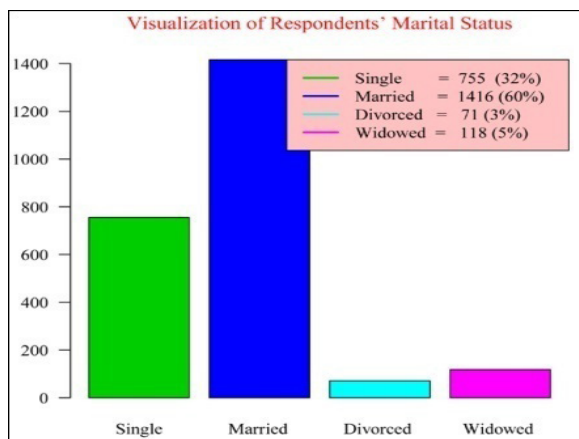

Figure 1
Pie chart of online survey in respect of COVID-19 and religion
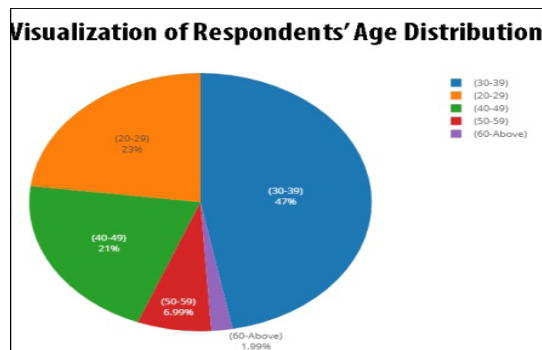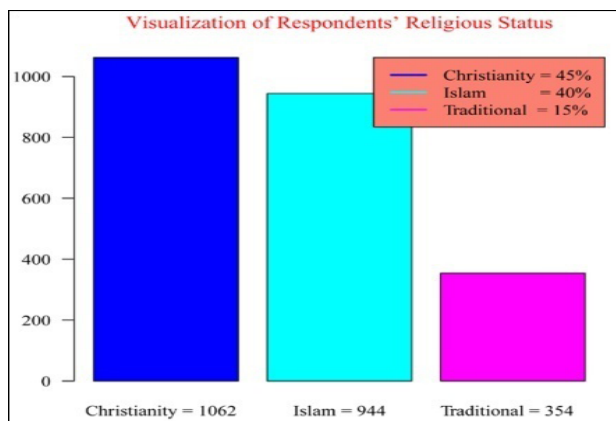

Figure 2
Pie chart of online survey in respect of COVID-19 and religion

Another significant characteristic is marital status. Marriage could be regarded as one of the most important social institutions. When it comes to matters relating to

marriage in religion, mostly all the religions consider it as an institution established and supported by God Himself. To understand the insights of religion, being married or not is an integral ingredient; this could be helpful in building a good home which contributes to family's perception towards the pandemic. The results obtained from the survey show that majority – 1416 (60%) were married while 755 (32%) were single with a minor percentages of 3 and 5 as divorced and widowed. These minor percentages also indicate that they were once married before such personal issues happened to them. Therefore, we can conclude that approximately 68% of the respondents were married indicating that responses received for this study were reliably from those with experience on marriage which could be highly related with religion. Further descriptive details are presented in Figure 3.

Figure 3
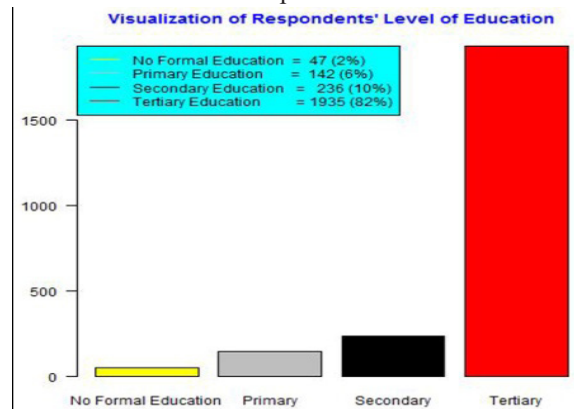**Bar chart of online survey in respect of COVID-19 and religion**

Figure 4
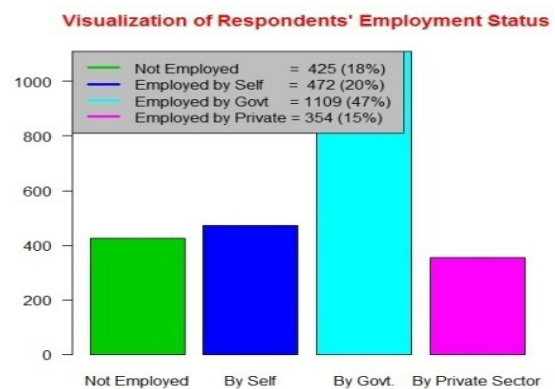**Bar chart of online survey in respect of COVID-19 and religion**

The same Table 1 showed that 45% (1062) of all the respondents were Christians, 40% (944) were Muslims, while 15% (354) were traditional worshippers. It's evidenced that responses received from the survey were not skewed to any particular direction. Though religion in connection with COVID-19 pandemic is our main target for this study, further statements of interest were detailed,

analyzed and presented in tables 2 – 6. No one among the respondents was either atheist or Hindus. This does not mean that all Nigerians practice only three religions; it's just that our survey coincidentally captured only those three.

Education, as it implies, could be one of the most important characteristics that might affect a person's attitudes and the way of looking and understanding of any particular social phenomena. In a way, the response of an individual is likely to be determined by his educational status and therefore it becomes imperative to know the educational background of the respondents. Furthermore, education could be a key determinant of the livelihood and social status that an individual enjoys in a society. It affects all aspects of human life, including demographic and health-seeking behaviour (Rahman, 2000; Olawuni, 2008). Apart from showing the educational attainment of the respondents in Table 1, Figure 5 also gives further details about it. The results showed that only 2% (47) has no education at all while 82% (1935) have tertiary educational background. This means that responses were given by educated elites who understand the concept under discussion.

Figure 5
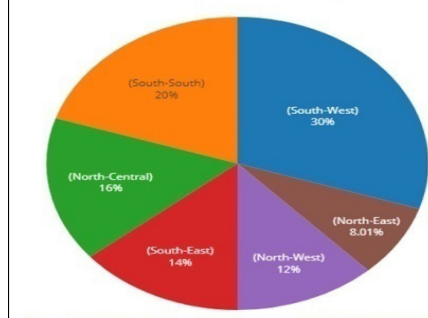**Bar chart of online survey in respect of COVID-19 and religion**

Figure 6
Bar chart of online survey in respect of COVID-19 and religion

In addition, respondents' employment status was also investigated in this research. The results revealed that only 425 (18%) respondents were not employed (had no job) while approximately 82% (1935) were either employed

by self, governments or private sectors. Having expunged non-usable data sets from the pool of responses to filter for outliers and incomplete information, we also sieved to remove non-Nigerians since our research centers only on Nigeria's COVID-19 pandemic and existing religions. Also, from the records, 64% of the responses received were from the southern parts of Nigeria while 36% were from the north. Figures 7 and 8 reveal detailed facts about these aspects of discussion.

Figure 7
Pie chart of online survey in respect of COVID-19 and religion

Figure 8
Pie chart of online survey in respect of COVID-19 and religion

3.2 Perceptions Towards Coronavirus and Religions

3.2.1 It Is the Responsibility of Everyone to Encourage Curtailing the Spread of COVID-19

When this statement was made known to over thousand participants of the survey, their responses are presented in Table 2. The same table contains the empirical analysis using chi-squared test statistic to be sure of the reliability of the statement.

Table 2
Survey Results and Computation of Chi-squared Statistic for "Everyone's Responsibility"

H_0 : **It's not the responsibility of everyone to encourage curtailing the spread of COVID-19 pandemic**

Religious affiliations	Responses						χ^2_{cal}	df	$p-value$
	SA	A	U	D	SD	Total			
Christianity	542	311	10	101	98	1062			
Islam	302	596	3	36	7	944	387.06	8	0.0000
African Tradition	64	227	16	41	6	354			
Approximate percent	38%	48%	1%	8%	5%	100%			

Source: Online Survey and Authors' Computations (2020).

From the results obtained for the computation of chi-squared statistic, it is reasonable to reject the null hypothesis since the $p-value$ (0.0000) is actually less than the chosen level of significance (0.05). Therefore, the statement holds as it's affirmed statistically that it is the responsibility of everyone to encourage curtailing the spread of the pandemic.

3.2.2 Religious Followers do not Fear COVID-19; They Only Obey Government's Directive on 'Stay-At-Home' Order.

People's opinions about the statement above were sought through the online survey conducted via some of the social media platforms and the empirical results are presented in Table 3.

Table 3
Survey Results and Computation of Chi-squared Statistic for "Fear COVID-19; obey government's directive"

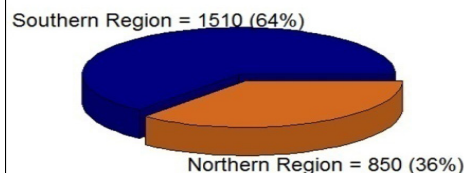H_0 : **Religious followers do fear COVID-19**

Religious affiliations	Responses						χ^2_{cal}	df	$p-value$
	SA	A	U	D	SD	Total			
Christianity	246	648	23	96	49	1062			
Islam	616	201	18	72	37	944	483.76	8	0.0000
African Tradition	214	87	28	20	5	354			
Approximate percent	45%	40%	3%	8%	4%	100%			

Source: Online Survey and Author's Computations (2020).

From the results obtained for the computation of chi-squared test statistic in Table 3, it is reasonable to reject the null hypothesis since the $p-value$ (0.0000) is actually less than the chosen level of significance (0.05). Therefore, the statement holds as it's affirmed statistically that religious followers do not fear COVID-19; they only obey government's directive on 'stay-at-home' order.

3.2.3 Religious Followers Prefer 'Stay-At-Home' Method of Worshipping Their God (Gods) to Converging at Their Religious Centers

People's opinions about the statement above were sought through the online survey conducted via some of the social media platforms and the empirical results are presented in Table 4.

Table 4
Survey Results and Computation of Chi-squared Statistic for "Preference on stay-at-home method of worship"

H_0 : **Religious followers prefer 'stay-at-home' method of worshipping their God (gods)**

Religious affiliations	Responses						χ^2_{cal}	df	$p - value$
	SA	A	U	D	SD	Total			
Christianity	711	229	6	31	85	1062			
Islam	805	88	13	28	10	944	777.12	8	0.0000
African Tradition	67	77	4	114	92	354			
Approximate percent	67%	17%	1%	7%	8%	100%			

Source: Online Survey and Author's Computations (2020).

From the results obtained for the computation of chi-squared statistic in Table 4, it is reasonable to reject the null hypothesis since the $p - value$ (0.0000) is actually less than the chosen level of significance (0.05). Therefore, the statement holds as it's affirmed statistically that religious followers prefer 'stay-at-home' method of worshipping their God (gods) to converging at their religious centers.

3.2.4 Members of the Public (Especially the Religious Followers) Perceive Government's Lock-Down Directive as Punishment

When the statement above was shared with the survey participants, opinions generated in terms of strongly agree (SA), agree (A), undecided (U), disagree (D), and strongly disagree (SD) are tabulated on the fifth table of appendix A. Reactions were put in empirical form.

The computation of chi-squared test statistic in Table 5 shows that it is reasonable to reject the null hypothesis since the $p - value$ (0.0000) is actually less than the chosen level of significance (0.05). Therefore, the statement holds as it's affirmed statistically that members of the public (especially the religious followers) perceive government's lock-down directive as punishment.

Table 5
Survey Results and Computation of Chi-squared Statistic for "Perceiving lock-down directive as punishment"

H_0 : **Members of the public (especially the religious followers) do not perceive government's lock-down directive as punishment**

Religious affiliations	Responses						χ^2_{cal}	df	$p - value$
	SA	A	U	D	SD	Total			
Christianity	827	109	27	45	54	1062			
Islam	561	338	10	27	8	944	781.94	8	0.0000
African Tradition	96	49	34	76	99	354			
Approximate percent	63%	21%	3%	6%	9%	100%			

Source: Online survey and author's computations (2020).

3.2.5 Most of the Religious Teachings During the Lock-Down Are for Public Sensitization on the Dangers Associated With Coronavirus

When survey participants read the statement above, their reactions in accordance with the principle of either being supportive or not as well as undecided were put in Table 6. The table depicts the percentage of those in support and those who are not as well as those who have not decided an opinion as at the time of conducting the survey.

Table 6
Survey Results and Computation of Chi-squared Statistic: "Religious teachings are for public sensitization"

H_0 : **Most of the religious teachings during the lock-down are not for public sensitization on the dangers associated with coronavirus**

Religious affiliations	Responses						χ^2_{cal}	df	$p - value$
	SA	A	U	D	SD	Total			
Christianity	302	626	15	47	72	1062			
Islam	211	519	2	147	65	944	765.96	8	0.0000
African Tradition	44	23	61	126	100	354			
Approximate percent	24%	49%	3%	14%	10%	100%			

Source: Online Survey and Author's Computations (2020).

From the same Table 6, results from the computation of chi-squared test statistic shows that it is reasonable to reject the null hypothesis since the $p-value$ (0.0000) is

actually less than the chosen level of significance (0.05). Therefore, the statement holds as it's established statistically that most of the religious teachings during the lock-down periods are for public sensitization on the dangers associated with coronavirus.

4. CONCLUDING REMARKS AND RECOMMENDATIONS

4.1 Conclusion

The global trend of COVID-19 pandemic has become more worrisome as the incidence keeps increasing every day. Curtailing its spread among the human race should be a responsibility to be performed by every individual not only in Nigeria but also in the whole world. This is established from the results in Table 2 where approximately 86% of the respondents supported that it is the responsibility of everyone to encourage curtailing the spread of COVID-19 pandemic. This is not just a self-opinionated statement; empirical facts from the study were used to support it.

The study also reveals that religious followers do not fear the pandemic; they only obey government's directive on the lock-down order. This could be buttressed by the descriptive statistics obtained where about 85% of the respondents supported the statement that COVID-19 is not as fearful as their God (gods); therefore no one compares God with anything whatsoever on the earth surface. People just respect government's instruction, not that they have any monumental fear for the pandemic to the extent of trading-off their belief with the incidence of any disease.

However, from the available statistics, approximately 84% of the respondents preferred 'stay-at-home' method of worship. This may be attributed to many significant factors ranging from personal to public reasons. Many religious followers may have seen religious gathering as a mere waste of their precious time, ways through which their leaders extort them, and the likes. All the same, this research reveals that people love to worship their God (gods) at and if possible from home; they prefer staying at home to visiting religious centers for Godly worship.

In the same vein, while citizens were asked to stay at home to prevent continuous spread of the pandemic, many people perceived it as a big punishment on their part. This is evidenced from the results obtained from the chi-squared test statistic. Also, from the descriptive statistics, about 84% of the respondents supported the statement that members of the public, especially the religious followers, perceived government's directive in respect of total lock-down of all business activities as punishment.

Finally, the study reveals that most of the religious teachings, be it private or public, were mainly for sensitization on the dangers associated with the pandemic. This is to say that religious leaders also play significant roles in preventive mechanisms put in place by all stakeholders.

4.2 Recommendations

So far from this study as evidenced from many numerical facts presented, it is not an error to recommend the following for implementation with a view to mitigating the transmission of COVID-19 pandemic among humans:

• Since it has been established numerically that religious leaders could influence people's perception about COVID-19 pandemic, government needs to consult them while making policies that would directly affect the populace. This is necessary because many develop more confidence in their religious leaders than even their spouse. So, any policy made with the inclusion of these leaders is expected to sustain longer.

• People should be more enlightened to avoid gatherings of multitude where, by chance, COVID-19 could be contacted. This is very important so as to reduce the rate of infection among human populace.

• It should be part of the responsibilities of all religious leaders to educate their followers on the dangers associated with the pandemic. This should include moderating or completely changing people's perceptions towards the lock-down directive, where many see it as punishment. Thus, it's recommended that religious leaders consider educating their followers through any available means as parts of their contributions towards curtailing the spread of the pandemic.

• We recommend that more public sensitization programmes, either on radio or television stations, be promoted and encouraged on the reality of the existence of COVID-19 among human populace. This would go a long way in assisting governments at all levels to curb the spread of the pandemic.

Above all, we recommend proper wearing of masks, regular washing of hands, constant use of alcohol-based hand sanitizers, avoidance of overcrowded places, and practice of physical distancing with at least two meter away from the nearest persons.

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