

Research Paper

Preventive Measures Adopted Against Spread of Coronavirus Disease by Katsina State Government, Nigeria

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ABSTRACT: Coronavirus is a new respiratory disease that broke out in China in the year 2019 and has since spread across different countries of the world. The World Health Organization declared coronavirus outbreak as a public health emergency of international concern and a pandemic in view of the rapid spread and geographical coverage among others. In Africa, the virus has spread to virtually all the countries of the continent in the first quarter of the year 2020. The infections of the disease in Nigeria started towards the end of the month of February 2020 in Lagos and it has spread to different states of the federation. This paper assesses the preventive measures adopted against the spread of coronavirus by Katsina State Government. Direct observational techniques were used to carefully observe the situation to generate data for the research. In addition, field visits were made around the State capital and other areas assess the level of compliance by the public to the preventive measures that were directed by the state

Government. The results have shown that the state has adopted several measures before and during the cases of the disease infections in the state. These measures include the closure of inter-state borders, closure of schools and institutions of higher learning, closure of weekly markets, the formation of taskforce and rapid response committee, directives to the public and business owners and the imposition of lockdown order on the public, creation of mobile courts among others. These measures have succeeded in reducing the spread of the disease, as the state moved down from the fourth most infected state in April to twelfth by mid-June 2020. It is therefore, recommended that the measures adopted should be continued and emphasized in responding to disease outbreaks in the state.

Keywords: Preventive measures, spread, coronavirus, Katsina State

INTRODUCTION

SARS-V-2 is a new-virus that is responsible for an outbreak of respiratory illness known as corona virus disease 2019 (COVID-19). It is an infectious disease caused by a newly discovered coronavirus that spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes (WHO, 2020 a). The virus is mainly spread during close contact between persons and by small droplet produced during coughing, sneezing or talking (ECDP, 2020). These small droplets are also produced during breathing but can rapidly fall to the ground or surface and are not general spread through the air over large surfaces (WHO,

2020a). The virus can also infect people by touching a contaminated surface and then their face and the common symptoms include high fever, persistent cough and shortness of breath (USCDCP, 2020).

The cases of the disease were first reported in Wuhan, Hubei Province, China in December 2019 and have since spread across the world (Xu *et al.*, 2020). From China the virus has spread to virtually all continent of the world and affecting countries that are both developed and developing in both temperate and tropical regions. Some of the worst affected countries include United States of America, Brazil, Russia, India, United Kingdom, Spain,

Italy, Peru, Germany and Iran. The World Health Organization (WHO) declared the coronavirus outbreak as a public health emergency of international concern on 30 January 2020 and recognized it as a pandemic on 11 March 2020. These declarations are mainly due to the almost simultaneous infections around the world within 1-3 months, the geographical spread of the virus and the fact that there is no known vaccine or specific antiviral treatment, which leads to high mortality rates among those infected by the disease. As at 15 June 2020, 16.49 GMT the total global cases are 8,054,786 with 436,806 deaths and 4,155,899 have recovered from the virus infection (WOM, 2020).

In the continent of Africa, the virus has spread to nearly all countries within the first quarter of the year 2020. Governments and health authorities are striving to limit widespread infections among their citizens (WHO, 2020b). The Covid-19 Africa situation report dated 22 April 2020 report that there has been a 43% increase in the number of cases and a 38% increase in the number of deaths (WHO, 2020b). The most affected countries in the WHO Africa region are South Africa (70,038 cases), Egypt (44,598 cases), Nigeria (16,658 cases), Ghana (11,964 cases), Algeria (11,031 cases), and Cameroun (9,864 cases) as at 15 June 2020 (WHO, 2020c). At the time of this report Nigeria does not feature in the list but as at 11:50pm of 15 June 2020, the total confirmed cases are 16,658 with 5,349 discharges and 424 deaths, which shows an increase number of infections (NCDC, 2020). There is need for special concern from the international community on the African region, due to poorly developed health care systems and inadequate emergency preparedness for disease outbreaks. Nigeria has in the last few decades witnessed series of disease outbreaks, which include HIV Aids (2005-2012), Ebola virus (2014-2015), Yellow Fever (2019), Lassa fever (2019-2020) and then the corona virus disease that entered in to the country through an Italian migrant worker on the 24 February 2020. Nigeria recorded its first case of corona virus on 27 February 2020 in Lagos state. As the number of confirmed cases increase day by day, several states in the federation have adopted different measures against the pandemic including states where the outbreak has not been recorded as at 7 April 2020 (CITAD, 2020). The importance of adopting preventive measures cannot be over emphasized considering the fact that there is no known cure yet for the disease and the fact that the health care systems of even the most developed or advanced nations were stretched and overwhelmed by the virus (Buhari, 2020). The Secretary to the Federal Government and Chairman Presidential Task Force (PTF) on Covid-19 attested to the inadequacy and decay in the health care system in the country. This clearly buttresses the fact that adopting preventive measures against the corona virus are the best option for the country.

It is based on the background that the paper is aimed at assessing the preventive measures adopted against the spread of the corona virus disease by Katsina State Government. This aim is to be achieved through the

following objectives:

- (i) Highlight the preventive measures against the spread of coronavirus in relations to the social habits of the people of the State.
- (ii) Explain the preventive measures adopted against the spread of coronavirus by Katsina State Government.
- (iii) Recommend appropriate measures to make more effective the measures adopted by the State Government in curbing disease outbreaks.

METHODOLOGY

Both primary and secondary sources of data were collected for the study. The primary sourced data involved direct observational technique to observe the situation of the disease outbreak in the state as a resident of the state capital and to assess preventive measures in relation to the social habits of the people of the state. Additional data were generated through filed visits to public places to assess the level of compliance to the preventive measures against the coronavirus that are directed by the state government. These places visited include shopping malls (such as Green House mall), commercial banks (Unity Bank Plc), popular bookshops (Alamso Bookshop), markets (Katsina Central market) and Friday mosques (Khandahar and White mosque) and institutions of high learning (Hassan Usman Katsina Polytechnic Katsina). These visits were held within the month of April, May and June 2020 that included the time that Katsina, the State capital was locked down by the state government in order to prevent the spread of the disease. Even during the lockdown period between 21 April to 2 June 2020, field visits were made to different parts of the state capital and others local government areas to observe compliance to the lockdown order and discuss with people on their complains on the lockdown directives and measures adopted by Katsina State Government to contain the spread of the disease. Secondary source of data that were used to collect data include articles published in peer-reviewed journals, development reports, map of Nigeria, news bulletin, press releases from Government house and internet sourced materials. The data collected from both the primary and the secondary sources were edited and analyzed using descriptive statistics in form of percentages and tabulations.

RESULTS AND DISCUSSION

Preventive measures against corona virus disease

The people adopted several measures in order to prevent infection of the corona virus. These preventive measures and the expected results can be seen on the (Table 1). From (Table 1), it can be observe that ten preventive measures were highlighted. The first measure is rubbing hands with alcohol based sanitizer and a 200 ml sanitizer

Table 1: Preventive measures against corona virus and the expected results.

Preventive measure	Expected result for protection
Rub hands with alcohol-based sanitizers	The sanitizer will kill germs and sanitize hand especially where water is not available.
Frequent washing of hands under running water	Viruses are washed away as such cannot be transmitted to mouth or nose.
Maintain social and physical distancing	Infected person will not transmit the virus to another person as virus does not travel far.
Use of facemask to cover mouth and nose	Virus coming or sprayed from an infected person close by, will not be able to enter the mouth or nose to cause infection.
Cover your sneeze and cough with your elbow	Virus does not go out of the mouth or nose to infect a person closed by or drop on surfaces.
Avoid touching eyes, mouth and nose if hand is not clean	Virus attach to hand will not get to the mouth and or nose to cause infection.
Disinfect frequently used surface	Virus lying on the surfaces will not be transmitted to the mouth or nose if the surface are touched.
Stay at home and stay safe	A person will not spread virus to another person or vice versa, thus community transmission will be controlled.
Avoid travelling to cities where covid-19 is spreading widely	A person will not contact the disease and then return to spread it at another place.
Call health personnel if you fever, cough and breathing difficulties	A person can be taken to the hospital for treatment of corona virus before it become worse

Source: Desoky (2020).

cost N1, 000 (2.7 U.S dollars) which not many people among the citizens of the State can afford. An alternative to this is washing hands with soap under running water and majority have no access to clean and regular water supply in the state. The third prevention measure is to maintain physical and social distancing which also can be difficult due to high population of the state and the communal way of living and attending social gathering such as congregational prayers, wedding and naming ceremonies, gatherings at festivals and other social events. Furthermore, in primary, secondary schools and higher institutions of learning the average number of the student per class are 60-70 students and therefore physical distancing is difficult.

The fourth preventive measure is use of facemask to cover mouth and nose. The use of facemask is only common during the cold Hamattan season when the wind blow dust particles in air and people with respiratory tract infections and few others concerned with their health uses the facemasks. The fifth preventive measure is covering a person's mouth when he coughs or sneezes in order for the virus not to be spread if the person is infected. Most of people in the state cover their cough with their fist and does not cover sneeze as sneezing comes suddenly but after a handkerchief or tissue paper is used to clean the nose. These practices on cough and sneezes can spread virus if infected. The sixth prevention

measure is to avoid touching eyes, nose and mouth if they are not clean. Taking these measures depends on the individual person and it is not easy to determine the number of times a person uses his hands to touch the three organs. The seventh measure is to disinfect used surface frequently as virus can drop on them to infect a person when touched with hand. In most homes and offices in the State, frequently used surfaces are cleaned in the morning on daily basis but not disinfected except in hospitals, clinics and health care centres. The eighth preventive measure is to avoid travelling to cities where the disease is spreading widely not only this, but also to avoid returning to Katsina State from the cities where the disease is spreading widely such as Abuja and Lagos. There are however some indigenes of the State who frequently travel to these two cities for business purposes and those travelling as migrant workers during the dry season. The ninth prevention measure is to call health personnel when a person has symptoms of the disease such as high fever, cough and breathing difficulties. A person who has these symptoms and it is confirmed that it is coronavirus; the person will be admitted for treatment. This is important not only for those staying at Katsina state but also those that are returning from travels to other cities of the federation. The tenth preventive measure is to stay at home, so that a person will not go out as usual to get in contact with a person

that is infected with the virus. The stay at home measure is aimed at preventing community transmission of the virus where large number of people will be infected. Two measures are used to impose the stay at home directive, which are through lockdown or curfew on cities, towns, state, or even countries where there are infections of the virus.

Preventive measure adopted against the sprade of corona virus disease by Katsina State Government

Since the arrival of corona virus in Nigeria, Katsina Sate Government has adopted a number of preventive measures against the spreading of the disease. These prevention measures are:

Closure of schools and institutions of high learning

Following the first index case of the novel coronavirus in Lagos state and the further spread to Ogun state and the Federal Capital Territory (FCT) Abuja, the Governor of Katsina state held a meeting with the other state Governors of the north-west geo-political zone. At the meeting held at Kaduna to review the situation and subsequently decided that all private and public nursery, primary and secondary schools including tertiary institutions to close for a period of one month from 23 March to 20 April 2020. This directive is to prevent community spread of the disease in the schools. Even after the expiration of the one month, the schools and institutions have remained closed as the situation has not improved in the states as some of them are still under lockdown and the ban on interstate travel is still enforced as at 8 June 2020. Some academic in the state tertiary institutions have criticized this move to close schools and institutions as it has send some students to areas where the infections of the virus are present particularly students from Abuja and Lagos.

Directive to people not to gather in large numbers and closure of interstate borders

This directive to people not to gather in large numbers was issued so that people will not gather in large number up to 200 persons at a place such as at naming and wedding ceremonies, Friday congregational prayers etc. The State Governor held a meeting with Islamic clerics to discuss the possibility stopping Friday congratulation prayers across the state. In addition, the State Governor also met with the Christian leaders to discuss stoppage of Sunday church services. Consequently, no Friday prayers or church services held for two weeks in the state. Another directive issued by the state government was the total closure of its borders with other neighboring states in order to halt the movement of people from other areas that were already infected by the coronavirus. These two directives were based on restriction numbers SEC.2/T/14 dated 25 and 27 March 2020 respectively

directing the total closure of the State borders and suspension of large gatherings for the weekly Friday prayers and Sunday church service. Marriage ceremonies are to be held in a low-key manner across the State as part of the measures to curtail the spread of the coronavirus disease (Oyelude, 2020).

Training workshop and public enlightenment

The State Environmental Protection Agency (SEPA) conducted in house-training workshop at the agency premises. At the workshop, staffs of the agency were educated on the symptoms and preventive measures against the new disease. After the workshop, some of the staffs were drafted to towns and villages to enlighten the public while other staffs engaged in fumigating exercise to disinfect areas at general hospital, Government Residential Area (GRA), markets and motor parks. The staff also fumigate the homes of those that area infected by the disease at the affected LGAs of the state. Also trained in order to respond to the coronavirus are medical personnel and disease surveillance nursing officers from the different medical and health facilities in the State.

Procurement of equipment and purchase of foodstuffs

The State government procures five ventilators for use in case infections of the coronavirus disease. Three of the ventilators were sent to the Federal Medical Centre (FMC) and two at the General Hospital Katsina. In addition to these, the Nigerian National Petroleum Corporation (NNPC) donated medical equipment and one mobile ambulance to the state government for the use of medical personnel engaged in combating the disease. The state government also purchased foodstuffs that were distributed to the people of the LGAs under lockdown to serve as palliatives to enable the people to comply with the lockdown order by staying at home. For example after the lockdown of Daura LGA on 11 April 2020, the state government donated 120 bags of rice that was distributed to the people to caution the effects of the lockdown.

Formation of taskforce

The State government has formed a special taskforce on enlightenment and sensitization to enlighten and sensitize the public on the symptoms, preventive measures and effects of the disease. The taskforce consisted of six (6) members is headed by Commission of Information Katsina State. The members of the taskforce can be seen in (Table 2). The taskforce has been engaging in enlightenment and sensitization of the public of the state through radio and television programmes. The taskforce also visits entry points into the state to monitor the work of health officials and also visit LGAs to monitor the level of compliance

Table 2: Members of taskforce on public enlightenment and sensitization on coronavirus.

Member	Designation
Honorable Commissioner of Information	Chairman
Honorable Commissioner of Women Affairs	Member
Special Adviser Department of Higher Education	Member
Special Adviser Department of Girl Child Education and Child Development	Member
Chief Imam Banu Coommasie Friday Mosque, Katsina	Member
Permanent Secretary Ministry of Health	Member

Table 3: Entry points into Katsina state from other neighboring states and Niger republic.

Entry point	State or country
Baure to Babura road	Jigawa State
Fago to Kazaure road	Jigawa State
Dutsi to Roni road	Jigawa State
Gidan Mutum Daya to Tsanyawa road	Kano State
Dayi to Gwarzo road	Kano State
Mahuta to Karaye road	Kano State
Danja to Hunkuyi	Kaduna State
Funtua to Giwa road	Kaduna State
Dandume to Birnin Gwari road	Kaduna State
Yankara to Tsafe road	Zamfara State
Gurbin Baure to Zurmi road	Zamfara State
Jibia to Dan Abdullawa road	Niger Republic
Magama Jibia to Maradi road	Nigeria Republic
Babban Mutum to Damagaram road	Nigeria Republic
Kongolam to Zinder	Nigeria Republic

Source: Macmillan (2010).

to lockdown and inspect shops that were allowed by the government to sell foodstuffs groceries and pharmaceuticals to members of the public. The taskforce members also visited traditional rulers to inform them about reality of the disease, its signs and symptoms and how to prevent spread of the disease. One of members of the committee, the Special Adviser (S.A.) to the Governor on Girl Child Education and Child Development sponsored radio announcements informing people to abide by the preventive measure against the disease and urging Islamic clerics who owned Tsangaya Quaranic schools to send their pupils back to their respective homes to control the spread of coronavirus disease. In order to ensure compliance to this directive from the State government, the special adviser embarked on tour of schools in LGAs. For example, the special adviser visited Tsigat town in Bakori LGA where seven Tsangaya schools were visited and in one of the schools, the teacher did not send the pupils back to their respective homes due to lack of awareness among the parents and lack of transport to take the pupils home.

Directives to large business owners

Business owners were issued directives to adopt preventive measures to control the spread of the disease. These businesses are places where large numbers of people gather on daily basis and they include shopping malls, Katsina central market, commercial banks, popular workshops, handset selling markets, and Friday

mosques. These places were visited on 4 and 16 April 2020 and observed that various preventive measures were adopted especially at the entrance gates where customer had to wash or sanitize hands. Nevertheless, ensuring social and physical distancing cannot be maintained as observed during the visits. These places and other business owners are also expected to abide by the lockdown order directive of the state government imposed from 21 April to 2 June 2020 with a break of nine days to enable end of Ramadan and eid prayers. However, during this period some hoteliers did not close their business premises in line with the lockdown order. The state Governor has to go himself around 2 am to direct the closure of some of these hotels in compliance with the lockdown order aimed at containing the spread of coronavirus.

Formation of technical committee

The State Government has formed a technical committee to contain the spread of the corona virus disease. The membership of this committee comprises mainly medical and health professionals who carry out preliminary testing, samples taking, quarantine, isolation and treatment of victims of the disease. Some of the members are station at the various entry points into the state in order to carry out medical examination to ensure that travelers coming into the state are free from the virus. These entry points can be seen on the (Table 3). Table 3, shows that there are fifteen (15) entry points into

Table 4: Members of Katsina state rapid response committee on coronavirus.

Member	Designation
Deputy Governor Katsina State	Chairman
Speaker, State House of Assembly, Katsina State	Member
Honorable Commissioner of Justice and Attorney General	Member
Honorable Commissioner of Finance	Member
Honorable Commissioner of Health	Member
Chairman Afdin Construction Company	Member
Chief of Staff Government House Katsina State	Secretary

Source: Aminu (2020).

the Katsina state and each of these entry points are manned by health personnel, security agents and officials of LGAs. The members of the technical committee could not be present in all the entry points due to the large number of the entry points plus other bush paths and cattle routes used by the people to come into the state even on foot by trekking. The stationing of officials at entry points is very important in order to ensure that coronavirus is not spread by travelers coming into the state.

Formation of rapid resource committee

This committee was formed by the State Government to ensure prompt response to any case of corona virus infection or outbreak. This committee performs the central coordinating role between the two other committees, the taskforce on mobilization and the technical committee. This committee is also mandated to collect donations from individuals, corporate organization and non-government organization (NGOs). This committee is to spend the amount of money collected on the matters related to prevention against the disease and treatment of infected persons or victims of the disease. For example, the committee inspects work on the conversion of Internally Displaced Persons (IDP) that was converted to an isolation centre along Jibia road in Katsina and the isolation centre at Daura. The committee's Chairman is the Deputy Governor of the state with other members monthly drawn among the state executive council members, which can be seen on the (Table 4). Table 4 shows the membership of the committee. It is largely restricted to those serving in government of the state with no medical health professional in the committee.

Soliciting for donations

The State Government has solicited for donations from rich individuals, party allies, corporate organization and NGOs in order to raise enough money to curtail the spread of the disease. The rapid response committee on behalf of the state government received the donations. Some of the donations received include N100 million from the Chairman Afdin Constructions Limited Katsina

and United Bank for Africa (UBA) that donated the sum of N28.5 million. The sum of N10 million was donated by Abukur based businessman, Access Bank Nigeria PLC, Fidelity Bank Nigeria PLC and many other individual and corporate organizations. Based on the above it can be observe that large sums of money were collected as donations and the figures here are showing those that are made public. There are other donations, which are not known to the public while some of the donations are pledges meaning the money has not been collected in cash. It is expected that the amount generated from the donations will be used for public enlightenment and sensitization, procurement of hygienic materials and medical equipment, payment of allowances to medical personnel etc.

Rehabilitation, conversion and construction of isolation centres

The state government has rehabilitated a ward at the Federal Medical Centre (FMC) Katsina and converted it to isolation centre for treatment of infected persons. Another isolation centre is also located at Katsina, the State capital, where part of the proposed Internally Displaced Persons (IDP) camp that is re-constructed and converted to an isolation centre. Also at Katsina, another isolation centre is under construction at General Amadi Rimi Specialist hospital (GARSH) closed to Batagarawa town. At Daura, the National Lottery Trust Fund (NLF) upgraded the intensive care unit of Daura General Hospital to a standard isolation centre due to the growing cases of corona virus in the town (NWN, 2020). The former Local Government Council Chairman of Katsina LGA and Dan Lawan Katsina has donated a building in his garden to the State Government for conversion into an isolation centre in case corona virus infections rises and more centres are required for the treatment of patients. These isolation centres can be seen on the (Table 5). From the Table 5 above it can be seen that there are three isolation centres with the fourth one waiting on standby depending on the situation. The fifth centre is for the quarantine of child beggars (*Almajirai*) who are indigenes of Katsina State that are repatriated from other northern states where they will be expected to stay for not more than two weeks. This decision was reached after five of the child beggars repatriated to

Table 5: Coronavirus isolation centres in Katsina State.

Names of centres	Location	Purpose
Federal Medical Centre	Behind polo ground Katsina	Isolation centre for persons infected with corona virus.
Internally Displaced Persons Camp	Jibia road round about, Katsina	Isolation centre for persons infected with corona virus.
General Amadi Rimi Specialist Hospital	Along Dutsinma road opposite Batagarawa low cost houses	Isolation centre for persons infected with corona virus (under construction).
Lambun Dan Lawal (Alhaji Hamisu Gambo)	Kukar Gesa Katsina metropolis	Proposed isolation centre donated to Katsina State Government.
Nigerian Security and Defense Training Centre	Babbar Ruga along Batsari road	Quarantine centre for child beggars (<i>Almajirai</i>)

Kaduna State from Kano State tested positive for corona virus. The isolation central FCM Katsina have treated and discharged six (6) out of the fourteen (14) covid-19 patients as at 29 April 2020 after nineteen days of treatment

Directing civil servants to stay at home

The State Government through a press release direction civil servant to stay at home and not to come for work in the ministries, parastatals, agencies, schools and institution of higher learning. This directive took effect from 27 March 2020 and lasted for one week. Another press release directed the workers to resume work from Monday 6 April 2020 in order to provide skeletal services from 10am to 2pm. The workers were directed to observe preventive measures against the disease such as use of hand sanitizers and maintaining social distancing while at work. This provision of skeletal services by the workers continued until the imposition of lockdown order on Katsina LGA, that contains the State capital on 21 April 2020. The state civil servant resumed work on 8 June 2020 following the lifting of the lockdown order on the three remaining LGAs, which are Katsina, Batagarawa and Daura. Even with the resumption of the work, the civil servants were reminded to observe the measures against the spread of the disease. A visit to the Central Administration building of Hassan Usman Katsina Polytechnic Katsina has shown that hand sanitizers are available at the entrance for staff and visitors to apply to their hands before entering into the offices for any official engagement.

Provision of prevention materials

The State government has provided prevention materials to faith-based organizations such as mosques and churches in order to observe prayers on Fridays or Sundays respectively. The materials distributed include soaps, hand sanitizers and facemasks. This was

following the relaxing of the ban on Friday congregational prayers and Sunday church services based on a directive issued on 7 April 2020, by the State government. The directive further directed that the prayers could take place based on certain measures such as washing of hands before entering the mosques; the prayers are to be concluded within 15 minutes including short sermons and that should focus on disease epidemics and what Muslim faithful are supposed to do at the times of disease epidemics to prevent spread. These measures were observed for Friday prayers that took place on 10 and 17 April 2020 after which the prayers were banned again because of the three index cases of the diseases from Daura LGA. The state government also provided water tanks for hand washing at mosques and churches on Friday 22 May and Sunday 24 May 2020 following the relaxation of lockdown order between 18 to 24 May 2020.

Impose lockdown order on affected local government areas

The State Government imposes lockdown on some LGAs where a person infected with corona virus has been detected. Lockdown is a situation where people are expected to stay at home to contain the spread of the virus particularly through community spread. People are only expected to go out when it is absolutely necessary and while going out they should wear protective facemask and maintain social distancing. The objectives of the lockdown are not only to contain the spread of the corona virus but also to provide space, time and resources for an aggressive and collective action against the disease by the government. The index case of corona virus in Katsina state was a medical doctor based in Daura who died on 6 April 2020. Consequently, twenty-three (23) samples of those that had contact with the index case were taken for testing by the Nigerian Centre for Disease Control (NCDC). Three (3), among the samples were returned positive and taken to FMC Katsina for treatment. The State Government then locked

Table 6: Breakdown of expenditure regarding donations received by the state government to curtail Covid-19.

S/No.	Expenditure	Amount Expended (Naira)	Amount Expended (USD)
1	Funding of activities of special taskforce on enlightenment	N4.5m	\$12,500
2	Procurement of hygienic materials distributed to Friday mosques and churches	N5.4m	N15,000
3	Fumigation of Friday mosques and churches	N19.1m	N540,555
4	Payment of monthly allowances to medical personnel at isolation centres	N10.2m	N283,333
5	Conversion of wards to isolation centres at GARSH and General Hospital Daura	N19.5m	\$541,666
6	Procurement of medical equipment for isolation centre at GARSH Katsina.	N106.7m	\$296,388
7	Sensitization of members of Katsina State Traders Association	N3.5m	\$9,722
8	Training of 66 medical personnel and 102 disease surveillance nursing officers	N3.7m	\$10,277
Totals		N172.6m	\$490,555

Source: Aminu (2020)

down Daura LGA to contain the spread of the disease with effect from 11 April 2020 (Daily trust, 2020). Other LGAs that were locked down when an infected person was detected include Dutsinma (1 case) on 17 April 2020, Katsina and Batagarawa (2 cases) on 21 April 2020, Mani and Jibia (1 case each) on 23 April 2020, Safana (3 cases) on 25 April 2020, Kankia, Musawa and Matazu (1 case) on 1 May 2020, Malumfashi (1 case each) on 6 May and Ingawa (1 case) on 10 May 2020. Twelve (12) LGAs representing 35.29% were affected out of the 34 LGAs of the State. One LGA (Matazu) was later unlocked after it was confirmed the village where the positive case lives is in Musawa LGA. The State Government however, lifted the lockdown order in some LGAs such as Mani, Safana and Jibia on the 14 and 15 May 2020 after receiving reports that the index cases have been treated and shows no traces of the disease. The lockdown order on the other LGAs was relaxed from 18 to 24 May to allow for Sallah festivities, which were held low key to avoid infections of the virus.

Closure of weekly markets

The weekly markets are a series of market days in different towns and villages of the State where hundreds and thousands of people congregate to buy and sell from within and outside the State and even from neighbouring Niger Republic. These fifteen major markets have continued to operate even after the index case of coronavirus was recorded on 6 April 2020. It was based on this that the representative of Nigerian Medical Association (NMA) Katsina State chapter observed the need for the weekly markets to be closed in view of the first reported case of coronavirus in the State. The state government in a press release dated 16 April 2020 directed the from Friday 17 April weekly markets will not hold at towns such as Dankama and Kaita (Fridays), Jibia, Charanchi and Mai'adua (Sundays), Mashi (Tuesdays) and others. The press release further stated that efforts would be made block other entry routes used by the people to enter these markets. Another press release dated 3 May 2020 stated that following growing concern by the government and stakeholders over increase of confirmed COVID-19 cases in the state, the Governor has directed for the shutdown of the three more major weekly markets in the state namely Garkin Daura,

Dutsi and Kayawa (KTSG, 2020a). On 7 May 2020, another press release included Babban Mutum market in Baure LGA among those that have been shut down by the government.

Accounting for the funds donated to curtail the spread of Covid-19

Some citizens of the state have demanded that the state government under the rapid response committee should give an account of the amount of money that were collected as donations and how the funds were expended. Consequently, the Chairman of the committee convened a press briefing on 20 April 2020 to account for the funds collected and how the amount was expended as can be seen on the (Table 6).

From Table 6, it can be observed that the total amount expended was N172.6 million. According to the Chairman of the committee; the total amount raised as donations is N207, 573,000 that was donated by individuals and corporate bodies. The sum of N33, 500,000 are pledges that were yet to be redeemed as at the date of the press conference (Aminu, 2020). This explanation of the expenditure of the committee satisfied those persons that are demanding for the explanations. Also following the press briefing explaining the expenditure and amount donated, the Sardaunan Katsina observed that the amount of money he donated (N10 million or \$277.77) was not announced by the Chairman of the Committee. It was later learnt that the committee did not receive the money. There are calls for the state governments in the federation to give an account of the monies donated to fight the coronavirus. For example, in Lagos State, the House of Assembly asked the Governor to explain how Government spent donations made on fighting Covid-19. Even a non-governmental organization by name Socio-Economic Rights Advocacy Forum (SERAF) has written to all state Governors to give an account of the money collected and spent on combating the spread of Coronavirus in the country

Creation of mobile courts

Two mobile courts were inaugurated by Katsina state government to try violators of the lockdown order to

curtail the spread of the coronavirus pandemic on the 21 April 2020, the day Katsina and Batagarawa LGAs were locked down. These two courts which situated at Kofar Kaura and Kofar Guga in Katsina, the state capital, are to operate daily during the period of the lockdown (Sardauna, 2020). The numbers of the mobile courts were increased from two to five in view of the number of other LGAs that are under lockdown in the state. According to the Police Public Relations Officer (PPRO) some people of the state defy the lockdown order by moving in their vehicles on the pretext of going to the bank to collect money, going to hospitals, going to purchase gas or using Covid-19 exemption card. The result was that over 300 persons were arrested within one week and trailed by the mobile courts for violating the lockdown order. By 17 May 2020 when the mobile courts suspended operation, 1,223 persons were trialed in accordance with the law of disobeying the lockdown order. A breakdown from the total showed that 795 persons were sentenced to jail or fined some amount of money. Twenty seven (27) persons were found to be on transit to Niger Republic and handed over to the Nigerian Immigration Service. Fifty four (54) persons were referred to the Police for investigation, thirty three (33) persons were warned and therefore set free and forty six (46) consented to committing the offences, thus waiting to hear their fate. Sixty five (65) persons were sent for medical examination to the medical team. Three (3) person's cases were suspended and two (2) person's cases were dismissed by the court. The chief Judge of the state, while reviewing the activities of the mobile courts stated that the courts have realized over N2 million (\$55,555) as fine from lockdown violators.

Directives to transporters

On the 6 May 2020, the Commissioner of Information, Culture and Home Affairs held a press briefing at Government House Katsina. The Commissioner explained that operators and passengers on commercial motorcycles and tricycles must adopt preventive measures against the spread of the coronavirus such as wearing facemasks, moving along with hand sanitizers and observing physical distancing during their operations (Tukur, 2020). The other conditions are that a motorcycle operator must carry only one passenger while tricyclists must carry only two passengers who should maintain distance or space while sitting in the tricycle. This directive was misunderstood by the operations of the LGAs under lockdown order who were twelve in number at that time. The result was that the next day 7 May 2020, many of the commercial and tricycle operators came out and started their operations and some of them were arrested by security agents for violating the lockdown order. It was later cleared by the Commissioner who is the Chairman of the Taskforce on public enlightenment that the directive is for the twenty two (22) LGAs of the state that are not under lockdown. The other twelve (12) LGAs under lockdown are to continue to comply with the

lockdown order.

Relaxing of lockdown order

On 16 May 2020, the state government relaxes the lockdown order on the LGAs under lockdown with effect from Monday 18 to Tuesday 26 May 2020. The government noted that two-third of Covid-19 cases in the state fall within Katsina and Daura LGAs and therefore warned residents of the areas to strictly observe and adhere to all protocols given by health officials to curb the spread of the disease (KTSG, 2020b). In addition, aged persons and those with health challenges were advised to avoid crowded places during *eid-el-fitr* festivities. The relaxation of the lockdown is to enable the residents to restock for food and essential provisions, to pray during the last ten days of Ramadan and prepare for the *eid-el-fitr* festivities. However, on the 26 May 2020 the Katsina state government orders extension of the lockdown on Katsina and Daura LGAs that have recorded additional cases of coronavirus infections. Daura LGA has 14 new cases while Katsina LGA has 13 new cases according to the report made available by the NCDC (KTSG, 2020c). The government warned residents of the two LGAs to stay at home and strictly keep observing proper hygiene and social distancing protocols while interacting with other people.

Conclusion

The coronavirus outbreak can be described as a pandemic emergency that involved a sudden outset of contagious disease that directly affects health disrupt social services, businesses and bring economic and social cost that can take years to be recovered (Weston, 2020). A recent example was the Ebola virus disease that affected parts of West Africa in the years 2014-2015. The coronavirus is wider in geographical scope than the Ebola virus as it affects virtually the whole world causing unprecedented disruptions to social and economic systems. Nigeria as a country is not spared by the coronavirus pandemic with foreigners working in the country and citizens travelling in other countries of the world. However, the pandemic reached Nigeria that lacks basic health infrastructures, poor health database, high rate of poverty, dependency on the government, and lack of trust on leaders, as well as high level of ignorance, fatality and corruption (Adamu, 2020). Many states in the federation are struggling to adopt measures to prevent the spread of the disease and reduce the number of infections to the barest minimum. Katsina State was the fourth most infected State with the coronavirus disease based on figures released by the NCDC by the end of April 2020. However, the numerous preventive measures adopted against the spread of the disease by the state government have led to a reduction of infections as the state ranked twelfth by 15 June 2020. Based on the research conducted for this article one may argue that the preventive measures adopted by the state

government are good, as they have been able to curtail the spread of the disease largely. Therefore, the present measures discussed in this article should be continued to control the spread of the disease in Katsina State. One of the latest developments concerning the disease was that the state government has signed a Memorandum of Understanding with a private molecular diagnostics and research centre, Sahel Medicare Services Limited in Katsina State for the conduct of COVID-19 tests.

RECOMMENDATIONS

The following recommendations are made in order to ensure that effective preventive measures are adopted against the spread of coronavirus and any other disease in future:

- (i) The state government should ensure that the premises of schools and institutions of higher learning are disinfected before the pupils and students are ordered to resume their studies. In line with this NCDC should issue out guidelines to the state Governments preventive measures that are to be adopted when the studies resumes.
- (ii) The state government should expand the membership of the taskforce on public enlightenment and sensitization by including the Special Adviser on Social Media, representative of NOA, youth groups and NGOs in order to make the taskforce more effective
- (iii) The rapid response committee constituted by the state government should be re-constituted to comprise medical and health professionals who are knowledgeable and experts on issues of disease outbreaks and how to effectively respond to such outbreaks,
- (iv) The state government should ensure effective control of state borders with a view to ensuring that medical personnel stationed at the borders examine people coming into the State. Illegal routes that serve as entry points should be monitored and controlled to stop people from coming in through them.
- (v) The state government should henceforth make adequate provision for foodstuffs, provisions and other necessities of life such as regularly electric power supply and water before any lockdown order is implemented in order to reduce the sufferings caused by lockdowns.
- (vi) The state government should make affordable facemasks and hand sanitizers by producing them in large numbers for the use of the people while social distancing should be made effective through public enlightenment on the dangers of the virus to human health.

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