FOOD CONSUMPTION PATTERN AND NUTRITIONAL STATUS OF CONFINED PEOPLE IN SELECTED RURAL PRISONS DURING COVID-19

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ABSTRACT

This study was conducted to assess the food consumption pattern and nutritional status of confined persons in selected rural prisons of Ogun State during COVID-19. A total of 208 prisoners were assessed for food consumption pattern and nutritional status and determination of their BMI. Structured questionnaire was used to elicit information on personal characteristics of prisoners, food consumption pattern, suitability of food served and Body Mass Index (BMI) of prisoners during COVID 19. Results show that the prisoners were between age 24-29years (34.6%), had secondary school education (58.7%), and were single (50.5%). Beans was the most consumed daily food by inmates with not less than 81.3% of them consuming it as breakfast on Mondays to Saturdays respectively, except for Sundays where 61.5% of the inmates usually consume rice for breakfast. Findings also show that Garri was the most commonly served meal for lunch while Eba was mostly taken for dinner by inmates during COVID 19. Furthermore, 25.6%, 64.2% and 10.2%of the prisoners were underweight, normal weight, and overweight, respectively. It was concluded from this study that foods served to the prisoners were not adequate in terms of quantity, quality and suitability. Most of the respondents were nutritionally poor, with weakened immune system and therefore predisposed to infectious diseases like COVID-19. It is therefore recommended that foods served should be improved for the prisoners to have better nutritional status and stronger immune system to withstand effects of the COVID-19 disease.

Key words: *food consumption pattern, nutritional status, confined people, rural prisons, covid-19*

INTRODUCTION

Food is an essential aspect of human needs that provides the energy that invigorates man's existence for all categories of persons. It is the avenue that determines the survival the living being in all ramifications. Its essentialities and availability, is therefore sine qua non to the survival of any living being. Food for different age group and different categories of people need to be given serious consideration due to the various needs of different individuals.

WHO (2015) emphasized that food is a central component of life in correctional institutions, plays a critical role in the physical and mental health of incarcerated people, and the construction of prisoners' identities and relationships. An understanding of the role of food in correctional settings and effective management of food systems may improve outcomes for incarcerated people and help correctional administrators to maximize the health and safety of individuals in these institutions.

More than 2,500 years ago, Hippocrates said: "*Let food be thy medicine and medicine be thy food*." Both nutrient intake and incidence of diseases usually influence the nutritional status particularly of developing nations, where everyone is striving for food (Bogoch et al; 2020).

Certain factors such as lifestyle, age, health status, sex and medications affect the nutritional status of an individual. During the COVID-19 pandemic, the nutritional status of individuals has been used as a measure of resilience toward destabilization (Bogoch et al, 2020). Similarly, Aslam, Majeed, Aslam, Irfan (2017) pointed out that optimal nutrition and dietary nutrient intake impact on the immune system through gene expression, cell activation, and molecules modification. Therefore, the existing evidence suggests that the only sustainable way to survive in the current situation is to strengthen the immune system through the consumption of healthy, required & nutritious food.

In the current situation, it is necessary to be aware of the specific types of food that can improve our immune system in order to combat COVID-19. Some professional and authentic dietary guidelines to withstand COVID-19 include eating fruits daily, eating fresh vegetable, whole grains and nuts (Khayyatzadeh, 2020).

Incarcerated people, as human beings, have the right to a standard of living adequate for sound health, including food (United Nations, 2015). However, evidence shows that the basic human rights of incarcerated people are not sufficiently respected (Abera & Adane, 2017).

Nutritional problems in prison can result in severe adverse outcomes. Nutritional inadequacy places incarcerated people at a higher risk of developing acute and chronic nutritional deficiency diseases (Rachel, Kigaru, Nyamota; 2018). As a result, incarcerated people will return to the

community, carrying back with them new diseases and untreated conditions that may pose a threat to community health and add to the burden of disease in the community. In addition, incarcerated people's sentences might be turned into death sentences if the problems of undernutrition are not understood well and managed properly (Ethiopian Public Health Institute; 2019).

Statement of problem

Globally, community nutritionist and health practitioners are now of the general opinion that the health status of inmates in most prison in the world is very poor due to so many factors which ranges from lack of proper health policies, improper nutrition, inadequate orientation about personal health for inmates, negative societal belief and orientation about prisoners, inadequate intervention programmes from recognized health bodies, improper sanitation practices and lack of infrastructural provision and maintenance etc. Due to these, inmates across all regions globally are being found to be very prone to various diseases especially communicable ones (WHO, 2015).

The current global challenge is the issue of the COVID-19 pandemic which has killed over 4,762,089 persons. The disease is an infectious disease that easily spread through poor living conditions, lack of sanitation and from person to person. The World Health Organization advice individuals to slow the spread of the disease through measures like physical distancing, a practice which is practically impossible in most of Nigerian prisons due to congestion of the prisons. By 2016, the total number of in-mates as reported by the National Bureau of Statistics has increased to 68,686, when the capacity of the prisons could only contain 50,803 inmates (NBS, 2016). This figure proves further that physical distancing will be impossible to achieve in Nigerian prisons (ICPR, 2020).

Currently, a total of 71,522 prisoners are incarcerated in 240 locations in Nigeria. According to the World Prison Brief, the prison population rate per 100,000 population increased from 27 in 2008 to 37 in 2018. The majority (72%) of the prison population are pre-trial detainees (World Prison Brief Data, 2020). Due to the inability of Nigeria to conduct testing and reporting for majority of its population and most especially the confined people in our prisons, data on the COVID-19 disease burden in Nigerian prisons is sparse. There are no outbreak data for prisons either on the Nigeria Center for Disease Control COVID-19 dashboard or reported in any medical or public health publication. A newspaper article reported that 17 inmates at a prison in Bauchi State were infected with COVID-19 and subsequently isolated.

Many common infectious diseases and common parasites have a major effect on health and nutritional status; for example, diarrhea and respiratory diseases, measles, malaria, tuberculosis, HIV/AIDS etc. The infections themselves damage the nutritional status of a person. A person suffering from infection usually has little appetite and tends to eat less. This lack of food during illness can be a serious threat to the health of a malnourished person, who has little or no stored reserves of energy and nutrients.

Food does have a very significant effect on the behavior of human. Research shows that nutrition can impact everything from a child's growth to their mood, behavior and learning capabilities (Continuum Pediatrics, 2018). Being that as it is, it is important to note that inmates are

incarcerated at correctional facilities in order to modify their behavior so as to make them integrate-able into the society, makes their food consumption a germane factor in making them a better person. From recent researches, it is observed that the nutritional status of inmates drops significantly as against their nutritional status before confinement. The longer prisoners stay in the prison, the poorer their nutritional status; this point to the fact that the food consumption pattern, quality of meal in the prisons are very poor. This is a serious issue which could lead to a health crisis that will not only hinder the general wellbeing of prisoners but also cause serious financial and economic complications for the nation. It is also a marker of serious human rights violation of prisoners as every prison facility are expected to have medical officers who are charged with the responsibility of regularly inspecting and advising the director of prison on the suitability of food, water, and hygiene. A prisoner who is observing the sentence of court by being in custody does not totally lose his rights as a human being and must, therefore, enjoy some basic rights despite being confined to prison (Araromi, 2018). It is therefore important that the state of health state and nutritional status of prisoners during COVID 19 pandemic should be examined.

It is against this background that this study intends to investigate the pattern of food consumption and nutritional status of prisoners during COVID-19.

Objectives of the study

The general Objective of the study is to evaluate the food consumption pattern and nutritional status of confined people in selected rural prisons of Ogun during Covid-19 pandemic. While the specific objectives are to:

i. Describe the personal characteristics of the prisoners,
ii. Determine the food consumption pattern of prisoners during COVID-19 pandemic,
iii. Determine the suitability of food served to prisoners,
iv. Evaluate the Body Mass Index (BMI) of the prisoners during COVID-19.

METHODOLOGY

The study adopted a descriptive survey design. The study was carried out in Ogun state of Nigeria. Prisons located in the rural communities of Ogun state were considered appropriate for this study; these include federal prison Ibara-Abeokuta, Ago-Iwoye, Ijebu-Ode, Ilaro, and Sagamu. Sixty percent (60%) of these prisons were randomly selected for this study which includes federal prison Ibara-Abeokuta, Ilaro, and Ijebu-Ode. The population of this study consists of all inmates in the selected prisons. Not less than 15% of the confined people were then selected using systematic sampling procedure to arrive at two hundred and eight (208) respondents for this study.

Face and content validity were carried out to determine the validity of the instrument. Split-half method was used to test the reliability of the instrument to arrive at reliability co-efficient of 0.75. A general accepted rule is that α of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level. However, values higher than 0.95 are not necessarily good, since they might be an indication of redundancy (Hulin, Netemeyer, and Cudeck; 2001). Structured questionnaire was used to retrieve information from the respondents. This information was rendered in frequency count and percentages. The Body Mass Index (BMI) was also determined in relation to the weight and height of the respondents. The body mass index (BMI)

is the metric currently in use for defining anthropometric height/weight characteristics in adults and for classifying (categorizing) them into groups (Nuttall, 2015).

RESULTS AND DISCUSSION

Personal Characteristics of Confined People

The personal characteristics of the respondents shown in Table I shows that 34.6% of the respondents fall within the ages of 24-29, this is keenly followed by 31.7% which fall in the age between 30-35. This implies that young adults are more prone to commit violence and crime which makes them to be incarcerated more than other age groups. This result also affirms the finding of Kassa, Alle, Tesfu (2017) which reported that 64.6% of inmates fall within the age category of 18-39. This is also an implication for the nation's economy as the able-bodied youth who could have form part of the labour force and contribute to the GDP of the country are locked up in a prison.

Majority of the inmates (58.7%) have secondary school education only as the highest level of education obtained. This finding is in line with that of Oyedokun and Onabanjo (2018) which stated that majority of inmates 39% completed secondary school education only. Further findings reveal that most inmates (50.5%) are not married. This finding is in correlation with that of Kassa et al (2017); that majority (46.8%) of inmates are single. This implies that most irresponsible individuals usually find themselves in one crime or the other that will make them to be incarcerated. This also corroborates the fact that more of the inmates (49%) do not have any children. 53.8% of the inmates also come from a monogamous type family. This implies that most of the inmates do not have the necessary support needed for them to live through the time of incarceration decently. This finding is in tandem with that of Kassa et al (2017); which reported that 79.9% of the respondents have no source of support.

About 31.3% of the inmates have trading as an occupation before incarceration. This is closely followed by Artisans (25%). It can be inferred from this finding that people who work in informal settings are prone to crime than those working in official settings.

Table I: **Personal Characteristics of Respondents**

Variable	Frequency
Age	
18-23	36 (17.3)
24-29	72 (34.6)
30-35	66 (31.7)
36-40	22 (10.6)
>40	12 (5.8)
Educational level	
None	5 (2.4)
Primary	18 (8.7)
Secondary	122 (58.7)
NCE or OND	35 (16.8)
HND, Bsc, Others	28 (13.5)
Marital status	
Single	105 (50.5)

Married	69 (33.2)
Divorced	34 (16.3)
Number of children	
None	102 (49.0)
1-3	75 (36.1)
4-6	28 (13.5)
>6	03 (1.4)
Family type	
Monogamous	112 (53.8)
Polygamous	96 (46.2)
Occupation	
Trading	65 (31.3)
Farming	16 (7.7)
Artisans	52 (25.0)
Civil servant	16 (7.7)
Others	59 (28.4)

Source: Field survey, 2020

Food Consumption Pattern

Table II shows the frequency of inmates' consumption of different food items by inmates on each day of the week. 82.7% of the inmates always have beans as their breakfast on Mondays, which is followed by 18.8% of the respondents who take garri for breakfast also probably to support the beans served. Majority (81.3%) of the inmates also take beans always on Tuesdays. This breakfast food pattern is noticeable across all the remaining days of the week where 81.7%, 83.2%, 82.2%, and 84.1% of the inmates also usually consume beans for breakfast except for Sundays where 61.5% of the inmates consume rice for breakfast usually largely due to the presence of certain religious bodies and NGOs within the premises of the prison. This finding is in resonance with the report of Premium times news report dated June 25, 2019 which stated that "inmates are being fed watery beans in the morning".

Majority (95.7%) of the inmates take garri as their main meal for lunch always every Monday. A larger percentage of the inmates (88.4%) take garri always on Tuesdays also for lunch. Ninety point four (90.4%) of the inmates always take rice for lunch on Wednesdays. The remaining days of the week will feature 94.7%, 73.1%, 95.7% (for Thursday, Friday, and Saturday respectively) always taking garri for lunch, except for Sundays where 34.6% of the inmates consume beans for lunch while 33.2% take garri, 45.7% of respondents also consume other food items which are usually supplied by religious bodies and NGOs. The dominance of garri as food for lunch among the inmates is largely due to the fact that a 2-meal system is practiced in most Nigerian prisons largely due to financial reasons. The implication of the over consumption of garri is that it could

lead to a case of serious deficiency in certain micronutrient by the prisoners. This is backed up by the findings of Oyedokun and Onabanjo (2018), which revealed that respondents' mean nutrient intake did not meet up with the recommended daily allowance for some nutrients such as vitamin B, folate, calcium, vitamin B, phosphorus, 23 potassium and magnesium.

A larger percentage of the inmates (80.3%) take Eba for dinner with a watery soyabean or draw soup with absence of fish or meat. On Tuesdays, 82.7% take Eba always, 82.2% on Wednesdays, 80.8% on Thursdays, 80.3% on Fridays, 74.1% on Saturdays, and 77.9% on Sundays. There is imbalance energy intake as it can be seen clearly that the major source of energy for the inmates is Eba, Garri, and rice occasionally; which are all sources of carbohydrate. Insignificant sources of fat are present in their food. The only source of protein is beans, which is poorly prepared coupled with the fact that it is a low biological value protein. This supports the finding of Oyedokun and Onabanjo (2018) which revealed that about 23% of the respondents did not consume beef at all and more than half of the respondents (56.5%) consumed beef 1-3 days a week. Regarding dairy products consumption, about 37% of the respondents consumed no milk at all and more than half of them (53.5%) consumed milk 1-3 days a week, while consumption of cheese and yoghurt were generally low as over 80% of the respondents consumed none in a week.

Table II: Food Consumption Pattern of the Respondents

Days	Meal time	Food served	Always Frequency (%)	Rarely Frequency (%)	Seldomly Frequency (%)
Monday	Breakfast	Rice	18(8.7)	75(36.1)	115 (55.2)
		Beans	172(82.7)	17(8.2)	19(9.1)
		Garri	39(18.8)	101(48.5)	68(32.7)
		Eba	13(6.3)	97(46.6)	98(47.1)
		Others	21(10.1)	96(46.1)	91(43.8)
	Lunch	Rice	16(7.7)	36(17.3)	156(75)
		Beans	10(4.8)	9(4.3)	189(90.9)
		Garri	199 (95.7)	5(2.4)	4(1.9)
		Eba	56 (26.9)	87(41.8)	65(31.3)
		Others	11(5.3)	19(9.1)	178(85.6)

	Dinner	Rice	2(0.9)	5(2.5)	201 (96.6)
		Beans	9(4.3)	23(11.1)	176(84.6)
		Garri	37(17.8)	86(41.3)	85(40.9)
		Eba	167(80.3)	28(13.5)	13(6.2)
		Others	21(10.1)	98(47.1)	89(42.8)
Tuesday	Breakfast	Rice	16(7.7)	79(38)	113 (54.3)
		Beans	169(81.3)	28(13.4)	11(5.3)
		Garri	38(4.8)	89(44.2)	81(51)
		Eba	9(4.3)	64(30.8)	135(64.9)
		Others	19(9.1)	91(43.8)	98(47.1)
	Lunch	Rice	18(8.6)	39(18.8)	151(72.6)
		Beans	17(8.2)	38(18.3)	153(73.6)
		Garri	184 (88.4)	18(8.7)	6(2.9)
		Eba	54(26)	83(39.9)	71(34.1)
		Others	23(11.1)	87(41.8)	98(47.1)
	Dinner	Rice	4(1.9)	7(3.4)	197(94.7)
		Beans	5(2.4)	18(8.7)	185(88.9)
		Garri	34(16.4)	88(42.3)	86(41.3)
		Eba	172(82.7)	25(12)	11(5.3)
		Others	20(9.6)	91(43.8)	97(46.6)
Wednesday	Breakfast	Rice	12(5.8)	38(18.3)	158(75.9)
		Beans	170(81.7)	21(10.1)	17(8.2)
		Garri	39(18.8)	88 (42.3)	81(38.9)
		Eba	17(8.2)	39(18.7)	152(73.1)
		Others	32(15.4)	51(24.5)	125(60.1)
	Lunch	Rice	188(90.4)	12(5.8)	8(3.8)
		Beans	32(15.4)	51(24.5)	125(60.1)
		Garri	21 (10.1)	37(17.8)	150(72.1)
		Eba	13 (6.3)	27(12.9)	168(80.8)
		Others	89(42.7)	75(36.1)	44(21.2)
	Dinner	Rice	4(0.9)	16(7.7)	188(90.4)
		Beans	8(3.8)	13(6.3)	187(89.9)
		Garri	25(12)	79(38)	104(50)
		Eba	171(82.2)	12(5.8)	25(12)
		Others	13(6.2)	22(10.6)	173(83.2)
Thursday	Breakfast	Rice	17(8.2)	74(35.5)	117(56.3)
		Beans	173(83.2)	15(7.2)	20(9.6)
		Garri	30(14.4)	94(45.2)	84(40.4)
		Eba	11(5.3)	99(47.6)	98(47.1)

		Others	19(9.1)	25(12)	164(78.9)
	Lunch	Rice	13(6.3)	35(16.8)	160(76.9)
		Beans	12(5.8)	11(5.3)	185(88.9)
		Garri	197(94.7)	7(3.4)	4(1.9)
		Eba	32 (15.4)	69(33.2)	107(51.4)
		Others	41(19.7)	63(30.3)	104(50)
	Dinner	Rice	3(1.4)	4(1.9)	201 (96.7)
		Beans	10(4.8)	21(10.1)	177(85.1)
		Garri	37(17.8)	86(41.3)	85(40.9)
		Eba	168(80.8)	29(13.9)	11(5.3)
		Others	19(9.1)	97(46.7)	92(44.2)
Friday	Breakfast	Rice	19(9.1)	77(37)	112(53.9)
		Beans	171(82.2)	19(9.1)	18(8.7)
		Garri	48(23.1)	88 (42.3)	72(34.6)
		Eba	13(6.3)	97(46.6)	98(47.1)
		Others	23(11.1)	94(45.2)	91(43.7)
	Lunch	Rice	17(8.2)	37(17.8)	154(74)
		Beans	9(4.3)	7(3.4)	192(92.3)
		Garri	152(73.1)	39(18.8)	17(8.1)
		Eba	22(10.6)	58(27.9)	128(61.5)
		Others	95(45.7)	72(34.6)	41(19.7)
	Dinner	Rice	4(1.9)	7(3.4)	197(94.7)
		Beans	9(4.3)	23(11.1)	176(84.6)
		Garri	22(10.5)	59(28.4)	127(61.1)
		Eba	167(80.3)	28(13.5)	13(6.2)
		Others	28(13.5)	92(44.2)	88(42.3)
Saturday	Breakfast	Rice	19(9.1)	73(35.1)	116(55.8)
		Beans	175(84.1)	19(9.2)	14(6.7)
		Garri	10(4.8)	92 (44.2)	106(51)
		Eba	11(5.3)	99(47.6)	98(47.1)
		Others	23(11)	95(45.7)	90(43.3)
	Lunch	Rice	16(7.7)	37(17.8)	155(74.5)
		Beans	12(5.8)	7(3.4)	189(90.9)
		Garri	199 (95.7)	5(2.4)	4(1.9)
		Eba	36(17.3)	59(28.4)	113(54.3)
		Others	33(15.9)	51(24.5)	124(59.6)
	Dinner	Rice	3(1.4)	6(2.9)	199(95.7)
		Beans	7(3.4)	21(10.1)	180(86.5)
		Garri	33(15.9)	87(41.8)	88(42.3)
		Eba	154(74.1)	29(13.9)	25(12)
		Others	19(9.1)	99(47.6)	90(43.3)
Sunday	Breakfast	Rice	128(61.5)	69(33.2)	11(5.3)
		Beans	65(31.2)	73(35.1)	70(33.7)
		Garri	11(5.3)	85(40.9)	112(53.8)

	Eba	6(2.9)	32(15.4)	170(81.7)
	Others	67(32.2)	63(30.3)	78(37.5)
Lunch	Rice	18(8.7)	92(44.2)	98(47.1)
	Beans	72(34.6)	69(33.2)	67(32.2)
	Garri	69 (33.2)	73(35.1)	66(31.7)
	Eba	12(5.7)	17(8.2)	179(86.1)
	Others	23(11.1)	58(27.8)	127(61.1)
Dinner	Rice	4(1.9)	9(4.3)	195(93.8)
	Beans	10(4.8)	21(10.1)	177(85.1)
	Garri	26(12.5)	37(17.8)	145(69.7)
	Eba	162(77.9)	31(14.9)	15(7.2)
	Others	26(12.5)	84(40.4)	98(47.1)

Source: Field Survey, 2020

Assessment of the Suitability of Foods Served in Prison

The assessment of the Suitability of food served in prison is presented in Table III. Majority of the inmates (85.1%) do not like the foods being served to them, while 52.5% of the inmates are able to do nothing regarding the food served to them. This implies that despite the fact that the inmates are not satisfied with the food being served to them, they do not have a choice or the capacity to buy or order food from home or elsewhere.

The quantity of the foods being served to the inmates is disliked by most (55%) of the inmates, while 35% of them do not like both the quantity and quality of the foods being served. This implies that inmates would have serious challenge in meeting up with their daily energy requirement needed for proper metabolism.

A larger percentage of the inmates (52.5%) have an occasional access to foods other than the prison food. Majority (62.5%) of those with access to foods other than the prison food get their food from home. This is backed up by the finding of Kassa et al (2017) which stated that respondents who had source of support were 97% times less likely to develop malnutrition than who had no source of support.

The soup served to the prisoners is considered watery by most (44.2%) of the inmates.Intake of fruits and vegetables improves the immune system and micronutrient quantity of an individual. It is observed that majority (82.7%) and (75.9%) of the inmates do not take fruits and vegetables at all respectively. This finding is backed up by the study of Oyedokun and Onabanjo (2018) which concluded that fruits and vegetable intake were generally low among prisoners. Aslam et al (2017) also opine that an adequate intake of zinc, iron, and vitamins A, B12, B6, C, and E is essential for the maintenance of immune function.

Table III: Suitability of Foods Served in Prison

Variable	Frequency (%)
Do you like the food being served to you?	
Yes	31 (14.9)
No	177 (85.1)
What don't you like about the food being served to you?	
Quantity	114 (55.0)
Quality	21 (10.0)
Both	73 (35.0)
What do you do to satisfy your diet when you don't like the food being served to you?	
Nothing	
Skip meal	109 (52.4)
Buy food	46 (22.1)
Order food from home	31 (14.9)
How often do you take foods other than prison food?	22 (10.6)
Regularly	
Occasionally	42 (20.0)
Not at all	109 (52.5)
Other sources of food	57 (27.5)
Food from home	
Food from institution's buttery	131 (62.5)
None	21 (10.0)
What is the nature of the soup served to you?	56 (27.5)
Watery	
Peppery	
Salty	92 (44.2)
Oily	20 (9.6)
Too cold	21 (10.1)
How often do you take fruits?	19 (9.1)
Regularly	45 (21.6)
Occasionally	
Not at allz	11(5.3)
How often do you take vegetables?	25 (12.0)
Regularly	172 (82.7)
Occasionally	
Not at all	15 (7.2)
	39 (18.7)
	154 (74.1)

Source: Field survey, 2021.

Nutritional Status of Respondents

The result in Table IV shows the nutritional status of the inmates. Majority (64.2%) of the inmates had a normal BMI while 25.6% are underweight which can be considered quite alarming for such population. Kassa et al (2017) stated that "Majority of inmates had normal nutritional status 57.0%. The prevalence of the overall malnutrition among respondents was 43%. From this 0.5%, 8.0% and 26.7% were underweight; moderately underweight and mildly underweight respectively".

Table IV: BMI indicating nutritional status of respondents.

Variable	Frequency (%)
<18.5kg (underweight)	53 (25.6)
18.5-24.99kg (normal range)	134 (64.2)
25-29.99kg (overweight)	21 (10.2)

Source: Field survey, 2021.

CONCLUSION AND RECOMMENDATION

Food consumption is a critical aspect in determining the health outcome of any human. As such, the foods consumed greatly determine the nutritional status of man. This research work therefore looked into the food consumption pattern and nutritional status of confined persons and concludes that food served to inmates are not adequate in terms of quantity, quality and suitability. Consequently, food served to prisoners are poor and below standard for human consumption. This in no doubt affected their nutritional status and hence reduced immune system which can predispose them to infectious diseases such as COVID-19. Based on the findings of this study, it is therefore recommended that

(i) Nigerian prisons should be decongested to give room for social distancing
(ii) Food served should be improved for the prisoners to have a better nutritional status
(iii) Proper and regular inspection should be made to the prisons to monitor the food and nutritional status of prisoners
(iv) Nutritionists/Dieticians should be employed for every prison to ensure that foods being served provide the necessary micro and macronutrient needed by the prisoners.

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