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Research Article

Public Health Evaluation of Prisoners' Demographics and Awareness of Communicable Diseases in Correction Center in South-South Nigeria

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Abstract:

Communicable diseases are a significant public health concern in Nigerian custodial centers. This study evaluated the public health implications of prisoners' demographics and their awareness of communicable diseases in a correctional center in South-South Nigeria. A structured questionnaire was used to gather data on inmates' demographic characteristics and knowledge of six communicable diseases. Two hundred and nine (209) inmates who consented were randomly selected and self-administered the questionnaire. The data were tabulated and analyzed descriptively. Demographic data, including age, sex, marital and educational status, pre-incarceration occupation, residence, and duration in prison, aligned with the prison registry. Results indicated that all inmates (100.0 %) were aware of communicable diseases. Information sources included hospitals/health workers (48.3 %), family/friends/inmates (37.3 %), books/magazines/newspapers (11.0 %), and radio/TV/internet (3.3 %). Inmates demonstrated good knowledge of communicable diseases, with 87.1 % identifying causes and 56.6 % recognizing modes of transmission. Awareness levels were high for HIV/AIDS (100.0 %), hepatitis (81.3 %), COVID-19 (100.0 %), malaria (100.0 %), human intestinal parasite infections (66.0 %), and tuberculosis (73.2 %). Most respondents correctly identified the etiologic agents, though some incorrectly attributed HIV/AIDS (9.3 %) and hepatitis (17.1 %) to spiritual causes. Regarding prevention, all inmates (100.0 %) knew the methods for HIV/AIDS, COVID-19, and malaria. Awareness of hepatitis B prevention was 81.3 %, while 66.0 % and 73.2 % identified preventive methods for human intestinal parasite infections and tuberculosis, respectively. This study highlights commendable awareness of communicable diseases among inmates, however, it revealed some misconceptions about its causes, control, and prevention., offering valuable insights for public health programs in correctional facilities.

Key words: prisoners' demographics; knowledge; communicable diseases; south-south nigeria

Introduction

Infectious diseases have remained the world's largest cause of death because the environment, rather than individuals, is the predominant source of aetiologic agent exposure (Adefisoye *et al*., 2024). Communicable diseases can be transferred from one person to the next or acquired from the environment, causing illness in many people. They are caused by microorganisms such as bacteria, diseases, growths, parasites, and poisons. Microbes and parasites that cause communicable diseases are communicated in a variety of ways, including direct contact with a sick person, skin contact (*Staphylococcus aureus*, hookworm), and sexual contact (chlamydia, gonorrhea, syphilis, HIV/AIDS, hepatitis B (HPB)), waste/oral contact (rotavirus), or respiratory drops (flu, mumps, Covid-19, tuberculosis (TB), food (salmonella, Intestinal parasites), and vectors (malaria).

Prisoners are viewed as exceptional people who are helpless against an assortment of aetiologic specialists since they have zero influence over the climate in which they live. Jail and prison conditions are progressively being perceived as optimal settings for the grouping of cultural illnesses,

with detainees dependent on the state for their prosperity and medical services arrangements. Those populations include persons with low socioeconomic status, migrant populations, aging patients with chronic diseases, patients with substance use disorders and serious mental illness, and those living with bloodborne-pathogen infections (Rich *et al*., 2016). Widespread transmission of pathogens can occur easily because incarcerated persons interact frequently with other residents, correctional staff, volunteers, and visitors, and when released, they engage with family and community social contacts. Despite the perception of penitentiaries as foundations with a high weight of transferable illnesses, information on the degree and extent of those diseases is generally inaccessible and, sometimes, inadequate (Adefisoye *et al*., 2024).

Globally, communicable diseases, including irresistible infections, keep on being a well-being framework challenge in some low-income nations, regardless of the huge advancements made to lessen their pervasiveness and commitment to death (World Bank, 2013). In any case, there are contrasts in the predominance and dissemination of such illnesses, as estimated by morbidity and mortality impacts, between and even inside nations. Various research efforts consistently indicate that Sub-Saharan Africa (SSA) experiences the greatest prevalence of infectious diseases and pediatric health issues (Partnership for Child Development, 1999).

Infectious diseases alone are liable for somewhere around 69 % of all deaths deaths in Africa (Aikins *et al.*, 2010).

Infectious diseases are a significant issue in prisons, connecting powerfully with different issues standing up to prisoners like complicated health requirements stemming from a blend of mental and actual ailment, joblessness, addiction, homelessness, enslavement, and vagrancy. Higher transmission rates are caused by contextual variables such as overcrowding, restricted access to water, delays in determination and treatment, and an absence of damage decrease measures like condoms, clean inking hardware, or needles (*Dahiya* et al., *2023*). Compared with the general public, people in prison have a higher prevalence of infection with human immunodeficiency virus (HIV), hepatitis B, hepatitis C, syphilis, gonorrhea, chlamydia, and tuberculosis (TB) (Dolan *et al*., 2016). Those who are healthy on entry are at higher risk of exposure to communicable diseases such as HIV, and TB; or to developing drug addiction problems or mental illnesses compared with the general population (Kamarulzaman *et al.*, 2016).

Individuals and communities may differ in their knowledge or awareness of specific diseases among those mentioned. The level of disease awareness/knowledge is sometimes determined by how much people have encountered disease or how much they have been exposed to disease-fighting campaigns (Hausmann *et al*., 2013). Individual and public beliefs, perceptions, and knowledge of disease shape their behaviors and ability to adapt or deal with current health interventions (Lee *et al*.,2021), influencing the adequacy of disease avoidance and control programs (Nijhawan 2016), yet it is hard for prisoners in the custodial center to seek such healthcare actions because they are restricted in movement and such opportunity is not provided in any way. There are few baseline data on inmates' knowledge, attitude, and practices for most infectious diseases and related factors, and less conducted among prisoners. Evidence of gaps in disease awareness and control measures among Nigerian inmates has been discovered in the literature (Okareh *et al*., 2018). Okareh *et al.,* 2018 found that inmates' knowledge about certain diseases differs depending upon their prior experience with the diseases, exposure to health initiatives, and inmate demographics.

Because a considerable number of inmates are released into the community, prison health is inextricably related to public health. Thus, to meet worldwide targets for neglected tropical diseases, a large-scale harm reduction strategy in prisons is required. Thus, assessing individuals' or persons of the custodial community's and even the general public's knowledge of diseases and their control strategies would assist interventionists or analysts in determining how closely the observed knowledge corresponds to biomedical concepts.

Thus, the research was performed with inmates at the Custodial Center in South-South Nigeria to examine their awareness of the causes, transmission routes, preventive measures, and treatment protocols for a range of communicable diseases, including malaria, human parasitic infections, tuberculosis, hepatitis B, HIV/AIDS, and COVID-19.

The data would suggest the possible risks that these facilities present to the country as sources of disease, thereby assisting government policymakers and the Ministry of Interior Affairs in formulating overall health and disease management strategies within Nigerian prisons.

Methods & Materials

A cross-sectional study was conducted in 2022 in a major correction center in a state capital in South-South Nigeria. Approvals for the study were obtained from the necessary authorities. Inmates who consented were randomly selected and stratified reflecting inmates' demographics. Interviewer administered Questionnaires were used to obtain information on participants' socio-demographic characteristics, and the awareness and knowledge of the causes, transmission, and prevention and control of six communicable diseases mainly HIV/AIDS, hepatitis (HPB), COVID-19, malaria, human intestinal parasite infection (HIPI) and Tuberculosis (TB). The data generated were tabulated and analyzed descriptively.

Results

A sum of 209 respondents (inmates) from the Custodial Center in South-South, Nigeria partook in the study. The profile of demographic attributes (Table 1) showed that more (46.9 %) respondents between 29-39 years participated in the review, followed by age group >39 years, 65 (31.1 %), while ages 18-28 years had 46(22.0 %) respondents. It was also observed that more males 200 (95.7 %) participated in the study than females 9 (4.3 %). The data indicated that 162 individuals, representing 77.5 %, were single, while 47 respondents, accounting for 22.5 %, were married. One hundred and eleven (55.0 %) respondents were secondary school education certificated holders, while 72 (34.5 %) and 22 (10.5 %) respondents attained tertiary tuition and primary education respectively. On residence before imprisonment, 158 (75.6 %) claimed rural residence, while 51 (24.4 %) claimed urban residence. The information on occupation before imprisonment showed that 141 (67.5 %) respondents were students, 36 (17.2 %) were business merchants, farmers, and employees recorded as 11 (5.3 %) and 21 (10.0 %) respondents respectively. The information on terms in jail showed that the people who have spent ≥one year 118 (56.5 %) were more than the people who have spent ≤one year 91 (43.5 %).

Characteristics	Frequency N = 209	Percentage (%)
Age (in Years)		
18-28	46	22.0
29-39	98	46.9
>39	65	31.1
Gender		
Male	200	95.7
Female	9	4.3

Marital status		
Single	162	77.5
Married	47	22.5
Education Status		
No formal	0	0.00
Primary	22	10.5
Secondary	115	55.0
Tertiary	72	34.5
Residence before imprisonment		
Urban	51	24.4
Rural	158	75.6
Occupation before imprisonment		
Farmer	11	5.3
Merchant	36	17.2
Student	141	67.5
Employee	21	10.0
Duration in prison		
≤ One year	91	43.5
≥ One year	118	56.5

Table 1: Demographic characteristics of the respondents

Knowledge of common communicable diseases among detainees/prisoners is illustrated in Table 2. The result showed that every one of the members 209 (100.0 %) have heard of communicable diseases. Source of data, it was revealed that 101(48.3 %) respondents sourced their information from hospitals/dispensaries/health workers, and 78 (37.3 %) respondents acknowledged getting their information from Family/friends/inmates. Respondents who sourced their information from Books/magazines/Newspapers and Radio/TV/Internet were 23 (11.0 %) and 7 (3.3 %) respectively.

The result showed that 182 (87.1 %) inmates claimed they knew the cause of communicable diseases, while 27 (12.9 %) claimed they didn't know; 103 (56.6 %) respondents claimed they knew the means of transmission, while 79 (43.4 %) don't know. On the diseases suffered or currently suffering, the result showed that the 209 (100.0 %) respondents who participated in the study have suffered from malaria and human intestinal parasite infection, 20 (9.6 %) have suffered from hepatitis, while 7 (3.3 %) respondents have suffered or suffering from HIV/AIDS. None of the respondents have suffered or suffered Covid-19 and TB infections. It was observed that 101 (48.3 %) respondents have encountered individuals who have experienced or suffering from HIV/AIDS, while 79 (37.8 %) have encountered people who have experienced or suffering from HPB. Every one of the respondents has encountered malaria and HIPI patients, while only 39 (18.7 %) encountered TB patients. None of the respondents agreed to have encountered someone who has suffered or suffering from COVID-19.

Variable	**Frequency**	**Percentage (%)**
Have heard of communicable diseases?		
Yes	209	100.0
No	0	0.00
Source of Information		
Radio/TV/Internet	7	3.3
Books/Magazine/Newspaper	23	11.0
Hospital/Dispensaries/health workers	101	48.3
Family/friends/inmates	78	37.3
Do you know the cause of communicable diseases?		
I know	182	87.1
I don't know	27	12.9
Do you know the Mode of Transmission of the diseases? N = 182		
I know	103	56.6
I don't know	79	43.4
Which of these diseases have you suffered or presently suffering?		
HIV/AIDS	7	3.3
Hepatitis (HPB)	20	9.6
Covid-19	0	0.00
Malaria	209	100.0
Human Intestinal Parasite Infection	209	100.0
Tuberculosis (TB)	0	0.00
Which of these diseases have you encountered someone presently suffering or suffered?		
HIV/AIDS	101	48.3
Hepatitis (HPB)	79	37.8
Covid-19	0	0.00
Malaria	209	100.0
Human Intestinal Parasite Infection	209	100.0

Tuberculosis (TB)	39	18.7

Table 2: Knowledge of common communicable diseases among inmates

Knowledge of inmates on the sources of communicable diseases is displayed in Table 3. The result shows that 165 (90.7 %) and 144 (79.1 %) respondents incriminated the virus as the contributory agent of HIV/AIDS and hepatitis B respectively. Similarly, 151 (82.9 %) inmates said Covid-19 is brought about by a virus. Punishment from God/spirituality was incorrectly mentioned as a reason for HIV/AIDS and hepatitis infections by 17 (9.3 %) and 31 (17.1 %) inmates respectively. Another response to the source of hepatitis recorded included nine respondents (4.9 %) who felt poor hygiene practices were responsible for hepatitis infection, and 26 (14.3) persons who mentioned cigarette smoking and alcohol intake, however, 3 (1.6 %) respondents didn't know about the reason for the illness.

On the reason for malaria infection, 22 (12.1 %) respondents incriminated poor hygiene and mosquito bites, while almost eighty percent (75.8 %) of the respondents correctly identified *Plasmodium* as the causal means of malaria. Human intestinal parasite infection was attributed to parasites by 112 (61.5 %) inmates, while the outstanding respondents rightly identified protozoa (19 or 10.4 %) and helminths (41 or 22.5 %). Three respondents didn't know about the reason for human intestinal parasite infection. The result disclosed that the larger part (92.3 %) of the inmates attributed tuberculosis bacteria, while 14 respondents representing 7.7 % of the review populace incriminated smoking and alcohol intake.

Knowledge of the mode of spread of common communicable diseases among inmates was displayed in Table 4. The result showed that contact with the body fluid of an infected individual (sex, kissing) was rightly acknowledged by 71.3 % (1499) of the respondents as the prominent mode of spread of HIV/AIDS while using surgical needles containing infected blood and through an infected mother to the baby was acknowledged by 49 (23.4 %) and 11 (5.3 %) respondents respectively. On the method of spread of hepatitis, eighty-six respondents (41.1 %) incriminated Sexual intercourse, while utilization of un-sterilized syringes, needles, and surgical instruments was mentioned by 66 (31.6 %) inmates. Other means of transmission rightly identified involve contact with infected blood and blood products 50 (23.9 %) utilization of contaminated blades of the barber and instruments used in ear and nose piercing 7 (3.3 %). The outcome on the mode of transmission of COVID-19 showed that a significantly higher frequency of respondents identified touching of eyes, nose, and mouth with contaminated hands 160 (76.6 %), followed by 38 (18.2 %) respondents that incriminated aerosol droplets from coughs/sneezes of an infected person, while touching of an infected individual was mentioned by 11 (5.3 %) inmates.

One hundred and ninety-two respondents representing 91.9 % of the detainees examined acknowledged mosquito bites as the mode of malaria transmission, however, 17 (8.1 %) persons wrongly incriminated drinking dirty water. The respondents acknowledged four means of transmission of human intestinal parasites. The choices and the respective frequency rates of respondent's acknowledgment include contact with tainted soil (171 or 81.8 %), drinking contaminated water (21 or 10.0 %), bathing in contaminated water (4 or 1.6 %), and eating contaminated food (13 or 6.2 %)

The result revealed that 97.1 % (203) of the 209 respondents indicated that tuberculosis is transmitted through the air when an individual with TB coughs/sneezes/talks 203 (97.1 %), while 6 (2.9 %) inmates wrongly incriminated drinking of dirty water.

Variable	HIV/AIDS (%)	HPB (%)	C-19 (%)	ML (%)	HIPS (%)	TB (%)
Virus	165(90.7)	144(79.1)	151(82.9)	0(0.00)	0(0.00)	0(0.00)
Bacteria	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	168(92.3)
Poor hygiene	0(0.00)	9(4.9)	0(0.00)	22(12.1)	7(3.8)	0(0.00)
Malnutrition	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)
Fat/oil	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)
Parasite	0(0.00)	0(0.00)	0(0.00)	0(0.00)	112(61.5)	0(0.00)
Cooled wind	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)
Mosquito bite	0(0.00)	0(0.00)	0(0.00)	22(12.1)	0(0.00)	0(0.00)
Plasmodium	0(0.00)	0(0.00)	0(0.00)	138(75.8)	0(0.00)	0(0.00)
Protozoa	0(0.00)	0(0.00)	0(0.00)	0(0.00)	19(10.4)	0(0.00)
Helminths	0(0.00)	0(0.00)	0(0.00)	0(0.00)	41(22.5)	0(0.00)
Smoking/alcohol intake	0(0.00)	26(14.3)	0(0.00)	0(0.00)	0(0.00)	14(7.7)
Punishment from God/spiritual	17(9.3)	0(0.00)	31(17.1)	0(0.00)	0(0.00)	0(0.00)
Don't Know	0(0.00)	3(1.6)	0(0.00)	0(0.00)	3(1.6)	0(0.00)

Keys: HIV/AIDS = Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome

HPB = Hepatitis

C-19 = Covid-19

ML = Malaria

HIPI = Human Intestinal Parasite Infection

TB = Tuberculosis

Table 3: Causes of common communicable diseases among inmates (N = 182)

Variable	Frequency	Percentage (%)
HIV/AIDS		

Contact with body fluid of infected person (Sex, kissing)	149	71.3
Infected mother-to-baby	11	5.3
Tattooing	0	0.00
Touching an infected person	0	0.00
Mosquito bites	0	0.00
Using surgical needles containing infected blood	49	23.4
HEPATITIS (HPB)		
Through un-sterilized syringes, needles, and surgical instruments?	66	31.6
Through contaminated blood and blood products?	50	23.9
Using blades of the barber/ear and nose piercing?	7	3.3
Transmitted from mother to child?	0	0.00
Mosquito bites	0	0.00
Sexual intercourse	86	41.1
COVID-19		
Touching of eyes, nose, and mouth of contaminated hands	160	76.6
Through the air when an infected person coughs/sneezes	38	18.2
Transmitted by insects	0	0.00
Touching an infected person	11	5.3
Drinking dirty water	0	0.00
Sexual intercourse	0	0.00
MALARIA		
Mosquito bites	192	91.9
Through bodily contact with patients	0	0.00
By flies	0	0.00
Via respiratory route	0	0.00
Drinking dirty water	17	8.1
HUMAN INTESTINAL PARASITE INFECTION		
Drinking Contaminated water	21	10.0
Through contact with infected soil	171	81.8
Sexual intercourse	0	0.00
Bathe in water	4	1.9
Eating contaminated oil or food	13	6.2
TUBERCULOSIS (TB)		
Through the air when a person with TB coughs/sneezes/talks	203	97.1
Though sharing dish	0	0.00
Mosquito bites	0	0.00
Through shaking hands	0	0.00
Drinking dirty water	6	2.9

Table 4: Mode of transmission of common communicable diseases among inmates

Preventive and Treatment methods for these diseases, as per the responses of the inmates are displayed in Table 5. For the preventive methods, the result shows that all inmates 209 (100.0 %) knew the preventive method for HIV/AIDS, COVID-19, and malaria. Furthermore, 170 (81.3 %) respondents knew the preventive method for hepatitis B, while 39(18.7 %) were not mindful. Knowledge of the preventive method for human intestinal parasite infection and TB was acknowledged by 138 (66.0 %) and 153 (73.2 %) respondents. The results of information on the treatment methods for infectious diseases showed that 51 (24.4 %) respondents claim that they know the treatment methods for HIV/AIDS, while 158 (75.6 %) didn't know. Nineteen (9.1 %) respondents knew about the treatment for hepatitis, while 190 (90.0 %) didn't know; All the inmates were not aware of the treatment method for COVID-19, while they claimed consciousness of the treatment method for malaria and HIPI. Only 22(10.5 %) respondents knew the treatment method for TB, reflecting that 89.5 % of inmates are not aware of the treatment method of TB.

Variable	**I know (%)**	**I don't know (%)**
Preventive methods		
HIV/AIDS	209(100.0)	0(0.00)
Hepatitis (HPB)	170(81.3)	39(18.7)
Covid-19	209(100.0)	0(0.00)
Malaria	209(100.0)	0(0.00)
Human Intestinal Parasite Infection	138(66.0)	71(34.0)
Tuberculosis (TB)	153(73.2)	56(26.8)
Treatment methods		
HIV/AIDS	51(24.4)	158(75.6)
Hepatitis (HPB)	19(9.1)	190(90.9)
Covid-19	0(0.00)	209(0.00)

Malaria	209(100.0)	0(0.00)
Human Intestinal Parasite Infection	209(100.0)	0(0.00)
Tuberculosis (TB)	22(10.5)	187(89.5)

Table 5: Knowledge of Preventive and Treatment methods for these diseases among inmates

Attitudes of inmates towards HIV/AIDS are illustrated in Table 6a. The result recorded a mean percentage correct altitude of 68.40 % revealing the average percentage of the review persons with a good attitude towards HIV/AIDS. It showed that the greater part of the respondents provided correct answers to nine of the fourteen questions used as variables to indicate respondents' attitudes. The highlights include 202 (96.7 %) inmates with a good attitude toward the need for religious and moral engagement, 200 (95.5 %) inmates who desire to seek urgent treatment at the clinic or hospital and an assertion on the vulnerability of married people (80.9 %). Others are the correct assessment of the seriousness of the disease in Nigeria and the agreement that HIV/AIDs patients should retain their jobs, be supported, and be treated (100 %).

One hundred and fifty-five respondents (74.2 %) agreed that AIDS is a God-given punishment with 20 (9.6 %) disagreeing and 34 (16.3 %) unsure while 188 (89.9 %) inmates denied their vulnerability to infection with as much 197 (94.2 %, i.e., 36.6 % and 57.4 %) respondents not aware that healthy people can be infected and 75 (35.9 %) having weak approach toward disclosure of the of infection. Horrifically, 27 (12.9 %) agreed that infected people should be killed to avoid spread, though 71 (33.9 %) were neutral and 111 (53.1 %) disagreed, likewise 12 (5.7 %) inmates agreed they would spread the contagion if confirmed positive, however, 60(28.7 %) respondents were undecided, while 137(65.6 %) disagreed.

Discussion

This research aimed to evaluate the prevalence of prevalent communicable diseases among inmates in the Custodial Center, as well as their knowledge regarding these diseases. The information was derived from a questionnaire and interviews with the respondents.

A breakdown of demographic characteristics of respondents used in this review, males constituted 95 % of the example population. This is reliable with the sex ratio of respondents used in studies carried out by Alize *et al*. (2013) in three federal prisons in the South-East geopolitical Zone of Nigeria, Saliu and Akintunde (2014) in Oyo State, Nigeria, and Adane *et al* (2017) in Ethiopia. Researchers have publicized that males predominate in prison because the majority of the men are bread earners, this leads men to have much social interaction and subsequently become more vulnerable to many criminal acts, for example, to make sure they get wealth for their family maintenance than women and consequently, they become more in prison than women.

The age cohort of 29 to 39 years was the most prevalent, mirroring the findings of Alize *et al*. (2013), Saliu and Akintunde (2014), and Adane *et al*. (2017). This age bracket represents a vital stage in human development; when individuals within this range experience imprisonment, it can significantly impact their psycho-social beliefs, resulting in conditions such as depression, anxiety, and reduced self-worth, as highlighted by Rozanski *et al*. (1999).

The Correction Center had more singles in their custody which is reflected in the review population. This is at variance with Saliu and Akintunde, 2014, but consistent with the observation of Olugbenga-Bello *et al* (2013) on the evaluation of the regenerative well-being status of mature jail detainees in Osun State, Nigeria. The activities of youthful and adolescent exuberance could be a contributory to their imprisonment. Juvenile delinquency factors may include, neglect and abuse or lack of proper parental supervision. Children whose parents demonstrate a lack of respect for the law and social norms of the country may imbibe the same (Sakir *et al*., 2005).

The respondents were literate with 89 % attending secondary and tertiary education. A similar observation was made by Otuu and Shu (2019) in their review of a major prison in Enugu Nigeria. The center is in the capital of an oil-rich state in Nigeria and has several standard educational institutions with a comparatively literate population. The populace, instead of allowing their literacy or educational status to influence their moral living and difficulties of imprisonment, the opposite becomes the case. There is a high pace of vices like cultism, harlotry, and drug abuse among secondary and tertiary school students, which might have added to the increase in crime and the imprisonment of enlightened students. A small number of the students may have committed a crime in their villages where they relocated after being rusticated or expelled by the university authority. This perception might explain the preponderance of students and rural dwellers in the representative sample population.

The respondents' duration in jail revealed that more inmates had spent over one year in prison. In the investigation of House and Keeling (2009) in Enugu and Marek *et al* (2011) in Onitsha, Nigeria, the results showed that a larger number of prisoners had spent more than 1-5 years. House and Keeling (2009) and Marek *et al* (2011) noted that demography influences the predominance of communicable diseases, especially, malaria, tuberculosis, HIV/AIDS, Covid-19, hepatitis, and even human intestinal parasite infections and diseases among inmates. The detainees who had spent many years in prison suffered more disease weight and communication.

Knowledge is information and skills, acquired through experience and/or education. According to Hausmann *et al.* (2013), information or mindfulness about specific infections among those referenced may change starting with one individual or local area and then onto the next. Here and there, the level of mindfulness/information about infection relies upon the degree to which individuals have encountered such diseases or are presented to the missions accessible against such diseases. This is germane to forming a positive attitude that will inform behavior. The study uncovered that all the inmates are aware of the common communicable diseases assessed. The respondents were mostly literate and could comprehend health-related information from hospitals, dispensaries health workers, and print media. The restricted access of detainees to the web and other electronic media might represent just 3.3 % of the respondents mentioning them as a source of information. House and Keeling (2009) in Enugu and Marek *et al.* (2011); and Saliu and Akintunde, 2014 reported similar sources of data on communicable diseases as recorded in this review. The result revealed that 182 (87.1 %) inmates claim they know the source of communicable diseases with a significant number correctly incriminating viruses as the

contributory agent of HIV/AIDS, hepatitis B, and COVID-19, and bacteria as the etiologic agent of tuberculosis. Likewise, the majority knew the cause of malaria, though only 138 (75.8 %) had the option to distinguish *Plasmodium* as the causative parasite, but were unaware that they are protozoa. Olugbenga-Bello *et al.* (2020), Saliu and Akintunde, (2014), and Otuu and Shu (2019) in their reviews made similar observations. However, the response to the causes of human intestinal parasites is of general well-being interest. Despite the that 61 % of the knowledgeable respondents associated it with parasites, less than 30 % could not correctly incriminate protozoa and helminth. The accurate empathy of the contributory agent of a communicable disease is viable information for mounting a general well-being campaign in the prevention of the disease. The gap in information on the reasons for human intestinal parasites must be mitigated by jail specialists. Also, the perception among some prison inmates that punishment from God/spirit could represent the occurrence of HIV/AIDS (9.3 %) and COVID-19 (17.1 %) and nonchalance toward knowing the reason for the diseases should be changed through health information. Other researchers have reported nearby individuals correlating communicable like severe malaria ailment conditions with sorcery or superstitious convictions (Mboera 2004).

The result showed good knowledge of the method of transmission of communicable diseases as all the respondents who acknowledged the causes of communicable diseases knew about their method of transmission, which represents 87.1 % of the review populace (209). However, when the study respondents were presented with options on the method of transmission of communicable diseases, drinking dirty water was wrongly identified as a method of transmission of malaria and tuberculosis. This response is similar to the report of Mboera et al.,2002 where some family individuals believe that malaria could be spread through contact with polluted water and as just climatic changes. It was seen that the detainees/prisoners had suffered from many of the diseases assessed which have been reported in Nigeria custodial with all inmates (100.0 %) having suffered and encountered someone with malaria and human intestinal parasite diseases. The high pervasiveness of malaria among prisoners has been accounted for by authors in Nigeria. Yahaya and Oti (2020) reported 59 % Plasmodium falciparum prevalence among jail detainees in the correctional center in Keffi, Nigeria, (Abah et al., 2018) recorded 55.2 % among jail detainees of the maximum-security prison Borokiri, Port Harcourt, Nigeria. Otuu and Shu (2019) reported a range of 73.33 % -81.06 % malaria predominance among prisoners in three federal prisons in the South-east of Nigeria. Similarly, there are records of the high commonness of intestinal parasite infection in Nigerian prisons. They include Ughava and Okon (2016) (9.0 %) in Jos and Colman et al. (2013) who detailed a higher commonness of 22.80 %.

This high commonness of these diseases could be because of poor sanitation and constant exposure to the bite of the vectors. This observation corroborates the way that inmates are accounted for to exhibit poorer health status than the overall people (Audu et al., 2014), due to overcrowding and poor sanitary conditions which provide a favorable breeding place for various disease conditions. The detainees are in extraordinary danger of contracting communicable diseases of which malaria is one since they have zero command over their current circumstance, and the mix of elements of transmission, like specialists, has and courses of transmission is substantially less favorable and more sub-standard in jail than it is outside (Audu et al., 2014). Another explanation could be because of the way that detainees experience the ill effects of discriminatory admittance to medical care administrations which intensifies the existing medical conditions of prisoners (Kendig and Zaslavsky, 2024). Again, financial and social variables, including higher openness to foreign substances, helpless norms of individual cleanliness, lack of healthy sustenance, portability issues, mental problems, and stress, can make some populace gatherings, for example, prison inmates, more inclined to parasitic infection.

None of the detainees acknowledged to have suffered from COVID-19 and tuberculosis though (18.7 %) had encountered someone presently suffering or has suffered tuberculosis. This is contrary to the recent reports of the pervasiveness of tuberculosis in the custodial centers in the Nigerian States of Enugu (Egwu et al., 2021), Oyo (Adesokan et al., 2014), Plauteu (Ahmed et al., 2016), Kano (Chado and Aminu, 2020) and COVID -19 in Calabar (NCDC, 2020). The claimed absence of these illnesses could be a result of the respondents' significant degree of adherence to the guide on protecting against the diseases, such as avoiding sexual intercourse, close contact, handshakes, touching of eyes and mouth, and/or perhaps, there was no new inmate during the time of lockdown. Another reason might be that the inmates do not share personal belongings like dishes, pastes/brushes, and blades, wash their hands regularly, and avoid drinking dirty water as indicated in Table 4. These behaviors have been accounted for to facilitate the transmission of communicable diseases (Kendig and Zaslavsky, 2024).

The result showed that an average of 86.7 % of the inmates acknowledged familiarity with the preventive methods of the six diseases assessed. Similar studies have reported high knowledge of preventive methods for communicable diseases (Okareh et al., 2018, Otuu and Shu, 2019). This can be ascribed to their degree of illiteracy as the majority of the detainees in the custodial center had secondary and tertiary education. During the investigation, when the participants claimed knowledge, they were subjected to oral interviews to know if they would be able the mention some of the preventive methods for these diseases; it was surprising and awesome to hear them mention the preventive and treatment methods. Their degree of mindfulness created an undoubted boldness in them and avails/enhances the interest of the researcher in the review. However, the inmates were deprived of information on the treatment method as only an average of 40.66 % of them were knowledgeable as many of the detainees seemed not to know the treatment methods for HIV/AIDS, Hepatitis, COVID-19, and tuberculosis. Ming-Chu et al. (2012) reported poor knowledge of sexually transmitted diseases among male prison inmates in the fundamental penitentiary in Taiwan respectively. There is a need to avail the information to the inmates which will factor favorably in their wellbeing looking for conduct if unfortunately, they are later infected. It was observed that among the diseases under review, malaria was more predominant. It could be because of the ecological situation of the jail, which was noted that the inmates do not use mosquito nets, do not rub mosquito repellent cream, and do not use anti-mosquito spray while sleeping. It was observed on the account of oral interviews with inmates, that their experiences were shared indicating they couldn't bear the cost of these materials, they lamented that those who claimed supremacy in the cell do not allow younger and new inmates to have access or even use most of the anti-mosquito materials in jail.

The knowledge of a disease positively influences the creation of attitude, and their attitude can be considered as a reflection of knowledge; that is linked to previous personal beliefs and personal experiences. This study revealed that most respondents were knowledgeable which could consequently present an accompanying good level of positive attitude towards prevention, treatment, and control of the diseases assessed. There are some studies where results have revealed a positive correlation between knowledge and attitude scores of respondents toward communicable diseases (Saliu and Akintunde, 2014; Otuu and Shu, 2019).

The research has demonstrated a notable understanding of the communicable diseases evaluated, although there were some inaccurate answers. This information could serve as a foundation for customized public health education initiatives within correctional facilities in Nigeria. Enhancements in the health systems of prisons and the conditions of incarceration should be prioritized to effectively eliminate, eradicate, and manage communicable diseases in these institutions.

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