



Determinants of Mpox Infection in Bayelsa State, Nigeria from 1st January, 2017 to 31st May, 2025

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Abstract

Original Research Article

Introduction: Mpox is caused by the monkeypox virus (MPXV) which is an enveloped double - stranded DNA virus that belong to the Orthopoxvirus genus in the poxviridae family. Sporadic outbreaks of Mpox have been reported in Africa, typically originating from contact with wildlife reserves particularly rodents but outside the Africa region, since early May 2022, more than 3000 cases of Mpox infection have been reported in more than 50 countries across five regions. Despite several efforts taken to halt the transmission of Mpox infection at global, national and sub national level, outbreaks of Mpox continue to occur especially in Bayelsa state. .The aim of this study was to assess sociodemographic determinants of Mpox infection in Bayelsa state, from 2017 to 31st of May, 2025 with specific objectives to determine the geographical distribution of Mpox infection in Bayelsa state and to determine sociodemographic factors that are significantly associated with Mpox infection A cross sectional mixed method was used for this study. The sample size of the study was 222 and data collected were analyzed using descriptive and inferential statistical methods. The SPSS statistical software version 25 was used to analyze the data. Binary logistic regression analysis was used to determine strength and significant of association between exposure and outcome variables. The result of the study on Sociodemographic risk factors that are significantly associated with Mpox infection are the young adult with an OR of 2.777 and old adult age group with an OR of 2.997, the occupations that are significantly associated with Mpox are public servants and self employed/private business and urban dwellers.We made some recommendations which are mass vaccination campaign, sensitization of the public, strengthening the surveillance system and Risk communication.

Keywords: Mpox infection, sociodemographic determinants, Bayelsa State, outbreak surveillance, risk communication.

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INTRODUCTION

Mpox formerly known as Monkeypox is caused by the monkeypox virus (MPXV) which is an enveloped double - stranded DNA virus that belong to the Orthopoxvirus genus in the poxviridae family (Nkengurutse, L. et al, 2025). Monkeypox was first discovered in 1958 among laboratory monkeys in Denmark and the first human case was identified in 1970 in Democratic Republic of Congo in a boy of 9 months old (Ogoina et al, 2023). It is a self-limiting disease that occurs primarily in the rain forests of West and Central Africa (NCDC, 2021) .

Sporadic outbreaks of Mpox have been reported in Africa, typically originating from contact with wildlife reserves particularly rodents but outside the Africa region, since early May 2022, more than 3000 cases of Mpox infection have been reported in more than 50 countries across five regions (Thornhill J.P. et al, 2022). On the 23rd July 2022, the World Health Organization declared the global Mpox outbreak as a public Health Emergency of International Concern (Wonyoung, C., et al, 2024). The name was officially change from Monkeypox to Mpox by WHO on the 28th of November, 2022 and in response to the increasing number of the disease in Africa, the emergency consultative group of the Africa Center for Disease Control (Africa CDC) after reviewing available Mpox data in Africa at their meeting on the 12th of August, 2024 recommended the declaration of Mpox as a public Health Emergency of Continental security (Nicaise, N., et al, 2024).

The animal reservoir of Mpox virus are still unknown and the natural history of monkeypox virus is yet to be discovered (Sharif, N. et al, 2023).

Statement of the Problem

Despite of several efforts taken to halt the transmission of Mpox infection at global, national and sub national level, the disease continue to spread and pose a serious threat to global health, security and social development. The nations that were non endemic to Mpox are

now reporting cases of Mpox infection. Mpox is a viral infection that is transmitted through several transmission route mainly through zoonotic, human -to human close contact, and human-to-human sexual transmission especially among gays, bisexuals and men who have sex with men (GBMSM)(Akingbola et al, 2025).

According to WHO (2025) global Mpox trend report published on the 14th of May, 2025 from 2022 till the 31st of March, 2025 globally a total of 137,966 laboratory confirmed cases with 317 deaths of Mpox have been reported.

In African region from the 1st of January, 2025 to 18th of May, 2025 a total of 56,205 suspected cases, 13,680 laboratory confirmed with 472 deaths have been reported from 19 African countries (Africa CDC, 2025).

Bayelsa state had the first reported case of Mpox in 2017 and since then there has been continues reporting of confirmed and suspected cases of Mpox in the state.

Aim and specific Objectives

.The aim of this study was to assess sociodemographic determinants of Mpox infection in Bayelsa state, from 2017 to 31st of May, 2025 with specific objectives to determine the geographical distribution of Mpox infection in Bayelsa state and to determine sociodemographic factors that are significantly associated with Mpox infection.

Justification / significance of the study

. Despite of numerous studies and research being conducted to understand the mode of transmission, the associated risk factors and the global Mpox trend, there is still paucity of research specially conducted on Mpox infection in Bayelsa state despite the fact that Bayelsa state remain significant in the reemergence of Mpox infection in Nigeria. There are limited studies on Mpox in Bayelsa state which were unable to give yearly trend of Mpox from when Mpox was first reported, the seasonal trend of Mpox infection and the geographical distribution of Mpox infection and the various demographic

characteristics of Mpox among confirmed and suspected cases that are specific to Bayelsa state.

The study not only enhances our understanding of Mpox infection but also provides actionable insights that can drive meaningful change in public health efforts.

METHOD

Study design

This study employs a Cross-sectional mixed method study design to assess the determinants of Mpox infection In Bayelsa State, Nigeria. This study design involves the collection of both qualitative and quantitative data.

Study area

The study area of this research is Bayelsa state, Situated in the south-south region of Nigeria. Bayelsa State is one of the Nine (9) Niger Delta states and is endowed with abundant natural resources such as crude oil, natural gas, arable lands, sand deposit, green vegetation, mangrove forest, water resources, timbers, fish and animals etc.

The State was created on the 1st of October, 1996 with eight (8) local government Areas with the capital in Yenagoa. Bayelsa state shares common boundaries with Delta state in the North, Rivers state in the East and the Atlantic ocean. It lies at a latitude of N 4°54'37" and Longitude E 6°20'30". it has a total area cover of 10, 773 square Km

The Health care delivery system in Bayelsa state is largely driven by both public and private Health sector.

Study Population

The study population of this research comprises of all suspected and confirmed cases of Mpox in Bayelsa state reported from the 1st of January, 2017 to 31st of May, 2025.

Inclusion/exclusion criteria

Inclusion

The inclusion criteria of this study involve the following:

1. All suspected and Confirmed cases of Mpox infection in Bayelsa State who were reported from 1st of January, 2017 to 31st of May, 2025 and are present as at the time of this study
2. All Suspected and Confirmed cases who give voluntary consent by filling and signing on the consent form.

Exclusion criteria

The exclusion criteria of the this study include:

1. All reported cases of Mpox infection with incomplete documentation.

Study tools

Questionnaire: The primary data tool used is the structured questionnaire for key informant interview. Key informants that were interviewed are the Disease surveillance and Notification officers in the Local government areas of Bayelsa state. the Assistance State Disease Surveillance and Notification officer of Bayelsa state, The chief Nursing Officer of the Isolation ward, Niger Delta Teaching Hospital, Okolobiri and the Surveillance officer of World Health Organization, Bayelsa State.

Secondary data collection: Data of confirmed and suspected cases of Mpox were extracted from the Mpox surveillance data base of the epidemiology division of the Bayelsa state ministry of Health.

Sample size

To determine the sample size the Cochran formula for sample size calculation was used in the calculation of the sample size. A total sample size of 222 was used with a 10% non-response rate

Sampling Technique

The sampling method used for the study is the systematic sampling method. A systematic sampling is a probability sampling method that give each member of the study population equal chance of being selected and participants were selected randomly without bias.

Data collection

Data for this study were collected using the data extraction form and structured questionnaire with open ended questions for key informants interview. To ensure proper collection of reliable and accurate data with the extraction sheet, the researcher engaged the service of three (3) field assistants which are the Disease Surveillance and Notification Officers (DSNOs) of Ogbia local Government Area, Kolokuma/Opukuma local Government Area and Yenagoa Local Government area.

3.9 Data Analysis

Data collected for this study were first entered into excel spread sheet for cleaning and then copied into the International Business Machines statistical package for the social sciences (IBM

SPSS) software version 25 for analysis. Data were analyzed using descriptive statistics method to determine frequency and proportion of cases while inferential statistical method using logistic regression model with a univariate analysis to calculate for the crude odds ratio (cOR), 95% confidence interval and critical value of 5%.

Ethical considerations

Ethical approval: An ethical approval was obtained from the Research Ethics committee of the university of Port Harcourt with reference no. UPH/SPH/ACAD/MSC/ETHICS/2023/528

Informed consent: participants of this study were invited and asked to voluntarily give inform consent before enrolment into this study.

Conflict of interest: In conducting this research, personal interest were not allowed to affect the credibility of the study.

RESULT

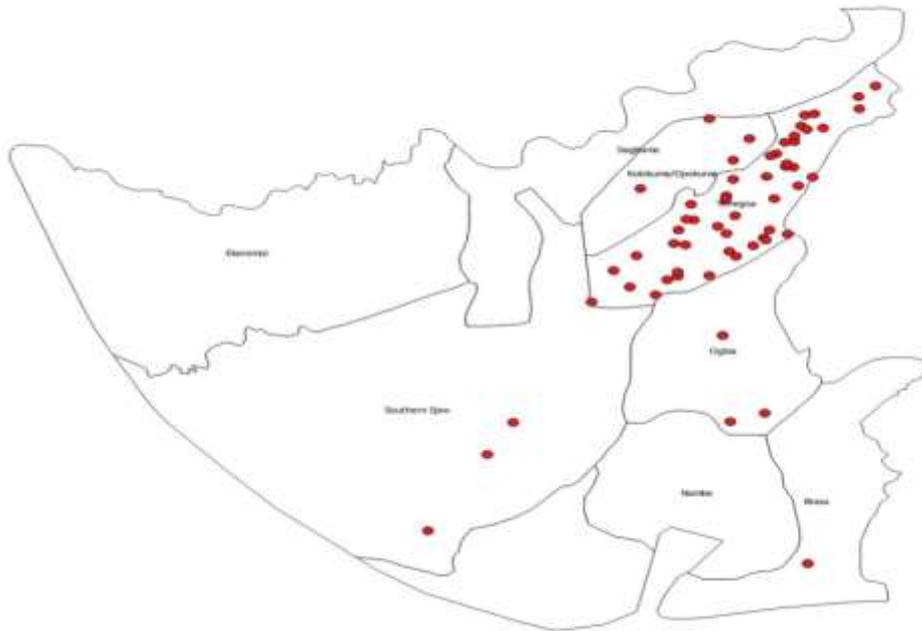
A total of 222 Mpox cases from 2017 to 2025 participated in the study and the result indicate that 59 (27%) cases were confirmed and 163 (73%) were suspected cases.

SPATIAL DISTRIBUTION OF MPOX INFECTION IN BAYELSA STATE

Table 1 Local government areas and confirmed Mpox cases in Bayelsa state

S/NO	LGA	CONFIRMED	PERCENTAGE (%)
1	BRASS	1	2
2	EKEREMOR	0	0
3	NEMBE	0	0
4	KOLOKUMA/OPUKUMA	4	7
5	OGBIA	3	5
6	SAGBAMA	0	0
7	SOUTHERN IJAW	3	5
8	YENAGOA	48	81
	TOTAL	59	100

Fig. 1 Spot Map of confirmed Mpox infection according to Local Government Areas in Bayelsa state, 2017 -2025



Result

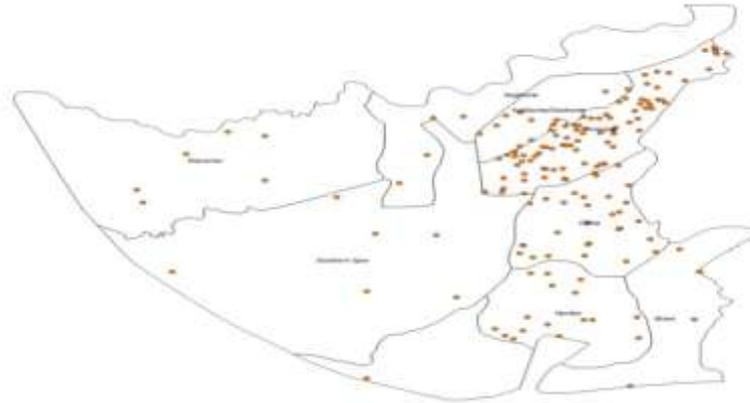
In determining the geographical distribution of confirmed Mpox infection cases, table 1 shows that Brass LGA have 1 (2%) case, Ekeremor has 0 case, Nembe has 0 case while

Kolokuma/Opukuma has 4(7%) cases. Ogbia local government area has 3(5%) cases and Sagbama has 0. Southern Ijaw local Government Area has 3(5%) cases while Yenagoa Local government area has 48(81%) cases.

Table 2 Local government areas and suspected Mpox cases in Bayelsa state

S/NO	LGA	SUSPECTED CASES	PERCENTAGE (%)
1	BRASS	5	3
2	EKEREMOR	10	6
3	NEMBE	6	4
4	KOLOKUMA/OPUKUMA	16	10
5	OGBIA	29	18
6	SAGBAMA	4	2
7	SOUTHERN IJAW	6	4
8	YENAGOA	87	53
	TOTAL	163	100

Fig. 2 Geographical distribution of suspected Mpox infection in Bayelsa state, 2017 -2025

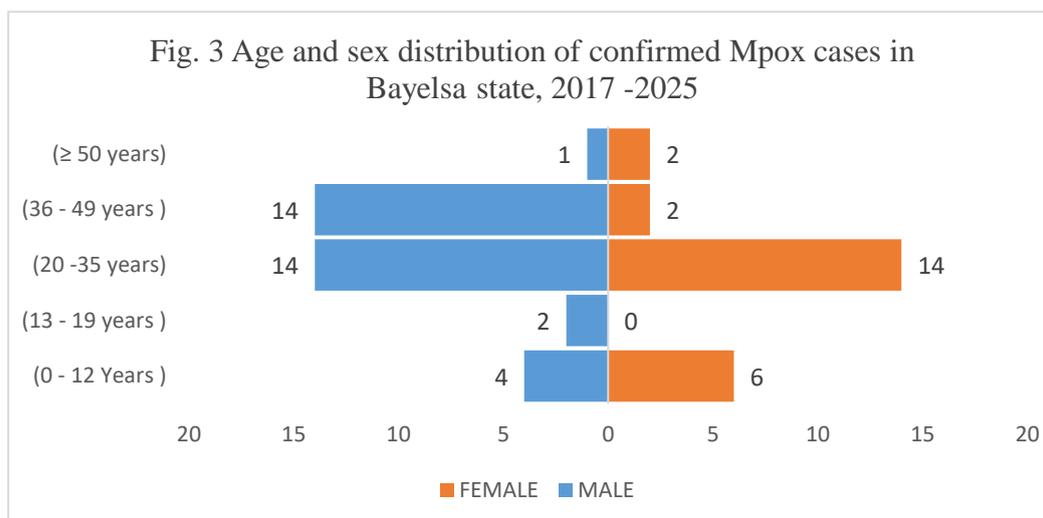


In determining the geographical distribution of suspected Mpox infection cases, table 4.1.7 shows that Brass LGA have 5(3%) case, Ekeremor has 10(6%) case, Nembe has 6(4%) case while Kolokuma/Opukuma has 16(10%) cases. Ogbia local government area has 29(18%) cases and Sagbama has 4(2%). Southern Ijaw

local Government Area has 6(4%) cases while Yenagoa Local government area has 87(53%) cases. The spot map on fig.4.5 shows the distribution and clustering of cases in Bayelsa state with high clustering of suspected cases among landed local government areas such as Yenagoa, Ogbia and Kolokuma/Opukuma. .

Table 3 Age and sex distribution of confirmed Mpox infection

AGE GROUP (YEARS)	Male	Female
Children (0 -12)	4	6
Teenage (13 - 19)	2	0
Young adult (20 -35)	14	14
Old adult (36 - 49)	14	2
Elderly (≥ 50)	1	2
Total	35	24

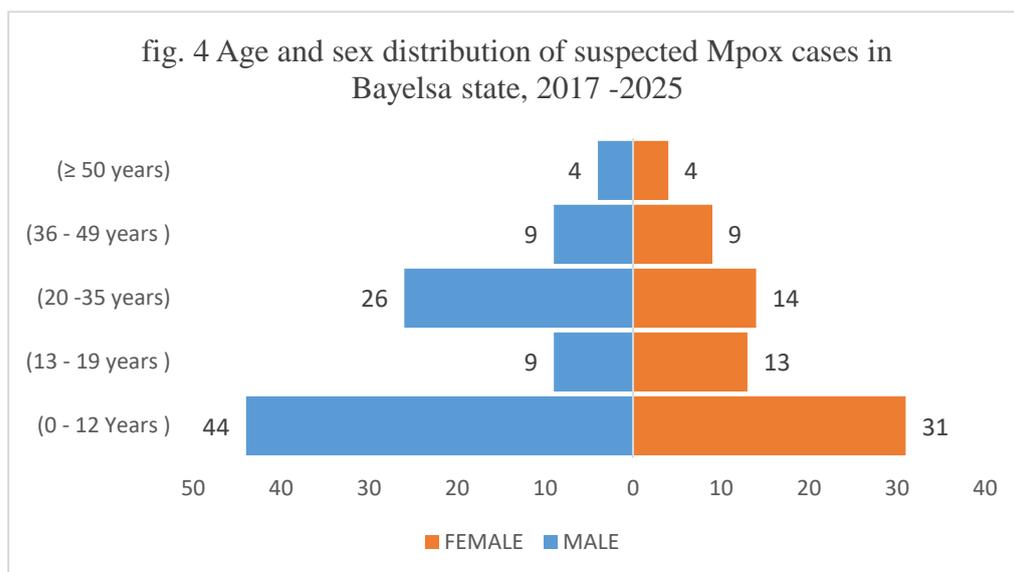


The result on age group and sex distribution among confirmed Mpox infection cases shown on table 3 and presented on fig.3 above indicate that among the children group (0 - 12 Years) male were 4 cases and female were 6 cases. For the teenage age group (13 - 19 years) the male were 2 cases and there was no case for the female

while in the young adult age group (20 - 35 years) male were 14 cases and female were also 14 cases. For the old adult age group (36 - 49 years) the male were 14 cases while the female were 2 cases and for the elderly age group (≥ 50 years) the male has 1 case while the female has 2 confirmed cases.

Table 4 Age and sex distribution of suspected Mpox infection

AGE GROUP (YEARS)	Male	Female
Children (0 -12)	44	31
Teenage (13 - 19)	9	13
Young adult (20 -35)	26	14
Old adult (36 - 49)	9	9
Elderly (≥ 50)	4	4
Total	92	71



The result on age group and sex distribution among suspected Mpox infection cases shown on table 4 and presented in a bar chart on fig.4 above indicate that among the children group (0 - 12 Years) male were 44 cases and female were 31 cases. For the teenage age group (13 - 19 years) the male were 9 cases and female were 13

while in the young adult age group (20 - 35 years) male were 26 cases and female were 14 cases. For the old adult age group (36 - 49 years) the male were 9 cases while the female were 9 cases and for the elderly age group (≥ 50 years) the male were 4 case and the female were also 4 cases.

Table 5: Sociodemographic risk factors of Mpox infection in Bayelsa state (2017 - 2025)

Variable	Number of cases (%)			Univariate analysis		
	Confirmed	Suspected	Total	cOR	95% CI	P-Value
Age group						
Children	10(17%)	75(46%)	85	0.239	0.113-0.505	<0.001
Teenage	2(3%)	22(14%)	24	0.225	0.051-0.988	0.048
Young adult	28(47%)	40(24%)	68	2.777	1.489-5.180	0.001
Old adult	16(28%)	18(11%)	34	2.997	1.409-6.374	0.004
Elderly	3(5%)	8(5%)	11	1.038	0.266-4.051	0.957
Total	59 (100%)	163(100%)	222			
Sex						
Male	35(59%)	92(56%)	127	1.125	0.615-2.060	0.702

Female	24(41%)	71(44%)	95	0.889	0.485-1.627	0.702
Occupation						
Child	5(9%)	54(33%)	59	0.187	0.071-0.494	0.001
Pupil	3(5%)	7(4%)	10	1.194	0.298-4.777	0.802
Student	14(24%)	46(28%)	60	0.791	0.397-1.578	0.506
Public servant	16(27%)	22(14%)	38	2.385	1.151-4.943	0.019
Farming	6(10%)	14(9%)	20	1.205	0.440-3.296	0.717
Self employed/private business	15(25%)	20(12%)	35	2.437	1.152-5.160	0.020
Place of resident						
Urban	40(68%)	62(38%)	102	3.430	1.825-6.446	<0.001
Rural	19 (32%)	101(62%)	120	0.292	0.155-0.548	<0.001

The Young adult have a total of 68 cases with 28(47%) confirmed and 40(24%) suspected. The univariate analysis for the odds ratio of the young adult is 2.777 which shows a strong positive association with Mpox infection. This indicate that the young adult 2.777 more likely to have Mpox than other age groups. The 95% confidence interval lies between (1.489-5.180) with a P-Value of **0.001** indicating statistical significant. The strong association is real and is not due to chance.

The old adult have a total of 34 cases with 16(28%) confirmed and 18(11%) suspected cases. The Univariate analysis shows that the odds ratio for the old adult is 2.997 which is a strong positive association indicating that the old adult are 2.997 more likely to have Mpox than others. The confidence interval is between (1.409-6.374) and with a P-value of **0.004** indicating that the association is statistically significant because P-value is less than Alpha (α) value. The association is real and is not due to chance.

The elderly have a total of 11 cases with 3(5%) confirmed and 8(5%) suspected cases. The univariate analysis result of the binary logistic regression shows that the odds ratio is 1.038 indicating a positive association and the confidence interval lie between (0.266-4.051) with a P-value of 0.957 showing no statistical significant in the association between the elderly age group and Mpox infection. The positive association is not real and it might be due to chance.

Sex

A total of 127 cases were male with 35(59%) confirmed and 92(56%) suspected cases respectively. The univariate analysis result shows that the odds ratio (OR) for the male is 1.125 which is a positive association indicating that the male are 1.125 more likely to have Mpox infection than others. The 95% confidence interval lies between (0.615-2.060) and with the P-value of 0.702 which is greater than Critical value of 0.05 indicate no statistical

significant. The positive association between the male and Mpox infection might be due to chance.

Occupation

On occupation and Mpox infection a total of 59 cases were child (infants) with 5(9%) cases confirmed and 54(33%) suspected case. The univariate analysis result of the binary logistic regression shows that the odds ratio(OR) is 0.187 indicating a negative association with Mpox infection meaning that the infants are 0.187 less likely of having Mpox than other occupations. The 95% confidence interval between (0.071-0.494) meaning the true odds ratio of the entire population lies between 0.071-0.494. The P-value is **0.001** which **indicate** statistical significant because the P-value is less than Critical value of 0.05. The negative association is significant and is a real association.

The self employed/private business has a total of 35 cases with 15(25%) confirmed and 20(12%) suspected cases. The odds ratio (OR) is 2.437 which indicate a strong positive association with 95% confidence interval between (1.152-5.160) and with a P-Value of **0.020** indicating statistical significant because P-value of **0.020** is less than critical value of 0.05.

Farming as an occupation has a total of 20 cases with 6(10%) confirmed cases and 14(9%) suspected cases. A univariate analysis result with binary logistic regression shows that the odds ratio (OR) is 1.205 which indicate a positive association with Mpox infection. The 95% confidence interval lies between (0.440-3.296). The P-value is 0.717 which is greater than critical value of 0.05. Test statistic shows no statistical significant. The positive association between farming and Mpox infection is not real and it might be due to chance.

The student has a total of 60 cases with 14(24%) confirmed and 46(28%) suspected cases. The odds ratio is 0.791 indicating a negative association with Mpox infection and the 95% confidence interval lies between (0.397-1.578). The P-Value is 0.506 which is greater than critical value of 0.05 indicating that the

negative association is not statistically significant.

Place of resident

Univariate analysis result using binary logistic regression shows that rural settlement has a total of 120 cases with 19 (32%) confirmed cases and 101(62%) suspected cases. The odds ratio is 0.292 which indicate a negative association and with a 95% confidence interval that lies between (0.155-0.548). The P-value is <0.001 and is less than critical value of 0.05. The positive association is statistically significant and is a real association. For the urban settlement has a total of 102 cases with 40(68%) confirmed cases and 62(38%) suspected cases. The odds ratio (OR) is 3.430 which indicate a strong positive association. The 95% confidence interval lies between (1.825-6.446) with a P-value of <0.001 indicating statistical significant. The strong positive association between residing in the urban settlement and Mpox infection is real and is not due to chance.

Discussion

Geographical distribution of Mpox infection among confirmed and suspected cases in Bayelsa state

The result on the geographical and spacial distribution of Mpox infection in Bayelsa state shows that most cases of confirmed and suspected cases are clustered within Yenagoa Local Government area which is the Municipal and capital city of Bayelsa state. The spacial distribution map of Mpox on fig. 4.5 shows that Yenagoa, Ogbia, Brass, Kolokuma/Opukuma and Southern Ijaw local Government areas have confirmed cases of Mpox with high concentration of cases in Yenagoa while all local Government areas have suspected cases with highest concentration of cases in Yenagoa, Ogbia and Kolokuma/Opukuma. These three LGA are landed and easily accessible by road with increase socioeconomic activities unlike Southern Ijaw, Brass, Ekeremor and Nembe that are riverine.

Sociodemographic characteristic of Mpox infection among confirmed and suspected cases in Bayelsa state

the descriptive analysis result indicate that the male are more affected than the female. According to the result out of a total 59 confirmed cases 35 (59%) were male and female were 24 (41%). Also among the suspected cases with a total of 163 suspected Mpox cases, male were 92(56%) and female were 71(44%). The result shows that the male are more exposed to Mpox infection in Bayelsa state than the female. On age of persons affected, the result shows that the mean age among confirmed cases of Mpox was 28.8 years while that of suspected cases was 18.7 year. On age group and confirmed Mpox infection as shown shows that young adult and old adult have more of confirmed cases while among the suspected cases more were children and young adult. The result of this study on age group and Mpox infection is supported by the results of Chizaram O. et al(2024) which indicate that confirmed Mpox cases by age group are < 20 year are 5.7%, 20-40 years was 62.9% and > 40 years was 31.4% with a mean age of 37.7

On occupation, the result of the study shows that public servants, the students and farmers are more exposed to Mpox infection than other occupations in Bayelsa state. The result shows that for confirmed cases, Child (infant) has 5 (9%) cases, farming has 6 (10%), Public servant has 16(27%) cases while Pupil has 3(5%) cases. The self employed and private business owners are 15(25%) while the student are 14(24%) cases. The result of the study agreed with that of a Chizaram O. et al(2024). In a retrospective observational study on Epidemiology, clinical presentation and outcome of human Mpox in Rivers state involving 35 participants, the result shows that 24(68.6%) were male and 11(31.4%) were female. Also in a prospective cohort study of 850 confirmed cases of Mpox in Bujumbura, Burundi, the result shows that 54.4% were male (Lilian, N., et al, 2025). also according to Dimie Ogoina et al (2024) in their study on Mpox Epidemiology and risk factors, Nigeria , 2022, the result shows that young adult (18- 35 Years) has an aOR of 3.93 with a P-value of <0.0000

and old adult with aOR of 4.75 with P-value of <0.001 which were significant.

Risk factors and Mpox infection

To determine significant association between sociodemographic determinants and Mpox infection, result of binary logistic regression shows that the young adults are 2.777 more likely of having Mpox than other age group and the association is real because it is statistically significant. The 95% confidence interval lies between (1.489-5.180). Also, the old adult have are 2.997 more likely to have Mpox infection than other age group and the positive association is statistically significant. The association is real. The 95% confidence interval lies between (1.409-6.374). According to Dimie Ogoina et al (2024) in their study on Mpox Epidemiology and risk factors, Nigeria , 2022, the result shows that young adult (18- 35 Years) has an aOR of 3.93 with a P-value of <0.0000 and old adult with aOR of 4.75 with P-value of <0.001 which were significant. This study tend to support the result of our study.

On Occupation, the child (Infant) has a negative association with an odds ratio of 0.187 less likely of having Mpox infection than other occupation and the association is statistically significant indicating that the negative association is protective. The self employed /private business also have a significant association with Mpox infection. This result is supported with the response of our interview on table 4.1.20. were it was noted that most Mpox cases reported are into private business.

On place of residence, binary logistic regression result shows that those that lives in rural settlement are 0.292 less likely to have Mpox infection than other groups and the 95% confidence interval lies between 0.155 - 0.548 while those that reside in the urban areas are 3.430 more likely to have Mpox infection than others. The 95% confidence lies between 1.825 - 6.446 and the association is statistically significant. According to Dimie Ogoina et al (2024) in their study on Mpox Epidemiology and risk factors, Nigeria , 2022, the result shows

that young adult (18- 35 Years) has an aOR of 3.93 with a P-value of <0.0000 and old adult with aOR of 4.75 with P-value of <0.001 which were significant.

Findings

The following are the summary of my findings:

1. More cases of confirmed and suspected Mpox are clustered in Yenagoa Local government area the capital of of Bayelsa State.

2. The young and old adult Age group are significantly associated with Mpox infection in Bayelsa state. The result of the study shows that young adult have an odds ratio of 2.777 times more likely to have Mpox infection than other age group with a confidence interval that lies between 1.489 - 5.180. Also the old adult age group have an odds ratio of 2.997 times more likely of have Mpox infection than other age group with a confidence interval that lies between 1.409 - 6.374

3. Male gender: Mpox infection affect both male and female but male gender are mostly affected than the female. Result from the study shows a positive association between the male and Mpox infection. The odds ratio (OR) for the male is 1.125 which is a positive association indicating that the male are 1.125 more likely to have Mpox infection than others. The 95% confidence interval lies between (0.615-2.060). There is no statistical significant in the association.

4. **Occupation:** The result of the study reveals that occupation that are significantly associated with Mpox infection in Bayelsa state are public servants and self employed / private businesses. Other occupations that have positive association with Mpox infection though not statistically significant are the farmers and pupils.

5. **Urban dwellers:** Most cases of Mpox infection are reported among residents of urban settlements in Bayelsa state. Result of the study shows a significant association between urban settlement and Mpox infection. The odds of having Mpox infection is 3.430 times higher among those than live in urban settlement than those that live in rural settlement.

Study limitations

Some of our limitations are recall bias and incomplete documentation of Mpox cases.

CONCLUSION

In conclusion, a total of 222 cases of Mpox were reviewed with 59 (27%) confirmed and 163 (73%) suspected. The result shows a total of 59 (27 %) confirmed cases with 35 male and 24 female while suspected cases were 163 (73%) with 92 male and 71 female. The mean age for confirmed Mpox was 29 Years while that for suspected Mpox was 19 years. . Spacial analysis shows that more cases of Mpox are clustered within Yenagoa and the its neighbouring. local governments such as Southern Ijaw, Kolokuma/Opukuma and Ogbia. The age group that are significantly association with Mpox infection are the young and old adult group. . Occupations that are significantly associated with higher risk of having Mpox are the Public servant and the private business owner while those that reside in urban settlement have a higher likelihood of having Mpox than those in rural communities. From the study we conclude that Mpox infection involve a complex interplay of multiple determinants or risk factors that contribute significantly to the development and transmission of the disease in an individual or population.

Recommendations

Base on the findings of this study the following are the recommendations:

1. **Strengthen case management and infection Prevention and control measure;** Deliberate steps should be taken to improve clinical practice and management of Mpox cases at the Primary Health Care facilities in the Local Government areas. **Conduct a Mass vaccination campaign for Mpox:** To have an effective control of Mpox infection, there should be mass vaccination campaign on Mpox in the state with expected coverage of about 95% especially among hig risk group.

2. **Avoid direct contact with a suspected case of Mpox infection:** Having physical or sexual

contact with a suspected case of Mpox infection is a risk factor therefore people should avoid having direct physical and sexual contact with a suspected case. Strengthening of Mpox surveillance and Outbreak Response System; Improve Mpox surveillance through capacity building of disease surveillance officers in the state to detect, and timely investigate all reported cases of Mpox infection in Bayelsa state will help to strengthen Mpox surveillance and effective response to public health emergencies, Community involvement in active case search, contact tracing, data collection and analysis for decision making.

Contributions to knowledge

The study contribute to the body of knowledge as it proffer strategies for the effective control and prevention of Mpox infection in Nigeria.

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