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Research Article

Determinants of Vaccine Uptake Against Mpox Among Key Populations in Goma, 2024-2025.

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Abstract:

In Goma, Democratic Republic of Congo, vaccine uptake within these communities has been notably high, despite the obstacles posed by ongoing humanitarian crises and widespread misinformation. This study sought to explore the sociocultural, organizational, and communication factors that contribute to this remarkable level of vaccination adherence. Between September 2024 and January 2025, a cross-sectional study was carried out involving 420 participants from key populations including sex workers, men who have sex with men, transgender persons, and people who inject drugs across the Goma, Karisimbi, and Nyiragongo health zones. Data were gathered using structured questionnaires through proportional purposive sampling. Statistical analyses were performed in STATA and SPSS, applying logistic regression models with significance set at $p \leq 0.05$. The study found an overall Mpox vaccine uptake of 81% among key populations. Key factors driving adherence included positive social acceptance (OR = 19.85), the influence of peer educators (OR = 42.91), viewing vaccination as a form of social protection (OR = 24.047), and the effect of information received (OR = 8.47). Intriguingly, certain beliefs traditionally deemed irrational such as perceiving Mpox as a community manipulation (OR = 84.9) were unexpectedly linked to higher vaccination rates. Engagement in welcoming health centers (99.7%) and living within 10 km of these facilities (82%) further facilitated uptake. Conversely, fear of side effects (43.8%) and insufficient information (28.7%) continued to hinder vaccination among those not yet immunized. In Goma, vaccine adherence is shaped by community interactions, distinct cultural perceptions, and context-specific communication strategies.

Keywords: Mpox; vaccine uptake; key populations

1 Background

Mpox, previously referred to as monkeypox, is an emerging infectious disease that has experienced notable shifts in its epidemiological pattern, attracting heightened international concern. While historically limited to endemic areas in Central and West Africa since the 1970s, the disease has spread beyond these regions since 2022[6], disproportionately impacting men who have sex with men (MSM), who constitute approximately 80% of cases reported in non-endemic countries[1,2]. In addressing this emerging threat, various studies have sought to identify factors influencing Mpox vaccine acceptance. Nonetheless, current systematic reviews are constrained by the limited number of studies included, insufficient coverage of all six WHO regions, and a lack of focus on vaccine intention among high-risk key populations[3,4]. Data from Sub-

Saharan Africa highlight significant variation in Mpox vaccine acceptance, shaped by social, cultural, and structural determinants[5]. Notably, a recent meta-analysis found that 73.6% of LGBTQI+ individuals in Nigeria were willing to be vaccinated, in contrast to a global acceptance rate of 39.8% [6].

In Goma, Democratic Republic of Congo, a significant Mpox outbreak emerged in early 2024, reporting over 30,000 suspected cases and nearly 1,000 deaths. The outbreak unfolded within a complex humanitarian setting characterized by armed conflict, large-scale displacement, and limited health infrastructure. Despite these obstacles, a targeted vaccination campaign in October 2024, distributing 265,000 doses, achieved remarkable adherence among key populations including sex workers, transgender persons, MSM, and people who inject drugs attaining an estimated coverage of 85%[7]. The remarkably high Mpox vaccine uptake in Goma despite pervasive vaccine skepticism, stigma, and insecurity contrasts sharply with trends observed elsewhere in Africa. This prompts an important question: which factors facilitated such adherence among vulnerable key populations in this context? Whereas prior studies have largely emphasized vaccine hesitancy or epidemiological determinants, there is a paucity of research exploring the conditions that promote vaccine acceptance in highly fragile settings [8-12].

The objective of this study was to explore the factors driving Mpox vaccine uptake among key populations in Goma. It particularly focuses on organizational, sociocultural, and cultural determinants of vaccine adherence, while also assessing the effectiveness of awareness campaigns implemented during the vaccination rollout.

2. Materials and Methods

2.1 Study setting

The research was carried out in Goma, encompassing the Goma, Karisimbi, and Nyiragongo health zones in North Kivu Province, Democratic Republic of Congo.

2.2 Study design and period:

A descriptive cross-sectional study employing both quantitative and qualitative methods was conducted to investigate the factors influencing Mpox vaccination among key populations. The research spanned five months, from September 2024 to January 2025.

2.3 Target Population:

Participants included sex workers, transgender individuals, men who have sex with men, and people who inject drugs living in Goma.

2.4 Study population:

The study included 420 participants drawn from key populations living in the Goma, Karisimbi, and urban Nyiragongo health zones. The sample comprised 270 sex workers, 90 men who have sex with men, 45 transgender persons, and 15 people who inject drugs.

2.5 Data collection methods:

Tools: Quantitative data were collected using a structured questionnaire aligned with the study objectives, while qualitative data were gathered through a semi-structured interview guide.

Sources: Participants provided information via surveys and individual interviews.

Procedure: Trained peer educators administered the questionnaires at sites known to be commonly accessed by key populations.

2.6 Data analysis:

Data were entered into Microsoft Excel and analyzed using STATA and SPSS version 20. Descriptive statistics, including frequencies and percentages, were used to summarize the characteristics of the study sample. Bivariate associations between independent variables and vaccination status were assessed using the Chi-square test, with significance defined at $p \leq 0.05$. Subsequently, multivariable binary logistic regression was applied to calculate odds ratios (OR) with 95% confidence intervals (CI) and p-values, allowing for quantification of the strength and direction of significant associations identified in the bivariate analysis.

3. Results

Figure 1: Mpox Vaccination Status among Key Populations

Overall, 81% of key populations received the Mpox vaccine, leaving 19% no vaccinated (see figure 1).

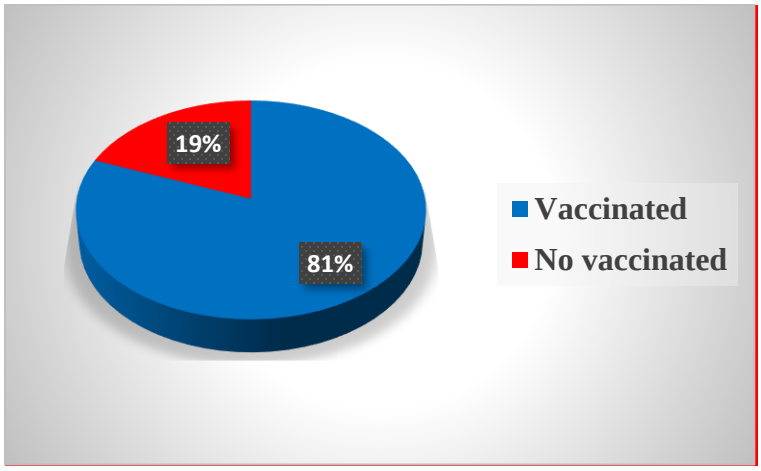

Figure 1: Vaccination Coverage Against Mpox in Key Populations.

The Descriptive Characteristics of Participants are presented in Table 1.

Variables		Frequency(n=420)	Pourcentage
Age (A Year)			
	<18	12	2.9
	19-24	125	29.8
	25-34	165	39.3
	35-44	86	20.5
	>45	32	7.6
Gender			
	Male	113	26.9
	Female	307	73.1
Education level			
	No education	94	22.4
	Primary	108	25.7
	Secondary	188	44.8
	University	30	7.1

The majority of participants were young adults aged 18-34 years (69.1%) and predominantly female (73.1%). Most had completed secondary education (44.8%), and a large proportion were single (88.8%). Among key populations, sex workers constituted the largest group (62.9%), followed by men who have sex with men (20.5%), transgender individuals (11.6%), and people who inject drugs (5.0%).

The Organizational Determinants is shown in table 2.

Variables	Reasons for Non-Vaccination						Vaccination site			Distance traveled to access the vaccination center				Perceived cost of vaccination				Previous experience with vaccination services				
		Lack of information about the vaccination	Fear of side effects	Difficulty accessing the vaccination center	Individual decision	Others		centered vaccination center	Mobile clinic		<5 km	5-10 km	> 10 km		None	Transport	Loss of income-generating activity		Highly satisfactory	satisfactory	partially satisfactory	Completely unsatisfactory
Vaccinated								399(99.7%)	1(0.3%)		128(37.6%)	152(44.7%)	60(17.6%)		128(37.6%)	152(44.7%)	60(44.7%)		159(46.8%)	85(25.0%)	84(24.7%)	12(3.5%)
No vaccinated		23(28.7%)	35(43.8%)	6(7.5%)	12(15.0%)	4(5.0%)													8(10.0%)	10(12.5%)	33(41.25%)	29(36.25%)

Organizational barriers significantly shaped Mpox vaccine uptake. Among unvaccinated participants, fear of side effects (43.8%) and insufficient information (28.7%) were the primary obstacles, with personal refusal (15%) and access challenges (7.5%) also reported. Nearly all vaccinated individuals (99.7%) received their doses at friendly centers, emphasizing the pivotal role of these facilities in facilitating access. Over 80% of vaccinated participants traveled less than 10 km to vaccination sites, reflecting favorable geographic proximity. Nonetheless, perceived costs such as transportation (44.7%) or lost income opportunities—remained important considerations. Prior experiences with vaccination services further influenced adherence: 46.8% of vaccinated participants rated their experiences as "very satisfactory," while only 10% of the unvaccinated did so. In contrast, more than 77% of the unvaccinated deemed their prior experiences "poor" or "unsatisfactory.

Sociocultural factors associated with Mpox vaccine uptake among key populations is detailed in table 3.

Variables		Perceived societal stigma associated with vaccination			Marital status				categories					Social acceptability of vaccination			Influence of Peer Educators on Vaccination Decisions		
			Yes	No		Single	Maried	Divorced		MSM	PS	TG	UDI		Yes	No		**Yes**	**No**
Vaccinated	(N=340)		45(63.2%)	35(38.8%)		305(89.7%)	9(2.6%)	26(7.6%)		76(22.4%)	204(60.0%)	44(12.9%)	5(23.8%)		48(14.2%)	292(85.9%)		327(96.2%)	13(3.8%)
No vaccinated	N =80)		128(37.3%)	212(62.7%)		68(85.0%)	2(2.5%)	10(12.5%)		10(12.5%)	60(75.0%)	5(6.2%)	16(76.2%)		0(0.0%)	80(100%)		2(2.5%)	78(77.5%)
P value		1.017			**0.037**				**<0.001**					**0.012**			**<0.001**		
X^2		1.004			**18.1**				**429.2**					**58.1**			**333.99**		

Bivariate analyses identified several sociocultural factors significantly associated with Mpox vaccination adherence ($p \leq 0.05$). Marital status was linked to vaccination ($\chi^2 = 18.1$, $p = 0.037$), with single individuals more frequently vaccinated and divorced participants more often unvaccinated. Sociocultural category strongly influenced uptake ($\chi^2 = 429.2$, $p < 0.001$), with MSM and TG showing higher vaccination rates, while PWID were predominantly unvaccinated. Positive social acceptability ($\chi^2 = 58.1$, $p = 0.012$) and the supportive role of peer educators ($\chi^2 = 333.99$, $p < 0.001$) emerged as major facilitators, with nearly all vaccinated participants reporting favorable peer influence and social acceptance. Conversely, perceived social stigma did not show a significant association with vaccination status ($\chi^2 = 1.004$, $p > 0.05$).

Cultural factors influencing Mpox vaccine uptake is presented in table 4.

Variables		Prior knowledge of Mpox			Perception of the Origin of Mpox						Rumors from the community about vaccination					Perception of the importance of vaccination			Influenced by someone in the vaccination decision						Influence of social status on vaccination decision			Positive perception of vaccination		
			Yes	No		A divine punishment linked to sexual practices	An ancestral or family curse	Community manipulation	A natural disease	A religious or spiritual test of faith		The vaccine is effective and safe	The vaccine is a plot against Africa	The vaccine causes sterility or impotence	No rumor heard		Yes	No		Yes	No						Yes	No		yes	No
Vaccinated	(N =340)		336(99.1%)	3(0.9%)		50(14.9%)	42(12.5%)	21(5.1%)	197(58.6%)	30(8.9%)		308(81.1%)	6(1.6%)	0(0.0%)	26(6.8%)		293(86.1%)	47(13.9%)		76(22.4%)	204(60.0%)						310(91.7%)	30(8.3%)		295(86.8%)	331(97.6%)	9(2.4%)
No vaccinated	N=80		79(98.8%)	1(1.2%)		68(71.3%)	8(10.0%)	11(13.7%)	4(5.0%)	0(0.0%)		19(23.7%)	48(60.0%)	13(16.3)	0(0.0%)		80(100.0%)	0(0.0%)		10(12.5%)	60(75.0%)						0(0.0%)	80(100%)		80(100%)	2(2.5%)	78(97.5%)
P value		0.57			<0.001						0.001					<0.001			<0.001			0.002							<0.001		
X^2		0.09			23.43						14.092					12.49			429.2			52.9							359.16		

Bivariate analyses revealed significant associations between cultural factors and Mpox vaccination among key populations ($p < 0.05$). Participants' beliefs about the origin of the disease ($\chi^2 = 23.43$, $p < 0.001$) differentiated vaccinated from unvaccinated individuals, with non-vaccinated participants more likely to view Mpox as divine punishment. Exposure to negative vaccine rumors was linked to non-vaccination ($\chi^2 = 14.09$, $p = 0.001$), while recognition of the vaccine's importance ($\chi^2 = 12.49$, $p < 0.001$) and social influence on vaccination decisions ($\chi^2 = 429.2$, $p < 0.001$) were strong facilitators. Moreover, positive attitudes toward vaccination itself were highly correlated with uptake ($\chi^2 = 359.16$, $p < 0.001$).

The Impact of Awareness Campaigns associated with Mpox vaccine uptake among key populations is summarized in table 5.

Variables		Participation in an Awareness Session			Awareness/communication channel used					Impact of Information on Vaccination Decision			Perception of the Adequacy of Awareness Campaigns						Context of peer educator intervention				Perception of the Role of Peer Educators in Promoting Vaccination		
			Yes	No		Health worker	socio media	peer educators	Others		Yes	No		Yes	No					Community meetings	Individual session	Others		Yes	No
Vaccinated	N=340		311(91.4%)	29(8.6%)		8(2.4%)	36(10.6%)	295(79.4%)	1(0.3%)		278(81.7%)	62(18.3%)		337(99.1%)	3(0.9%)					108(32.1%)	197(57.4%)	35(10.4%)		330(93.2%)	10(6.8%)
No vaccinated	N=80		2(2.5%)	78(97.5%)		0(0.0%)	0(0.0%)	70(87.5%)	10(12.5%)		2(2.5%)	78(97.5%)		0(2.5%)	78(97.5%)					0(0.0%)	67(88%)	13(12%)		5(5.3%)	75(94.7%)
P value		<0.001			0.061					<0.001			<0.001			0.092						0.017		
X^2		269.28			3.62					182.53			387.42			2.9						54.004		

Bivariate analyses indicated a strong association between attending awareness sessions and Mpox vaccine adherence ($\chi^2 = 269.28$, $p < 0.001$), with most vaccinated participants having participated in these sessions. The perceived influence of information on vaccination decisions ($\chi^2 = 182.53$, $p < 0.001$) and the belief that awareness campaigns were sufficient ($\chi^2 = 387.42$, $p < 0.001$) were also strongly linked to uptake. While the communication channel used ($\chi^2 = 3.62$, $p = 0.061$) and the context of peer educator interventions ($\chi^2 = 2.9$, $p = 0.092$) were not significant, acknowledgment of peer educators' role in promoting vaccination was significantly associated with adherence ($\chi^2 = 54.0$, $p = 0.017$).

Results of multivariate analysis of Sociocultural Factors Influencing Mpox Vaccination uptake are shown in table 6.

Mpox Vaccine Uptake in the Initial Phase	[95% Conf.	Interval]	Odds Ratio	P value
Marital status				
Single	Ref.		1.0	Ref.
Married	0.2988696	1.046431	0.5692374	0.069
Divorced	0.507339	3.820377	1.76336	0.063
Categories				
PS	Ref.		1.0	Ref.
MSM	0.1431681	4.641827	0.045976	0.965
TG	0.3369899	3.47807	0.082624	0.894

UDI	0.041235	2.1777	0.2996621	0.234
Social Acceptability of Vaccination				
No	Ref.		1.0	Ref.
Yes	5.2380183	59.847339	9.70413	**0.016**
Influence of Peer Educators on Vaccination Decisions				
No	Ref.		1.0	Ref.
Yes	14.3142244	62.91058	4.110017	**0.003**

The results revealed that positive social acceptability of vaccination (OR = 19.85; 95% CI: 5.24-9.70; p = 0.016) and peer educator influence (OR = 42.91; 95% CI: 14.31-4.11; p = 0.003) were strongly associated with higher Mpox vaccine uptake. Being divorced showed a marginally significant association with vaccination (OR = 3.82; 95%

CI: 0.51-1.76; p = 0.063), whereas other sociocultural categories, including MSM, TG, and PWID, did not demonstrate a significant relationship with adherence (p > 0.2).

Multivariate analysis of Cultural Factors Influencing Mpox Vaccination uptake is presented in table 7.

Mpox Vaccine Uptake in the Initial Phase	[95% Conf.	Interval]	Odds Ratio	P value
Perception of the Origin of Mpox				
A divine punishment linked to sexual practices	Ref.		1.0	Ref.
An ancestral or family curse	0.2774188	5.088268	0.188154	0.121
Community manipulation	27.0018124	84.8877657	10.0401127	**0.001**
A natural disease	13.0799357	50.339947	5.5889962	**0.022**
A religious or spiritual test of faith	0.1480463	8.904068	1.148135	0.895
Rumors from the community about vaccination				
The vaccine is effective and safe	Ref.		1.0	Ref.
The vaccine is a plot against Africa	0.0733303	18.92078	1.177908	0.908
The vaccine causes sterility or impotence	0.1069239	3.102906	0.575999	0.521
No rumor heard	0.0799357	4.339947	0.5889962	0.603
Perception of the importance of vaccination				
No	Ref.		1.0	Ref.
Yes	8.4641765	120.9846	7.493877	**0.006**
Influence of social status on vaccination decision				
No				
Yes	8.2723372	68.51257	4.319551	**0.019**
Positive perception of vaccination				
No	Ref.		1.0	Ref
Yes	14.44748	24046.67	17.4181	**0.001**
Influenced by someone in the vaccination decision				
No	Ref		1.0	Ref.
Yes	0.0406717	5.11038	0.010585	0.995

Multivariate analysis indicated that cultural beliefs about the origin of Mpox specifically viewing it as a community manipulation (OR = 84.9, p = 0.001) or a natural disease (OR = 50.3, p = 0.022) were strongly associated with increased vaccine uptake. Furthermore, acknowledgment of the vaccine's importance (OR = 121, p = 0.006), the effect of social status (OR = 68.5, p = 0.019), and a favorable perception of the vaccine itself (OR = 24,047, p = 0.001) were identified as major factors facilitating adherence. Conversely, circulating vaccine rumors and direct external influence on vaccination decisions were not significantly linked to uptake.

Multivariate analysis of Awareness Campaign-Related Factors Influencing Mpox Vaccination uptake is summarized in table 8.

Mpox Vaccine Uptake in the Initial Phase	[95% Conf.	Interval]	Odds Ratio	P value
Impact of Information on Vaccination Decision				
No	Ref.		1.0	Ref
Yes	1.2342449	8.467485	7.408355	**0.023**
Perception of the Adequacy of Awareness Campaigns				
No	Ref.		1.0	Ref.
Yes	0.1480463	8.904068	1.148135	0.895
Perception of the Role of Peer Educators in Promoting Vaccination				

No	Ref.		1.0	Ref.
Yes	3.1069239	43.102906	4.575999	**0.041**
Participation in an Awareness Session				
No	Ref.		1.0	Ref.
Yes	0.0537964	3.154543	0.4119502	0.393

Multivariable logistic regression revealed that participants' perception of the influence of information on their vaccination decision (OR = 8.47, p = 0.023) and acknowledgment of peer educators' role in promoting vaccination (OR = 43.10, p = 0.041) were strongly associated with increased Mpox vaccine adherence. However, neither the perceived adequacy of awareness campaigns nor actual attendance at an awareness session showed a statistically significant association in this model.

4. Discussion

4.1 Organizational Determinants Influencing Mpox Vaccine Uptake

The analysis of organizational barriers to Mpox vaccination highlighted four primary obstacles: concerns about side effects (43.8%), insufficient information (28.7%), personal refusal (15%), and challenges related to access (7.5%). The high prevalence of fear of adverse effects reflects a global pattern, exemplified by U.S. data in which 62% of COVID-19 vaccine-hesitant individuals reported similar concerns, often exacerbated by misinformation and lack of trust in institutions[15,16]. However, unlike in some African contexts where social stigma represents a major barrier, it was reported infrequently in our sample [12]. Logistics played a pivotal role in vaccine uptake, as nearly all vaccinated participants (99.7%) utilized welcoming vaccination centers, and over 80% were within 10 km of a site, indicating a successful urban decentralization approach. This contrasts with findings from Nigeria, where half of the population had to travel more than 20 km to reach vaccination services[12]. The results underscore the effectiveness of welcoming vaccination centers similar to those in France and Australia as non-stigmatizing environments that enhance vaccine acceptability[12]. Economic barriers, cited by 44.7% of unvaccinated individuals, align with findings reported by Espinoza in Peru in 2023[13] In contrast, countries with robust social safety systems, like Canada, implement free vaccination or compensation programs that contribute to improved vaccine coverage [3]. The quality of the vaccination experience was a key determinant: 46.8% of vaccinated individuals described it as "very satisfactory," compared with only 10% among the unvaccinated, highlighting the strong influence of positive experiences on vaccine adherence[13], Conversely, Constantino (2022) reported that negative vaccination experiences undermine confidence in vaccine programs [14]. The results emphasize the importance of prioritizing service quality and user experience as critical indicators, complemented by targeted communication strategies and financial support measures.

4.2 Sociocultural Determinants Influencing Mpox Vaccine Uptake

The study demonstrates that collective sociocultural factors play a critical role in Mpox vaccination adherence. Perceived social acceptability increased the odds of vaccination nearly tenfold (OR = 9.7), emphasizing the influence of community norms. Peer educators also had a substantial effect (OR = 4.1), reinforcing their importance in vaccine promotion, especially in settings with institutional distrust like Goma. Notably, membership in key populations was not significantly associated with uptake (p > 0.2), suggesting the success of inclusive local strategies. These findings highlight the need to further empower peer educators through integration into health services and engagement of community leaders to enhance social acceptance. Limitations include the absence of data on religious beliefs, potential underrepresentation of certain high-risk groups, and the risk of social desirability bias.

4.3 Cultural Determinants Influencing Mpox Vaccine Uptake

Cultural factors influencing Mpox vaccination are heterogeneous, shaped by social norms, local beliefs, and health system organization. The "7C" model provides a framework to examine how trust, social conformity, and institutional context interact differently across cultural settings[15]. Interestingly, certain irrational beliefs such as viewing Mpox as a community manipulation (OR = 10) or a natural disease (OR = 5.5) were paradoxically linked to increased vaccination likelihood, suggesting that perceived threats can act as catalysts for adherence. The significant influence of peer educators (OR = 7.4) emphasizes their critical role in settings with low institutional legitimacy. Cross-cultural comparisons reveal variability: in Bangladesh, vaccine uptake is associated with education and marital status, with divorced individuals three times more likely to be vaccinated, possibly reflecting higher personal autonomy in health decisions [16]. Cultural drivers of vaccine adherence vary substantially in Western contexts. Social conformity has a limited impact (OR = 1.4 in Sweden), while personal trust in institutions is pivotal. In France, leveraging non-stigmatizing community centers achieved a 75% vaccination rate among MSM, compared with only 22–34.8% among healthcare workers, revealing notable distrust even within medical professionals[16]. The results carry significant operational relevance. In collectivist settings like the DRC, engaging traditional authority figures, including religious leaders and community chiefs, is a crucial strategy. Lessons from Sierra Leone, where imams were actively involved during the Ebola outbreak, demonstrate the effectiveness of this approach in improving vaccination adherence[15]. Key research priorities include validating culturally adapted psychometric instruments (such as the 7C model in the DRC), conducting qualitative analyses to understand how conspiracy beliefs may promote vaccine adherence, and experimentally testing hybrid approaches that integrate digital influencers with peer educators.

4.4 Influence of Awareness Campaigns on Mpox Vaccination Adherence

Perceived informational impact is a critical driver of vaccination adherence, as participants who believed the messaging influenced their decision were significantly more likely to be vaccinated (OR = 7.4; p = 0.023). This underscores that the effectiveness of communication relies more on perceived relevance and credibility than on simple exposure[17]. A positive perception of peer educators' role emerged as the strongest predictor of vaccination adherence (OR = 43.10; p = 0.041), underscoring their strategic importance in settings of institutional distrust, such as eastern DRC. Conversely, the perceived adequacy of awareness

campaigns showed no significant association with vaccine uptake (OR ≈ 1; $p > 0.05$), indicating that information density alone does not guarantee effectiveness unless messaging is tailored to the specific needs of target populations a trend consistently observed in information-saturated environments[17]. International evidence offers further perspective on effective vaccination strategies. In the DRC, integrating community campaigns with engagement of traditional and religious leaders, and leveraging local radio and vernacular-language materials, markedly decreased refusal rates[2]. In both France and Canada, implementing decentralized and inclusive strategies has resulted in high vaccination coverage, reaching 75-81% among key populations [15]. Nevertheless, assessments frequently rely on narrow quantitative metrics, overlooking the substantial yet less visible influence of informal peer educators. These findings inform practical recommendations: incorporate peer educators, implement hybrid digital and face-to-face interventions, and prioritize measuring genuine engagement over simple information dissemination. In contexts of crisis or institutional fragmentation, like Goma, campaign effectiveness relies more on embedding initiatives within community structures than on the quantity of information disseminated.

5. Study Limitations

This study has notable limitations, including its urban-focused sample which limits extrapolation to rural settings, underrepresentation of specific key populations, omission of critical variables (socioeconomic status, religion, social media exposure), use of non-probabilistic sampling prone to selection bias, potential social desirability bias from peer interviewers, and a cross-sectional design that precludes causal conclusions.

6. Conclusion

The findings indicate that Mpox vaccination adherence is strongly driven by sociocultural and community dynamics, with peer educators and social acceptability being pivotal in contexts of institutional distrust. Strengthening the formal role of peer educators through ongoing training and official recognition is recommended. Moreover, tailoring communication materials to local languages and cultural frameworks, in collaboration with religious and traditional leaders, is critical to enhance campaign effectiveness. Despite study limitations, these results offer actionable insights for improving vaccine coverage, while further qualitative and psychometric research is warranted to better understand cultural drivers and refine hybrid mobilization strategies.

7. Declarations

Ethics Approval and Consent to Participate

Ethical approval for this study was obtained from the **Ethics Committee of the University of Goma (UNIGOM)** under approval number **UNIGOM/CEM/007/2024.** All participants were fully informed about the study objectives, procedures, potential risks, and benefits. **Verbal informed consent** was obtained from all participants following ethics committee authorization. The research was conducted **in accordance with the ethical principles outlined in the Declaration of Helsinki (2013 revision)**. Participation was voluntary, anonymous, and confidential, and participants were free to withdraw at any time without consequence.

Consent for Publication

Not applicable.

Availability of Data and Materials

The datasets generated and analysed during this study are available from the corresponding author upon reasonable request. To protect participant confidentiality, only de-identified data will be shared.

Competing Interests

The authors declare that they have no competing interests.

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All authors contributed to data interpretation, revised the manuscript critically, and approved the final version for submission.

Clinical trial registration

Not applicable.

Clinical Trial registration

This study was not a clinical trial. Clinical trial number: not applicable

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