Journal: Texila International Journal of Academic Research
Publisher: Texila International Journal
ISSN: 2520-3088
Volume 13 Issue 1, 2026
DOI: 10.21522/TIJAR.2014.13.01.Art022

Factors Associated to the Resurgence of Ebola Virus Disease within the Population in Beni Health Zone 2025

Douglas Kambale Asifiwe[1,2*], Kouamé Stanislas KAFFLOUMAN[1,2,3], Isaac Muyonga[4], Paulin Mutombo Beya[5]

[1]*Department of Public Health, Texila American University, Zambia*
[2]*Department of Public Health, Central University of Nicaragua, Nicaragua*
[3]*Department of Public Health, Bridgefield University, Zambia*
[4]*Department of Health and Community Development, Free University of the Great Lakes Region, Goma*
[5]*Department of Public Health, University of Kinshasa*

Abstract

The second largest Ebola outbreak recorded worldwide was reported on August 1, 2018, and declared over on June 25, 2020. A total of 3470 cases were reported, including 3317 confirmed and 153 probable cases. There were 2287 deaths, including 2134 among confirmed cases and 153 among probable cases. The epidemic lasted two years, and the ongoing conflict made its management particularly challenging. Despite progress, the epidemic continues to resurface in neighboring countries, provinces, and health zones within the Beni Health Zone. Our study is descriptive and correlational, with a quantitative approach, as we described the relationship between household knowledge, attitudes, and practices regarding Ebola. Investigators, under close supervision, collected data through direct interviews for the quantitative data, based on a questionnaire administered to households. The results of the analysis confirm that the factors associated with the resurgence of Ebola virus disease (EVD) in the population of Beni Health Zone are linked to the following sociodemographic factors: the respondent's sex : OR: 6.367 [1.664; 24.364] and (p=0.007<0.05); OR: 2.770 [1.190; 6.448]; and the level of education: OR: 3.798 [1.597; 54.902] and (p=0.013<0.05). The application of best prevention practices will help prevent the resurgence of EVD in Beni Health Zone.

Keywords: *Associated, Beni, EVD, Factors, Population, Resurgence.*

Introduction

The Ebola Virus Disease (EVD) first appeared in 1976, during two simultaneous outbreaks in Nzara (now South Sudan) and Yambuku (Democratic Republic of Congo). Yambuku is located near the Ebola River, which gave the disease its name. The Filoviridae virus family has three genera: Cuevavirus, Marburgvirus, and Ebolavirus. Six species have been identified within Ebolavirus: Zaire, Bundibugyo, Sudan, Reston, Tai Forest, and Bombali. The average case fatality rate for this disease is approximately 50%. In previous outbreaks, case fatality rates have ranged from 25% to 90% depending on the circumstances and response [1].

The 2014 - 2016 outbreak in West Africa was the largest since the virus was discovered. It was the thirteenth Ebola Virus Disease outbreak since its discovery. There were more cases and deaths in this outbreak than in all others combined. The outbreak rapidly spread from Guinea to neighboring Sierra Leone and Liberia. In July 2014, it had reached the capital

Received: 13.11.2025 ***Accepted: 12.12.2025*** ***Published on: 30.01.2026***
****Corresponding Author: douglasasifiwe@gmail.com***

cities of these three countries, and in August 2014, the World Health Organization (WHO) declared the outbreak a Public Health Emergency of International Concern (PHEIC). During the outbreak, the disease spread to seven other countries: Italy, Mali, Nigeria, Senegal, Spain, the United Kingdom (UK), and the United States (US). Secondary infections occurred in Italy, Mali, Nigeria, and the United States. In June 2016, the epidemic was declared over. More than 28600 people were infected and 11325 people died [2].

The provinces of North Kivu and Ituri are facing the tenth episode of the Ebola virus since 2018, which has already caused more than 2280 deaths. Most of the people infected and who died from this virus were so because of the denial of the existence of the disease and the failure to comply with protective measures. However, it should be noted that compliance with and application of protective measures against this disease largely depend on the trust and, above all, the population's perception of the disease, the response system, and especially the care quality they received [3].

The second largest Ebola outbreak ever recorded worldwide was reported on August 1st, 2018 and declared over in June 25, 2020. A total of 3470 cases, including 3317 confirmed cases and 153 probable cases, were reported. There were 2287 deaths, including 2134 confirmed cases and 153 probable cases. The outbreak, which lasted nearly two years, was particularly challenging to manage due to its unfolding in an active conflict zone [4].

The response was hampered in the Beni Health Zone by community tensions, attacks on vehicles, and even the killing of some response personnel. The factors fueling this social resistance included a crisis of confidence in the quality of care in treatment centers (ETCs), a lack of trust in the response team and contempt for expatriates, who according to local residents came to profit from the epidemic and finally, the more economic dimension of response [5].

Another epidemic struck the DRC in 2019 (North Kivu), causing more than 2000 deaths. In 2021, several cases were again detected in the Nzérékoré region, in southeastern Guinea and the DRC, in North Kivu, in the Beni Health Zone [6].

Furthermore, the daily practices of the population can constitute a risk, among other things, burial ceremonies involving direct contact with the body of the deceased can also contribute to the transmission of Ebola [7].

A particular category of the population vulnerable to Ebola virus disease (EVD) infection consists of healthcare professionals during an outbreak; they are in contact with patients, their families, or others in close contact with them [8].

The activities related to bushmeat consumption are very likely a significant factor in the occurrence of an EBOV spillover event [9].

Regardless of the progress made in prevention and treatment in the Democratic Republic of Congo in general and in North Kivu Province in particular, the epidemic has continued to resurge in the neighboring country, in the provinces and Health Zones adjacent to the Beni Health Zone ; this poses a real threat ; however, the fight against Ebola Virus Disease must continue to prevent a new epidemic in the region.

The symptoms appear 2 to 21 days after exposure to the virus, with an average of 10 days. The main symptoms of Ebola virus disease are:

1. Fever greater than 38.6°C or 101.5°F.
2. Severe headache.
3. Muscle pain.
4. Weakness.
5. Vomiting.
6. Diarrhea.
7. Abdominal pain.
8. Unexplained bleeding or bruising [10].

The protection against Ebola Virus Disease can be achieved by : (i) washing hands ; (ii) avoiding touching the body fluids of a person who has or may have Ebola virus disease ; (ii)

avoiding contact with the body of a person who has died from Ebola ; and (iv) by getting vaccinated against Ebola if you are at risk of contracting Zaire Ebolavirus.

The Ervebo vaccine has been shown to be effective in protecting against Zaire Ebolavirus and is recommended by the Strategic Advisory Group of Experts (SAGE) on vaccination as part of a broader package of Ebola outbreak response interventions [1] (Figure 1).

Based on the above findings, the following questions should be asked:

1. What factors are associated within the resurgence of Ebola Virus Disease in the population of Beni Health Zone?
2. What are the best predictors of the resurgence of Ebola Virus Disease in the population of Beni Health Zone?
3. Do sociodemographic characteristics (religious denomination, profession, level of education, age, socio-economic level) significantly influence the resurgence of Ebola Virus Disease within the population in Beni Health Zone?

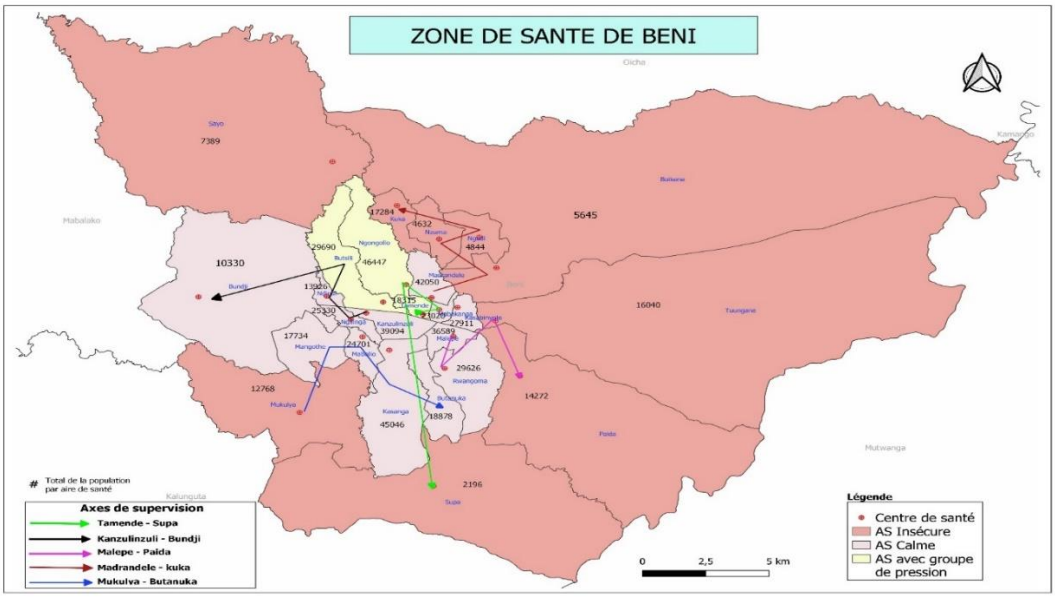

Figure 1. Map of the Beni health Zone

ZONE DE SANTE DE BENI = BENI HEALTH ZONE

The Beni Health Zone has a population of 549770 inhabitants and is bordered to the east by the Mutwanga Health Zone via the Semuliki River, to the west by the Mabalako Health Zone at Kasitu, to the north by the Oicha Health Zone, and to the south by the Kalunguta Health Zone via the Tabi River [11].

Hypothesis

1. There is a significant relationship between household knowledge, attitudes, and practices regarding Ebola Virus Disease risks and prevention.
2. Among these factors, there are those that are the best predictors of Ebola Virus Disease resurgence within the population in the Beni Health Zone.
3. There is a significant relationship between sociodemographic characteristics such as age, gender, education level, religious denomination, and occupation and Ebola Virus Disease resurgence in Beni Health Zone.

Objectives

General Objective

The general objective of the research is to study the factors associated with the resurgence of Ebola Virus Disease among the population in the Beni Health Zone, by making proposals on

possible solutions relating to the context of the zone.

Specific Objectives

The specific objectives of our study are as follows:

1. Identify factors associated to the resurgence of Ebola Virus Disease within the population in Beni Health Zone.
2. Describe the predictors of the resurgence of Ebola Virus Disease within the population in Beni Health Zone based on household practices regarding the risks and prevention of this disease.
3. Establish the link between sociodemographic characteristics such as age, sex, education level, religious denomination, and occupation and the resurgence of Ebola Virus Disease in Beni Health Zone.

Choice and Significance of the Subject

Scientific Significance

This study will serve as a resource for scientific professionals in the field of Public Health.

Community Significance

The knowledge, attitudes, and practices regarding Ebola Virus Disease prevention within the population in Beni Health Zone will help reduce the risks of epidemic.

Scope of Work

Our investigation is part of a study on the factors associated with the resurgence of Ebola Virus Disease within the population in the Beni Health Zone and was conducted among households living in Beni Health Zone, in 2025 year.

Materials and Methods

Materials

The materials used for this study are household managers living in the Beni Health Zone, in the town of the same name, the consultation register of Beni Health Zone facilities, data from the Central Office of the Beni Health Zone, pen, paper, and a computer. He data collection was done using Kobo software and processing was done using Epi Info software.

Types of study

This study is descriptive correlational because we described the relationship between households knowledge, attitudes, and practices regarding the resurgence of Ebola Virus Disease (EVD).

Study Population

The population is a set of elements (the individual, objects, value) subjected to a statistical study [12]. Population: all the people who inhabit a space, a land [13].

In relation to our research, study population was consisted with household managers in the selected health areas in Beni Health Zone.

Sampling

The sampling is the process of selecting a group of individuals to be interviewed as part of a study and which symbolizes a reference population; method and process of sample selection [14].

Sample: subset of the population that represents all people you will study. To find sample, we have used the Shwartz formula, starting from an infinite population, which predicts

$$n = t^2 \frac{pq}{d^2}$$

n = sample size.

t = value associated with a 5% risk of error.

p = prevalence of Ebola Virus Disease, estimated at 27.1% [15].

q = 1- p, i.e., the proportion of Ebola Virus Disease patients who tested positive.

d = desired precision, which is equal to 5%.

So, $n = 1{,}96^2 \frac{0{,}27(1-0{,}27)}{(0{,}05)^2} = 303$

To overcome the cost risk that might arise during the survey, as suggested, we reduced the sample size to 33.33% of 303 households to bring the sample down to 100 households [16], given the population of Health Areas in Beni Health Zone, in 2025 being 549770 inhabitants [17].

Survey Technique

The Data were collected through face-to-face interviews for quantitative data based on a questionnaire administered to households, and investigators were be supervised to ensure the study is conducted properly.

Ethical Considerations

The ethical aspect was taken into account during this study, which received approval from Texila American University, the Catholic University of Graben (UCG) under No: PTH.02/25/UCG/CERM and authorization from the Central Office of the Beni Health Zone [18]. The informed consent was sought from study participants [19]. When the questionnaire was administered to a participant, this one had the right to withdraw any time. The provisions were made to ensure the information confidentiality provided by the respondents. Personal data that could identify the respondent were not collected.

Results

Descriptive Analysis

Socio-Economic Characteristics

From this table 1, the study shows that there were more women, or 69%, compared to men, or 31%.

From Table 2, the results of the study reveal that the 25-34 age group is the most affected, with a proportion of 50% (Table 2).

Table 3 shows that the secondary education level was more affected with a percentage of 60% than other education levels.

Table 1. Distribution of Respondents by Gender

Gender	Number	Percentage (%)	Cumulative percentage (%)
Male	31	31.0	31.0
Female	69	69.0	100.0
Total	100	100.0	

Table 2. Distribution of Respondents by Completed Age

Age group	Number	Percentage (%)	Cumulative percentage (%)
18 to 24 years old	20	20.0	20.0
25 to 34 years old	50	50.0	70.0
35 to 44 years old	25	25.0	95.0
45 to 54 years old	2	2.0	97.0
55 to 64 years old	3	3.0	100.0
Total	100	100.0	

Table 3. Distribution of Respondents by Level of Education

Level of study	Number	Percentage (%)	Cumulative percentage (%)
None	1	1.0	1.0
Primary	19	19.0	20.0
Secondary	60	60.0	80.0

Higher or university	20	20.0	100.0
Total	**100**	**100.0**	

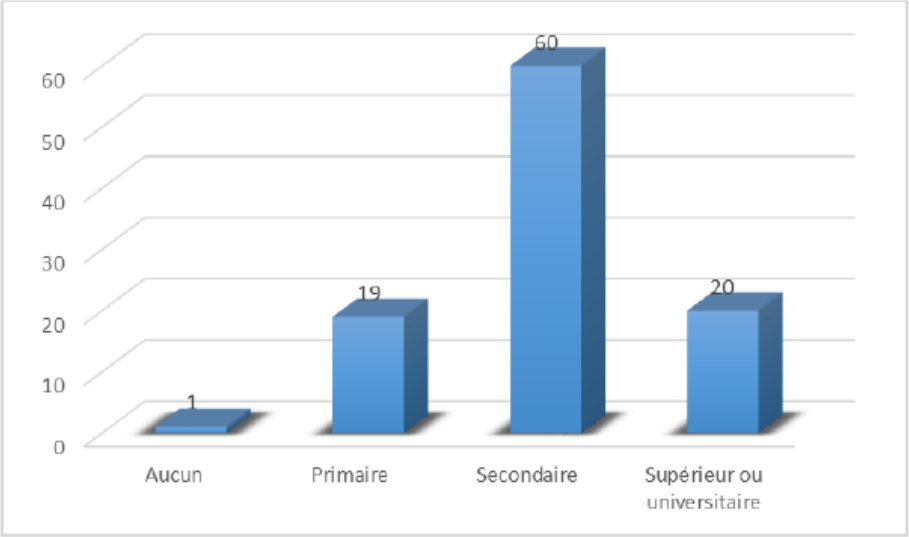

Figure 2. Distribution of Respondents by Level of Education Graphic

Aucun = None ; Primaire = Primary ; Secondaire = Secondary ; Supérieur ou Universitaire = Higher or university.

The present graphic shows that the secondary education level was more affected with a percentage of 60% than other education levels (Figure 2).

Socio-Economic Factors

Table 4. Distribution of Respondents According to their Profession

	Number	**Percentage (%)**	**Cumulative percentage (%)**
Unemployed	21	21.0	21.0
Public sector employee	15	15.0	36.0
Private sector employee	40	40.0	76.0
Farmer	23	23,0	99.0
Other (Please specify)	1	1/0	100.0
Total	**100**	**100.0**	

From this table 4, we see that 40% of those surveyed were private sector employees and 23% are farmers.

This table 5 reveals that the households surveyed consisted of 96% of 0 to 4 people.

Table 5. Distribution of Respondents According to the Number of People in the Household

	Number	**Percentage (%)**	**Cumulative percentage (%)**
0 to 4 people	96	96.0	96.0
5 and more	4	4.0	100.0
Total	**100**	**100.0**	

Inferential Analysis

Factors Promoting Knowledge of Ebola Virus Disease

Table 6. Knowledge of Ebola Virus Disease

Variables in the Equation									
		A	E.S.	Forest/ Wald	ddl	Sig.	Exp (B)	CI for Exp (B) 95%	
								Lower	Superior
Step 1[a]	Gender of the respondent	28,488	5442,210	,000	1	,996	0.720	0.000	
	Level of study of the respondent	-14,526	2283,040	,000	1	,995	,000	0,000	
	Profession of the respondent	,383	2,065	,034	1	,853	1.466	,026	83,873
	Age group	-28,982	3422,841	,000	1	,993	,000	0,000	
	Constant	12,154	11179,196	,000	1	,999	189825,532		

The multivariate logistic regression analysis table above specifies that variables gender of respondent, level of education, profession of respondent and age are not significant at the 95% confidence interval. The probabilities are respectively: OR: 0.72 [0.000; 0.8] and (p: 0.996); OR: 0.000 [0.000; 0.000] and (p: 0.995); OR: 1.466 [0.026; 83.873] and (p: 0.853); OR: 0.000 [0.000; 0.000] and (p: 0.993) [Table 6].

Table 7. Recovery from Ebola Virus Disease

Variables in the Equation									
		A	E.S.	Forest/ Wald	ddl	Sig.	Exp (B)	CI for Exp (B) 95%	
								Lower	Superior
Step 1[a]	Gender	1.334	1.159	1.325	1	,250	3.798	,391	36.847
	Level of study	2.237	,902	6.143	1	,013	9.363	1.597	54.902
	Profession of the respondent	-,545	,455	1.431	1	,232	,580	,238	1.416
	Age group	-,199	,581	,117	1	,732	,820	,262	2.561
	Constant	-10.557	4.066	6.740	1	,009	,000		

From this table 7, it appears that only the level of study variable remained significant at the 95% confidence interval. OR: 3.798 [1.597; 54.902] and ($p = 0.013 < 0.05$). Hence the level of study is a related factor that can explain the phenomenon studied.

Table 8. Transmission of Ebola Virus Disease by a Cured Person

Variables in the Equation									
		A	E.S.	Forest/ Wald	ddl	Sig.	Exp(B)	CI for Exp (B) 95%	
								Lower	Superior
Step 1[a]	Gender of the respondent	1.851	,685	7.309	1	,007	6.367	1.664	24.364
	Level of study	1,019	,431	5.589	1	,018	2,770	1.190	6.448

	Profession of the respondent	,073	,225	,104	1	,747	1.076	,692	1.673
	Age group	,226	,270	,703	1	,402	1.254	,739	2.129
	Constant	-7,965	2.200	13.110	1	,000	,000		

The result of this table 8 shows that the sex of the respondent and the level of education remained significant at the 95% confidence interval. Their probabilities are respectively: OR: 6.367 [1.664; 24.364] and ($p = 0.007 < 0.05$); OR: 2.770 [1.190; 6.448]. These variables explain the factors favoring the resurgence of EVD in Beni Health Zone.

Factors Related to Attitudes toward Ebola Virus Disease

Table 9. Attitude toward a Suspected Case of Ebola Virus Disease

Variables in the Equation									
		A	E.S.	Forest/ Wald	ddl	Sig.	Exp (B)	CI for Exp (B) 95%	
								Lower	Superior
Step 1[a]	Gender of the respondent	,117	,462	,064	1	,800	1.124	,454	2.780
	Level of study	,204	,333	,374	1	,541	1.226	,638	2.356
	Profession of the respondent	,069	,200	,117	1	,732	1.071	,723	1.586
	Age group	,185	,260	,507	1	,477	1.203	,723	2.004
	Constant	-,677	1.428	,225	1	,635	,508		

In view of this table 9, it appears that the sex of respondent, the level of education, profession and class did not remain significant at the 95% confidence interval based by their probabilities as presented in this table. These variables are not factors that can explain attitude as factor favoring resurgence of Ebola Virus Disease.

Factors Related at the Prevention and Practice

Table 10. Contact with a Suspected Ebola Virus Disease Case

Variables in the Equation									
		A	E.S.	Forest/ Wald	ddl	Sig.	Exp (B)	CI for Exp (B) 95%	
								Lower	Superior
Step 1[a]	Gender of the respondent	1.303	,547	5.681	1	,017	3.681	1.261	10.747
	Level of study	-,226	,410	,304	1	,581	,798	,357	1.781
	Profession of the respondent	,112	,265	,177	1	,674	1.118	,665	1.880
	Age group	,355	,363	,956	1	,328	1.426	,700	2.905
	Constant	-,919	1.726	,283	1	,594	,399		

From this multivariate analysis table 10 by logistic regression above, only the variable Sex of the respondent which remained significant at the 95% confidence interval, OR: 3.681[1.261; 10.747] and ($p=0.17<0.05$). This variable is an explanatory factor of prevention and practice.

Table 11. Receipt of EVD Vaccine

Variables in the Equation									
		A	E.S.	Forest/ Wald	ddl	Sig.	Exp (B)	CI for Exp (B) 95%	
								Lower	
Step 1[a]	Gender of the respondent	,568	,466	1.484	1	,223	1.765	,708	4.403
	Level of study	-,117	,343	,117	1	,733	,889	,454	1.743
	Profession of the respondent	-,020	,211	,009	1	,926	,981	,648	1.484
	Age group	,339	,281	1.454	1	,228	1.403	,809	2.433
	Constant	-,413	1.474	,079	1	,779	,661		

The result of this table 11 shows that the sex of the respondent, the level of education, profession and class did not remain significant at the 95% confidence interval based on their probabilities as presented in this table. These variables are not factors that can explain the prevention and practice based on the vaccine against Ebola Virus Disease.

Discussion

The results of this study show that knowledge of respondents regarding transmission modes are not good, where 70% responded negatively regarding the Ebola Virus Disease transmission by a cured person (Table N° 8); the sex of the respondent and the level of education remained significant at the 95% confidence interval. Their probabilities are respectively: OR: 6.367 [1.664; 24.364] and ($p = 0.007 < 0.05$); OR: 2.770 [1.190; 6.448] (Table 8). The same is true for the cure of Ebola Virus Disease; the research results prove that there is a significant link at the 95% confidence interval. OR: 3.798 [1.597; 54.902] and ($p = 0.013 < 0.05$) [Table 7]. This is similar to the study of the resurgence of Ebola Virus Disease in the Nzérékoré region [20]. This also aligns with the WHO statement on the Ebola outbreak declared in Guinea [21].

Regarding Ebola Virus Disease prevention and practice, only the respondent's sex variable remained significant at the 95% confidence interval, OR: 3.681 [1.261; 10.747] and ($p=0.17<0.05$) [Table 10]; this variable is an explanatory factor for prevention and practice. This is consistent with the study on women's perceptions of This table reveals that the households surveyed consisted of 96% of 0 to 4 people. risks and involvement in the Ebola Response [22]. The same applies to Emergency Preparedness and Response. Ebola Virus Disease, Democratic Republic of Congo [23].

Conclusion

The general objective of this research is to study the factors associated with the resurgence of Ebola Virus Disease within the population in Beni Health Zone, by making proposals on possible solutions relating to the context of the Zone. In this aforementioned Health Zone in Democratic Republic of Congo, a link was observed between the knowledge, attitude and practice of households on the risks and prevention of Ebola Virus Disease in the one hand, and sociodemographic characteristics such as age, sex, level of education and the resurgence of Ebola Virus Disease in the other. A good knowledge of the factors associated with the resurgence of Ebola Virus Disease will significantly improve this practice for the well-being of the population.

Conflicts of Interest

This study was not used in any way by any person or company for private purposes to influence the results of the research.

Ethical Approval

The letter and a copy of the research protocol were submitted to the ethics committee of the Catholic University of Graben for analysis of the ethical aspects of the research project in order to obtain authorization. Political, administrative, and health authorities were contacted to obtain their approval.

Data Availability

The data will be available in the Texila International Journal of Public Health, https://www.texilajournal.com/.

Author Contributions

We contributed to conduct research that studied the factors associated with the resurgence of Ebola Virus Disease in the population in the Beni Health Zone.

Funding

The funding for this study is individual, without a sponsor; however, we acknowledge the support of some family members and friends who have supported us in one way or another.

Acknowledgements

In conclusion of this research, we thank all those who supported us on the one way or the other hand to the production of this article.

Our thanks go to Professor Dr. Paulin MUTOMBO BEYA, MD, MPH-HE, PhD (Epi) and Professor Dr. Isaac MUYONGA, MCHD, PhD, who, despite their multiple responsibilities, devoted themselves heart and soul to giving this scientific article value through professional guidance in the process.

We also extend our thanks to the professors of Texila American University (TAU) and University of Central Nicaragua (UCN) for their flexibility, face of our difficulties. Please accept my sincere gratitude. Your easy accessibility, your generosity, and your enthusiasm are all values that made this work possible.

To the members of the Beni Health Zone Management Team for their unwavering collaboration during the data collection for this article.

References

[1]. WHO, 2023, Ebola (Virus Disease), https://sante.gouv.fr/soins-et-maladies/maladies/maladies-vectorielles-et-zoonoses/ebola/article/maladie-a-virus-ebola

[2]. WHO, 2021b, Global Outbreak Alert and Response Network, https://www.afro.who.int/fr/countries/uganda/news/louganda-declare-une-epidemie-de-maladie-virus-ebola

[3]. Jean-Bosco Kahindo Mbeva, 2022, Management of the Twelfth Ebola Virus Disease Outbreak - Perceptions of Stakeholders in North Kivu Province, Democratic Republic of Congo - *International Journal of Innovation and Applied Studies* ISSN 2028-9324 Vol. 36 No. 4 Jul. 2022, pp. 1090-1102 © 2022, *Innovative Space of Scientific Research Journals*, http://www.ijias.issr-journals.org

[4]. Unicef, CASS, 2020, Integrated and Multidisciplinary Epidemic Analysis, https://www.unicef.org/drcongo/rapports/revue-analyses-integrees-90-premiers-jours-epidemie-ebola-equateur

[5]. Nene, M., 2020, The response to Ebola Virus Disease (EVD) in Eastern DR Congo, p. 2, https://www.elrha.org/docs/document/2020-rapport-elhra.pdf?file_url=document/s7ikmv661t4k90oah9sunctq0o/2xktvczx8s-uxmiiscans66lrua/original?content-type=application%2Fpdf&name=2020-rapport-elhra.pdf

[6]. La Libre Belgique, 2021, “Guinea: Four deaths due to Ebola, the first since 2016”, https://www.la-croix.com/Ebola-Guinee-annonce-premiers-deces-2016-2021-02-14-1301140582

[7]. WHO, 2018, “How is EVD transmitted?”, Slides 11–13,

https://cdn.peaceopstraining.org/course_promos/ebola_awareness/evd_awareness_english.pdf

[8]. WHO, 2021, Global Outbreak Alert and Response Network, https://www.who.int/fr/emergencies/disease-outbreak-news/item/2021-DON351

[9]. Judson, S. D., Fischer, R., Judson, A., Munster, V. J., 2016, Ecological Contexts of Index Cases and Spillover Events of Different Ebolaviruses. *PLOS Pathogens.* 12(8), p. e1005780, https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1005780

[10]. JHPIEGO, 2016, Everything you need to know about the Ebola Virus, https://fr.scribd.com/document/750476528/Jhpiego-Tout-Savoir-Sur-Le-Virus-Ebola

[11]. BCZS Beni, 2025, PAO (Operational Action Plan), p. 2-18.

[12]. Larousse Pocket Dictionary, 2011, P. 802, https://library.au.int/fr/dictionnaire-larousse-de-poche-edition-2011

[13]. Le Robert, 2025, Dictionnaire, https://www.amazon.fr/Dictionnaire-Robert-illustr%C3%A9-dictionnaire-ligne/dp/2321019999

[14]. The Structure of a Scientific Article (IMRAD), https://mgtfe.be/guide-de-redaction/8-plan-de-redaction-du-tfe/8-1-le-plan-imrad-imred/

[15]. BCZS Beni, 2024, *National Health Information System.*

[16]. AFRAC INSTITUTE, 2020, *Thesis writing*, www.afracinstitute.org

[17]. DPS NK, 2024, *National Health Information System (SNIS)/Annual Report,* https://www.fbp-rdc.org/data/zone/pIAYIpy4hiH#section-quantit

[18]. Douglas Asifiwe, 2025, Perceptions and practices of Ebola Virus Disease prevention within the population in the Beni health Zone, Doctoral/PhD Thesis in Public Health, *Texila American University (Zambia) - Central University of Nicaragua.*

[19]. Bavon Mupenda, 2017, *Training on Planning, Monitoring and Evaluation, and Operational Research.*

[20]. Frédéric Le Marcis, Almudena Mari-Saez, 2021, *Final report, Study of the resurgence of Ebola Virus Disease in the Nzérékoré region: Ebola 2021 - The resurgence and the communities,* https://horizon.documentation.ird.fr/exl-doc/pleins_textes/2021-10/010082904.pdf

[21]. WHO, 2021, *A new Ebola outbreak has been declared in Guinea. February* 14, 2021, www.afro.who.int/fr/news/une-nouvelle-epidemie-debola-declaree-en-guinee

[22]. CASS, 2020, *Perceptions of Ebola Virus Disease risks among women and their involvement in the Ebola response,* https://drive.google.com/drive/folders/1Btk11rD7Rs5tea4hx1yeJIQaEhKUAc0c?usp=sharing

[23]. WHO, 2021, *Emergency preparedness and response, Ebola virus disease, Democratic Republic of the Congo,* February 10, 2021, www.who.int/csr/don/10-february-2021-ebola-drc/fr/