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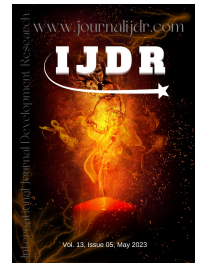
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## ADDRESSING THE TEN TOP ROOT CAUSES OF COVID-19 VACCINE HESITANCY AMONG HOUSEHOLD HEADS IN FRAGILE AND CONFLICTS CONTEXTS: BENI CITY, EASTERN DRC

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### ABSTRACT

Coronavirus Disease 2019 continues to threaten mankind and new variants entail uncertainty. Vaccination, a critical public health strategy for Coronavirus Disease 2019 prevention and control has been compromised by Coronavirus Disease 2019 vaccine hesitancy. The root causes of Coronavirus Disease 2019 vaccine hesitancy and strategies for its reduction are poorly understood in Beni City. This study aimed to identify them and to describe strategies to address them among Beni inhabitants. We conducted a qualitative study using Focus Group Discussions among local experts from the health, development, and humanitarian sectors on August 2022. The following strategies were identified to address the ten top root causes of Coronavirus Disease 2019 Vaccine Hesitancy: "Vaccination sites implementation closer to the people", "Proactive and permanent communication for health", "Targeted sensitization of potential vaccination models" "Awareness about health autonomy" "Awareness about reciprocal protection during outbreaks", "Communication about health workers' profession" "Involvement of community trusted members", "Evaluating, training and arising awareness among CHWs", "Implementing lessons from experience", "Peace restoration", "Government policy based on meeting the needs of the population", "political communication", "Motivation of actors", "Community involvement planning". We argue that no root cause was sufficient to explain Coronavirus Disease 2019 vaccine hesitancy and a one-size-fits-all strategy would not work; multi-component interventions are recommended, mainly in fragile setting.

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## INTRODUCTION

Disease 2019 (COVID-19) continues to worsen almost all vital sectors worldwide notably with the new variants of the virus. Vaccination is a critical public health strategy for COVID-19 prevention and control. In addition to vaccines logistical challenges in developing countries, COVID-19 Vaccine Hesitancy (VH) is compromising vaccination mainly among fragile populations (Desmidt and Neat, 2021). VH is defined as "the delay or refusal to vaccinate despite the availability of vaccines (MacDonald, 2015). COVID-19 pandemic is an additional emergency that worsens the pre-existing fragile and conflict context in Beni region. Indeed, North Kivu province in the Eastern DRC is under « State of siege » for more than one year. The « State of siege » was decided by the DRC government to control the armed conflicts that delay more than 20 years (Yotama, 2021) and continues in the region up to the time of this writing (April 2023). Foreign and local armed groups proliferate in the region and commit serious human rights violations. The Allied Democratic Force (ADF) is the most cited to perpetrate people kidnaping and killing, goods looting and vehicles burning in roadside ambushes, throughannon described

operational mode called « many faces » (Titeca and Fahey, 2016; Yotama, 2021). Beni region is the epicenter of the conflict. Consequently, the region is experiencing longstanding complex humanitarian context described as one among the highest in terms of diseases outbreaks such as Ebola, conflicts, poverty, malnutrition and the number of people in need of assistance in the world (OCHA, 2021; the Danish Refugee Council, 2021). In March, 20th 2020, Beni health zone has declared the first case of COVID-19 and continues to report sporadic new cases of COVID-19 till the time of this writing. More than one year after the launch of the first COVID-19 vaccination campaign (November, 26<sup>th</sup> 2021), the health zone is far to reach the WHO COVID-19 vaccination targets (70%). Despite vaccine availability, only 1.2% of the target population (227409) was vaccinated as of Jun 2022. However, nothing is known about the delay or refusal of COVID-19 vaccines in Beni region. Reasons of COVID-19 VH vary according to time, contexts and populations. These include safety concerns, low perceived risk and fears, poor health literacy, lack of awareness about the virus, misinformation or lack of accurate knowledge about the vaccines, doubts about the efficacy of the available vaccines to the emerging SARS-CoV-2 variants, corruption, political instability, mistrust and suspicion of

medical companies (Dhama *et al.* 2021; Dubé *et al.*, 2021). While disproportionately affected by the pandemic, population in FCS are the most poorly performing, at risk of being left behind and can become repositories of diseases. (WHO, 2016; OECD, 2018; Corral *et al.*, 2020, Heudtlass *et al.*, 2016). Thus, understanding COVID-19 VH in a context of insecurity, poverty, weak institutions and political instability such as Beni region is a paramount effort to inform interventions. This study provides the first insights into the root causes of COVID-19 VH and strategies to address them in Beni health zone covering Beni City.

## METHODOLOGY

**Study design:** We conducted a qualitative study on August 2022 to achieve the objectives of this study. Participants identified as “experts” based on their experience and knowledge in immunization or community health and development were selected purposively. A total of 18 experts have participated in the study. They included some members of Beni health zone team leading, Community Health Workers (CHWs), Community Engagement Unites members (CEUs), Chief Nurses of health areas, the local Red Cross and Red Crescent Society leaders, local Non-government Organization (NGO) leaders and civil society leaders.

**Data collection technics:** We used Focus Group Discussions (FGDs) for data collecting. Three FGDs of six participants each were held on data saturation criteria. Two main discussion questions were asked for data collecting: “What are the roots causes of COVID-19 VH” and “What are the strategies to address them in Beni health zone”? The discussions were held mainly in French. Kiswahili was allowed to obtain the maximum data. Two weeks after, we contacted the participants separately to select the ten top root causes of COVID-19 VH on the list of the previously identified root causes. We reached 14 experts (nearly 78%) of the 18 participants who participated in the initial FGDs.

### Data analysis

Audio and notes transcripts were done verbatim to preserve the views of participants. Then the transcripts were translated from French to English. Constant Comparative Analysis (CCA) was performed manually to break the data into smaller units, code them, and derive themes: the roots of COVID-19 VH and strategies (good practices) to address them. Indeed, the CCA has been recognized as a FGD data analysis method by qualitative authors, such as Onwuegbuzie (2009). It is especially used when there is more than one FGD in a study and the frequency of the searched units not needed, as in this study. Quotes from participants were used to support the themes identification. The top ten roots causes of COVID-19 VH and strategies to address them in Beni city are presented in this study.

## RESULTS

This section presents the root causes of COVID-19 VH identified following the first vaccination campaign in Beni health zone and strategies to address them.

- (i) Implementation of COVID-19 vaccination sites in the second level of the health system. From the view of the participants, COVID-19 vaccination was too medicalized in Beni health zone. Contrary to habit, only (three) health facilities of the second level of the health system in DRC (hospitals instead of health centers) could administrate the vaccine (Beni general hospital Carl Beker and Nyakunde hospital). In the same time, health workers, people of the third-age and people with comorbidity were defined as COVID-19 vaccination priorities (WHO, 2021). That led to limited vaccine accessibility and acceptance: people said they were not concerned by COVID-19 vaccination. To address this root, the strategy was to “Vaccination sites implementation closer to the people”. A participant stated that «...it is necessary to bring the activities

closer to the population in health centers and ... advanced sites where one leaves the health center and goes to public places such as stadiums, churches, schools, markets, etc. This allows for increased geographical accessibility ... so that the population finds its place there ».

- (ii) “Poor communication” on scientifically approved knowledge led to lack of information, low risk perception of the disease, rumors and fear of AEFI. “Proactive and permanent health communication” was suggested as strategy to address this root: « In all cases, communication is the key to the success of vaccination, we must invest money in it than rush to install the sites since the authorities have called...we must first provide them with all the information on the disease and the vaccines...The ideal is to permanently broadcast the scientific approved information to prevent rumors and intoxication from gaining ground » « For the specific case of AEFI as an alibi for resistance, it is once again necessary to give information to the population... For each vaccine that arrives, the population must be warned of probable AEFIs while showing them that it will not be serious and that caregivers are at their disposal if AEFI arise »
- (iii) “Vaccine reluctance among health workers, CHWs and leaders”. To tackle this issue, “targeted sensitization of potential vaccination models to the community, awareness about health autonomy and reciprocal protection during outbreaks” were key. Targeted sensitization will convince hesitant individuals who are supposed to give the best example of vaccination. Health autonomy will convince those who refuse vaccines because others have not yet received. Reciprocal protection was proposed for equilibrium between the two last groups: nobody is allowed to refuse the vaccine because “nobody will be safe until everybody is safe (vaccinated): « It is true that we can't force people to take the vaccines but we must not abandon them either to the disease (...) a special sensitization for them is necessary to avoid health workers, CHWs and leaders giving a bad example to the whole community...You know that today many health workers, nurses, doctors, and political and administrative authorities have not yet received the vaccine. Our sensitization must get out of this and not be blocked by that fact. The notion of autonomy in health must be the argument against this alibi even if we recognize that it is not good to give a bad example to the population ... »
- (iv) “Distrust in health workers” undermined COVID-19 vaccine acceptance. To restore trust in the health workers “communication about health workers’ profession and involvement of community trusted members in COVID-19 vaccination campaigns” were key: “Let us communicate on the caregiver’s profession or medical profession to destroy this mentality that a doctor can create false cases of a disease or kill a person to justify a non-existing disease just to obtain funds and earn money. their profession is subject to an oath that obliges them to do only good to save life...It is, therefore, necessary to involve local trusted populations in the response so that they know what it is all about rather than importing the manpower while local actors who have the trust of the community are being pushed aside ....members of the CACs, pressure groups, youth groups, women’s groups, and even the Rasta”
- (v) “Poor awareness about volunteerism and poor capacity and trust among CHWs and CEUs members”. To combat this challenge, evaluating, training and arising awareness among CHWs and CEUs members was key: “We need to revisit the composition of the CEUs members or train them. In my opinion, these people have lost the sense of volunteering, they run if and only if they are informed that the activities are paid. Without money, there is no work...What is true, the former community health workers had a sense of volunteerism, unfortunately, almost all of these community health workers are illiterate and cannot read or write ... On the other hand, it is necessary to be reassured that these people are accepted by the community and ready to serve by

volunteering, which is an condition of their acceptance or trust within the community ».

- (vi) "Lack of learning from experience". From the view of our experts, lessons learnt from previous outbreaks such as Ebola outbreak were clearly given, notably avoiding top-down approaches, poor local staff involvement and wrong staff recruitment. "Implementing lessons from experience" was suggested as successful strategy for successful COVID-19 vaccination and response against outbreaks: « ...but we continue to make the same mistakes because of the pressure of the authorities and, of course, the lack of resources or let me say we are habituated to a given manner of fighting outbreaks that innovative strategies do not find place in our daily job... »
- (vii) Distrust in the government due to protracted armed conflicts, insecurity and poverty in the city and the whole region of Beni. Three strategies were identified for trust restoration: "Peace restoration by ending the war, massacres and poverty in the region of Beni and stop the aggression of the DRC by neighbor countries were proposed to restore trust in the government", Government policy based on meeting the needs of the population and political communication on the government action: « So, if we want people to engage in COVID-19 vaccination, to decrease resistance against COVID-19 vaccination, and to increase vaccination rates...we need to end the war ... As long as the war continues and poverty and hunger increases then health actions including vaccination, will remain chaotic ...Peace restoration is a sine qua non condition for the success of all government action ». Another participant added: «we need to address adequately all the problems of the community » the government must be effective in all areas that affect the lives of the people in a coordinated action to expect full involvement of the people in the government's actions. The population will then see that the government cares about them and takes their needs into consideration... and to respond to the basic needs of the population » Another said: « it is all about communication... Local elected officials and other trusted people must have the courage to make the population understand all the actions of the government... »
- (viii) Lack of convincing capacity and knowledge about COVID-19 and vaccines and motivation among the staff. The rare CHWs and HWs involved in COVID-19 vaccination activities in the sites places (hospitals) were estimated incapable to convince hesitant individuals. HWs, to their side, were demotivated in health centers because the vaccination campaign was underfunded. So, CHWs need to be trained then motivating all of the staff members; « The strategy that must follow all this is ultimately training and motivation of the actors » said a participant.
- (ix) Weak culture of community involvement planning, top-down approach is dominant. Community involvement was poor in planning and in practice. A participant stated that « Very few (from the community) were solicited by the sanitary apparatus in COVID-19 vaccination... authorities continue to bring in unknown people to the community when there are responses, even in other campaigns such as net distribution campaigns... even if we propose things in the meetings, they always do what their donors will accept because the law of the strongest prevails. The strongest is the one who gives the money » Thus, community involvement planning was proposed to engage the community in COVID-19 vaccination. Practically, Beni health zone needs to elaborate a plan defining how the community members will be involved, convince donors and authorities that local staff and decisions will be more effective than unknown staff and external decision-making. In addition to Ebola, COVID-19 pandemic remains an occasion of learning good lessons on meaningful community involvement. A participant said "It was an occasion to involve all our community layers ...we could target, for example, religious leaders, bikers and their leaders, women's groups so that the commitment is real ... we must have clear planning which defines the roles of the

community instead of tinkering things in the name of "the emergency...we need to involve them in our meetings, or their leaders, so that they understand what we are doing and give their input into decisions, rather than having them go through what we decide alone as health workers».

- (x) Low risk perception of the disease. According to the experts, unvaccinated Beni inhabitants are complacent towards COVID-19 and say that "COVID-19 is an influenza epidemic like any other influenza and the famous COVID-19 does not kill yet in our country as it kills in the whites... the population did not believe that it was COVID-19 that was killing the patients; people thought that it was the little engine eee" (engine for resuscitation) that was killing the patients ». Communication for health was proposed to change perceptions and beliefs about COVID-19, vaccines and all the response recommendations such and care technics. A participant suggested that «we must inform and train people about everything and anything because they create grounds for resistance to everything we have not sufficiently explained ». Paradoxically, communication was estimated poor due to low funding and low community actors involvement.

## DISCUSSION

**Root causes of COVID-19 VH:** The ten leading root causes of COVID-19 VH identified in this study are not limitative. Some have been identified in the literature (Dutta *et al.*, 2020) while others remain specific and need to be understood in a practical perspective in the context of Beni. The results of this study showed that two or more root causes of COVID-19 VH may coexist, mix and form a more rigid terrain of vaccine reluctance. Distrust of the government and the unmet needs of the population in the context of Beni is an example: The prolonged armed conflicts and their various consequences on the well-being of the population, including human rights violations in the Beni region (Yotama *et al.*, 2021; United Nations, 2010), have eroded trust in the government. On the other hand, fragility and poverty give the impression that the needs of the population are not being met by the government. The combination of the two has given rise to a new and stronger concern "more resisting than merely the sum of the parts" as illustrated by the complexity of health behavior (Barbara *et al.*, 2008). In Beni, people think that "the government does not care about the people, so its vaccines are meaningless, and besides, COVID-19 kills less than the war the government never stopped, why vaccines instead of peace?".

This new concern may emerge from the individual to the community level where, at any given time, the majority of community members cite the same reasons of VH. This suggests that VH becomes "contagious" through the mechanism of rumor circulation and may reverberate in many government actions. Most of the previous studies conducted on this topic (Romate, 2022; Lavigne, 2021) focused on identifying or listing those roots rather than on how they can mix in different contexts. Only some quantitative studies using regression analyses have explained COVID-19 VH co-determinants even though they have yet explained the mechanisms by which co-determinants intervene in explaining COVID-19 VH. For example, some studies have observed positive (Ackah *et al.*, 2022) correlations between COVID-19 VH and the education level while others observed negative correlations (Cengiz *et al.*, 2022) between the two. A second area of discussing the roots of COVID-19 VH is the "whys" of those root causes. Indeed, the "whys" are the leading factors in designing interventions fighting against COVID-19 VH. For example, distrust in the government as a root cause of COVID-19 VH in Beni city as identified in this study may have different "whys" from distrust as identified by Yego (2021) in his study among high-risk individuals in Nairobi.

If restoration of trust in the government (suggested to be a sine qua non condition of COVID-19 vaccine acceptance) entails peace-building by ending the war, aggression and massacres in Beni, it would entail different interventions elsewhere according to the

“whys” of the distrust. Similarly, the CDC (2021) has identified the root causes of COVID-19 VH in the USA, namely limited vaccine access, prevailing social norms, mistrust, misinformation, misperception, lack of adequate information... These may be similarly formulate as in this study but differ in their meaning (whys) from the context of Beni city and different communities in the USA. Consequently, strategies for trust restoration in the two contexts will vary. This leads to considering with caution affirmations that studies conducted in different contexts have found similar roots of COVID-19 VH if interventions cannot be replicable in those contexts.

**Strategies to counter COVID-19 VH:** From historical vaccination efforts to promote COVID-19 vaccine confidence and uptake in the USA, the CDC (2021) has identified 12 research-proven strategies. namely “Information disseminate in the communities by trusted community members”, “school-located, workplace or Home-delivered vaccination programs to address transportation and vaccine access barriers”, “Vaccination requirements to provide proof of vaccination in order to be in compliance”, combating Misinformation by warning the audience upfront that misleading information is coming, and using fewer arguments to refute the myth...

As in our research, to address the root causes of COVID-19 VH, “participatory planning” and “information sharing” have been suggested for COVID-19 vaccination by Gilmore et al., (2020). Scholars such as Cooper et al (2022) in South Africa, suggest “communication” strategies using trusted messengers to deliver vaccine messages. Similarly, to stress the necessity of information delivering on COVID-19 and vaccines, Hess and colleagues (2022) reported that improved messaging (delivered by health workers) can contribute to decrease COVID-19 VH. The authors suggested for example open communication by all involved actors about what is known about the disease and vaccines such as the rarity of side effects and the reduction in risk of hospitalization and death among vaccinated individuals and about the uncertainties that remain. Likewise, to deal with COVID-19 VH in the South Africa Republic, the ministerial advisory committee on COVID-19 (2021) warned that communication strategy must focus on vaccine literacy and provide information to address the worries about COVID-19 vaccines. Similarly to our findings, Hess and colleagues (2022) have also highlighted the necessity to meet people’s health and livelihood priorities and reduce poverty and marginalization as they may be a “fertile ground for COVID-19 VH”. Thus the response against COVID-19 must be integrated in the overall social development plan.

The consensus that VH is a complex and multidimensional issue (arguing that no single factor was sufficient to explain the phenomenon) supports the necessity of multisectoral approaches in addressing the threat (MacDonald, 2015, Singh et al., 2022, WHO, 2014). Thus, multi-component were reported to be more effective than single-component interventions in response against infectious diseases (Kaseje et al., 2021; WHO, 2014). Evaluation studies of such interventions (multi-component) have been challenged by the question (epistemologically sound) of which of the intervention component would be responsible for the outcomes as to isolate the effect of each or the components. We join Kumar et al., (2016) to remind that COVID-19 vaccination decision-making (and several health behaviors) is influenced by broader considerations or, to use the author's concepts, a “wider social world”. That is well explained by the Health Believe Model (HBM) pioneers. Thus in the context of emergency management with serious consequences such as the COVID-19 pandemic, multi-strategy solutions might be preferred for saving lives. In overall, the strategies identified in this study are still consistent with the WHO interim guidance on conducting CE for the COVID-19 vaccine (WHO & UNICEF, 2021) and other scholars such as Edward-Ekpu (2021) suggesting Ebola experience to be leveraged in COVID-19. However, the roots of COVID-19 are not similar everywhere nor every when and a “one size fits all” strategy would not work. Conflict and fragile contexts such as Beni City will require tailored strategies for COVID-19 VH reduction.

## CONCLUSION

The root causes of COVID-19 VH are not isolated from one another in a community. Understanding their combination and complexity will inform the response more than just listing them. This article suggests that community-led disease prevention strategies be integrated into a multi-strategy approach in Beni City and other regions to overcome COVID-19 VH and so increase vaccine uptake. Future studies will distinguish the root causes of COVID-19 VH and strategies to address them from sub-groups such as unvaccinated healthcare workers, local leaders, Internally Displaced People (IDPs), the pygmy ethnic group, and students for targeted vaccination campaigns.

**Study limitations:** This study failed to identify the root causes of COVID-19 VH and strategies to address them in the different sub-groups in Beni city to prepare for tailored interventions.

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## REFERENCES

- Ackah, B. B. B., Woo, M., Stallwood, L., Fazal, Z. A., Okpani, A., Ukah, U. V., & Adu, P. A. 2022. COVID-19 vaccine hesitancy in Africa: a scoping review. *Global Health Research and Policy*, 7(1), 1–20. <https://doi.org/10.1186/s41256-022-00255-1>
- Barbara K. G. K., Rimer K., Viswanath (Ed), 2008. Health behavior and health education. Theory, research, and practice (4<sup>th</sup> Ed). San Francisco; P.590. Retrieved from [https://iums.ac.ir/files/hshe-soh/files/beeduhe\\_0787996149\(1\).pdf](https://iums.ac.ir/files/hshe-soh/files/beeduhe_0787996149(1).pdf)
- CDC. 2021. *COVID-19 Vaccination Field Guide: 12 Strategies for Your Community Table of Contents*. 1–43. <https://www.cdc.gov/vaccines/covid-19/downloads/covid19-vax-field-guide-12-strategies.pdf>
- Cengiz, B., Sayılır, M. Ü., Zengin, N. Y. & Küçük, Ö. N. 2022. Does the COVID-19 Vaccination Rate Change According to the Education and Income: A Study on Vaccination Rates in Cities of Turkey between 2021-September and 2022-February. <https://www.researchgate.net/publication>.
- Cooper, S., van Rooyen, H. & Wiysonge, C. S. 2022. Addressing COVID-19 vaccine hesitancy in South Africa- moving beyond a reliance on information-based responses. *Human Vaccines and Immunotherapeutics*, 18(6), 19–21. <https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC9746356&blobtype=pdf> Accessed 12 February 2023
- Corral, P., Irwin, A., Krishnan, N., Mahler, D.G., Vishwanath, T. 2020. Fragility and conflict. On the front lines of the fight against poverty. *World Bank Group*, 115 Pages. Retrieved from <https://openknowledge.worldbank.org>.
- Department of Health of South Africa Republic 2021. *Strategies to Address Covid-19 Vaccine Hesitancy and Promote Acceptance in South Africa*. April, 17–22. [https://sacoronavirus.co.za/wp-content/uploads/2021/04/InterMAC-Advisory\\_Vaccine-Hesitancy\\_12-April-2021-final.pdf](https://sacoronavirus.co.za/wp-content/uploads/2021/04/InterMAC-Advisory_Vaccine-Hesitancy_12-April-2021-final.pdf)
- Dhama, K., Sharun, K., Emran, T. Bin & Rabaan, A. A. 2021. COVID-19 vaccine hesitancy – reasons and solutions to achieve a successful global vaccination campaign to tackle the ongoing pandemic. *Human Vaccines & Immunotherapeutic*, 17(10), 3495–3499. <https://doi.org/10.1080/21645515.2021.1926183>
- Dutta, T., Meyerson, B. E., Agle, J., Barnes, P. A., Sherwood-Laughlin, C. & Nicholson-Crotty, J. 2020. A qualitative analysis of vaccine decision makers’ conceptualization and fostering of ‘community engagement’ in India. *International Journal for Equity in Health*, 19(1), 1–21. <https://doi.org/10.1186/s12939-020-01290-5>.
- Hess, S., Lancsar, E., Mariel, P., Meyerhoff, J., Song, F., van den Broek-Altenburg, E. ... Zuidgeest, M. H. P. 2022. The path towards herd immunity: Predicting COVID-19 vaccination uptake through results from a stated choice study across six continents.

- Social Science and Medicine*, 298(January). Retrieved from <https://www.sciencedirect.com/science/article>
- Heudtlass, P., Speybroeck, N., Guha-Sapir, D. 2016. Excess mortality in refugees, internally displaced persons and resident populations in complex humanitarian emergencies (1998–2012)—insights from operational data. *Confl Health*, 11 Pages. Retrieved from <https://conflictandhealth.biomedcentral.com>.
- Kumar, D., Chandra, R., Mathur, M., Samdariya, S., & Kapoor, N. 2016. Vaccine hesitancy: Understanding better to address better. *Israel Journal of Health Policy Research*, 5(1), 1–8. <https://doi.org/10.1186/s13584-016-0062-y>
- Lavigne, S. E. 2021. Vaccine hesitancy: Root causes and possible solutions. *Canadian Journal of Dental Hygiene*, 55(2), 79–82. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8219067/pdf/CanJDentHyg-55-2-79.pdf>
- MacDonald, N. E., SAGE Working Group on Vaccine Hesitancy (2015). Vaccine hesitancy: definition, scope, and determinants. *Vaccine*, 33, 4161–4164. 5 Pages. Retrieved from <https://www.researchgate.net>
- OECD 2018. *States of Fragility 2018 (report)*. Retrieved from <https://www.oecd-ilibrary.org>
- Romate, J., Rajkumar, E., Gopi, A., Abraham, J., Rages, J., Lakshmi, R...Bhogle, S. 2022. What Contributes to COVID-19 Vaccine Hesitancy? A Systematic Review of the Psychological Factors Associated with COVID-19 Vaccine Hesitancy. *Vaccines*, 10(11), 1–21. Retrieved from <https://doi.org/10.3390/vaccines10111777>. Accessed 10 January 2023.
- Singh, P., Dhalaria, P., Kashyap, S., Soni, G. K., Nandi, P., Ghosh, S... Prakash, D. 2022. Strategies to overcome vaccine hesitancy: a systematic review. *Systematic Reviews*, 11(1). <https://doi.org/10.1186/s13643-022-01941-4>
- Titeca, K. and Fahey, D. 2016. The many faces of a rebel group: The allied democratic forces in the Democratic Republic of Congo. *International Affairs*, 92(5), 1189–1206. <https://doi.org/10.1111/1468-2346.12703>
- United Nations 2010. Report of the Mapping Exercise documenting the most serious violations of human rights and international humanitarian law committed within the territory of the Democratic Republic of the Congo between March 1993 and June 2003. Retrieved from <https://digitallibrary.un.org/record/709895?ln=fr>
- WHO & UNICEF 2021. *Conducting community engagement for COVID-19 vaccines. Interim guidance*. World Health Organization, Retrieved from <https://apps.who.int>
- WHO, 2014. Report of the Sage Working Group on. *WHO COVID-19 Global Data, October*, 64. Retrieved from <https://www.who.int>
- WHO 2017. *Fragile and conflict-affected states. Health and WHO. Country presence profile*. WHO. Geneva: World Health Organization, 12 Pages. Retrieved from <https://www.who.int>.
- WHO 2021. *Conducting community engagement for COVID-19 vaccines: interim guidance. January*, 1–10. <https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccination-community-engagement-2021.1>
- Yotama, T., Yotama, M. 2021. *Rapport Yotama sur les massacres de Beni et Irumu. Terrorisme, djihadisme ou génocide Nande? (1st Ed). (Yotama report on Beni and Irumu massacres) (Report)*. Butembo : Fondation Maitre Mbenze Yotama & Centre de promotion de la démocratie, du droit et du développement. Retrieved from <https://kopax.org>.

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