

Perceptions of COVID 19 Vaccine in Rural Cameroon

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Abstract

Objective: To compare and contrast responses of parents of 9-14 year old girls concerning vaccines for human papillomavirus (HPV) and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, which causes a disease called COVID).

Methods: One on one interviews of 45 parents of 9-14 yo old girls from Mbingo to Fundong, Cameroon. Parents had to speak in English or Pidgin English. They could not be health workers. Qualitative analysis of the transcribed interviews using ATLAS.ti 9. We used a thematic analysis and a theoretical framework of acceptability.

Results: 31 of 45 parents (69%) spoke spontaneously about COVID or the COVID vaccine during the interviews focused on the HPV vaccine. 26% reported receiving one or more doses of the COVID vaccine. Knowledge about COVID as a disease was much higher than about HPV or HPV related diseases. During the study period (Jan-May 2022), discussion about the COVID vaccine whether in the community or media was highly prevalent, while for the HPV vaccine it was completely absent. In both vaccine context we heard issues related to 1) vaccine hesitancy like sterility, reducing the Anglophone population; 2) access like travelling when you here gun shots or concerns related to fake vaccines were heard in both vaccine contexts and 3) recommendations like importance of receiving information in a trusted environment from trusted sources. Missing from the COVID vaccine discussion were the economic implications of not receiving the vaccine.

Conclusions: During the COVID pandemic, knowledge by rural Cameroonians about COVID was much more pervasive than about HPV. Media served as an educational tool for COVID much better than for HPV. Issues related to vaccine access and hesitancy were ubiquitous.

Introduction

A COVID Global Pandemic was declared by the World Health Organization on 11 Mar 2020. Access to vaccination was available to health worker about 9 months later and to the public approximately 1 year later. In February 2021, there was a headline in the Cameroon Times reporting that school children in

Kumba (a city in the Anglophone region of Cameroon) sustain injuries as they jump from school building in attempts to avoid vaccination against COVID 19 [1,2]. Vaccine hesitancy is a well described entity in high income countries, but less is known about this in rural Africa especially as it pertains to COVID 19.

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During this time frame, our group had secured funding to conduct a qualitative study on the knowledge, attitudes, and beliefs of parents of girls aged 9-14 years in rural Cameroon concerning the HPV vaccine [3,4]. These interviews were completed from January-May 2022. This was during the height of the global COVID pandemic. The HPV vaccine was introduced in the national immunization program in late 2019/early 2022 and made available by the government free of charge to vaccine eligible girls (9 years old). While it was our intent to understand the context of HPV vaccine within the context of other vaccines for infants (like measles, mumps, rubella) and adults (like pre-natal vaccines such as tetanus), our interactions provided allot of discussion about the COVID 19 vaccines, which were made available in Cameroon and distributed free of charge in early 2022.

In this manuscript we will document the perspectives of a rural Cameroon population concerning COVID as a disease, and COVID vaccines. We also compare and contrast various aspects of parental knowledge, beliefs and attitudes of the COVID vaccine for themselves to the HPV vaccine for their school aged daughters.

Methods

Study site and population

This study [3] was conducted in the Mbingo region of Northwest Cameroon during the period of civil unrest. Participants were involved from a region located on the 24 km stretch of road from Mbingo to Fundong (Boyo Division), with an approximate population of 75,000. The prominent tribe is Kom with a much smaller component of Fulbe herders. These groups rely on subsistence farming and herding respectively.

One on one interview

A detailed protocol for the HPV vaccine study has been published [3]. Qualitative data was obtained through one-on-one interviews and quantitative data from a short interviewer-delivered survey tool. The interviews were conducted from January–May 2022. To be included the individual must be a parent of a daughter aged 9 to 14 years living in Mbingo, Njinikom and Fundong health areas. Individuals were excluded if they are a health worker or working in any health institution or if they were unable to converse in English or Pidgin English.

Written informed consent was obtained from each participant. Face to Face in depth interviews took place in a private office at the Mbingo hospital. A semi-structured interview guide was used [3]. All interviews were audio-recorded and transcribed in English.

Data analysis

Data gathering and analysis were a concurrent and iterative process. Raw data was processed in their textual form and coded to generate analytical categories of themes for further analysis with ATLAS.ti 9 (1993-2021 Scientific Software Development, GmbH Berlin, Germany) [5]. Data analysis was performed using the thematic analysis approach proposed by Braun and Clarke [6]. Also informing our analysis was the theoretical framework of Acceptability [7]. In the process of focusing on the HPV question, all data related to COVID or the COVID vaccine were captured in a thematic category.

Ethical Considerations

This study was approved by the ethical committee of Hamilton Integrated Research Ethics Board, Hamilton, Canada (14022) and the Cameroon Baptist Convention Health Board Institutional Review Board (IRB2021-75).

Results

Of the 45 parents interviewed for the HPV vaccination study, 31 parents (69%) alluded to the COVID vaccine. In this group, 8 parents (26%) reported having received at least one dose of the COVID vaccine. This contrasts with our findings concerning the HPV vaccine [4], where there was little recognition of the term “HPV” or knowledge on the reason for the HPV vaccine. In the HPV vaccination study 14 children (31%) had received the HPV vaccination.

Ten of the parents (32%) commented on COVID as a disease. Two parents (6%) identified that COVID kills people and 1 parent (3%) that COVID is transmitted through social interactions. In contrast, 4 parents (13%) commented that COVID as an entity is “not real”, it is a made-up thing. They pointed out that Africans always get coughs and fevers and that COVID is only a new name for a chronic fever. This contrasts with the almost non-existent knowledge or experience with cervical cancer or HPV as a sexually transmitted disease [4].

Concerning the COVID vaccine, 3 parents (10%) appreciated that the vaccine prevents a person from getting COVID or getting sick from COVID. Those who took the COVID vaccine were motivated in part by: seeing a rise in the number of people getting COVID and the number of people dying from COVID (3%), fear of getting the disease (3%), trusted friends and family members from large cities or international cities strongly advocating to them to get the vaccine (3%), vaccine was free (6%) and they knew of people who received the vaccine and had no bad effects (6%). This is in keeping with the general knowledge these parents reported related to vaccines for infants and pre-natal women [4].

The COVID vaccine seemed to be readily accessible at several hospitals or through campaigns (ie., at church, the market) (38%). Half of those who had the COVID vaccine could name the product they received and indicate the number of doses of vaccine they required. Only 13% indicated a personal side effect of localized pain at the site of the injection which was fleeting. This is in contrast to the findings in our HPV study where parents were not aware of the term “HPV”, the name of the vaccine product their child received, or the number of doses required [4].

The parents report a lot of discussion about the COVID vaccine and specifically mentioned were among neighbors (2 parents, 6%), at church (1 parent, 3%) or their njangi groups (community group) (1 parent, 3%). In contrast only 5 parents (11%) reported a discussion of the HPV vaccine in their church. With respect to COVID, 12 parents (39%) reported hearing messaged on TV or radio or social media (1 parent, 3%). The messages the parents reported hearing on TV or radio were medically accurate. In contrast, none of the parents heard about the HPV vaccine via the media [4].

The messages concerning COVID that these parents recalled hearing from other sources included the following. The COVID vaccine causes: abnormal growth (1 parent, 3%), the body to malfunction (1 parent, 3%), harm to the body (1 parent, 3%)

and increases the rate of miscarriages for those who are pregnant (1 parent, 3%). The COVID vaccine causes the population to become sterile (3 parents, 19%) or reduces the African population (2 parents, 6%) and specifically reduces the Anglophone population (1 parent, 3%). The COVID vaccine leads to the death of those who receive it either immediately or within 5 years (5 parents, 16%). The COVID vaccine does not prevent disease but rather makes you sick (4 parents, 13%). Individuals claimed that the vaccine gives you COVID (4 parents, 13%). Six percent (2, parents) claimed that the COVID vaccine was of low quality or was fake. Sixteen percent of parents (5) just said the COVID vaccine was not good to take. Highlighted among concerns raised for the HPV vaccine were sterility and reduction of the Anglophone population [4].

Other reasons for not taking the COVID vaccine included not knowing where to access the vaccine (1 parent, 3%), being scared to travel when you hear gun shots (1 parent, 3%), and not seeing sick people with COVID so not seeing a need for the vaccine (1 parent, 3%). A couple communicated a belief that vaccines (HPV or COVID) are an initiation into and sponsored by occult societies (2 parents, 6%).

Four parents (13%) indicated that to increase the rate of COVID vaccination there must be education about the disease and the vaccine, this needs to take place in a trusted environment (like the church) and the information must be provided by trusted medical personnel. Similar recommendations were made by parents concerning the HPV vaccine [4]. Parents recommended mass vaccination campaigns outside of a hospital setting, for example, at the marketplace, churches, njangi houses (community centers), and schools. People in rural communities only visit hospitals when they are sick and not for preventive reasons.

Discussion

It was interesting to analyze the comments related to the COVID vaccine knowing the findings of what the same parents reported concerning HPV vaccine. We acknowledge that the COVID vaccine would be something the parent themselves would take compared to the HPV vaccine which is something their daughter would be exposed to. The COVID vaccine was quite new compared to at least a decade of research on the HPV vaccine, and during the study period, there was much more information and communication about COVID and COVID vaccine by the governmental and health authorities and in the mass media like radio, TV, and press. The COVID vaccine was to prevent a disease in people who were currently at risk for disease and the target population included men and women aged 18-80 years, compared to the HPV vaccine which works now to prevent cancer developing in the future and is recommended only for girls aged 9-14 years old. However, these spontaneous comments concerning the COVID vaccine contrasted with what parents reported concerning the HPV vaccines. Specifically, it was clearly reported that people do not discuss vaccines with their neighbors when we focused on the HPV vaccines [4]. However, there was a lot of discussion about the COVID vaccine amongst neighbors and in social groups like at the market, or the ngamji house (community center) meetings. In addition, no one could recall discussion of the HPV vaccine in the media [4] but there was clear recollection of such messages as they related to COVID. The concerns of vaccine leading to sterility or decreasing the African or anglophone population were present with discussions about both vaccines [4]. Being scared to go to get a

vaccine due to hearing gun shots was reported in both contexts [4]. The concerns of low quality or fake vaccines were present in the discussion about both vaccines [4]. Both groups indicated that for a vaccine to be accepted, the messaging must include information about the disease and the vaccine, it must be provided in a trusted environment and by trusted known medical personnel [4]. Missing in the discussion of the COVID vaccine were the economic implications of getting sick or potentially dying, or the need to take time off work to drive to a center that is providing the vaccine. These were present in the HPV vaccine discussions [4].

Studies specifically from Cameroon [8] show similar finding to our work. Dinga [8] showed an 84.6% COVID vaccine hesitancy rate among 2512 people responding to a survey tool. There are few studies reporting extremely high rates (in excess of 90%) on intention to receive COVID vaccine like that of Kanyanda [9] who conducted a phone survey in Burkino Faso, Ethiopia, Malawi, Mali, Nigeria and Uganda. Other scoping reviews of the acceptability of the COVID19 vaccine in sub-Saharan African reinforces our finding in rural Cameroon [8,10-15]. Ackah's review [10] of 71 articles from 17 sub-Saharan African countries shows that COVID vaccine hesitancy is related to concerns over vaccine safety, low trust in pharmaceutical companies, misinformation, and conflicting media information. Ngangie's [11] review described acceptance of the vaccine being related to confidence in the government's response to COVID and having a family member with COVID or dying from COVID. Reluctance toward the vaccine is related to fear of vaccine side effects and refusal to be vaccinated is concern over reliability of the trials and side effects. Kabakama's [12] commentary focuses on the fact that there were differing policies concerning COVID vaccination in various African countries and this promoted vaccine hesitancy, religious beliefs, perceived low risk and complacency with at risk groups as those over 50 years old and health care workers being interpreted as others were not at risk and reliance on herbal medicines, and misinformation and social media.

The strengths of this research include a clear presentation of the Kom tribe's perspective on the HPV vaccine and to some extent, the COVID vaccine. The research process was conducted with rigor using one on one interviews by an experienced anthropologist familiar with the setting and triangulation of methods including member checking. The limitation of this present paper is that the material concerning COVID and the COVID vaccine were retrieved through spontaneous comments made by parents during the interview. Assessing acceptability of the COVID vaccine was not an original research objective. Information on COVID was not part of the interview guide, thus the responses lack the depth they might have had had it been part of intention of the research.

Conclusion

There are clear knowledge differences in Cameroonian adults concerns the COVID and HPV vaccines. In contrast, issues related to attitudes and behavior like access and trust are very similar.

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