

# “Knowledge, Attitudes, and Practices of Health Personnel of Maternities in the Prevention of Mother-to-Child Transmission of HIV in a Sub-Saharan African Region with High Transmission Rate: Some Solutions Proposed” (2018), by Elie Nkwabong, Romuald Meboulou Nguel, Nelly Kamgaing, and Anne Sylvie Keddi Jippe

In 2018, researchers Elie Nkwabong, Romuald Meboulou Nguel, Nelly Kamgaing, and Anne Sylvie Keddi Jippe published, “Knowledge, Attitudes, and Practices of Health Personnel of Maternities in the Prevention of Mother-To-Child Transmission of HIV in a sub-Saharan African Region with High Transmission Rate: Some Solutions Proposed,” in *BMC Pregnancy & Childbirth*. In their article, hereafter “Knowledge, Attitudes, and Practices,” the authors state the aim of their study was to establish the knowledge, attitudes, and practices held by health professionals who worked in numerous maternal departments throughout Cameroon. They claimed that effective knowledge, attitudes, and practices would likely reduce mother-to-child, hereafter MTC, transmission of HIV. After finding a deficit in the knowledge, attitudes, and practices among a subset of health professionals, the authors recommended increased training, funding, and supervision to reduce MTC transmission of HIV throughout Cameroon.

HIV, or human immunodeficiency virus, is a condition that attacks the human immune system, gradually decreasing the immune system’s ability to defend the body from other attacking microorganisms that can cause illness. It does so by infecting specific immune cells called CD4 cells. Although HIV is often transmitted through sexual contact, HIV-positive pregnant women can also transfer the virus to their offspring before, during, or after delivery, also known as MTC transmission. However, research suggests there are many means to prevent MTC transmission of HIV. Some research has supported the notion that medical practitioners can reduce the risk of MTC transmission during birth by performing a Cesarean birth, also known as a C-section. During a C-section, medical practitioners significantly reduce the possibility of birth-related MTC transmission by surgically removing the neonate from the woman’s uterus to bypass a vaginal delivery. That approach limits the neonate’s exposure to HIV-positive CD4 cells within the pregnant woman’s vagina, thereby reducing the risk of MTC transmission during delivery. HIV-positive pregnant women can also take medication during and after pregnancy as another method of prevention. While recommended prophylactic drug regimens continue to change, generally, the pregnant woman would need to take medications called antiretrovirals before, during, and throughout the length of time she chooses to breastfeed to prevent transmitting HIV to her infant.

At the time of their study, Nkwabong, Nguel, Kamgaing, and Jippe worked as faculty members within the medicine and biomedical science departments at the University of Yaoundé in Yaoundé, Cameroon. They came from a variety of backgrounds, including female reproductive care, pediatrics, epidemiology, and biomedical sciences. The collaborating researchers conducted the study from 20 February 2017 to 30 April 2017.

The authors separate “Knowledge, Attitudes, and Practices,” into five sections. They begin the article with a background section, in which they explain that childhood HIV infections in Africa are

often due to MTC transmission of HIV despite the availability of medications that can significantly reduce and oftentimes prevent HIV transmission. In the methods section, the authors describe how they administered three surveys to 178 healthcare professionals who interacted with pregnant women to assess their knowledge, attitudes, and practices for overall care of an HIV-positive pregnant woman. In the results section, the authors show that a majority of medical practitioners at those facilities lacked sufficient knowledge on MTC transmission of HIV prevention, had negative attitudes towards pregnant women with HIV, and participated in poor practices with HIV-positive pregnant women. In the discussion and conclusion sections, the authors argue that their findings may indicate why there is a high MTC transmission rate of HIV in Cameroon, and state more funding and oversight may mitigate those outcomes.

Beginning in their article's background section, Nkwabong and colleagues compare comprehensive statistics about MTC transmission of HIV on a global scale, contrasted with statistics in low-income countries. First, they mention that, at the time of writing in 2015, approximately 38.8 million people were living with HIV around the world. They state that one of the reasons for the increasing rate of HIV diagnoses was due to the persistence of MTC transmission of HIV. They mention that the HIV rate among pregnant women in one region of Cameroon was 9.1 percent in 2011. The authors then provide a list of measures healthcare practitioners can take to reduce MTC HIV transmission rates, including methods that make delivery more systematic and sterile and methods for cleaning and feeding the infant after delivery that reduce overall exposure to the virus. They believe the high MTC transmission rates are due to healthcare professionals not following delivery recommendations or stigmatizing women with HIV. Therefore, they designed their study to determine which factors, among knowledge, attitudes, or practices, influenced more healthcare practitioners when delivering care to HIV-positive pregnant women.

In the methods section, the authors explain that they administered surveys to 178 medical personnel across fifty-four maternity wards between 20 February 2017 and 30 April 2017 to assess the staff members' knowledge, attitudes, and practices broadly related to HIV-positive pregnant women. First, the authors obtained information about the participants' ages, sex, training record in preventative practices of MTC transmission of HIV, and years of experience within the medical field. Then, Nkwabong and colleagues asked the participants to answer questions through an auto-administered survey that was divided into three sections consisting of ten questions each. In the section determining the participants' knowledge on HIV, they asked the respondents questions to understand their beliefs on how they thought pregnant women transmitted HIV to neonates, and what medications could reduce the risk of transmission. To assess if the participants had negative or positive attitudes toward HIV-positive pregnant women, the authors asked them questions that broadly assessed whether they stigmatized or discriminated against women with HIV. Lastly, to test their practices toward women with HIV, the authors asked the participants questions to establish the quality of their medical care. For each section, the authors state that they considered a participant to have sufficient knowledge, a positive attitude, and good practices if they answered each corresponding section with at least eight out of ten responses accurately or positively.

In the results section, the authors discuss that a majority of medical practitioners who participated in the study lacked sufficient knowledge, had negative attitudes, and engaged in poor medical practices toward HIV-positive pregnant women. The participants' occupations varied from nurse aids, registered nurses, midwives, and health technicians, who either worked in hospitals or health centers. In all three categories, over fifty percent of the participants scored poorly on all three sections, meaning they had insufficient knowledge, negative attitudes, and poor medical practices. For example, over eighty percent of respondents noted they were uncomfortable taking care of an HIV-positive pregnant woman. Additionally, over seventy-two percent of practitioners did not know the proper procedure for safely advancing labor in an HIV-positive pregnant woman whose labor failed to progress. The authors also found that participants' attitudes were positively correlated with increased knowledge.

In the discussion section, the authors analyze the results of the study and offer suggestions to develop the knowledge, positive attitudes, and practices among health professionals in Cameroon. First, the authors state that during the time of the study, the health structures in the areas surveyed were poorly-equipped. For example, they could not employ enough midwives to care for the number

of pregnant women. The authors claim that the ministry of public health had been unable to train new health personnel due to financial constraints, which left practitioners who were less qualified than midwives to deliver the majority of care to the pregnant women. Additionally, the authors claimed that few participants received proper training on how to prevent MTC transmission of HIV, also likely due to funding restrictions. They argue that training more medical professionals, particularly more midwives, would increase the overall quality of care in the maternal wards and result in a decrease of MTC transmission of HIV. Additionally, participants who were older, like many of the midwives, had more positive attitudes and practices. Nkwabong and colleagues suggest that younger health practitioners had not been sufficiently trained and brought discriminatory attitudes toward HIV-positive pregnant women.

In the conclusion section, the authors assert that the government should focus on training more midwives who could observe deliveries and transfer their knowledge to other healthcare practitioners to promote better overall care for HIV-positive pregnant women. They claim that their findings could explain why the MTC HIV transmission rates were so high and that addressing those issues could help decrease future HIV transmission rates.

According to the authors, as many as 400,000 infants are infected by MTC transmission of HIV yearly. Global organizations have made efforts to reduce those numbers in Cameroon and other surrounding countries in Africa. Some of those actions have included developing and revising effective, prophylactic medication regimens and developing public health strategies for preventative practices, such as condom usage or HIV testing. The authors called for a significant increase in the number of trained, health professionals available in Cameroon, particularly midwives, who could contribute toward implementing those new programs as they continue to evolve.

In 2019, WHO released a framework titled Framework for Action: Strengthening Quality Midwifery Education for Universal Health Coverage 2030, co-signed by United Nations Children's Fund, United Nations Population Fund, and the International Confederation of Midwives. In that framework, the authors echoed similar sentiments shared by Nkwabong and colleagues that increasing the standards for midwifery care can result in reduced MTC HIV transmission. The framework stated that poor medical care causes up to fifty percent of maternal deaths and sixty percent of neonatal deaths. The framework also states that research, such as that shared by Nkwabong and colleagues, has shown that raising the education standards for midwives could prevent up to eighty percent of all maternal and neonatal deaths.

While WHO called for global adoption of that framework by 2030, the effects noted in the article by Nkwabong and colleagues became compounded during the COVID-19 pandemic, thus stalling the WHO-directed progress to increase the number of midwives. For example, according to Eunice Pallangyo, Mary Grace Nakate, Rose Maina, and Valerie Fleming, before the pandemic, maternal healthcare in many countries throughout Africa was limited by the shortage of qualified midwives and healthcare professionals, limited resources, and overextended healthcare facilities. According to Pallangyo and colleagues, while some countries like Kenya directed midwives to online training to continue to share WHO updates on local maternal care guidelines, midwives stated they could not perform their duties completely due to a lack of information on how to properly care for a pregnant patient with COVID-19. As of March 2021, in the midst of the COVID-19 pandemic, the goals within the WHO framework have not been achieved.

## Sources

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