**JETIR.ORG** 

### ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue



# JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

# CHALLENGES OF TRADITIONAL BIRTH ATTENDANCE ON SAFE MOTHERHOOD AND CHILDREN IN THE WA MUNICIPALITY

Micah Yinpang Bavi Zing, Husein Pumaya Yakubu, Sadat Abugbila Zakaria, Justice Osei-Akoto, Yahuza Chalpang Nurrudeen & Samuel Delasi Akresi

#### **ABSTRACT**

Traditional Birth Attendants (TBAs) have traditionally been the primary occupation for African women during childbirth (Allotey, and Reidpath 2015). They have therefore continued to be used widely in Ghanaian rural areas notwithstanding the advances made in modern medicine and healthcare. Using a qualitative case study approach, data from 12 TBAs and 6 women who patronize the services of TBAs were elicited in Bihee, Busa, and Nakore in the Upper West Region of Ghana. The study revealed that the services offered by TBAs basically are the delivery of pregnant women during childbirth. The findings also pointed to the fact that some of the challenges TBAs faced are the inability to manage complications, lack of link with modern health systems and resources among others. However, women in deprived localities still prefer the services of TBAs over the services of the modern health system due to reasons such as familiarity and comfort with TBAs, financial constraints, and lack of respect from health professionals, etc. Consequently, the study calls for the training of TBAs to manage complications and policies should be developed to support TBA's growth and development.

**Keywords:** Traditional Birth Attendants, Safe motherhood, Skilled Birth Attendance, Approaches of Traditional birth attendance.

#### **INTRODUCTION**

TBAs continuously are used widely in rural areas notwithstanding the advances made in modern medicine and healthcare. Although Ghana has made significant progress in lowering maternal death rates, the country continues to grapple with a high maternal mortality ratio despite the Sustainable Development Goal 3 (SDG3)

which aims at, among other things, reducing maternal mortality, lowering child mortality, and achieving universal health coverage by 2030.

Shirazian and Gertz (2013, p. 6) assert that "TBAs are usually elderly women who are well-respected in the community for their knowledge and expertise". Over 529,000 women die each year in the world as a result of pregnancy-related problems, with over 99 percent of these deaths occurring in underdeveloped countries (World Health Organization, 2005). Maternal mortality has been a global phenomenon since time immemorial, nonetheless, developing countries have continuously lagged in terms of success at lowering maternal deaths while improving the health and wellbeing of women and children in general. This has thus piqued the interest of many governments, global health institutions, and NGOs over years. The UN's Department of Economic and Social Affairs reports in its World Mortality 2019 highlight that from 2000 to 2017, The global maternal mortality rate has dropped from 342 to 211 deaths per 100,000 live births. In 2017, Sub-Saharan Africa accounted for 2/3 of all maternal fatalities, with a rate of 542 deaths per 100,000 live births. Furthermore, despite substantial progress in reducing maternal death since 2000, the ratio of maternal mortality in Sub-Saharan Africa still hovers around 78 times greater than in Australia and New Zealand, both of which have the lowest ratio of any region in the world (United Nations, 2019).

The following objectives underpin the study: To examine the various approaches TBAs adopt in childbirth; to assess the challenges TBAs encounter during childbirth; and to explore the experiences of mothers who undergo delivery by TBAs in the study areas.

#### Situational Analysis of Traditional Birth Attendance in Ghana

According to the Ghana Statistical Service (GSS) reports cited by Afeni, Baku, Salia, and Asempah (2018), nonskilled attendants assisted 62.9 percent of childbirths in the Northern Region, while TBAs and relatives supported 39.1 percent and 38.6 percent of births in the Central and Upper West Regions, respectively. They have an important duty in maternal health in rural Ghana due to the underdevelopment of the health system in these areas. Their roles in facilitating childbirth, providing antenatal care and postnatal care, and promoting general maternal and child healthcare make them an integral part of the rural health system in developing countries including Ghana.

TBAs traditionally, have been the primary career for women in Africa during delivery and Ghana is not an exception (Abdul-Mumin, 2016; Aborigo, Allotey, and Reidpath 2015). Madi, Hussein, Hounton D'Ambruoso, Achadi, and Arhinful (2007) argue that in Ghana, safe motherhood programs were adopted in 1987, emphasizing the need for women to use healthcare services provided by professionals throughout pregnancy and child delivery.

There have been concerted efforts by WHO and some developing economies to promote safe motherhood and maternal health in general, but all these efforts have not yielded the needed results. Their efforts include

campaigns and sensitization on safe motherhood among others. TBAs play an important role in pregnancy management or childbirth by ensuring that women are provided with the information and quality services necessary for them to safely navigate pregnancy and childbirth and thus reducing maternal and child mortality (Turinawe, Rwemisisi, Musinguzi, de Groot, Muhangi de Vries and Pool, 2016).

The inability of people to access basic social amenities is the major obstacle to enhancing maternal health in rural communities. Some of these social amenities include lack of maternal health services, poor road network, financial limitation, lack of education, inadequate health facilities, insufficiently trained health professionals, low status of women in society, inter alia, etc. These challenges cause the needless, preventable deaths of pregnant women in these communities.

As part of measures put in place by successive governments to improve maternal health, the Ghana Health Service (GHS) has had the cause to train TBAs to increase safe motherhood in rural communities (Rishworth, Dixon, Luginaah, Mkandawire, & Prince, 2016). This notwithstanding, TBAs do not possess the competence required to manage acute obstetric complications and are not normally covered by the formal health system. This shows that the numerous interventions to train them have had minimal impact in lowering maternal deaths (Lane, 2013). Although several studies (Adatara, et. al., 2018; Aziato & Omenyo, 2018; Shamsu-Deen, 2013) have investigated the role of TBAs in Ghana, it appears academic inquisition on the challenges TBAs face are restive scaly and there is, therefore, the need to investigate the challenges TBAs face in their quest to ensure safe motherhood and childbirth.

#### **MATERIALS AND METHODS**

Selected localities in the Wa Municipality of the Upper West Region of Ghana formed part of the study areas. These communities were Bihee, Busa, and Nakore. These communities were purposively selected for the study because they have been identified as the top three communities where the services of traditional birth attendants are recognized (GSS, 2010). Wa is the capital town of the Wa Municipality with a population of 107, 214 and forms 15.3% of the entire population of the Upper West Region. The major source of livelihood is agriculture with about 48% engaged in skilled agriculture and forestry work.

The case study approach was used to support a qualitative research strategy. According to Pritha Bhandari (2020), qualitative research entails gathering and evaluating non-numerical data such as text, video, or audio. It can be used to get in-depth understanding of a subject or to develop fresh research ideas. The qualitative research design was therefore employed because the researchers' aimed at understanding the different experiences, emotions, stories, and perceptions of Traditional Birth Attendants in the Wa Municipality through empathy-based research.

The study employed the non-probability sampling techniques, particularly, snowballing and purposive sampling, in selecting respondents from the study areas. The snowball sampling technique was used to sample 12 TBAs in three communities namely Bihee, Busa, and Nakore within the Wa Municipality which have been identified as the top three communities where the services of traditional birth attendance are recognized according to 2010 Population and Housing Census (PHC). In addition, 2 women each in these three communities who have patronized the services of TBAs were sampled for the study using the snowball sampling technique. Finally, 2 midwives were purposively selected for the study. In all, a total of 20 respondents comprising of TBAs, women who have patronized the services of TBAs and midwives were sampled for the study.

The study used an in-depth interview guide to collect the data for the study. The interviews were carried out using a semi-structured interview guide. These interviews were conducted with the TBAs to ascertain data on the approaches they adopt in childbirth, and the challenges they faced in the discharge of their duties. Also, another set of interviews were conducted with women who patronized the services of TBAs to elicit data on the experiences and reasons for their preferences of the services of TBAs over health professionals.

The researchers manually controlled the interview data. After daily periods of data collection, the authors listened to the audio files and used Microsoft Word to translate the narratives from Wale (the interviewee's native language) to English. The authors did quality checks after returning from the field to ensure that the transcribed narratives matched the audio files.

The researchers respected the study participants' rights and sought and gained informed consent from all respondents prior to conducting the interviews. The researchers specifically discussed the scope and purpose of the study to the respondents. Participants were then told that they would stay anonymous throughout the research. As a result, research participants' status and pseudonyms were used to ensure confidentiality in the publication of research findings.

#### **FINDINGS**

#### Approaches TBAs adopt in Childbirth

With regards to the approaches TBAs adopt during childbirth, the study found in summary, that there are no clear-cut approaches or procedures adopted by TBAs for safe delivery. To the TBAs, everyone and their approaches to childbirth are different, but there are general norms and trainings passed down from generation to generation. The statements or comments below illustrate the information obtained from some of the TBAs regarding the approaches they use in childbirth.

For instance, a TBA from Busa stated:

"For example, depending on the person's delivery and situation, various methods may be used to deliver such a person. However, I cannot speak for others, but these are tips I learned in the past, and I have been doing this job for a long time. I don't have a procedure for doing it; it just happens whenever I get my hands on it." (44 years married trader)

Other respondents from Bihee and Nakore stated:

"Our job in childbirth is absolutely different from the white man's which may require some chronological other to deliver a baby. We barely follow any procedures in childbirth because it is something we have done over and over so we have mastered the experiences in doing it and this is a gift from God and a religious calling" (46 and 50 years married traders).

#### **Challenges TBAs Encounter during Childbirth**

The findings of the study revealed peculiar challenges TBAs in the three communities selected for the study encounter during childbirth. It is important to note that, all TBAs the researcher encountered indicated that it has been more than 5 years to 10 years since their services have been patronized as far as childbirth is concerned, and this is primarily due to the challenges they faced. The major challenges outlined by the TBAs who participated in the study are discussed or summarized below.

#### Inadequate knowledge and training to manage complications during childbirth

One challenge that stood out for all TBAs is that, they have inadequate knowledge on how to manage complications most especially in these modern times. Therefore, they require additional training to make their work more effective and efficient. This was a major challenge facing TBAs and hence the desire to receive extra training in order to better assist the women in their communities

#### For instance, a TBA from Nakore remarked:

"I became a TBA after witnessing people give birth in my family and community, which piqued my interest and drove me to learn more. I have learned and based on that, I have delivered people but haven't been officially trained, and it's because of this challenge I sometimes find it very difficult to deal with some complications and hence, I'd like to learn more so that I can better assist my community" (49 years old trader).

#### Another TBA from Busa stated:

"We would like to know the action to take if the kid is born feet first or buttocks first. When these issues arise, we respond to the best of our abilities, but we occasionally feel that we need some additional training to better assist the patient and this is a major challenge we face and would like to be trained on how to overcome these challenges". (47 years old trader)

From the study, it could be deduced that TBAs do not have enough knowledge and lack enough training with regards to managing complications associated with childbirth. This finding is in line with Sarmento (2014) who found that TBAs should be provided with appropriate training and supervision. When adequate training, such as

the clean practise of cutting the umbilical cord, is available, this cadre of community health workers may mobilise communities and provide reproductive care to women in the poorest situations as effectively as professional health workers.

#### Lack of support and links with public health resources.

To add to the above challenge, the study unearthed that lack of links with public health institutions is a hinderance to the operations of TBAs. TBAs throughout the study indicated that lack of support and integration into the modern health system is a challenge for them. Some indicated that they do not have cotton, gloves among other necessary logistics that could help them in ensuring safe delivery. For instance, a TBA from Busa remarked:

"When we didn't know anything, we didn't need gloves, gauze, or anything else; all we needed were our hands." However, we now know that doing so is not very sanitary, thus we require the necessary supplies, but it is very difficult for us to acquire them". (57 years married trader)

TBAs are also different from the existing system due to their lack of integration into the health system. This is seen as condescending to both TBAs and the people they serve in the end. For instance, a TBA from Nakore said;

"We need to be respected as midwives. We are not respected at all. When patients with concerns are sent to the health center by us, they are frequently ignored, and we get the impression that they don't consider our patients as essential because they came to us first, rather than the health center" (55 years married trader).

#### TBA's profession is not lucrative and not also recognized by modern health professionals and policies

The last challenge which was unearthed by TBAs is the fact that there are no new TBAs in their respective communities. The study revealed that women in the communities do not even patronize the services of TBAs and for that matter, they do not want to pursue careers as TBAs. Some even explained that TBAs are getting extinct in their communities because they cannot remember the last time someone patronized their services. For instance, a TBA from Nakore said:

"it has been almost five to ten years since my services have been patronized". (62 years widow)

They indicated that people do not want to be traditional midwives or TBAs because they think the profession is not lucrative. A TBA from Bihee remarked:

"The people here think the job of a TBA is not profitable enough and so the young ones do not even bother to adopt the traditional practices that we TBAs have inherited".

It is not recognized and modern health professionals and policies are preaching against the activities of TBAs and hence, women in their villages no longer see them as important. For instance, a TBA from Busa stated:

"Since there are now modern ways of delivering a baby, most women now prefer the services of health professionals. Also, some of them think that we lack enough training and do not come to us to deliver them. Also, health professionals always advise pregnant women not to patronize our services because they feel our services are not safe" (67 years old widow)

#### **Experiences of Mothers who Undergo Delivery by TBAs**

The women who partook in the study were asked why they utilise the services of TBAs. In other words, why do they prefer the services of TBAs over the services of professional midwives in the hospital? The findings revealed that women prefer to go to TBAs because of the following factors: poverty, relations with TBAs, and lack of respect on the part of health professionals, and negative attitudes from professional health practitioners.

#### **Poverty**

Poverty is a vital feature of merit that makes pregnant women with low incomes patronize the services of TBAs. TBAs play a critical role in aiding pregnant women with the financial challenges they confront during delivery, by providing effective yet affordable child delivery services. Due to financial challenges, these women have limited options on where and how to deliver their babies and are left with the option of patronizing the services of TBAs. For instance, a key informant from Busa remarked:

"I am financial constraints, and I cannot even afford to pay for an insurance, hence very difficult to go to the hospital during delivery. The point is I do not work so if I am detained, what do I do? Hence, why I prefer the services of a TBA". (30 year old mother)

Another key mother informant from Nakore stated:

"TBAs are crucial because if you don't have enough money or insurance to patronize the services of the modern healthcare, she is there to assist you" (40 years mother)

#### Relations with TBAs

The researcher discovered that cordial relationship amongst TBAs and pregnant women is the important reason why women prefer TBAs. This is because, on the one hand, cordial relationship between TBAs and pregnant women, and on the other hand, the unfavorable relationship between them and midwives determines the quality

of care. Because they are family members and live in the same community, the relationship between TBAs and pregnant women has always been good, polite, and friendly. A key mother informant from Bihee stated:

"I am related to the TBA in this community and because of that I feel that if I deliver here, it will be comfortable and convenient than going to the hospital since I will be well taken care of by a relative in the community here than in the hospital" (39 year mother)

#### Lack of respect and negative attitudes from professional health practitioners

From the study, the researcher discovered that there is little or no respect from professional health practitioners concerning to how they receive and treat patients. Health practitioners many at times show a negative attitude towards pregnant women coming from rural areas. They feel they are not hygienic and uneducated and because of that, there is little or either no respect amongst health practitioners and pregnant women from rural areas. For instance, a pregnant woman from Busa stated:

"About 3 months ago, I visited the clinic and unfortunately, I forgot to bring my National Health Insurance card, and when the nurse asked, I informed her it wasn't with me. She inquired as to why it is not with me, and I explained that I didn't see the point in bringing it again as I had brought it on my prior visit. When she heard this, she became enraged and began yelling at me, so I vowed that I would never return". (40 years mother)

The health worker in the Busa CHPS compound added to the credibility of this discovery. She made this remark in favour of certain midwives' improper treatment of pregnant women in labour;

They say 'efie bia Mensah wom,' (meaning there is a nasty nut in every social circle). Due to the behaviours of some staff, some pregnant women believe they are unable to deliver at a health facility. They will choose a nice environment, such as the TBAs' residence, where they can be very caring in executing the delivery for them." (39 years health worker)

#### **DISCUSSION OF FINDINGS**

The study found that TBAs do not have any structured or lay-down procedures employed during childbirth. However, depending on the TBAs different ways or methods are used but generally, those procedures are norms and skills passed to them from generations. This is reflective of the fact that the act of practicing childbirth is a gift from God which gives traditional women an opportunity to help their communities (Dodzo & Mhloyi, 2017). Also, according to Adatara, Afaya, Baku, Salia, & Asempah, (2018), despite the fact that TBAs are able to carry out their tasks, they are not classified as skilled birth attendants and do not have any formal approaches in terms of childbirth.

Furthermore, the study found that the challenges TBAs faced are the reasons forcing them out of business. Notably among the challenges were inadequate knowledge and training to manage complications during childbirth, lack of support and links with public health resources, and lack of recognition. The findings are corroborated by Rishworth, Dixon, Luginaah, Mkandawire, and Prince (2016) who found that the government's inability to recognize local realities typified by inadequate access to contemporary health care facilities is demonstrated by ineffective advances in maternal health and continuous reliance on TBAs. Also, contrary to this study, Jiang, Qian, Chen. et al (2016) asserted that TBAs in the area were instructed not to attend births at home in 1998, according to the Guangxi Health Bureau's Safe Mother and Baby Project, which was piloted in Fucheng township, Beihai city, and a minority area, Binyang township, Nanning City. Instead, they were asked to assist local township health centers by identifying and reporting new pregnant women, helping to promote prenatal and postnatal health care in township health centers, and escorting the pregnant women. The pilot revealed that changing TBAs' roles was both feasible and beneficial. The rate of institutional delivery in Fucheng Township increased from 14.6 percent to 85.5 percent before and after the pilot.

Additionally, the study found that some women prefer the services of TBAs over the modern health system because of financial constraints, closeness to TBAs, and the lack of respect from health workers. The findings of the study are consistent with those of Agus and Horiuchi (2012) in Indonesia, who found that two-thirds of 200 women interviewed on their preferences for midwives and TBAs preferred TBAs over midwives, and their decisions were influenced by traditional beliefs and their lower incomes. According to Rishworth, Dixon, Luginaah, Mkandawir and Prince (2016), TBAs are often thought to be more equipped to undertake deliveries in rural, isolated regions when there are few or no Skilled Birth Attendance (SBAs) available. Ejiro (2015), found that long waiting times, hospital bureaucracy, and rudeness of hospital staff are significant issues that patients seeking health care confront and hence, leave some women with no option than to resort to the services of TBAs which is consistent with the findings of this study.

#### **CONCLUSION**

This research has given a thorough explanation of the complexity revolving around the services of Traditional Birth Attendants in the three communities under the Wa Municipality. It is, therefore, obvious that the activities of TBAs cannot be undermined although TBAs are almost on the verge of extinction. This is premised on the discussions the researcher had with the grassroots (TBAs, community members, or women and community health workers). In as much as issues of access, proximity, financial constraints, among others were reasons for TBAs services utilization linger, rural areas will always prefer TBAs over the services of modern health systems although there are no TBAs in rural areas like before. Therefore, training should be offered to TBAs to serve as a complement to the modern health system most especially in communities where health workers are limited in number.

## REFERENCES

- Abdul-Mumin K. H. (2016). Village midwives and their changing roles in Brunei Darussalam: a qualitative study. Women Birth. 2016;29 (5): e73–81.
- Aborigo R A., Allotey P., & Reidpath D. D. (2015). The traditional healer in obstetric care: a persistent wasted opportunity in maternal health. Soc Sci Med. 2015; 133(Supplement C):59–66.
- Adatara, P., Afaya, A., Baku, E. A., Salia, S. M., & Asempah, A. (2018). Perspective of Traditional Birth Attendants on Their Experiences and Roles in Maternal Health Care in Rural Areas of Northern Ghana. International Journal of Reproductive Medicine; Volume 2018, Article ID 2165627, <a href="https://doi.org/10.1155/2018/2165627">https://doi.org/10.1155/2018/2165627</a> (accessed July 28, 2021).
- Adatara, P., Afaya, A., Baku, E. A., Salia, S. M., & Asempah, A. (2018). Perspective of traditional birth attendants on their experiences and roles in maternal health care in rural areas of northern ghana. *International journal of reproductive medicine*, 2018.
- Adatara, P., Afaya, A., Baku, E. A., Salia, S. M., & Asempah, A. (2018). Perspective of traditional birth attendants on their experiences and roles in maternal health care in rural areas of northern ghana. International journal of reproductive medicine, 2018.
- Agus, Y., & Horiuchi, S. (2012). Factors influencing the use of antenatal care in rural West Sumatra, Indonesia. *BMC pregnancy and childbirth*, 12(1), 1-8.
- Aziato, L. & Omenyo, C. N. (2018). Initiation of traditional birth attendants and their traditional and spiritual practices during pregnancy and childbirth in Ghana. BMC Pregnancy and Childbirth. <a href="https://doi.org/10.1186/s12884-018-1691-7">https://doi.org/10.1186/s12884-018-1691-7</a> (accessed July 28, 2021).
- Dodzo, M. K., & Mhloyi, M. (2017). Home is best: Why women in rural Zimbabwe deliver in the community. *PloS one*, *12*(8), e0181771.
- Geurts, K. (2001). Childbirth and pragmatic midwifery in rural Ghana. *Medical anthropology*, 20(4), 379-408.
- Ghana Statistical Service (2012). "Ghana multiple indicator cluster survey with an enhanced malaria module and biomarker," Final Report, Ghana Statistical Service, Accra, Ghana.
- Jiang, H., Qian, X., Chen, L., Li, J., Escobar, E., Story, M., & Tang, S. (2016). Towards universal access to skilled birth attendance: the process of transforming the role of traditional birth attendants in Rural China. *BMC pregnancy and childbirth*, *16*(1), 1-9.
- Kruske, S., & Barclay, L. (2004). Effect of shifting policies on traditional birth attendant training. *Journal of midwifery & women's health*, 49(4), 306-311.

- Lane, K. & Garrod, J. (2016). The Return of the Traditional Birth Attendant. J. Global Health Vol. 6 (2) <a href="https://doi.org/10.7189/jogh.06.020302">https://doi.org/10.7189/jogh.06.020302</a> (accessed July 28, 2021).
- Lane, K. (2013). Health cosmopolitanism: The case for traditional birth attendants.
- Madi B. C., Hussein J., Hounton S., D'Ambruoso L., Achadi E., & Arhinful D. K. (2007). Setting priorities for safe motherhood programme evaluation: a participatory process in three developing countries. Health Policy; 83(1):94–104.
- Ministry of Health (2014). National Community Health Planning and Services (CHPS) Policy. <a href="https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.moh.gov.gh/wp-content/uploads/2016/02/CHPS-policy-final-working-draft-for-validation.pdf&ved=2ahUKEwjy2vvnwZLyAhVKrxoKHdYlA6wQFjAMegQIGhAC&usg=AOvVaw3nDadlgFuj4hGbc1i2G17O">DadlgFuj4hGbc1i2G17O</a> (accessed August 02, 2021).
- Rishworth, A., Dixon, J., Luginaah, I., Mkandawire, P., & Prince, C. T. (2016). "I was on the way to the hospital but delivered in the bush": Maternal health in Ghana's Upper West Region in the context of a traditional birth attendants' ban. *Social Science & Medicine*, *148*, 8-17.
- Rishworth, A., Dixon, J., Luginaah, I., Mkandawire, P., & Prince, C. T. (2016). "I was on the way to the hospital but delivered in the bush": Maternal health in Ghana's Upper West Region in the context of a traditional birth attendants' ban. *Social Science & Medicine*, 148, 8-17.
- Sarmento, R. D. (2014). Traditional Birth Attendance (TBA) in a health system: what are the roles, benefits and challenges: A case study of incorporated TBA in Timor-Leste. Asia Pacific Family Medicine: Article Number 12; https://doi.org/10.1186/s12930-014-0012-1
- Shamsu-Deen, Z. (2013). Assessment of the Contribution of Traditional Birth Attendants in Maternal and Child Health Care Delivery in the Yendi District of Ghana. The International Institute for Science, Technology and Education (IISTE). ISSN 2224-607X (Paper); ISSN 2225-0565 (Online); Vol.3, No.4.
- Shirazian, T. & Gertz, E. (2013). Around the Globe for Women's Health. A Practical Guide for Health Care Provider. New York: Springer Science and Business Media. p. 6
- Turinawe, E. B., Rwemisisi, J. T., Musinguzi, L. K., de Groot, M., Muhangi, D., de Vries, D. H., ... & Pool, R. (2016). Traditional birth attendants (TBAs) as potential agents in promoting male involvement in maternity preparedness: insights from a rural community in Uganda. *Reproductive health*, 13(1), 1-11.
- United Nations (2019). World Mortality 2019: Highlights. Department of Economic and Social Affairs: Population Division; (ST/ESA/SER.A/432)