# "Hospital Too Far": The Use of Complementary and Alternative Medicine among Pregnant Women in the Niger Delta Region of Nigeria

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## **Abstract**

**Background:** Despite the introduction of new health technologies for health improvement among pregnant women in the developing societies, the use of complementary and alternative medicine has continued to be the dominant sphere in seeking health services among pregnant women. The aim of this study was to investigate the use of complementary and alternative medicine among pregnant women in the Niger Delta Region of Nigeria.

**Methods:** The study is a qualitative study conducted among 97 pregnant women in the region of the study. Data for the study were mainly collected using an In-depth interview guide. Nvivo software programme was used for data' analysis.

**Results:** Findings from the study showed that most women were registered at the various hospitals. However, they still overwhelmingly rely on the use complementary and alternative medicine. The predominant complementary and alternative medicine used by the pregnant women were Plant products, Traditional Birth Attendance and Faith Prayer

**Conclusion:** The study concluded that pregnant women in the study area, though use conventional health care services (especially antenatal services), they still rely enormously on the use of complementary and alternative medicine, with plants products

**Keywords:** Hospital Too Far, Complementary medicine, Alternative medicine, Pregnant women, Niger Delta Region

## Introduction

Complementary and Alternative Medicine (CAM) which represent a departure from the hitherto total reliance on orthodox medicine has offered a vast array of choices to people in dealing with issues relating to their health and wellbeing. According to Goldman and Cornwell<sup>1</sup>, 38% of adults in the developed countries have used at least one CAM practice sometime during the past 12 months. They stated further that the rate of CAM use steadily increased from the 1990s.

The global situation as reported in the World Health Organization (WHO) tradition medicine strategy 2002 - 2005 showed a CAM use prevalence rate of 38% in Belgium, China (40%), Colombia (40%), USA (42%), Australia (48%), France 49%, India (65%), Canada (70%) and Chile (71%) [6]. The same report observed that in Africa, up to 75% of people living with HIV/AIDS use traditional medicine. A literature review on the use of CAM for cancer patients in several European countries suggest that CAM is popular among cancer patients with 35.9% using some form of CAM (range among countries 14.8% to 73.1%)<sup>2</sup>.

In developing countries, the prevalence of CAM use has been assessed by very few studies. Available literature indicates that few studies have evaluated the prevalence of CAM use in the general population<sup>3</sup>. A prevalence rate of 38.5% was recorded among the general population of Indians living in Chatsworth, South Africa with the most common being herbs and spiritual healing<sup>4</sup>. A study on self-reported use of CAM in Jeddah; western Saudi Arabia observed that over 80% of the population depend on CAM products and/or traditional healing modalities, including herbal remedies or health maintenance and therapeutic management of disease<sup>5</sup>.

Furthermore, most studies examining the use of CAM were carried out in the developed world, including Australia <sup>6</sup>, Bolivia <sup>7</sup>, Canada <sup>8</sup>, Germany <sup>9</sup>, Portugal <sup>10</sup> and the United Kingdom <sup>11</sup>. Only a few of these studies have been explored among scholars in Nigeria and Africa at large <sup>12</sup>. Similarly, the few studies that have been conducted in Nigeria were done in the South-west and South-East of Nigeria <sup>13</sup>. The phenomenon of CAM use among pregnant women is yet to be explored in detail among the people of the South-South. Therefore, it is expedient to examine this issue among pregnant women in Bayelsa and Rivers State which are in the South-South part of Nigeria.

The theoretical framework for this study is built on three theories; *health belief model (HBM)* which states that people's engagement in health behaviour depends on their belief about their health problems, perceived severity of the illness, perceived benefits of action and barriers to action as well as self-efficacy; *the theory of reasoned action and planned behaviour (TPB)* which both accepts that the best predictor of a behaviour is behavioural intention, which in turn is determined by attitude toward the behaviour and social normative perceptions regarding it.<sup>14</sup>

### Materials and Methods

This is a cross-sectional qualitative study conducted among 97 pregnant women in fourteen selected communities of Bayelsa and Rivers states in the Niger Delta region of Nigeria. The study made use of the purposive sampling technique to select communities with abundance of forest resources located in uplands of the Niger Delta region, and maternity centres where women go for antenatal services. This was because it is at these centres that a huge chunk of the respondents could be found. The purposive sampling technique was further used to select women who were less than 8 months pregnant. This was done in order not to disturb those pregnant women who were very close to expected delivery date as the matrons of these maternity centres advice. Finally, the snowball sampling technique was used to locate pregnant women who do not attend maternity centres to capture their experience in their natural environment and to physical observe the CAM they were currently using.

Data for this study was collected using an in-dept interview instrument with the assistance of two female research assistants in each community who helped in interpreting the interview in the local dialect. The In-depth interview which lasted between 40-50 minutes, was conducted in various maternity centres of the selected communities. Each pregnant woman was interviewed separately. Before the interviews, participants were informed of the aims and the major themes of the study. Everyone that participated in the study were assigned pseudo names which were used for data analysis. However, the location and occupation of the members interviewed were real.

Data generated from the qualitative instruments were analysed following the steps outlined by Burnard for thematic content analysis. Thus, meaning was derived from the data and themes were organized before exporting the data into NVivo 10. After several shifting of data, the frameworks of main themes and sub-themes were developed and described in four stages; comprehending, synthesizing, theorizing, and re-contextualising.

To maintain a high ethical standard during the study, this research was presented before the department of sociology research committee of the Niger Delta University who approved for the

research to be conducted. Permission was also sought from the heads of communities of the study area involved according to their gate-keeping policy. Also, verbal approval was given by the matrons of the maternity centres after presenting the approval letter from the department of sociology. After obtaining approval from the gate-keepers, the consent of individual participants was also sought before they were enrolled for the study.

#### Results

The results for this study are presented using the content and thematic content analysis approach of presentation by objectives. Data analyses and results are on the perceptions of people about the use of CAM, Types and patterns of CAM use, perceived benefits and risks involved in the use of CAM, etc. The result presented below is solely from the perspectives of the respondents.

The background characteristics of respondents are essential in any study. The study sociodemographic characteristics of respondents are presented in table 1. The table shows the descriptive statistics of the study participants.

Based on the table, most of the respondents at least went to secondary school (56%), this is followed by those who went to primary school (22%). Those with tertiary education (12%) and no formal education (10%) were very few.

The ages of the respondents ranged from 15 to 49 years. Majority of the respondents were age range of 15-29 years (64%). About 26 percent of the participants were aged within the 30-34 years range, while about 10% were aged 35-49 years. This means most of the pregnant women who participated at the time of this study were still within their early years. Also, close to half of the participants (42%) were married, while about 33% were currently single, 21% of the study participants were currently in a cohabiting relationship.

Furthermore, an overwhelming number of the respondents were Christians (97%), while only a handful of them indicated that they practise their local traditional religion. Hence, we could state that respondents in the study belong to the Christian religion. Finally, close to half of the participants (47%) in the study were currently self-employed. That is, they were into various self-employed occupations like; farming, fishing, petty trading etc. This is followed by about 28% of the respondents who indicated that they were still students mostly at the secondary school level. About 15% of the respondents indicated that they were currently employed in the civil service, while only about 9% of the participants stated that they were not currently in any occupation.

Table 1: Socio-demographic Characteristics of the Respondents

| Variables           | Frequencies (N) = 97 | <b>Percentage (%) = 100</b> |
|---------------------|----------------------|-----------------------------|
| Education           |                      |                             |
| Primary             | 21                   | 21.65                       |
| Secondary           | 54                   | 55.67                       |
| Tertiary            | 12                   | 12.37                       |
| No Formal Education | 10                   | 10.31                       |
| Age                 |                      |                             |
| 15-29               | 62                   | 63.92                       |
| 30-34               | 25                   | 25.77                       |
| 35-49               | 10                   | 10.31                       |
| Marital Status      |                      |                             |

| Variables            | Frequencies (N) = 97 | Percentage (%) = 100 |
|----------------------|----------------------|----------------------|
| Single               | 32                   | 32.99                |
| Married              | 41                   | 42.27                |
| Cohabiting           | 21                   | 21.65                |
| Divorced/Separated   | 03                   | 3.09                 |
| Religion             |                      |                      |
| Christianity         | 94                   | 96.91                |
| Muslim               | -                    | -                    |
| Traditionalist       | 03                   | 3.09                 |
| Occupational Status  |                      |                      |
| Civil Servant        | 15                   | 15.46                |
| Student              | 27                   | 27.84                |
| Self-employed        | 46                   | 47.42                |
| Not currently in any | 09                   | 9.28                 |
| occupation           |                      |                      |

The first objective of the study was to find out the major health challenges that pregnant women in the area of study face. Findings from the study revealed that the major challenges that they face were mainly health challenges relating to what they called 'morning sickness'. This according to them include; vomiting, tightness of the stomach, body weakness, waist and body pains, malaria, fever, etc. Some of their exact response when asked what their major challenges was, a pregnant woman from Otuoke community in Bayelsa state stated thus;

"During the first and second months of my pregnancy, I had major health challenges. These challenges were weakness of the body (mostly early in the morning), tightness of the stomach which makes me unable to eat well and rashes all over my body which makes me unable to sleep well at night. Also, doctors told me that the placenta of the baby was too big which caused the stomach to become tight, so I was emotionally disturbed, always thinking of how the baby would look like when I give birth" (*Pregnant Woman from Otuoke*).

Another woman from Otuokpoti still in Bayelsa State succinctly captures her experiences thus; "The physical health challenges I experienced since I became pregnant include; short of blood, consistent spitting, vomiting and frequent body and waist pains" (*Pregnant woman from Otuokpoti*). A pregnant teenager from Otuakeme community in Bayelsa state in capturing her own experience puts it this way;

"I had severe typhoid, malaria and fever in the early months of my pregnancy. Also, I observed that I was looking taller than usual, so my mother said that my blood level was low. I was also thinking a lot especially about school, so I couldn't eat properly nor sleep well at night, this made me also look thin" (*Teenage pregnant girl from Otuakeme*).

The second objective of the study which investigated the methods of seeking health care and the types of CAM used amongst pregnant women revealed that majority of them patronise both orthodox and the use of CAM sources with plant products and alternative therapy being the most dominant CAM used by them. The frequency of CAM use among most of them was very constant, while some stated that they rarely use it. In the words of a woman from Kolo Community captures this as;

"I registered with the health centre at Kolo Community and seek medical care on weekly bases. Also, I usually go to the traditional birth attendants (TBA) on monthly bases in order to check the position of the baby and I also make use of CAM (these include massaging, herbal tea). Again, I make use of hydraulic mixed with red native chalk (*Iseli*) as well apply Damatol hair cream and crusades soap to ease the sweety (rashes). I used a mixture of dried palm fronds (Akain) and alligator pepper to sprinkle on my stomach to ease the tightness of my stomach. I also ate bitter kola which enabled me to stop spitting and cough. Again, I took a mixture of boiled water lily and kaikai (local gin) as well as rubbed olive oil on my stomach during faith prayer. I patronized the local herbs given by traditional birth attendants and still go to massage my stomach. Faith prayers were made by Pastors and when pregnant women called out in the church, I still partake in the prayers. I go to massage once in a month since the 6th month of my pregnancy and the herbs (mixture of water lily and kaikai) is taken every morning & evening. The dried palm frond and alligator pepper was sprinkled on the stomach during the 3rd month of pregnancy and was repeated in the sixth month. However, massaging, as well as the Iseli (Hydraulic mixed with native chalk) is still applied now that I'm 7 months pregnant. The bitter kola was eaten on no regular pattern but during the first & second months of pregnancy to stop spitting and cough" (Pregnant woman from Kolo Community). Still, a woman from Otuasega community who stated that she uses both Complimentary and orthodox medicine more frequently puts her own experience of seeking heath care and CAM use thus;

"I usually go to the health centre for antenatal care but also go to the TBAs to massage my stomach to check the position of the baby because in the health centre they do not have or give anything to place the baby appropriately, especially when the baby is bridged (i.e. the baby is in a position that the head is neither facing upward nor downward). However, I also do some self-medication, at home by taking herbs to calm malaria and typhoid as well as cough and catarrh discomforts. Because of the frequent spitting and vomiting, I usually chew bitter kola as well as alligator pepper which helped me a lot. I also used Amabhuo (or never die) to ease catarrh and cough. Also, because of the series of malaria and typhoid I experienced, I took herbs. These herbs were; *Akam shut-up* (translated as malaria keep shut) and Agum (a native leaf) as well as lime. These leaves were built together with the lime and squeezed together to produce water. I usually drink the water to cure malaria and typhoid. I usually go to massage, and the herbs prescribed by the TBAs is administered either by myself or by my mother at home. Besides going to the health centre for medical care and patronizing the local herbs, I still believe and put the life of any baby and mine in God's hand by regularly attending church service especially when prayers are made for pregnant women. The spitting, vomiting, cough, catarrh as well as malaria and typhoid showed up at my first pregnancy, so I started chewing bitter kola and alligator pepper from the first month of my pregnancy, started massaging from the 6<sup>th</sup> month, while the local herbs (Akum shut up, lime, Agum) were used from the 3<sup>rd</sup> month of my pregnancy. I still go to church on weekly basis, massage once a month to check the position of the baby and when I feel sick (symptoms of malaria and typhoid), I still boil the herbs, which I drink every morning and evening now that I'm eight months pregnant" (Pregnant woman from Otuasega community).

Again, a teenage pregnant girl from Otuakeme in junior secondary school gave her experience about the method of seeking health services and types of CAM she was using by stating thus; "There is a health centre in this community, but people don't usually come to work, and my mother prefers that I go to the traditional birth attendants in the next community while she (my mother is conversant with local herbs). So, I don't go to the health centre, I only go to massage monthly and when I feel sick my mother prepares local herbs for me at home.

Because of the shortage of blood experienced, my mother boiled *hospital too far* (green leaves that turn red when cooked) mixed with milk and sugar for me to drink every day. She also boils lemon grass mixed with *tombo* (Palm wine) which helped relieved the high fever. The lemon grass mixed with *tombo* is also used to cure malaria and typhoid. I usually go the TBAs in the next community to check my body as well as massage though my Aunt still massages me at home sometimes. Because I was feeling feverish and looking pale, I went to massage and was told I was over a month pregnant. But I still go to massage every month. The tombo and lemon grass as well as the *hospital too far* leaf with milk was boiled for me to drink at the early stage of my pregnancy. The herbs were boiled and taken when it is warm twice a day, every morning and evening" (*Teenage pregnant girl from Otuakeme*).

The third objective explored was the perceived benefit or risk the participant think might be derived from the use of CAM. With regards to the reasons why participants use CAM, they gave reasons such as; their cultural belief, advice from family members, cost of drugs, distance to health centres and personal belief of the efficacy of CAM. A woman from Otouke captures this by stating her experience as follows;

"The reasons why I use CAM is because of my cultural belief. My people have been using CAM for many years and it has been working for them. Also, my mother has been making use of CAM right from her first child, and she delivered all her children safely without the doctor's help. It is not because I don't have money to afford conventional drugs, because I registered with the health centre with N2,000 and still buy drugs from them. However, these CAM products have been found to be a more useful therapy during my mother's time and they are always easily found. Also, I go to church for prayers because of protection for me and my baby against evil forces, a therapy that cannot be found in the hospitals" (*Pregnant woman from Otuoke*). Another pregnant woman from Otuedo in Bayelsa State, advanced her own reasons for using CAM as captured below;

"I use CAM because my mother, mother's mother has been using it, even my elder sisters have all delivered their babies safely. Also, I don't have money to register with the health centre. I also believe that God has given us everything we need to take care of ourselves when pregnant, so there is no need to go to the hospital. Again, the woman that massages me has been massaging my elder sister for long and the herbs have been effective" (*Pregnant woman from Otuedu*).

With regards to the perceived benefits respondents derive from the use of CAM, a summary of their points is that it is a better alternative to conventional medicine as some stated how they got relieved in a way that orthodox medicine could not provide. This is captured in the words of the women in the paragraphs below;

"The major physical health benefits I derived from using CAM were: The tightness of my stomach was relieved after sprinkling alligator pepper and the dried palm fronds on my stomach. The bitter kola stopped the cough and spitting. The local herbs which I drank help to ease my body pain. The massaging made the baby to be properly placed in the stomach which eases safe delivery. The mixture of boiled water lily and kaikai (local gin) which I drank helped relieved pain. The hydraulics mixed with red native chalk calms the sweety (rashes) on my body" (*Pregnant woman from Kolo Community*).

"I have experienced enormous physical health benefits from using CAM. These include; When I complained of cough and catarrh to the doctor in the health centre drugs were prescribed for me, which didn't stop the catarrh and cough, but after applying *Amabhuo* in my nostril for few days the catarrh and cough stopped and when I chewed bitter kola and alligator pepper, it reduced the rate of my vomiting and spitting.

In the health centre, they don't care about the position of your baby, they only give you advice on how to stay as a pregnant woman but the people that massage always make sure that the baby is in a proper position massaging has helped my baby kick well, I can feel that my baby is alive. The boiled mixture of Ogum, Akum shut up, lime as a remedy for malaria has lived the malaria and typhoid pairs" (*Pregnant woman from Otuasega*).

With regards to perceived risks, some respondents stated that they do not perceive any form of risk associated with the use of CAM. Others stated that they have not really paid attention to any side effects or risk that might emanate from the consumption of CAM. Still a few others opined that the likely risk might be not listening to the advice from those prescribing how CAM should be used. Some of their opinions are captured thus;

"I don't see any risks involved in using CAM. It is even a risk not to use CAM especially massaging, because the mother will not know the position of the baby. Besides the local herbs helped relieve the pains I had because of the pregnancy. There are no risks involved in the dosage of the CAM, just that it is not good to massage all the time, once a month is ok and only when the growing baby is matured in the womb. For the herbs, it doesn't matter the number of times you decide to take them, it does not become overdose. Rather, it makes the mother and child strong and healthy" (*Pregnant woman from Otuogidi*).

"I don't think there are any risks involved in using CAM, except when the pregnant woman did not listen to advice from the TBAs or maybe "witch put hand" for me. I feel CAM is safe; my mother has never regretted using CAM" (pregnant woman from Otuakeme).

"The use of CAM has lots of side effect that many using it are unaware of. Most times, the use of CAM might affect the baby after birth. There are also side effects, because it was after sprinkling alligator pepper mixed with dry palm fronds that caused the sweety (rashes) all over my body" (*Pregnant woman from Otuasega*).

## Discussion

Findings from this study conforms to an aspect of DeBoer and Lamxay<sup>15</sup> findings who stated that major health challenges of pregnant women that make them use CAM are pains and stressful conditions. This study is also similar to that of Tabatabaee<sup>16</sup> whose findings reported gastrointestinal tract problems, nausea and vomiting, common cold and cough as the major health challenges that propel women to use CAM.

With regards to the prevalence and types of CAM used, a study carried out by Skouteris, Wertheim, Rallis, Paxton, Kelly and Milgrom<sup>17</sup> among Australian women confirmed a high prevalence rate of CAM use among pregnant women (73%). Fraser andCooper<sup>18</sup> cross – sectional study also discovered a high level of CAM use among Australian pregnant women. Hence, they confirm the findings of this study that plant products were the most prevalent type of CAM used. However, these studies differ from our study in several ways; firstly, these other studies did not find TBAs as a major type of CAM used by pregnant women. Secondly the major plants products used by pregnant women as revealed by these other studies include; Raspberry leaf, ginger, and chamomile, which different from our current study that stated; bitter cola, water lily, never die leaf, dried palm fronds, lime, pawpaw leaves, bitter leaf, as the most used plant products in the study area.

Tabatabaee<sup>16</sup> findings differ from that of this study. Firstly, Tabatabaee's study revealed that male sex selection, relaxation, increase in intelligence and beauty in the foetus was some of the perceived

reasons and benefits pregnant women derived from the use of CAM. However, findings from this research showed that low cost, advice from relatives, availability of CAM products, and traditional belief are the major factors that motivates pregnant women to patronise CAM, while effectiveness in meeting primary health needs which conventional medicine do not, was the major benefits discover in the study. Consistent with the findings of Tabatabaee<sup>16</sup>, was also the fact that pregnant women reported Family members as the most common source of CAM recommendation.

Finally, with regards to the risks involved in the use of CAM, this study differs from that of Banda et.al<sup>19</sup> conducted in Zambia. Whereas findings from this study revealed that pregnant women do not perceive any risks associated with the use of CAM, that of Banda et.al<sup>19</sup> discovered that more than half of the women in their study believed that using traditional healer could result to worse medical care.

## Conclusion

Based on the findings from the study, we could reach the following conclusions; Firstly, the major health challenges faced by women differ from one pregnant woman to the other. However, most common symptoms of health problems discovered in the study include; vomiting, tightness of the stomach, body weakness, waist and body pains, malaria, and fever.

Secondly, the study also concluded that pregnant women in the study area, though use conventional health care services (especially antenatal services), still rely enormously on the use of Complementary and Alternative Medicine, with plants products (e.g. bitter cola, water lily, never die leaf, dried palm fronds, lime, pawpaw leaves, bitter leaf, etc). The use of Traditional Birth Attendants and Faith Prayer being the most dominant CAM used in the study area.

Furthermore, the study concluded that low cost, advice from relatives, availability of CAM products and traditional belief are the major factors that motivate pregnant women in the study area to patronise CAM. Also, the study found out that pregnant women in the study area perceive their use of CAM to be very effective in meeting their primary health needs which conventional medicine do not often provide. Still, pregnant women in the study area do not perceive any risks associated with the use of CAM products. In fact, they concluded that people that do not use CAM are in more danger than those who use it.

## Recommendations

Based on the findings from the study, the following recommendations have been put forward; First and foremost, there is a great need for community stakeholders, relatives of especially young pregnant women, and women in the area of study to be sensitized on the need to rely less on CAM and rely more on conventional medicine by the Governmental and Non-Governmental agencies charged with the responsibility of ensuring the reduction of maternal and child mortality in the country. This is because most pregnant women strongly belief in the efficacy of the use of CAM even with the many flaws that have been identified by studies.

In addition, operations of TBA centres which modern medicine have come to recognise as being very useful, should be regulated and closely monitored by health services departments of the government in line with global best practices. This will go a long way in ensuring women who prefer the use of TBAs are given health care that are not detrimental.

Furthermore, the available health centres must be well-equipped with adequate maternal health facilities and manpower which is clearly lacking especially in the rural areas. This has left pregnant women with no choice but to look for an alternative source of health care.

More, the current monthly financial inducement of N3,000 for pregnant women who attend antenatal care in the city of Yenagoa, by the Bayelsa state government, should be emulated by other state Governors in the region and extended to the rural areas where the use of CAM is obviously more prevalent.

Finally, the cost of health services for pregnant women should be greatly reduced (or made free if possible) by the government and private health centres. The huge cost associated with patronising the hospital as discovered by the study, was a major factor that pushes pregnant women to use CAM which sometimes they get at very little or no cost.

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## Declaration

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### References

- 1. Goldman A, Cornwell B. Social Network Bridging Potential and the Use of Complementary and Alternative Medicine in Later Life. *Soc Sci Med* 2015; **140**(1): 69–80.
- 2. Molassiotis A, Holmes HS. Management of cancer-associated malnutrition. *European Journal of Oncology Nursing* 2005; 9 (SUPPL.2).
- 3. Ezeome ER, Anarado AN. Use of complementary and alternative medicine by cancer patients at the University of Nigeria Teaching Hospital, Enugu, Nigeria. *BMC Complementary and Alternative Medicine* 2007;7 (28).
- 4. Singh V, Raidoo DM, Harries CS. The prevalence, patterns of usage and people's attitude towards complementary and alternative medicine (CAM) among the Indian community in Chatsworth, South Africa. *BMC Complementary and Alternative Medicine* 2004; **4**(1).
- 5. Bakhotmah BA, Alzahrani HA. Self-reported use of complementary and alternative medicine (CAM) products in topical treatment of diabetic foot disorders by diabetic patients in Jeddah, Western Saudi Arabia. *BMC Research Notes* 2010; **3** (2).
- 6. Wiese M, Oster C, Pincombe J. 'Understanding the Emerging Relationship Between Complementary Medicine and Mainstream Health Care: A Review of the Literature.' *An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine* 2010; **14**(3): 326–342.
- 7. Bruun H, Elverdam B. Los Naturistas Healers Who Integrate Traditional and Biomedical Explanations in Their Treatment in the Bolivian Health Care System. *Anthropology & Medicine* 2006; **13**(3):273–283.
- 8. Kelner M, Wellman B, Welsh S, Boon H. How far can Complementary and Alternative Medicine go? The case of Chiropractic and Homeopathy. *Social Science and Medicine* 2006; **63**(10):2617–2627.
- 9. Sharma A. Medicine from the margins? naturheilkunde from medical heterodoxy to the University of Berlin, 1889-1920. *Social History of Medicine* 2011; **24**(2): 334–351.
- 10. Almeida J. The differential incorporation of CAM into the medical establishment: The case of acupuncture and homeopathy in Portugal. *Health Sociology Review* 2012. Retrieved from; <a href="https://doi.org/10.5172/hesr.2012.21.1.5">https://doi.org/10.5172/hesr.2012.21.1.5</a>

- 11. Wahlberg A. A quackery with a difference-New medical pluralism and the problem of "Dangerous practitioners" in the United Kingdom. *Social Science and Medicine* 2007; **65**(11): 2307–2316.
- 12. Onyiapat JE, Okoronkwo IL, Ogbonnaya NP. Complementary and alternative medicine use among adults in Enugu, Nigeria. *BMC Complementary and Alternative Medicine* 2011; **11**(1): 19.
- 13. Okoronkwo I, Onyia-pat J, Okpala P, Agbo MA, Ndu A. Patterns of Complementary and Alternative Medicine Use, Perceived Benefits, and Adverse Effects among Adult Users in Enugu Urban, Southeast Nigeria. *Evidence-Based Complementary and Alternative Medicine*, 2014; 1–6.
- 14. DeNicola E, Aburizaize OS, Siddique A, Khwaja H., Carpenter DO. Road Traffic Injury as a Major Public Health Issue in the Kingdom of Saudi Arabia: A Review. Frontiers in Public Health 2016; 4(4):1-12
- 15. DeBoer H, Lamxay V. (2009). Plants used during pregnancy, childbirth and postpartum health care in Lao PDR. A comparative study of the Brou, Saek and Kry ethnic groups. *Journal Ethnobiol, Ethnomed* 2009; **5**(25).
- 16. Tabatabaee M. Use of herbal medicine among pregnant women referring to Valiasr Hospital in Kazeroon, Fars, South of Iran. *Journal of Medical Plants* 2011; **10**(37): 96-108.
- 17. Skouteris H, Wertheim EH, Rallis S, Paxton SJ, Kelly L, Milgrom J. Use of Complementary and Alternative Medicine by a sample of Australian women during pregnancy. *Australian New Zealand Journal of Obstet Gynaecol* 2008; **48**(4): 384-390.
- 18. Fraser DM, Cooper MA. Myles textbook for midwives. Edinburgh: Elsevier Science Ltd 2009.
- 19. Banda Y, Chapman V, Goldenberg RL, Stringer JS, Cultiane JF, Sinkala M, Vermund SH, Chi BH. Use of traditional medicine among pregnant women in Lusaka, Zambia. *Journal of Alternative and Complementary Medicine* 2007; **13**(1): 123-127.