Competencies of Obstetric Caregivers Regarding Hepatitis B in the West Region of Cameroon

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Abstract: There are many zones of high prevalence of hepatitis B like Cameroon (10%). Mother to child transmission of hepatitis B is the most common mode of transmission in high prevalence area. Its prevention is assured by the health care staff in charge of pregnant women. We therefore used to assess the level of competence (skills levels) of obstetricians regarding hepatitis B in West region of Cameroon. This was a cross-sectional analytical KAP study. The recruitment took place in 11 hospitals in 5 major departments of West region of Cameroon. The sampling was consecutive and comprehensive. The population was constituted of 148 participants with a sex ratio of 0.51. The mean age was 34 years. The population consisted of 50 physicians (33.78%), 61 nurses (41.22%), and 37 auxiliary staff (25%). Only 4% had a good skills level, 55% had an average skills level, and 41% had an insufficient level. The skills level was influenced by gender, occupation, seniority in the occupation. The skills level of health care workers was average and insufficient for most. This does not allow them to effectively fight against the mother to child transmission of hepatitis B virus in Cameroon.

Key words: Competencies, caregivers, obstetrics, Hepatitis B, West region of Cameroon.

1. Introduction

Hepatitis B is an infectious disease of viral origin that induces inflammation of the liver [1]. The World Health Organization (WHO) estimates that 2 billion people were in contact with the hepatitis B virus and 240 million the number of chronic carriers of the virus in 2015. 686,000 people die from its main complications (cirrhosis and primary liver cancer) every year in the world [2]. Geographically, there are high prevalence areas where it varies between 10% to 20% [3]. In Cameroon, in particular, the prevalence is estimated at 10% in the general population and 7.1% in pregnant women [4]. Vertical mother-to-child transmission is the most used contamination route in high endemic areas (Cameroon) [2, 3, 5]. Therefore, prevention of mother-to-child transmission (PMTCT) is one of the essential pillars in the fight against this disease. The main actors in the implementation of this prevention are the health care staff in charge of pregnant women. Their daily actions should help reduce mother-to-child transmission of viral hepatitis B, as is the case with HIV/AIDS. In Cameroon this preventive strategy is still in its infancy. The practice of PMTCT of the hepatitis B virus can vary from one hospital to another and even from one practitioner to another. In this study, we wanted to assess the level of competence (skills level) of caregivers in obstetrics services regarding hepatitis B. According to the World Health Organization (WHO), health competence is defined as the ability of a person to mobilize a set of resources (in particular: knowledge, attitudes, practices) in a relevant situation.

More specifically, we used to assess the level of
knowledge of obstetric caregivers, identify their attitudes and describe their practices regarding hepatitis B. The goal is to identify training or recycling needs of these key players in the implementation of PMTCT for the HVB.

2. Methodology

It was a cross-sectional study of knowledge attitudes practice (KAP) type with an analytical aim. Recruitment took place from February to May 2017 in 11 hospitals distributed in 5 major departments in the West region of Cameroon (Mifi, Noun, Bamboutos, Nde, Koung-khi). The sampling was consecutive and comprehensive. We included anyone who is part of the health care staff of obstetrics departments of hospitals visited, including doctors (obstetrician gynecologist, general practitioner, student in 6th year of medical internship), nurses (midwife, state-certified nurse, midwife nurse, registered nurse), assistant-caregiver (nurse assistant), health assistant. Those who did not wish to participate were not included. Obstetric nurses were subjected to a pre-tested and administered questionnaire. Analyzed data were mainly socio-demographic and professional variables, the level of knowledge regarding hepatitis B, the quality of attitudes and practices and finally the level of competence (Skills level). Data analysis was carried out using Epi Info software version 7.2.1. The interpretation of the data was possible thanks to a preconceived and adapted evaluation grid [6] (Table 1).

3. Results

3.1 Sociodemographic Data

The study population consisted of 148 participants. It was mainly dominated by young people between 20 and 30 years old, the average age was 34. The sex ratio was 0.51. The other socio-demographic data could be grouped in the table below (Table 2).

3.2 Professional Data

The population of doctors consisted of an obstetrician gynecologist, 17 general practitioners, 32 6th year medical students, among nurses 24 state-certified nurses, 19 registered nurses, 12 midwives’ nurses, 6 midwives and finally, assistants - caregivers and other professionals 37 (Table 3).

3.3 The Level of Knowledge

Only 8% of the participants had a good level of knowledge. Slightly more than half had an insufficient to bad level (Figure 1).

| Table 1  | KAP evaluation grid [6]. |
|---------|--------------------------|
| Dimensions | Note | Appreciation |
| Level of knowledge | More than 85% of correct answers | Good |
| | 65% to 85% | Medium |
| | 50% to 65% | Insufficient |
| | Less than 50% of correct answers | Poor |
| | More than 85% of correct answers | Fair |
| Quality of attitudes | 65% to 85% | Approximate |
| | 50% to 65% | Erroaneous |
| | Less than 50% of correct answers | Harmful |
| | More than 85% of correct answers | Adequate |
| Quality of practices | 65% to 85% | Inadequate |
| | Less than 65% of correct answers | Harmful |
| | More than 85% of correct answers | Good |
| Skill level | 65% to 85% | Medium |
| | Less than 65% of correct answers | Insufficient |

| Table 2  | Sociodemographic characteristics of the study population. |
|---------|----------------------------------------------------------|
| Variables | Modality | Effective | Percentage (%) |
| Age      | Between 20 to 30 | 67 | 45.27 |
|          | Between 31 to 40 | 37 | 25.00 |
|          | ≥41 years | 44 | 29.73 |
| Sex      | Male | 50 | 33.78 |
|          | Female | 98 | 66.22 |
| Religion | Catholic | 50 | 34.72 |
|          | Muslim | 4 | 2.78 |
|          | Pentecostal | 6 | 4.17 |
|          | Protestant | 84 | 58.33 |
| Cultural area | Coast | 22 | 14.97 |
|          | Forest | 6 | 4.08 |
|          | Grass Field | 110 | 74.83 |
|          | Sahel | 1 | 0.68 |
|          | Savannah | 8 | 5.44 |
Table 3 Professional characteristics of the study population.

| Variables     | Modality       | Effective | Percentage (%) |
|---------------|----------------|-----------|----------------|
| Profession    | Caregivers and others | 37        | 25.00          |
|               | Nurses         | 61        | 41.22          |
|               | Doctors        | 50        | 33.78          |
| Seniority in the profession | 1 year | 52        | 35.14          |
|               | 2 to 10 years  | 48        | 32.43          |
|               | 11 to 20 years | 26        | 17.57          |
|               | ≥21 years      | 22        | 14.86          |

Fig. 1 Distribution of staff according to level of knowledge.

3.4 Level of Knowledge Based on Socio-demographic Data

There was a statistically significant link between the level of knowledge and age (p = 0.0103), sex (p = 0.0049), profession (p = 0.0001) and seniority in the profession, respectively. (p = 0.0081). We observe that the youngest (between 20 and 30 years old), men, doctors and those with one year of professional experience had a higher frequency of good and medium levels of knowledge (Figure 2).

3.5 Staff Attitudes Qualities

The qualities of attitudes found are grouped in Figure 3. We note that only 11% of the staff had fair attitudes, and 18% harmful attitudes.

3.6 Attitude Qualities According to Age

There was a statistically significant link between attitude type and age (p = 0.00286) (Figure 4).

In particular, there is a higher proportion of attitudes judged to be fair and approximate among people between the ages of 20 and 30.

3.7 Qualities of Staff Practices

The qualities of practices are grouped in Figure 5. It appears that only 16% of the participants had adequate practices.

3.8 Quality of Practices Depending on the Profession

There was a statistically significant link between the profession and the type of practice (p = 0.0182) (Figure 6).
The results showed that appropriate practice accounted for a larger proportion of physicians. Nursing workers and nurses have a higher proportion of inappropriate and harmful practices than do Physicians.

3.9 Staff Skill Level (level of competence)

With insufficient and poor knowledge levels in general, predominantly approximate attitudes and inadequate practices for the most part, it is not surprising that among recruited personnel (6th year of medicine included), only 6 (or 4%) had a good skill level, more than half (55%) had a Medium skill level (Figure 7).

3.10 Skill Level and Socio-demographic Data

As shown in Figure 8, there was a statistically significant link between skill level and, respectively, sex (p = 0.0129), profession (p = 0.0001), seniority in the profession (p = 0.024).

The highest frequencies of good and medium skill levels were found among women, doctors, and people with one year's professional experience.
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3.11 Skill Level of 6th Year Medical Students

Sixth-grademedical students during their academic placements are considered and act as full-fledged doctors. Therefore, determining their skill level in isolation is an effective way to identify any shortcomings acquired during academic training. The skill level of 6th year medical students is shown in Figure 9. Most of them had a medium skill level (78%).

4. Discussion

4.1 Sociodemographic and Professional Data

Of the 148 participants recruited, the most represented age group was between 20 and 30 years old (67/148 or 45.27%). Then there were those over 41, with an effective of 44 (29.73%). The median age was 34.65. This observation materializes the will of the managers of these structures to involve young healthcare providers more in the promotion of health in their localities.

The dominant sex was female with 98 women (66.22%) versus 50 men (33.78%) for a sex ratio of 0.51. This predominance of women is encountered in one similar study in the Cameroonian context [7] in 2018; and is explained by a social study in Canada [8] in 2003. The latter attempts to explain this trend by the fact that women are more attracted to the health professions than men by evoking love and affection which would be naturally instilled in the personality of women in our world.

Any healthcare professional encountered in the obstetrics department was considered a potential participant. Including 6th year medical students in training, who were the most represented category (32/148 or 21.26%). Nursing assistants were next (30/148 or 20.27%). In addition, do not forget to note that during the study, we found only one obstetrician-gynecologist (0.68%), 17 general practitioners (11.49%) who are cumulatively responsible for several services in the same hospital. There are 1.64 doctors per structure. This testifies to the great confidence placed in nurses, nursing assistants and midwives for decision-making in these hospital structures. Because the doctors, few in number, absent in certain structures, would be overwhelmed with work, thus granting compulsory trust to the rest of the team.

Almost 1/3 of the participants (52/148 or 35.14%) had professional experience less than or equal to 1 year. This is explained by the strong participation of 6th year internship students who were considered to have one year of professional experience.

4.2 Level of Knowledge

At the end of this KAP survey, only 12 participants (8.11%) demonstrated a level of knowledge deemed good. Almost 1/3 (51/148 or 34.46%) had a level of knowledge deemed medium. While just over half (85/148 or 57.43%) had insufficient to poor levels. We were able to find a Cameroonian study [7] in 2018 which presented similar results highlighting a low level of global knowledge as well as a study in California in the United States of America [9] 1997 which reported a low level of general knowledge with regard to hepatitis B. With a prevalence of 10% in Cameroon [4, 10] it will be expected that Cameroonian healthcare personnel will be more intellectually equipped regarding hepatitis B in order to effectively fight against this scourge.

By cross-referencing using the chi2 test, there appears to be a statistically significant link between
the level of knowledge and, respectively, age, sex, profession and seniority in the profession. Indeed, the greatest frequencies of good and medium levels of knowledge were found in people whose age varied between 20 and 30 years and those with one year of professional experience.

The link between the level of knowledge and respectively the age and seniority in the profession is explained on the one hand by the strong participation of the students of 6th year of medicine (doctors) who all had an age located in the bracket going 20 to 30 years old and all of whom were considered to have one year of professional experience; on the other hand by the fact that the oldest and the oldest in the profession very often get carried away in the hospital routine while the youngest, in search of skills and notoriety know that they have a lot of effort to provide.

As the type of training requires, in this study doctors had the highest frequencies of good and medium levels of knowledge, compared to nurses and assistant-caregivers. However, the management of hepatitis B in pregnant women must be done in a collegial manner, involving all health actors at different levels. Therefore, despite the fact that the level of knowledge of the different carers cannot be identical, we would expect to obtain common minimum theoretical skills and knowledge levels; which is not the case in this sample.

Men had higher frequencies of good and medium levels of knowledge. This can be explained by the strong female presence among nurses and assistant-caregivers who mostly had insufficient and poor knowledge levels, and a stronger male presence among doctors who had better knowledge levels. However, it should also be remembered that women represent almost 2/3 (98/148) of this sample, or twice the number of men (50), which makes a comparison on the basis of sex biased.

There was no statistically significant link between level of knowledge and cultural area, or religion. This testifies to equitable access to health schools in our country, without religious or ethnic prejudices.

4.3 Attitudes

Only 16 participants (10.81%) had fair attitudes regarding hepatitis B. 57 (38.51%) had approximate attitudes. The rest, equivalent to half (50.68%), had erroneous to harmful attitudes. However, there was a statistically significant link between attitude and age. People between the ages of 20 and 30 had higher frequencies of correct and approximate attitudes. This can be explained by the fact that young Cameroonians to date are diverted from traditional cultures in favor of globalization and have better access to information (internet, education), which removes them from the false and harmful perceptions of general belief.

4.4 Practices

Overall, 23 participants (15.54%) had adequate practices, just over half (79 or 53.38%) exhibited inadequate practices and 31.08% had harmful practices. Data from the literature between 2009 and 2015 still shows high frequencies of inadequate and harmful practices by obstetric caregivers regarding hepatitis B [11, 12] in the USA and Portugal.

It is important to remember that there was a statistically significant link between the quality of practices and the profession. The largest percentage of adequate practices was found among doctors. However, we must always consider the fact that most of the doctors found themselves overwhelmingly on the fringes of inadequate and harmful practices.

4.5 Skills of 6th Year Medical Students

The majority of students surveyed (25 or 78%) had a medium skill level, while 7 of them (22%) had an insufficient skill level. The lack of a good level of skills in this category could be explained on the one hand by the large volume of their apprenticeship programs, which does not allow them to dwell more on the subject; on the other hand, by the fact that
because of their lack of professional experience, they would ignore the severity of this disease in our country. No similar study involving 6th year medical students were found.

4.6 Skills of Obstetric Carers

At the end of this study, only 6 participants (4%) had demonstrated a good level of skills. 55% (82 participants) had a medium skill level and 41% (60 participants) had an insufficient skill level. This result is in line with those obtained in Brazil in 2013 [13]. This reflects the scarcity, if not the non-existence, of IECs (information, education, communication) and staff training sessions on PMTCT/HBV in the West region of Cameroon.

There was a statistically significant link between skill level and sex, profession, and seniority in the profession respectively.

Regarding this link between skill level and profession, as we said above, this result is logical and was expected due to the difference in training between doctors, assistant-caregivers and nurses. However, there should be synergy between different members of a service, so that we can find common minimum skills; which would witness great teamwork.

People with one year of professional service had the highest frequencies of good and medium skills. This proves that seniority in the profession is not a guarantee of good skills, but rather a factor that would get into a professional routine. Hence the interest in IEC (information education communication) sessions organized in hospitals and participation in seminars and conferences and Post graduate education. However, remember the massive participation of 6th year medical students who were considered to have one year of experience.

Women and men have similar proportions (3 participants) of good skill levels. But women have higher proportions of medium, but also of poor skill levels. As mentioned above, we must always reconsider the fact that women represent twice the men in this sample. This prevents a hasty and false analysis.

5. Conclusions

At the end of this study, it emerges that: only 4% of the participants had a good level of skills, and 55%, or more than half, had a medium level of skills. The remaining 41% had a level deemed insufficient. The skill level, mostly medium and insufficient, was influenced by the high proportions of levels of knowledge insufficient to poor (57%), erroneous to harmful attitudes (51%), inadequate (51%) and harmful (31%) practices. This does not allow the personnel interviewed to effectively combat against mother-to-child transmission of hepatitis B in Cameroon.

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