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Knowledge, Attitudes and Practices of Midwives and Birth Attendants on Blood Exposure Accidents

Djalogue L[1], Mossi KE[2], Tchamdja T[1], Djagadou K[2], Balaka A[3] and Djibril MA[2]*

[1]*Department of Internal Medicine, Kara Teaching Hospital, University of Kara, Togo*

[2]*Department of Internal Medicine, The Sylvanus OLympio Teaching Hospital, University of Lomé, Togo*

[3]*Department of Internal Medicine, Campus Teaching Hospital, University of Lomé, Togo*

Abstract

Objective: The aim of our study was to evaluate the knowledge, attitudes and practices of midwives and birth attendants regarding Blood Exposure Accidents (BEA).

Methodology: This is a descriptive cross-sectional study carried out over a period of 5 months among midwives and midwives working in maternity wards in the Kara region (Togo).

Results: During the study period, 74 midwives and birth attendants responded to the questionnaire. The average age was 34.59 years with extremes of 22 and 56 years. The prevalence of AES was 62.16%. Almost all (98.65%) of the respondents mentioned a splash of biological fluid on a skin wound as a circumstance for the occurrence of AES. Amniotic fluid (90.54%) and blood (86.49%) were recognized by the respondents as being the most contaminating biological fluids. HIV/AIDS (95.95%), hepatitis B virus (83.78%), and hepatitis C (82.43%) were the pathogens most at risk of transmission during an AES according to the respondents. Furthermore, 83.78% of respondents thought that the severity of AES is linked to the severity of the infection in the patient. All of the respondents decontaminated the equipment after use before washing them, 6.76% did not wear aprons in the delivery rooms, 4.05% did not wear gloves before invasive care and 43.24% did not wear protective glasses during invasive care. All respondents reported the accident to the referring doctor and the majority knew the measures to take in the event of AES.

Conclusion: Although the level of knowledge, practices and attitudes of midwives and birth attendants regarding AES are quite satisfactory, AES accidents are not less frequent among these health personnel. We should therefore always emphasize measures to prevent AES, as well as measures to be adopted after an AES in order to significantly reduce AES and avoid microbial contamination during an AES.

Keywords: Blood exposure accident; Midwives; Knowledge; Togo

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Correspondence:
Djalogue Lihanimpo, Department of Internal Medicine, Kara Teaching Hospital, University of Kara, Togo

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Introduction

A blood exposure accident (AES) refers to any contact with blood or a biological fluid contaminated by blood and involving a skin break (puncture, cut) or a projection on a mucous membrane or damaged skin [1]. AES constitute a real concern for health professionals because of the seriousness of the conditions they cause. According to a report by the World Health Organization (WHO), in 2002, of the 35 million healthcare providers worldwide, 3 million were subject to percutaneous exposure to blood-borne pathogens each year [2].

In the maternity ward, the risk comes from frequent exposure to patients' biological fluids. Contamination of midwives and midwives occurs either through percutaneous injuries (very often in connection with a false gesture or slippage of sharp or sharp instruments), through splashes of blood or amniotic fluid (in the eyes, the nose or mouth), or by frequent exposure to patients' biological fluids following perforation of gloves. These AES and biological fluids expose midwives and birth attendants to blood-borne pathogens including hepatitis B virus, hepatitis C virus and human immunodeficiency virus [3,4]. In Togo, little data exists on the subject.

In 2011, the prevalence of AES and biological fluids among healthcare personnel was 62.3%, including 82% among midwives [5]. In the northern zone of Togo, more precisely in the Kara region, the prevalence of AES was 67.6% among healthcare workers in 2019 [6]. In developed countries, the incidence of AES is decreasing due to epidemiological studies that have identified

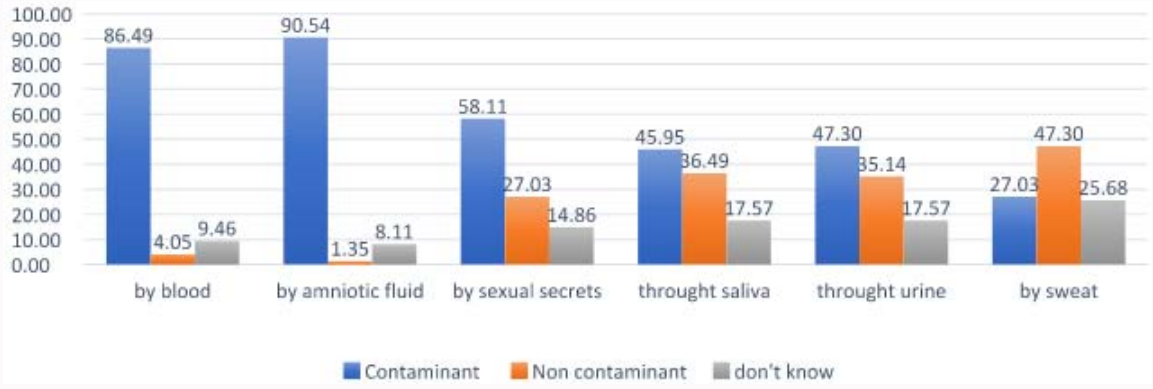

Figure 1: Distribution of investigations according to the mode of contamination.

contributing factors for preventive planning [7,8]. We conducted this study to assess the knowledge, attitudes and practices of midwives and birth attendants regarding AES.

Materials and Methods

We carried out a descriptive cross-sectional study, over a period of 5 months (February to June 2021) in sixteen (16) medical centers in the Kozah health district (Togo) with state midwives and midwives working in the services maternity.

Included in the study were midwives and birth attendants practicing obstetric and neonatal care in the health structures selected for the study. Midwives and birth attendants who did not give their consent and those working in administrative services were not included. An anonymous and individual survey form served as the basis for data collection. This survey sheet consisted of 09 parts: Sociodemographic data, situations that could suggest AES, mode of contamination, severity of AES, diseases that could result from AES, prevention of AES, immediate care during of an AES, the conduct to be taken within 4 h to 24 h before an AES and the conduct to be taken within 48 h before an AES. The survey sheets were given to the midwives and birth attendants during a first appointment. These completed forms were collected during a second meeting.

Results

A total of 80 questionnaires were administered; 74 were completed, for a response rate of 92.5%. There were 42 midwives and 32 auxiliary birth attendants. The frequency of AES was 62.16%.

Sociodemographic characteristics

The average age of the respondents was 34.59 years with extremes of 22 and 56 years. The age group of 30 to 35 was the most represented in 32.43% of cases. Midwives were the most represented (56.76%). More than half of the respondents (67.57%) had less than 10 years of professional experience.

Circumstance of AES

The projection of biological fluids on a skin wound (98.65%), the needle stick (95.95%), the projection of biological fluids on a mucous membrane (93.24%) and cutting with a sharp object (87.84%) were the main circumstances found.

Knowledge of contamination risks and transmissible infectious agents

Amniotic fluid (90.54%) and blood (86.49%) were recognized by the respondents as being the most contaminating biological fluids during AES (Figure 1).

According to the respondents, HIV/AIDS (95.95%), hepatitis B viruses (83.78%), hepatitis C (82.43%), hepatitis A (74.32%), of COVID-19 (7027%), pulmonary tuberculosis and typhoid fever 51.35% were the pathogens most at risk of transmission during AES.

Table 1: Knowledge about the severity of AES.

	N	%
Depth of wound	55	74.32
Severity of infection in patient	62	**83.78**
Type of equipment involved	47	63.51
Splash of biological fluid in the face	56	**75.68**
Vaccination status of the presentation	52	70.27

Table 2: Means of preventing AES.

	Effect	Percentage
Gloves worn	71	95.95
Glasses ports	42	56.76
Mud flap ports	70	94.59
Recapping needles	20	27.03
Wearing an apron during childbirth	69	93.24
Wearing boots during childbirth	57	77.03
Decontamination of gloves	49	66.22
Decontamination of equipment before washing	74	100.00
Availability of posters on the AES	68	91.89

Knowledge about the severity of AES

Among our respondents, 83.78% thought that the severity of AES is linked to the severity of the infection in the patient (Table 1).

Ways to prevent AES

All of the respondents decontaminated the equipment after use before washing them, 6.76% did not wear aprons in the delivery rooms, 4.05% did not wear gloves before invasive care and 43.24% did not wear not wear protective glasses during invasive care (Table 2).

Immediate asepsis measures and post-exposure treatments used during AES

All respondents reported the accident to the referring doctor; 94.59% knew that in the event of splashing on the mucous membranes,

rinse thoroughly with physiological serum or water for at least 5 min. 97.30% knew that the referring doctor must be contacted within 4 h following the AES and that the doctor must request HIV and viral hepatitis serology from the patient and the victim and prescribe prophylactic treatment to the victim.

Discussion

AEBs are very common in healthcare settings and pose a health and safety problem in developing countries, particularly in Africa, due to the danger of infectious diseases.

The frequency of occurrence of AES among our respondents is 62.16%. Our result is similar to that of Wasungu et al. [6] who reported a prevalence of 67.6%. Kara-Beketi et al. [5] reported a higher frequency among midwives of 82%. This high frequency of AES could be explained by the absence in our health system of a professional risk management system as well as inappropriate working conditions. This high frequency found in our study could also be explained by the non-use of personal protective equipment by our respondents.

The average age of our respondents was 34.59 years with extremes of 22 and 56 years. The age group of 30 to 35 was the most represented in 32.43% of cases. More than half of the respondents (67.57%) had less than 10 years of professional experience. In the series by Wasungu et al. [6] the average age was 39.59 years and the most represented age group was (35 to 45).

The projection of biological fluids on a skin wound (98.65%), the needle stick (95.95%), the projection of biological fluids on a mucous membrane (93.24%) were the main circumstances of occurrence of AES and biological fluids. The prick with a dirty needle (86.5%), the contact of a wound with blood (65.3%), the skin cut with a sharp object (61.8%) were the main circumstances found in the study by Ebatetou-Ataboho et al. [9].

The assessment of the risk of transmission during AES is based on three main severity factors which are: The severity of the infection in the source patient, the depth of the injury, the type of material involved. These factors are known to the population studied in 83.78% respectively; 74.32%; 63.51%.

HIV/AIDS (95.95%), hepatitis B (83.78%), hepatitis C (82.43%) were the pathogens most at risk of transmission during AES according to our respondents. These results are similar to those found by LARAQUI et al. in Morocco among healthcare workers (HIV 89.3% and hepatitis 77.5%) [10]. Many authors have reported that Human Immunodeficiency viruses or hepatitis B and C constitute the main risk of contamination in cases of blood exposure accidents [8,10-15].

Amniotic fluid (90.54%) and blood (86.49%) were recognized by the respondents as being the most contaminating biological fluids. According to Bagny et al. [16], blood (94.8%), puncture fluids (77.4%) and biopsy material (53.9%) were the contaminating products most frequently encountered by healthcare personnel. This could be explained by the fact that midwives and birth attendants in carrying out their daily activities do not do biopsy and are more exposed to blood and amniotic fluids.

Prevention of AES is essentially based on compliance with standard measures. Our study showed that midwives and birth attendants wore gloves in 95.95% during invasive care; 72.97% did not recap the needles after use. This result is similar to that of Dembele et al. who found 96.9% and 71.8% respectively [17]; on the other hand, in the series by Djériri et al. [18], 34.5% wore gloves and 25% did not cover the soiled needles. Our result can be explained by the multiple awareness-raising and training carried out on AES prevention measures in the healthcare professional environment. The majority of our respondents (56.76%) wore protective glasses and 94.59% wore bibs during invasive care. In the study by Nogret et al. [19], 43.75% of midwives did not wear protective glasses for various reasons: Unaesthetic, not practical, too large and slippery during procedures (90.5%).

All our respondents reported the AES to the referring doctor immediately. 86.49% did not bleed; 91.89% cleaned the wound with water and soap then rinsed thoroughly, in the event of splashing biological fluid into the eyes, 94.59% rinsed thoroughly for 5 min with water or physiological serum. These results are similar to that of Tanneau et al. [20]. In Congo, knowledge of first aid after AES was poor, washing with soap and water and correct disinfection of the wound were known respectively by 27.3% and 39.3% of healthcare personnel [11].

Conclusion

The frequency of AES is high among midwives and birth attendants. The level of knowledge on the risks of transmission of pathogens, on the seriousness of AES, on the means of prevention and immediate asepsis measures and the treatments used post-exposure during AES is quite satisfactory among the respondents. Their attitudes and practices in cases of AES are acceptable. Compliance with measures, such as wearing personal protective equipment and staff awareness campaigns, will significantly reduce AES.

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