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Knowledge, attitude and practices of Ghanaian midwives regarding the use of ophthalmic medications among pregnant women

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ABSTRACT

Background: Midwives are the primary healthcare attendants of pregnant women and have per their mandate among others to detect and manage minor ailments presented by pregnant women including ocular disorders. This study was, therefore aimed at assessing the knowledge, attitude, and practices (KAP) of Midwives regarding the use of topical ophthalmic medications in managing common ocular diseases in pregnancy.

Methods: Simple proportionate sampling was used to recruit midwives across the ten regions of Ghana. Participants completed a semi-structured questionnaire. KAP scores were computed as frequencies and percentages. Data were analyzed using Cross tabulations and Spearman's non-parametric correlation to determine associations.

Results: A total of 273 registered midwives aged between 20 and 68 years participated in the study. The results indicated that 56.8% of midwives had low knowledge on ophthalmic medication use and 60.4% scored below average on their practice regarding ophthalmic medication use among pregnant women. This reflected the "dispassionate attitude" (78.6%) of the midwives towards the use of ophthalmic medications. Red eyes (58.2%) were the most reported ocular symptom with bacterial conjunctivitis being the most (55.7%) diagnosed ocular disease by the participants. Most referrals made by the midwives were to ophthalmologists (59.9%) and ophthalmic nurses (38.8%).

Conclusion: The study revealed that midwives had low knowledge on ophthalmic medications and for that matter their practice of ophthalmic medication use in pregnancy was unsatisfactory. This had influenced their laissez-faire attitude towards the administration of ophthalmic medications despite they receiving complaints of ocular symptoms and subsequent diagnosis.

1. Introduction

The role of midwives and women's health providers is irreplaceable in the care and treatment of a mother and child during pregnancy and childbirth. Their role is broad and involves education, treatment, and collaboration with other specialists (Kebe, 1994). The knowledge, attitudes, and practices (KAPs) of midwives in non–emergencies and emergencies, including medical factors such as obstetric complications, appropriate referral of such problems, and belief factors such as fear of hospitals cannot be overemphasized.

Despite the extensive research of KAPs of midwives pertaining to other subject matters such as alcohol and risk of fetal alcohol syndrome, newborn hearing screening, management of third stage labour etc. that of eye care remains largely unstudied (Goedert, Moeller, & Karl, 2011; Payne et al., 2014). Although it is documented that most ocular changes in pregnancy are insipid (up to about 15%), some changes, however, are a cause for worry, and may give rise to uncertainty about the application of ophthalmic medications or the optimal method of childbirth for pregnant women who have them (Mackensen, Paulus, Max, & Ness, 2014).

Women with pre-existing ocular disorders are often curious prior to them becoming pregnant, how pregnancy might upset their condition and its cure, and how the medical treatment of the ocular disorder might affect their unborn child. Some epidemiological studies of ocular changes in pregnancy focused mainly on retinopathies and refractive changes i.e. up to 14% pregnant women need new spectacle prescriptions altogether (Errera, Kohly, & da Cruz, 2013; Sharma, Sharma, & Downey, 2006). Practically all pregnant women have reactive changes of the retinal vessels which are more pronounced in cases of hypertension, pre-eclampsia, or eclampsia (Grant & Chung, 2013). One in six pregnant women experiences dry eye symptoms warranting referral for an outpatient ophthalmological care (Ness & Paulus, 2010; Sharma

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et al., 2006).

This range of changes in the eye occurring during pregnancy can be physiological, pathologic related to the pregnancy, or pathologic unrelated to the pregnancy (Mackensen et al., 2014). Pregnant women often discuss these changes in their ocular health first with their midwives or women's health providers. The Midwife being the primary care attendant to the pregnant woman is therefore expected to be equipped with relevant knowledge concerning ocular changes during pregnancy so as to be able to handle and manage such conditions without which there are bound to be anxiety and potentially undetectable life-threatening conditions. Management of an ocular condition by the attending midwife, in this context, will entail the following: simple ocular examination skills to detect changes in the ocular adnexa, prescription of some topical ophthalmic medications and timely referral to an eye care professional.

2. Materials and Methods

2.1. Study area

Ghana is a country in West Africa with a land area of 238,533 square kilometres and shares border with three countries (Cote d'Ivoire to the west, Burkina Faso to the North and Togo to the east). The Atlantic Ocean borders Ghana to the south. As estimated in the 2010 Population and Housing Census undertaken by the Ghana Statistical Service (2012), Ghana has a population of 24,658,832 million Ghana is divided into 10 regions, namely: Upper West Region (UWR), Upper East Region (UER), Northern Region (NR), Brong-Ahafo Region (BAR), Ashanti Region (AR), Eastern Region (ER), Western Region (WR), Central Region (CR) and the Greater Accra Region (GAR). The study was conducted in all the ten (10) regions of Ghana (Fig. 1).

There are four Teaching Hospitals in Ghana located at the following regions: GAR (Korle-Bu Teaching Hospital), CR (Cape Coast Teaching Hospital), AR (Komfo Anokye Teaching Hospital) and in NR (Tamale Teaching Hospital). These teaching hospitals serve as referral points for Regional, Metropolitan and District hospitals dotted across the regions of the country. There are also several Polyclinics and Community-based Health Planning Services (CHPS compounds) scattered around the country.

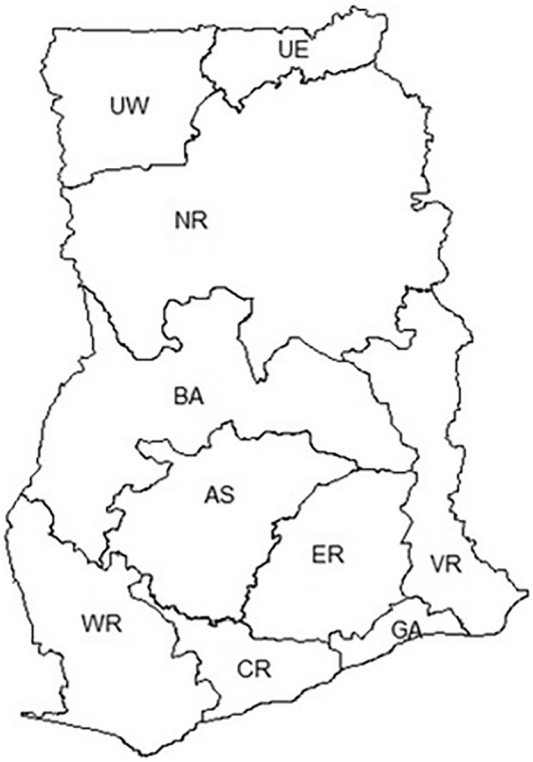

Fig. 1. A map showing the ten regions of Ghana.

Quasi Health Institutions, Christian Health Association of Ghana (CHAG institutions) and other privately owned hospitals and clinics are also spotted vastly around the country.

2.2. Study population and sample size

The target population in this study are practicing midwives found in health facilities located in the study area. The register of 732 midwives as per a database provided by the Ghana Registered Midwives Association (GRMA) was used as the frame to calculate the minimum sample size for the survey. The minimum sample size for the survey was determined as quoted by Krejcie and Morgan (1970).

$$s = X^2NP(1-P) \div d^2(N-1) + X^2P(1-P).$$

where:

$\boldsymbol{s}$ = required sample size.

$\boldsymbol{X^2}$ = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

$\boldsymbol{N}$ = the population size (732 midwives, per Ghana Registered Midwife Association records of 2015).

$\boldsymbol{P}$ = the population proportion (assumed to be 0.50 since this would provide the maximum sample size).

$\boldsymbol{d}$ = the degree of accuracy expressed as a proportion (0.05).

From above formula the minimum sample size computed was 252. However, the sample size was adjusted to 277 midwives considering a 10% non – participation rate (25 midwives). The required participant for each of the regions was assigned based on the total number of midwives per region (Table 1).

2.2.1. Randomized selection of midwives

District wise, Ghana is divided into 216 districts with Ashanti Region having the largest number of districts (30) and the Upper West Region having the least number of districts, (11). To ensure a randomized selection of participants, districts (per region) were randomly selected using a ballot system to arrive at the required number of participants per region.

Questionnaires were hand delivered in an envelope (by trained research assistants) to the participants after they have been contacted by phone call or email. This was made possible by the fact that the contact details (phone numbers, email addresses, and location of facilities) of the midwives was provided by the GRMA. The completed questionnaires were retrieved by the research assistants 2 weeks after by they had first been delivered to the participants. This was done per each region until all the 10 regions were covered. The data collection

Table 1
Distribution of Study participants across the regions of Ghana.

Regions of Ghana	No. of midwives per region	No. of participants per Region
UWR	27	10
UER	11	04
NR	84	32
BAR	48	18
AR	187	70
ER	60	23
VR	47	18
WR	68	26
CR	27	10
GAR	173	66
	732	277

*UWR: Upper West Region; UER: Upper East Region; NR: Northern Region; BAR: Brong-Ahafo Region; AR: Ashanti Region; ER: Eastern Region; VR: Volta Region; WR: Western Region; CR: Central Region; GAR: Greater Accra Region.