

Factors Influencing Utilization of Non-Pneumatic Anti-Shock Garment in Managing Postpartum Hemorrhage Among Midwives in Primary Healthcare Centres in Ogun State

Author(s), ADAMU-ADEDIPE, Foyekemi O. (RN, RM, RME, RNA, BNSc.),

AND

Dr. OWOPETU, C.A. (RN, RM, PhD)

Abstract:

Postpartum haemorrhage is a global public health problem which is the most common cause of maternal mortality. NASG is a lifesaving device to control the bleeding, reverse the shock, and stabilize the patient for safe transport to a comprehensive obstetric care facility. However, despite the effectiveness of NASG in the management of postpartum hemorrhage, its utilization is influenced by many factors which could be knowledge, midwives attitude and hospital policy. In view of this, the study was conducted to identify factors influencing utilization of NASG in managing post-partum haemorrhage among midwives in primary healthcare centers in two selected local government areas (Ewekoro and Ado-Odo/Otta) of Ogun State. The study adopted a quantitative method using descriptive survey research design. Total enumeration was used to select 105 participants for the study. A self-designed questionnaire was used for data collection. Analysis of data was done using descriptive statistics while Pearson Product Moment Correlation was used for analysis of hypotheses at the 0.05 level of significance. The findings of the study revealed that the knowledge of midwives

IJMNHS

Accepted 28 April 2021

Published 30 April 2021

DOI: 10.5281/zenodo.4773707



on non-pneumatic anti-shock garment for the management of postpartum hemorrhage was high (82.2%), attitude of midwives towards utilization of NASG was good (80.3%), utilization of NASG however was poor (36.4%). Result also revealed significant relationships between the midwives' knowledge ($r = -.789, p = .000$), attitude ($r = -.537, p = .000$) and their utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage. Therefore, the researcher recommends that there should be periodic training of nurse-midwives on the use of the non-pneumatic anti-shock garment in management of postpartum haemorrhage.

Keywords: Attitude, Knowledge, Midwives, NASG, Postpartum haemorrhage, Utilization,



About Author

Author(s): ADAMU-ADEDIPE, Foyekemi O. (RN, RM, RME, RNA, BNSc.)

Department of Maternal and Child Health Nursing,
School of Nursing Science,
Babcock University, Ilishan-Remo, Ogun State, Nigeria.

And

Dr. OWOPETU, C.A. (RN, RM, PhD)

Department of Maternal and Child Health Nursing,
School of Nursing Science,
Babcock University, Ilishan-Remo, Ogun State, Nigeria.



Introduction

Worldwide, postpartum hemorrhage (PPH) remains the single most common cause of maternal illness and death. Most of these deaths happen in developing countries where the facilities are not enough to handle obstetric emergencies. If not treated on time, PPH can lead to irreversible damage to vital organs or even death from hypovolemic shock. In severe cases, when the administration of uterotonic drugs does not arrest the bleeding, the demand for access to an obstetric care facility that has blood transfusion and surgical capabilities. For women having uncontrollable PPH, a method like non-pneumatic anti-shock garment to control the bleeding, reverse the shock, and calm the patient for safe transport to a comprehensive obstetric care facility could be lifesaving (WHO, 2015).

The maternal death rate in Africa is the highest in the globe, and it is assessed at 500 deaths per 100,000 live births (UNICEF, 2020). Sub-Saharan Africa and South Asia are the two regions that account for 86 per cent of maternal deaths worldwide. Sub-Saharan Africans experience the highest maternal mortality ratio – 533 maternal deaths per 100,000 live births, or 200,000 maternal deaths yearly. This is over two thirds (68 per cent) of all maternal deaths globally (WHO, 2019; UNICEF, 2020). Nigeria's present maternal death ratio is 560 per 100,000 live-births, with more than 40,000 women dying yearly from pregnancy and pregnancy-related complications (WHO, 2015). Maternal death is caused by various factors but studies have revealed that postpartum hemorrhage (PPH) is the highest single cause of maternal illness and death in low-income countries and the principal cause of nearly one-quarter of all maternal deaths worldwide (WHO, 2019; UNICEF, 2020).

Postpartum hemorrhage is commonly defined as blood loss exceeding above 500 milliliters (mL) after a vaginal birth and 1000 mL after a cesarean section. It is mostly classified as primary/immediate/early PPH that occurs about 24 hours of birth, or secondary/delayed/late, occurring more than 24 hours post-birth to up to 6 weeks postpartum. PPH may also be described as third or fourth stage complication, depending on if it occurs before or after delivery of the placenta, respectively (Aina, et al, 2020). PPH causes more maternal deaths across the world yearly especially in Sub-Saharan Africa. Maternal deaths can essentially be stopped through accessibility to comprehensive emergency obstetrical care (Kolade, et al, 2014; WHO, 2017). A large number of maternal deaths as a result of PPH can essentially be prevented with a skilled birth attendant and having all-inclusive emergency obstetric care technologies. One of the promising technologies is the utilisation of Non-pneumatic anti-shock garment (NASG), also known as "life wrap" in the management of postpartum hemorrhage.

Non-pneumatic anti-shock garment is a lifesaving, first-aid and body pressure-lowering device used in managing postpartum hemorrhage. It is an assistance that reduces blood loss after childbirth and reverses hypovolemic shock, thereby, reducing the risk of maternal illness and death due to PPH (WHO, 2019). Non-pneumatic anti-shock garment (NASG) was developed particularly for managing postpartum haemorrhage (Coker & Olive, 2016). It has also been used in several obstetric hemorrhage cases for stabilizing patients' situations before final treatment is gotten in developing regions (WHO, 2019). NASG is a first-aid device, which reverses hypovolemic shock and decreases postpartum hemorrhage. It consists of articulated neoprene segments that close tightly with Velcro, shunting blood from



the lower body to the core organs, elevating blood pressure, and increasing preload and cardiac output (Miller, Martin & Morris, 2018). It is an essential lifesaving equipment that need to be readily present in all primary health care centers for proper management of PPH.

However, despite the introduction of this effective, first aid device, low cost, evidence based into Nigeria in 2008, there has not been an evident reduction in maternal illness and death rate; as in 2017 according to the Fragile States Index, 15 countries were considered to be “very high alert” or “high alert” being a fragile state (South Sudan, Somalia, Central African Republic, Yemen, Syria, Sudan, the Democratic Republic of the Congo, Chad, Afghanistan, Iraq, Haiti, Guinea, Zimbabwe, Nigeria and Ethiopia), and these 15 countries had MMRs in 2017 ranging from 31 to 1150” (WHO, 2019). Ogbeye, Ohaeri, and Olatubi (2015) in their study discovered that there is still an increase in maternal death rate in Nigeria because of factors such as delays in receiving prompt treatment, inadequate supply of the new necessary equipment used in managing emergency cases in hospitals such as NASG.

However, regardless of consequences and benefits associated with the use of Non-Pneumatic Anti-shock garment in the management of PPH, its utilization is still very low especially at primary healthcare level where the provision of appropriate quality services before prompt referral of complicated pregnancy or labour is needed and where majority of a woman’s pregnancy is managed. Aina, et al (2020) in their study discovered that the utilization of the garment (NASG) for the management of PPH was very poor among the skilled health attendance. It was also observed by the researcher during the clinical experience that most patients with PPH who would have survived the incidence die on the way to referred facility where they would have received quality obstetric care because of the appropriate first aid measures especially the use of NASG that would have stabilized the patient during the transit were not applied. This is supported by the findings of Hussein, et al (2016) that obstetric emergency cases were poorly managed before arrival, with mismanagement of referrals causing delays.

In view of the above, the main objective of the study is to identify the factors influencing the utilization of non-pneumatic anti-shock garment in managing postpartum hemorrhage among midwives in primary healthcare centres in selected local government area (Ewekoro and Ado-Odo/Ota) of Ogun State, Nigeria. This study specifically:

1. assessed the level of knowledge of midwives on the utilization of non-pneumatic anti-shock garment in management of postpartum hemorrhage;
2. determined the midwives attitude on the utilization of non-pneumatic anti-shock garment in management of postpartum hemorrhage;
3. assessed the level of utilization of non-pneumatic anti-shock garment in management of postpartum hemorrhage;
4. assessed the relationship between the midwives' knowledge and utilization of NASG in management of postpartum hemorrhage; and
5. determine the relationship between the attitude of midwives and the utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage



Research Questions

The following research questions were raised for this study:

1. What is the level of knowledge of midwives on the utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage?
2. What is the midwives attitude towards the utilization of non-pneumatic anti-shock garment in the management of obstetric hemorrhage?
3. What is the level of utilization of non-pneumatic anti-shock garment in the management of obstetric hemorrhage among midwives?

Research Hypothesis

This hypothesis was postulated for this study:

1. There is no significant relationship between the midwives' knowledge and the level of utilization of NASG for the management of postpartum hemorrhage.
2. There is no significant relationship between the attitude of midwives and the level of utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage

Methodology

This study employed a quantitative descriptive cross-sectional study of midwives working in the Public Primary Healthcare Centres using a self-administered structured questionnaire to assess factors influencing utilization of non-pneumatic anti-shock garment for the management of postpartum hemorrhage among midwives. The target population for the study comprised of all midwives working at the Public Primary Healthcare Centres in the selected local governments, Ewekoro and Ado-Odo Local Government Area of Ogun State, Nigeria. The total population consists of one hundred and five (105) midwives working at the 26 Public Primary Healthcare Centers and forty four (44) public primary healthcare centers in Ewekoro and Ado-Odo Local Government Area of Ogun State respectively. Total enumeration was used because of the limited number of the respondents at the public primary health centers.

Data was collected using a self-developed questionnaire. The questionnaire consists of four sections. The self-structured questionnaire was designed based on the specific objectives of the study and was given to experts in the field of Research and Statistics to ensure face and content validity. Amendment and corrections from their observations was made on the instrument before copies were printed and distributed. The instrument was pre-tested once using internal consistency method by the researcher among midwives in three primary health centers in Sagamu LGA of Ogun State, using ten percent (10%) of the total population for the study (105 participants) in order to ascertain the reliability of the instrument. Hence, 10 midwives at three primary health centers in Sagamu LGA of Ogun State were randomly selected and 10 copies of questionnaire were administered. The collected data were statistically analyzed using Cronbach's alpha coefficient as explained in table 1 to get reliability coefficient.



Table 1: Sectional Reliability report

Variables	Coefficients
Knowledge of non-pneumatic anti-shock garment in the management of postpartum hemorrhage.	0.801
Midwives' attitude on non-pneumatic anti-shock garment in the management of postpartum hemorrhage.	0.783
Utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage.	0.757

The instrument for data collection was administered during the monthly meeting of all the midwives of all the centres under each local government with the apex nurse and PHC coordinator. One hundred and five (105) copies of the questionnaire were distributed and retrieved for the analysis. The collected data were coded and entered into a computer software version 23 of the Statistical Package for the Social Sciences (SPSS) and presented in frequencies and percentages. Inferential statistics of Pearson moment correlation was used to test the two hypotheses at 0.05 level of significance.

Results

Research Question 1: What is the level of knowledge of midwives on the utilization of non-pneumatic anti-shock garment for the management of postpartum hemorrhage?

Table 2: Knowledge of non-pneumatic anti-shock garment in the management postpartum hemorrhage

S/N		Yes	No
1	NASG is first aid devices which reverses hypovolemic shock	101(100.0)	-
2	NASG is capable of reversing hypovolemic shock thereby stabilizing patient during delay transportation	101(100.0)	-
3	NASG is part of the health care protocol for PPH before referral	101(100.0)	-
4	NASG must be used every time there is PPH	34(33.7)	67(66.3)
5	The Non-Pneumatic Anti-shock Garment is applied on patients with Postpartum hemorrhage by professional midwives	101(100.0)	-
6	The Non-Pneumatic Anti-shock Garment can be applied on patients from the lower limbs, thighs, pelvic region and abdomen	101(100.0)	-
7	The Non-Pneumatic Anti-shock Garment enables vital organs to be perfused during PPH	82(81.2)	19(18.8)
8	The use of non-pneumatic anti shock garment is necessary for the management of postpartum hemorrhage in all settings	101(100.0)	-
9	The Non-Pneumatic Anti-shock Garment can be worn for extensive period of time (12 to 24hrs) without adverse effect	86(85.1)	15(13.9)
10	Non-Pneumatic Anti-shock Garment is used during PPH to prevent hypovolemic shock.	101(100.0)	-



11	NASG is used along with standard treatment protocols of postpartum hemorrhage	101(100.0)	-
12	Non-Pneumatic Anti-shock Garment is a light weight washable and reusable.	101(100.0)	-
13	The Non-Pneumatic Anti-shock Garment is stretchable	101(100.0)	-
14	When applied on a patient, the Non-Pneumatic Anti-shock Garment applies a circumferential pressure of 20-40mmhg	82(81.2)	19(18.8)
15	A patient with the Non-Pneumatic Anti-shock Garment (NASG) on can undergo any investigation to find out the cause of the haemorrhage.	101 (100.0)	-
16	Non-Pneumatic Anti-shock Garment (NASG) when applied, transport 1.5 to 2 litres of blood from lower limbs, lower abdomen to the vital organs.	67(66.3)	34(33.7)
17	NASG look like?	Button half suit [101] 100.0%	
18	NASG has how many parts?	6 [101] 100.0%	
19	NASG is made of -----	Neoprene [101] 100.0%	
20	NASG should be applied for women when blood loss is*	Bleeding > 750 ml systolic blood pressure < 90mm Pulse > 110 bpm	
21	NASG can be removed when	Blood loss < 50 ml/hr. [101] 100.0%	

Table 2 reveals midwives' knowledge of non-pneumatic anti-shock garment for the management of postpartum hemorrhage. All the midwives consented that NASG is first aid devices which reverses hypovolemic shock; part of the health care protocol for PPH before referral, applied on patients with Postpartum hemorrhage by any trained health care personnel, applied on patients from the lower limbs, thighs, pelvic region and abdomen, necessary for the management of postpartum hemorrhage in all settings, used during PPH to prevent hypovolemic shock, and many more. Only 33.7% agreed that NASG must be used every time there is PPH, 81.2% said NASG enables vital organs to be perfused during PPH; 85.1% agreed that it be can be worn for extensive period of time (12 to 24hrs) without adverse effect, 81.2% said when applied on a patient, the Non-Pneumatic Anti-Shock Garment applies a circumferential pressure of 20-40mmhg, and 66.3% said when applied, it transports 1.5 to 2 litres of blood from lower limbs, lower abdomen to the vital organs. It could be said that the midwives are knowledgeable about the use of non-pneumatic anti-shock garment in the management of postpartum hemorrhage.

Table 3: Summary of the level of knowledge of midwives on non-pneumatic anti-shock garment for the management of postpartum hemorrhage

Category	Criteria	Frequency	%	Remark
15-21	High	83	82.2	Respondents with high level of knowledge on the utilization of NASG



8-14	Moderate	18	17.8	Respondents with moderate level of knowledge on the utilization of NASG
1-7	Low	-	-	Respondents with low level of knowledge on the utilization of NASG
N = 101; Mean = 82.2; SD = 11.73				

The result presents the level of knowledge of midwives on non-pneumatic anti-shock garment in the management of postpartum hemorrhage. Their knowledge on the utilization of NASG was categorized as high (15-21), moderate/average (8-14) and low (1-7). Majority 83 (82.2%) of the respondents had high knowledge on the utilization of NASG and the remaining 18 (17.8%) had low knowledge on the utilization of NASG. Therefore, it could be said that the knowledge of midwives on the utilization of non-pneumatic anti-shock garment for the management of postpartum hemorrhage is high.

Research Question 2: What is the midwives attitude towards the utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage?

Table 4: Midwives' attitude towards non-pneumatic anti-shock garment in the management of postpartum hemorrhage

	N = 101	SA	A	D	SD	Mean
1	NASG is effective in the prevention of hypovolemic shock during PPH	53 (52.5)	48 (47.5)			3.43
2	I am motivated to use NASG during PPH because of its effectiveness	83 (82.2)	18 (17.8)			3.82
3	NASG is policy justified	101 (100.0)				4.0
4	It is always readily accessible		28 (27.7)	40 (39.6)	33 (32.7)	1.98
5	NASG can be applied with minimum procedures in short period of time	101 (100.0)				4.0
6	Removal NASG requires a lot of procedures that takes time				101 (100.0)	1.0
7	Anti-shock garment is only beneficial to people in the rural areas/primary care settings			48 (47.5)	53 (52.5)	1.53
8	It is skilled birth attendance responsibility to apply NASG	101 (100.0)				4.0
9	It is time consuming				101 (100.0)	1.0
10	Special skills are required in the application & removal of NASG	76 (75.2)	25 (24.8)			3.73



11	Weight of patient can be an hindrance to application	48 (47.5)	20 (19.8)	33 (32.7)		2.79
Weighted mean score = 3.21 (80.3%)						

Table 4 reveals that the attitudes of midwives towards the utilization of NASG to be good judging by the average mean score of 2.81 on the scale of 4, which translates to be 80.3%. The midwives attitude towards the utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage in their order of responses showed that 'NASG is policy justified (mean= 4.0)', 'NASG can be applied with minimum procedures in short period of time (mean = 4.0)', 'It is skilled birth attendance responsibility to apply NASG (mean = 4.0)', 'Removal NASG does not require a lot of procedures that takes time' (mean= 4.0), 'I am motivated to use NASG during PPH because of its effectiveness' (mean = 3.82), 'NASG is effective in the prevention of hypovolemic shock during PPH' (mean = 3.43), and 'Special skills are required in the application & removal of NASG' (mean=3.73)

Research Question 3: What is the level of utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage among midwives?

Table 5: Utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage

		Yes (%)	No (%)
1	Have you ever used NASG for the management of PPH?	31(30.7)	70(69.3)
2	Is NASG always readily available in your center	10(11)	91(90.1)
3	Can you effectively apply NASG on patient	61(60.4)	40(39.6)
4	Is there any policy that support its utilization in your center	23(22.8)	78(77.2)
4	Do you use NASG every time there is PPH?	-	101(100)
5	NASG is used when there is severe PPH	34(33.7)	67(66.3)
6	NASG is used when other method has failed	19(18.8)	82(81.2)
7	Do you need an assistance to apply NASG	67(66.3)	34(33.7)
8	It is time consuming	30(70.3)	71(29.7)
9	Is it feasible to apply NASG alone	34(66.3)	67(33.7)
10	When NASG is stained with blood, do you disinfect it before washing?	15(13.9)	86(86.1)
11	Can NASG be applied by two midwives	67(66.3)	34(33.7)
12	Do you use NASG, when the need arise in your center	21(20.8)	80(79.2)
13	I don't have enough experience to utilize NASG	32(31.7)	69(68.3)

The outcome of the research question measuring the level of utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage among midwives revealed that 31 (30.7%) ever used NASG for the management of PPH, 10 (11%)



said NASG is always readily available in their centers, 23 (22.8%) agreed that policy support its utilization in their centers, NASG is used when there is severe PPH (33.7%), NASG is used when other method has failed (18.8%), It is feasible to apply NASG alone (33.7%), use NASG when the need arise in the center (20.8), and 31.7% did not have enough experience to utilize NASG. It could be deduced that the utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage among midwives in the study centers is poor.

Table 6: Extent of utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage

Variable	N	Minimum	Maximum	Mean	Std. Dev
Extent of utilization of NASG	101	3.00	13.00	4.731	1.013

Table 6 reveals the extent to which midwives utilizes non-pneumatic anti-shock garment in the management of postpartum hemorrhage, has a mean score of 4.731 (36.4%), which is very poor. It could then be deduced generally that the extent to which midwives utilizes non-pneumatic anti-shock garment in the management of postpartum hemorrhage is not encouraging and satisfactory, which may be as a result of some factors inherent in the institutions where they work due to lack or shortage of NASG. This study observed that the overall utilization level of NASG among the midwives was 36.4% which signifies that the respondents have poor utilization level of non-pneumatic anti-shock garment for the management of postpartum hemorrhage.

Test of Hypotheses

Hypothesis 1: There is no significant relationship between the midwives' knowledge and the level of utilization of NASG for the management of postpartum hemorrhage.

Table 7: Correlation between the midwives' knowledge and utilization of NASG

		Knowledge	Utilization
Knowledge	Pearson Correlation	1	-.789**
	Sig. (2-tailed)		.000
	N	101	101
Utilization	Pearson Correlation	-.789**	1
	Sig. (2-tailed)	.000	
	N	101	101

** . Correlation is significant at the 0.01 level (2-tailed).

The results in Table 7 revealed a significant relationship between the midwives' knowledge and their utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage ($r = -.789, p = .000$). This implies that the knowledge of midwives on non-pneumatic anti-shock garment in the management of postpartum hemorrhage is inversely related. This result could be as a result of the fact that the midwives have a good knowledge of NASG but there is little or no NASG to be utilised in the management of

postpartum hemorrhage. Therefore, the hypothesis stating no significant relationship between the midwives' knowledge and utilization of NASG in the management of postpartum hemorrhage is hereby rejected.

Hypothesis 2: There is no significant relationship between the attitude of midwives and the level of utilization of non-pneumatic anti-shock garment in the management of postpartum haemorrhage.

Table 8: Correlation between the attitude of midwives and the utilization of NASG

		Attitude	Utilization
Attitude	Pearson Correlation	1	-.537**
	Sig. (2-tailed)		.000
	N	101	101
Utilization	Pearson Correlation	-.537**	1
	Sig. (2-tailed)	.000	
	N	101	101

** . Correlation is significant at the 0.01 level (2-tailed).

The results in Table 8 revealed a significant relationship between the midwives' attitude and their utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage ($r = -.537, p = .000$). This implies that the attitude of midwives on non-pneumatic anti-shock garment in the management of postpartum hemorrhage is inversely related. This result could be as a result of the fact that the midwives have a positive attitude of NASG but there is little or no NASG to be utilised in the management of postpartum hemorrhage. Therefore, the hypothesis stating no significant relationship between the attitude of midwives and the utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage is hereby rejected.

Discussion

The outcome of this study showed that the knowledge of midwives on the utilization of non-pneumatic anti-shock garment for the management of postpartum hemorrhage is high. For instance, all the midwives consented that NASG is first aid devices which reverses hypovolemic shock; part of the health care protocol for PPH before referral, applied on patients with Postpartum hemorrhage by any trained health care personnel, applied on patients from the lower limbs, thighs, pelvic region and abdomen, necessary for the management of postpartum hemorrhage in all settings, used during PPH to prevent hypovolemic shock and many more. This implies that majority of the respondents were knowledgeable about NASG. When this finding was analyzed with other study findings the awareness and the knowledge of the respondents was higher from Ondo state Nigeria in 2015 on 177 Midwives in which 66.67% of the respondents had awareness of non-pneumatic anti-shock garment and 45.80% have good knowledge about non-pneumatic anti-shock (Ogbeye, Ohaeri & Olatubi, 2015). Also, this finding support the study findings in Bayelsa State and Ibadan, Oyo State Nigeria that all (100%) & (96%) of the study respondents have heard about NASG respectively. Also 65.18% had good knowledge on non-pneumatic anti-shock garment in Bayelsa and in Sokoto state about 64% respondents had good knowledge respectively



(Kolade, et al, 2014). The increase in awareness and good knowledge of NASG in the management of postpartum hemorrhage among midwives could be as a result of Nursing and Midwifery Council of Nigeria effort to increase the awareness among midwives for in the recent past the council introduced NASG into midwifery curriculum and also organized workshop and training about the use of NASG for midwives in Nigeria to educate them on the availability and the use of the garment in the management of PPH.

The results of this study showed that the attitudes of midwives towards the utilization of NASG to be good and positive. The midwives showed that NASG is policy justified, can be applied with minimum procedures in short period of time, does not require a lot of procedures that takes time' and not time consuming. About two-third of them were motivated to use NASG during PPH because of its effectiveness while NASG is seen as effective in the prevention of hypovolemic shock during PPH. Midwives' good and positive attitude could be as a result of their increase in awareness and optimal knowledge of NASG and its effectiveness in preventing postpartum hemorrhage complications especially during referral and prevention of maternal mortality. This implies that Midwives who had positive attitude toward the Non-pneumatic anti-shock garment were more likely to use non-pneumatic anti-shock garment as compared to those who had negative attitude towards Non-pneumatic anti-shock garment. This may be due to the fact that Midwives who have positive attitude have a big tendency to acquire more knowledge of Non-pneumatic anti-shock garment and utilize the knowledge acquired for effective use of NASG to prevent postpartum hemorrhage complications and maternal mortality. Also, a positive attitude regarding NASG exerts a positive effect on the extent of health care professionals' NASG utilization practice. This finding is not in line with the study finding in Bayelsa State Nigeria that there is no association between respondents' attitude and non-pneumatic anti-shock garment utilization (Ogbeye, Ohaeri & Olatubi, 2015).

The outcome of the research study reported that the extent to which midwives utilizes non-pneumatic anti-shock garment for the management of postpartum hemorrhage is not encouraging and satisfactory despite their optimal knowledge of NASG, which may be as a result of some factors inherent in the institutions where they work due to lack or shortage of facilities. This study observed that the overall utilization level of NASG among the midwives was 36.4%. This is not because they do not want to use it but because it is not available and accessible for them to use. Also, it equally reflect the reason for the increase of maternal death in Nigeria. This is in line with the study of Ogbeye, et al (2015) that there is still an increase in maternal mortality rate in Nigeria because of factors such as delays in receiving prompt management, inadequate supply or lack of many of the new necessary equipments used in managing emergency cases in hospitals such as NASG. Due to the unavailability of these equipment and other technological instrument in the hospitals, there is also lack of technical know-how or underutilization of such equipment. This is buttressed by the findings of Aina, et al (2020) in their study that the utilization of the garment (NASG) for the management of postpartum hemorrhage was very poor among the skilled health attendance probably due to suboptimal knowledge and non- availability of the garment. Also, Studies conducted by Kolade, et al (2014) in University College Hospital Ibadan revealed that only 35%



respondents claimed to have had opportunities to apply NASG, the rest 65% had never applied it on clients.

The results revealed a significant relationship between the midwives' knowledge and their utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage. This implies that the knowledge of midwives on non-pneumatic anti-shock garment in the management of postpartum hemorrhage is inversely related. This result could be as a result of the fact that the midwives have a good knowledge of NASG but there is little or no NASG to be utilized in the management of postpartum hemorrhage.

The results revealed a significant relationship between the midwives' attitude and their utilization of non-pneumatic anti-shock garment in the management of postpartum hemorrhage. This implies that the attitude of midwives towards non-pneumatic anti-shock garment in the management of postpartum hemorrhage is inversely related. This result could be as a result of the fact that the midwives have a good or positive attitude of NASG but there is little or no NASG to be utilised in the management of postpartum hemorrhage. This is a clear indication of underutilization of the NASG among respondents despite the efficacy of non-pneumatic anti-shock garment in reducing maternal morbidity and mortality caused by postpartum haemorrhage-related complication. This was in line with the findings of Olowokere et al., (2013) where none of the facilities made use of this simple devise in the management and control of PPH in spite of their positive attitude towards its usage. Also, the findings of Onasoga et al (2015) corroborated this study when their findings revealed that majority of the respondents do not use NASG in their centres and its application in management of post-partum hemorrhage was not part of the protocols in these centres, which was a clear indication of underutilization of the NASG in the primary health care centres.

Conclusion

Maternal mortality due to PPH remains a serious public health issues in developing countries like Nigeria. NASG as a first-aid lifesaving tool was introduced in 2008 to reduce maternal mortality rate due to postpartum hemorrhage. However, the utilization of NASG can be greatly influenced by different factors such as optimal knowledge and attitude of the midwives. Adequate knowledge of and attitude towards NASG is indispensable for all skilled birth attendants especially the midwives since they are the professional involved in the management of postpartum hemorrhage especially at the primary healthcare level. From the findings of the this study, it was concluded that health care professionals in Primary Healthcare Centers in Ewekoro and Ado-Ota Local Governments Area of Ogun State, Nigeria had good knowledge and attitude towards utilization of NASG.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. There should be periodic training of nurse-midwives on the use of the non-pneumonic anti-shock garment in management of postpartum haemorrhage.
2. The hospital management should ensure inventory taking on monthly basis to ascertain availability and functionalities of available NASG.
3. All health care facilities should include in their policy the use of non-pneumonic anti-shock garment as a management protocol for post-partum hemorrhage.



References

- Aina, F O, Oyedele M, Dada S, &Aina, D (2020) Knowledge and utilization of non-pneumatic anti-shock garment for the management of postpartum hemorrhage among Midwives in government hospitals in Ogun State, Nigeria. *BUMJ* 2020 3(1), 59-66 <https://doi.org/10.38029/bumj.v3i1.40>
- Coker A, & Olive R. (2016). Definitions and Classifications of postpartum hemorrhage. 2016. Retrieved from: <http://www.nlm.nih.gov/medlineplus/ency>
- Hussein, J., Hirose, A., Owolabi, O., Imamura, M., Kanguru, L., & Okonofua, F. (2016). Maternal death and obstetric care audits in Nigeria: a systematic review of barriers and enabling factors in the provision of emergency care. *Reproductive Health*, 13, 47. <http://doi.org/10.1186/s12978-016-0158-4>
- Kolade, O.A., Tijani, W.A., Oladeji, M.O., & Ajibade, B.L. (2014). Midwives' Knowledge and Utilization of Anti-Shock Garment in Prevention of Obstetric Haemorrhage Shock at the University College Hospital, Ibadan Nigeria. *IOSR Journal of Nursing and Health Science*. 3(1), 9-16.
- Miller S, Martin B.H, Morris L.J. (2018). Anti-shock garment in postpartum hemorrhage. *Best practice and research clinical Obstetrics and gynecology*. 2018; 22(6):1057-1074. <https://doi.org/10.1016/j.bpobgyn.2008.08.008>
- Ogbeye, G. B. Ohaeri, B. M. & Olatubi, M. I (2015). Midwives knowledge and attitude towards the use of anti-shock garment in the control of post partum haemorrhage in selected hospitals in Ondo State. *International Journal of Health Sciences & Research*, 5(9)
- Onasoga, O. A, Duke, E, Danide, I. U, & Jack-Ide, I. O. (2015). Midwives' knowledge and utilization of non-pneumatic anti shock garment in reducing complication of postpartum haemorrhage in selected health care facilities in Bayelsa state Nigeria. *Int J Reprod Contracept Obstet Gynecol*, 4, 977-81
- UNICEF. Pneumatic Anti-Shock garment. 2020. Available from: <https://www.unicef.org/innovation/non-pneumatic-anti-shock-garment-nasg>
- World Health Organization (2015). WHO Compendium of Innovative Health Technologies for Low-Resource Settings 2011 – 2014: Assistive devices, eHealth Solutions, Medical devices, Other Technologies, Technologies for Outbreak. Retrieved from <http://www.safemotherhood.ucsf.edu>.
- World Health Organization (2017). *Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors*. 2nd edition. Geneva. License: CC BY-NC-SA 3.0 IGO.
- World Health Organization (2019). Sexual and Reproductive Health: WHO Recommendations on Prevention and Treatment of Postpartum Haemorrhage and the WOMAN Trial. Retrieved from <https://www.who.int>.



Cite this article:

Author(s), ADAMU-ADEDIPE, Foyekemi O. (RN, RM, RME, RNA, BNSc.), Dr. OWOPETU, C.A. (RN, RM, PhD), (2021). "Factors Influencing Utilization of Non-Pneumatic Anti-Shock Garment in Managing Postpartum Hemorrhage Among Midwives in Primary Healthcare Centres in Ogun State", **Name of the Journal**: International Journal of Medicine, Nursing & Health Sciences, (IJMNHS.COM), P, 114–129. DOI: www.doi.org/10.5281/zenodo.4773707 , Issue: 2, Vol.: 2, Article: 10, Month: April, Year: 2021. Retrieved from <https://www.ijmnhs.com/all-issues/>

Published By



AND

ThoughtWares Consulting & Multi Services International (TWCMSI)

