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The Effect of a Facility Level Intervention on Disrespect and Abuse during Childbirth: A Controlled Before and After Comparison of Two District Hospital in Abuja, Nigeria

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Abstract: Disrespect and abuse of women by health care workers during pregnancy and childbirth is very common especially in developing countries like Nigeria. This is a deterrent to the utilization of available maternal health-care facilities with resultant high maternal morbidity and mortality. Hence there is a need for interventional strategies to reduce the prevalence. This study examines the effectiveness of an educational intervention on the prevalence of disrespect and abuse in two district hospitals in Nigeria. It employed a quasi-experimental design as a control before and after with a comparison to measure the effect of a single intervention on the prevalence of disrespect and abuse experienced by women during childbirth, using two health facilities. A total of three hundred and seventy four (374) women experiencing childbirth, one hundred and eighty seven from each health facility were randomly selected as research participants for a baseline study while the same total number of women were selected after a 3 days training on respectful maternity care targeted at health workers in only one of the hospitals. The overall prevalence of disrespect and abuse among the women at baseline was 92.33%. The results from the logistic regression analysis conducted at post intervention and the z-score comparison of proportion test indicates a significant reduction in the overall prevalence of disrespect and abuse at the intervention site, from 88.2% to 46% with no significant change in the overall prevalence of disrespect and abuse at the control site. It was concluded that there is a significant relationship between educational intervention and prevalence of disrespect and abuse hence recommendations were made for relevant stakeholders to implement strategies that will improve respectful maternity care.

Keywords: Disrespect and abuse**,** Facility based healthcare, Prevalence, Educational intervention, Health care professionals.

Introduction

Maternal mortality, defined as the "death of a woman in pregnancy or within 42 days of terminating pregnancy whatever the site or period of the pregnancy from any cause that has to do with the pregnancy or its management" (WHO, 2004 p3), still constitutes a major obstacle to health systems worldwide and is a tragedy for the entire community. High maternal mortality is a marker of global health inequality and has the largest discrepancy between the developed and developing countries of all human development indicators (Koblinsky, 2013). Therefore, maternal deaths and its reduction are of significant public health priority for the international community especially with the recent attention to the millennium development goals as it is one of the eight fundamental goals of enhancing human development (Koblinsky, 2013).

In the year 2000, the number of maternal deaths globally was 529,000. This figure was almost shared equally by Africa (251,000) and Asia (253,000) with only 22,000 deaths in Latin America and less than 1% of these maternal deaths occur in the developed countries (Carla, 2003). In 2015, developing countries accounted for 99% (302,000) of global maternal mortality with Sub-Saharan Africa contributing 66% (201,000) followed by Southern Asia(66,000) (WHO, 2015). Facility-based maternal care is critical to the reduction of these high maternal deaths. For instance, abuse and disrespect of women during facility-based care discourages women from seeking skilled attention and therefore directly affect maternal mortality and fetal outcomes (Miller & Lalonde, 2015; Patel et al. 2015).

In Nigeria, an estimated 576 women die out of every 100,000 live births (NDHS, 2013). This amounts to 36,000 maternal deaths annually. Presently, Nigeria contributes 14% to global maternal deaths and second to India in the estimates of global maternal mortality losing about 145 women of reproductive age daily (Kassebaum et al. 2013; Ajaegbu, 2013). Maternal mortality ratio, defined as "the number of maternal deaths during a given period per 100,000 live births during the same period" (Romans & Graham, 2006) increased by 31 maternal deaths per 100,000 live births between 2008 and 2013 (Wilmoth, 2009; NDHS 2013). The high maternal mortality ratio of 576 per 100,000 live births in Nigeria indicates that a critical aspect of our health care delivery services continue to be elusive. Therefore, the country was unable to meet the fifth Millennium development goal (MDG) of reducing maternal mortality ratio by 75% between 1990 and 2015 (Ndep, 2014). Despite the country's failure to meet the fifth MDG along with 193 countries, Nigeria signed into the sustainable development goals (SDGs). (SDGs) is defined as the provision of robust economic development, environmental sustainability, social inclusion and good governance at all levels and its addressed in a respectfully balanced and civilized way in an evidenced-based approach through appropriate economic organizations (Sachs, 2012). Therefore, Nigeria has made a commitment to reduce maternal mortality ratio to 12 per 100,000 live births in the next 15 years (2015-2030) (Murray, 2015). To achieve the sustainable development goals and the Millennium development goals, key factors that need to be addressed include increasing antenatal care and skilled birth attendance.

In Nigeria, only 5 out of 10 women attend ante-natal care in health facilities, only 38 out of 100 women are attended by a skilled birth attendant during childbirth, and only 36 out of 100 women give birth in health facilities (NDHS, 2013). In order to improve antenatal care and skilled birth attendance, there is the need to improve coverage and access to maternal health care facilities and also to improve the quality of maternal care provided in these institutions (Campbell, et al., 2006). There is evidence to show that women who are not satisfied with the quality of maternal care provided in health facilities usually do not visit a health center during the next pregnancy and childbirth and may also deter other women in the community from seeking maternal care in these facilities (Bohren et al. 2014). One important aspect of poor quality care that causes this dissatisfaction and unwillingness to seek skilled birth attendance is the disrespectful, abusive, and undignified maternal care that women experience during pregnancy and childbirth in health care facilities (Kujawaski et al. 2015).

Disrespect and abuse during pregnancy and childbirth are experienced by women globally, but the problem is more prevalent in developing countries (Okafor et al. 2015). For instance, an estimated 98% of the women who use health facilities during pregnancy and childbirth experience disrespect and abuse in Nigeria (Okafor, 2015). Mistreatment of women during pregnancy and childbirth is a violation of the Universal Rights of Childbearing Women charter which affirms that every woman has a right to dignified and respectful reproductive and maternal health care (WRAN, 2011). Respectful Maternity care is also a key strategy of the World Health Organization's (WHO) vision for quality of care for childbearing women and newborns (Tunçalp et al. 2015) and the mother-baby friendly birthing facilities initiative (Miller & Lalonde, 2015).

To help define and describe disrespect and abuse during childbirth, Bowser and Hill classified types of disrespect and abuse into: "physical abuse, non-consented clinical care, non-confidential care, non-dignified care, discrimination, abandonment, and detention in health facilities" (Bowser & Hill 2010 p.3). This typology has guided research and practice in respectful maternity care since it was developed in 2010. However, it has been expanded to include health system deficiencies and individual attitudes that create an enabling environment for disrespectful or abusive care during pregnancy and childbirth (Freedman et al. 2014).

Individuals and the community can encourage disrespect and abuse during pregnancy and childbirth by normalizing the issue. Other factors that can contribute to increased prevalence include the absence of national laws and proper enforcement, poor leadership and governance, poor standard of care and accountability. Interventions focused on reducing disrespect and abuse of women during pregnancy and childbirth includes advocacy and stakeholder’s mobilization, facility modification, legal reforms, accountability measures,

humanization of childbirth, reduction of HIV/AIDS stigmatization, education, and training programs (Browser & Hill 2010; Kruk et al. 2014).

This research will evaluate the impact of a 3-day educational training on values clarification, and attitude transformation (VCAT) used globally (White Ribbon Alliance, 2015) that is targeted at health workers. The research aims to estimate the prevalence of disrespect and abuse during pregnancy and childbirth and to provide evidence on the effectiveness of an educational intervention on the prevalence of this important public health problem. In a resource poor country like Nigeria, the evaluation of a simple cost effective intervention like education and training on the prevalence of disrespect and abuse during childbirth is critical in the present effort at increasing the utilization of facility-based maternal care.

Search Strategy

The search strategies employed in this study were adapted from Bohren et al. (2015) and George et al., (2015) studies on mistreatment of women during childbirth in health facilities globally and a systematic review of intervention that promote awareness of rights and its impact on increase use of maternity care services respectively. Four electronic databases were searched *(PUBMED, EMBASE, CINAHL, DISCOVERY).* PUBMED comprises of more than 26 million citations for biomedical literature from MEDLINE, EMBASE and CINAHL and are crucial databases for biomedical literature. The websites of main international organizations involved in maternal care like *WHO, UNICEF, USAID and UNFPA* were also searched. Experts working on respectful maternity care were also consulted to provide gray literatures which are not yet published. The strategies are listed in the table below.

Table 1a. Search strategy

	Database Searched		Search Terms	Result
Problem/Topic-disrespect and abuse during childbirth in health facilities	Mistreatment	#1	"disrespect"[tw] OR "disrespects"[tw] OR "disrespectful"[tw] OR "disrespected"[tw] OR "respectful"[tw] OR "abuse"[tw] OR "abused"[tw] OR "abusive"[tw] OR "abuses"[tw] OR "neglect"[tw] OR "neglected"[tw] OR "neglects"[tw] OR "confidentiality"[tw] OR "confidential"[tw] OR "non-confidential"[tw] OR "informed consent"[tw] OR "violence"[tw] OR "violent"[tw] OR "humiliation"[tw] OR "humiliate"[tw] OR "condescend"[tw] OR "condescending"[tw] OR "condescension"[tw] OR "intimidation"[tw] OR "intimidate"[tw] OR "yelling"[tw] OR "yell"[tw] OR "non dignified"[tw] OR "non-dignified"[tw] OR "undignified"[tw] OR "discrimination"[tw] OR "discriminate"[tw] OR "abandon"[tw] OR"abandonment"[tw] OR "detention"[tw] OR "human rights"[tw] OR "maltreatment"[tw] OR "mistreatment"[tw] OR "humanization"[tw] OR "humanized"[tw] OR "dehumanized"[tw] OR "dehumanization"[tw] OR "dignified"[tw] OR "undignified"[tw] OR "stigma"[tw] OR "dignity"[tw] OR "bullying"[tw] OR "bully"[tw]	513715
		#2	"confidentiality"[mesh] or "informed consent"[mesh] or "women's rights"[mesh] or "violence"[mesh] or "social stigma"[mesh] or "health services/ethics"[mesh] or "health care quality, access, and evaluation/ethics"[mesh]	174294
		#3	#1 OR #2	568258
	Perinatal and maternal health	#4	"perinatal service"[tiab] OR "peri natal service"[tiab] OR "perinatal services"[tiab] OR "peri natal services"[tiab] OR "perinatal health service"[tiab] OR "peri natal health service"[tiab] OR "perinatal health services"[tiab] OR "peri natal	552540

			health services"[tiab] OR "prenatal care"[tiab] OR "pre natal care"[tiab] OR "prenatal health care"[tiab] OR "prenatal healthcare"[tiab] OR "pre natal health care"[tiab] OR "pre natal healthcare"[tiab] OR "prenatal service"[tiab] OR "pre natal service"[tiab] OR "prenatal services"[tiab] OR "pre natal services"[tiab] OR "prenatal health service"[tiab] OR "pre natal health service"[tiab] OR "prenatal health services"[tiab] OR "pre natal health services"[tiab] OR "antenatal care"[tiab] OR "ante natal care"[tiab] OR "antenatal health care"[tiab] OR "antenatal healthcare"[tiab] OR "ante natal health care"[tiab] OR "ante natal healthcare"[tiab] OR "antenatal service"[tiab] OR "ante natal service"[tiab] OR "antenatal services"[tiab] OR "ante natal services"[tiab] OR "antenatal health" service "[tiab] OR " antenatal health service "[tiab] OR " antenatal health services "[tiab] OR " antenatal health services "[tiab] OR " maternal care "[tiab] OR " maternal health care "[tiab] OR " maternal healthcare "[tiab] OR " maternal service "[tiab] OR " maternal health service "[tiab] OR " maternal services "[tiab] OR " maternal health services tiab OR birth[tiab] OR births[tiab] OR childbirth[tiab] OR childbirths[tiab] OR delivery[tiab] OR deliveries[tiab]	
		#5	"birthing centers"[tiab] OR "maternal-child health centers"[tiab] OR "delivery rooms"[tiab] OR "maternity hospitals"[tiab]	1323
		#6	"obstetric delivery"[tiab] OR "obstetric deliveries"[tiab] OR "delivery, obstetric"[Mesh]	67005
		#7	"facility based delivery"[tiab] OR "facility based deliveries"[tiab] OR "facility delivery"[tiab] OR "facility deliveries"[tiab] OR "facility based births"[tiab] OR "facility based birth"[tiab] OR "facility birth"[tiab] OR "facility births"[tiab] OR "clinic delivery"[tiab] OR "clinic deliveries"[tiab] OR "clinic births"[tiab] OR "clinic birth"[tiab] OR "hospital delivery"[tiab] OR "hospital deliveries"[tiab] OR "hospital birth"[tiab] OR "hospital births"[tiab] OR "hospital childbirth"[tiab] OR "hospital childbirths"[tiab] OR "hospital based deliveries"[tiab] OR "hospital based delivery"[tiab] OR "hospital based births"[tiab] OR "institutional birth"[tiab] OR "institutional births"[tiab] OR "institutional childbirth"[tiab] OR "institutional childbirths"[tiab] OR "institutional delivery"[tiab] OR "institutional deliveries"[tiab]	1935
		#8	#4 OR #5 OR #6 OR #7	586028
		#9	#3 And #8	16760
		#10	respectful maternity care [tiab] OR respectful maternity care [Mesh]	24
		#11	#9 OR #10	16770
Setting	Developing countries	#12	"developing country"[tiab] OR "developin countries" [tiab] OR "developing nation"[tiab] OR "developing nations"[tiab] OR "developing population"[tiab] OR "developing populations"[tiab] OR "developing world" [tiab]	98560

	OR "less developed country"[tiab] OR "less developed countries"[tiab] OR "less developed nation"[tiab] OR "less developed nations"[tiab] OR "less developed population"[tiab] OR "less developed populations"[tiab] OR "less developed world"[tiab] OR "lesser developed country"[tiab] OR "lesser developed countries"[tiab] OR "lesser developed nation"[tiab] OR "lesser developed nations"[tiab] OR "lesser developed population"[tiab] OR "lesser developed populations"[tiab] OR "lesser developed world"[tiab] OR "under developed country"[tiab] OR "under developed countries"[tiab] OR "under developed nation"[tiab] OR "under developed nations"[tiab] OR "under developed population"[tiab] OR "under developed populations"[tiab] OR "under developed world"[tiab] OR "underdeveloped country"[tiab] OR "underdeveloped countries"[tiab] OR "underdeveloped nation"[tiab] OR "underdeveloped nations"[tiab] OR "underdeveloped population"[tiab] OR "underdeveloped populations"[tiab] OR "underdeveloped world"[tiab] OR "middle income country"[tiab] OR "middle income countries"[tiab] OR "middle income nation"[tiab] OR "middle income nations"[tiab] OR "middle income population"[tiab] OR "middle income populations"[tiab] OR "low income country"[tiab] OR "low income countries"[tiab] OR "low income nation"[tiab] OR "low income nations"[tiab] OR "low income population"[tiab] OR "low income populations"[tiab] OR "lower income country"[tiab] OR "lower income countries"[tiab] OR "lower income nation"[tiab] OR "lower income nations" [tiab] OR "lower income population"[tiab] OR "lower income populations"[tiab] OR "underserved country"[tiab] OR "underserved countries"[tiab] OR "underserved nation" [tiab] OR "underserved nations"[tiab] OR "underserved population"[tiab] OR "underserved populations"[tiab] OR "underserved world"[tiab] OR "underserved country"[tiab] OR "underserved countries"[tiab] OR "underserved nation"[tiab] OR "underserved nations"[tiab] OR "underserved population"[tiab] OR "underserved populations"[tiab] OR "underserved world"[tiab] OR "deprived country"[tiab] OR "deprived countries"[tiab] OR "deprived nation"[tiab] OR "deprived nations"[tiab] OR "deprive population" [tiab] OR "deprived populations"[tiab] OR "deprived world"[tiab] OR "poor country"[tiab] OR "poor countries"[tiab] OR "poor nation"[tiab] OR "poor nations"[tiab] OR "poor population"[tiab] OR "poor populations"[tiab] OR "poor world"[tiab] OR "poorer country"[tiab] OR "poorer countries"[tiab] OR "poorer nation"[tiab] OR "poorer nations"[tiab] OR "poorer population"[tiab] OR "poorer populations"[tiab]

		OR "poorer world"[tiab] OR "developing economy"[tiab] OR "developing economies"[tiab] OR "less developed economy"[tiab] OR "less developed economies"[tiab] OR "lesser developed economy"[tiab] OR "lesser developed economies"[tiab] OR "under developed economy"[tiab] OR "under developed economies"[tiab] OR" under developed economy"[tiab] OR "underdeveloped economies"[tiab] OR "middle income economy"[tiab] OR "middle income economies"[tiab] OR "low income economy"[tiab] OR "low income economies"[tiab] OR "lower income economy"[tiab] OR "lower income economies"[tiab] OR "low gdp"[tiab] OR "low gnp"[tiab] OR "low gross domestic"[tiab] OR "low gross national" [tiab] OR "lower gdp"[tiab] OR "lower gnp"[tiab] OR "lower gross domestic"[tiab] OR "lower gross national"[tiab] OR lmic[tiab] OR lmics[tiab] OR "third world"[tiab] OR "lami country"[tiab] OR "lami countries"[tiab] OR "transitional country"[tiab] OR "transitional countries"[tiab]	
Study Design	#13	"quantitative study"[tiab] OR "qualitative study " [tiab] OR "experimental study"[tiab] OR "randomised controlled trial"[tiab] OR "cross sectional study"[tiab] OR "quasi experimental"[tiab] OR "cross-sectional study"[tiab] OR "quasi-experimental"[tiab]	156003
Combination of Terms	#14	#11 AND #12 AND #13	40

Table 1b. Search Strategy/EMBASE

	Search terms	*Results*
1	(Disrespect$ or abuse$ or neglect$ or non dignified or abandon$ or mistreat$ or stigma$ or intimidate$ or dehumanize$).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]	337839
2	(Prenatal or peri natal or maternal or childbirth or child birth or ante natal or antenatal or deliver$ or obstetric).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]	1158689
3	(Birth centre or health facility or clinic or maternity home).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]	297619
4	1 and 2 and 3	1070
5	Respectful maternity care.mp.	21
6	4 or 5	1089

Table 1c. Search Strategy/CINAHL

	Search terms	*Results*
1)	TI “disrespect” OR TI “disrespectful” OR TI “disrespected” OR TI “abuse” OR TI “abused” OR TI “abusive” OR TI “abuses” OR TI “neglect” OR TI “neglected” OR TI “neglects” OR TI “humiliation” OR TI “humiliate” OR TI “intimidation” OR TI “intimidate” OR TI “non dignified” OR TI “non-dignified” OR TI “undignified” OR TI “discrimination” OR TI “discriminate” OR TI “abandon” OR TI “abandonment” OR TI “detention” OR TI “maltreatment” OR TI “mistreatment” OR TI “humanization” OR TI “humanized” OR TI “dehumanized” OR TI “dehumanization” OR TI “dignified” OR TI “undignified” OR TI “stigma” OR TI “dignity” OR TI “bullying” OR TI “bully” OR AB “disrespect” OR AB “disrespects” OR AB “disrespectful” OR AB “disrespected” OR AB “respectful” OR AB “abuse” OR AB “abused” OR AB “abusive” OR AB “abuses” OR AB “neglect” OR AB “neglected” OR AB “neglects” OR AB “humiliation” OR AB “humiliate” OR AB “intimidation” OR AB “intimidate” OR AB “non dignified” OR AB “non-dignified” OR AB “undignified” OR AB “discrimination” OR AB “discriminate” OR AB “abandon”	57,842

	OR AB "abandonment" OR AB "maltreatment" OR AB "mistreatment" OR AB "humanization" OR AB "humanized" OR AB "dehumanized" OR AB "dehumanization" OR AB "dignified" OR AB "undignified" OR AB "stigma" OR AB "dignity"	
2	TI "perinatal"OR TI "peri natal"OR TI"maternal"OR TI "childbirth"OR TI"child birth"OR TI"ante natal" OR TI"antenatal"OR TI "delivery"ORTI "obstetric" OR AB "perinatal"OR AB "peri natal"OR AB"maternal"OR AB "childbirth"OR AB"child birth"OR AB"ante natal" OR AB"antenatal"OR AB "delivery"ORAB "obstetric"	80,825
3	TI "birth centre" OR TI"health facility" OR TI"clinic or maternity home" OR AB "birth centre" OR AB"health facility" OR AB"clinic or maternity home"	552
4	S1 and S2 and S3	9
5	TI "respectful maternity care" OR AB "respectful maternity care"	4
6	S4 or S5	13

SOURCE: *Bohren et al. (2015), George et al. (2015).*
Note: The search strategy utilized in this study was adopted from other authors who have worked in similar area (cf; Bohren et al., 2015 & George et al, 2015).

Overall Prevalence of Disrespect and Abuse during Childbirth in the Included Studies

The prevalence of disrespect and abuse is defined as the proportion of women interviewed within six weeks after delivery who have experienced any type of disrespect and abuse during childbirth (Bohren et al., 2015). An experience of disrespect and abuse was measured either by a self-reported experience of disrespect and abuse during childbirth, during exit interviews or direct observation of patient-provider interactions. Prevalence of disrespect and abuse during childbirth ranged from 14.8% in Tanzania to 98% in Nigeria (Abuya et al., 2015b; Asefa&Bekele 2015; Kruk et al., 2014; Kujawski et al., 2015; Okafor et al., 2015; Rosen et al., 2015; Sando et al., 2014). The variation in prevalence of disrespect and abuse across studies could be due to the difference in definition and method of measurement as a result of health system variations in the different setting of these studies as well as true differences in the prevalence of abuse.

Types of Disrespect and Abuse and Their Prevalence

A systematic review (Bohren et al., 2015) of both qualitative and quantitative primary studies synthesized the various kinds of disrespect and abuse experienced by women during childbirth. These include; "physical abuse, sexual abuse, verbal abuse, stigma and discrimination, lack of informed consent and confidentiality, clinical examinations and procedures, neglect and abandonment, lack of supportive care, loss of autonomy, lack of resources and privacy and facility culture" (Bohren et al., 2015).

Physical Abuse

A woman is said to have been physically abused during childbirth if she has been slapped, pinched, beaten, or forcefully restrained or tied down during labor (Moyer et al., 2014; Bohren et al., 2015). Failure to protect a woman from physical harm or ill- treatment can also be regarded as physical abuse (Asefa and Bekele 2015). The proportion of women who have experienced any form of physical abuse during childbirth in the included studies varies from 0.8% by Asefa and Bekele (2015) in Tanzania to 35.7% by Okafor et al., (2015) in Nigeria. Kruk et al., (2014) showed that 1.9% of women interviewed immediately after giving birth in 8 health facilities in Tanzania were either slapped or pinched by health providers during childbirth. Direct observation of 2,164 provider-patient interactions conducted in 5 countries recorded only 18 observations of physical abuse of women during childbirth (Rosen et al. 2015).

Sexual Abuse

This is an experience of either sexual harassment or rape. Okafor et al., (2015) in their study on the prevalence of disrespect and abuse in Eastern Nigeria reported that 2.0% of women had experienced either rape or sexual harassment. In Kruk et al., (2014) 0.1% and o.23% of women who were interviewed immediately after childbirth had experienced sexual harassment and rape respectively.

Verbal Abuse

Verbal abuse includes shouting, scolding, blaming, using a harsh tone and making negative comments (Bohren et al. 2015). The prevalence of verbal abuse ranged from 4.16% in Tanzania to 29.6% in Nigeria (Abuya et al. 2015a; Abuya et al. 2015b; Kruk et al. 2014; Okafor et al. 2015; Sando et al. 2014).

Stigma and Discrimination

The experience of stigma and discrimination is said to occur if a woman feels humiliated or disrespected as a result of an individual attribute she possesses such as race, ethnicity and HIV status (Okafor 2015; Sando 2014). Okafor et al. (2015) reported a prevalence of 20% in his cross-sectional study of 446 post-natal women in Eastern Nigeria.

Lack of Informed Consent

The definition of non-consented care differed across these studies. The highest overall prevalence for non-consented care reported by Okafor et al. (2015) was 54.5% while the least prevalence of non-consented care reported in Kruk et al., (2014) was 0.06%.

Neglect and Abandonment

Various forms of neglect and abandonment experienced during childbirth include; cases where the provider did not encourage the woman to call for help when needed or did not come quickly when help was needed or was left alone or unattended to (Asefa & Bekele 2015). This category of disrespect and abuse can also be described as when a woman is specifically being left unattended to at the second stage of labor (Okafor et al. 2015). Asefa and Bekele (2015) in their cross-sectional study aimed at measuring the level of disrespect and abuse during facility-based childbirth in Ethiopia reported that 39.3% of women interviewed were left without care and unattended to. Abuya et al,. (2015b) reported at baseline that 12.7% of women who responded to the survey were abandoned during childbirth while Okafor et al., (2015) reported a prevalence of 29.1%.

Lack of Supportive Care

Lack of supportive care is defined as the denial of a birth companion (husband or relative) by a health provider (Okafor et al. 2015). Direct observations in 5 countries showed that 66.9% of women who were observed were not encouraged to have a support person during childbirth (Rosen et al. 2015).

Lack of Autonomy

Lack of autonomy arises when a woman is detained in the health facility for either failure to pay the medical bills or any other reason. Kruk et al. (2014) in their cross-sectional study of 1779 post-partum women in Tanzania found that 0.17% of the women were detained in the health facility for failure to pay. Okafor et al. (2015) reported that up to 17% and 4.9% of the 446 women in their cross-sectional study in Eastern Nigeria were detained for failure to pay their bill and that of their babies respectively. 0. 6% of women reported being detained after childbirth in the cross-sectional study of 173 post-partum women by Asefa and Bakele (2015) in Addis Ababa.

Lack of Privacy and Confidentiality

Confidentiality is breached when the health provider exposes confidential information about the patient to people outside the patient's care team (Bohren et al. 2015). Privacy is not protected when care is provided in a service delivery space that lacks audio-visual privacy or partitions between beds in a health facility. Kruk et al. (2014) reported that 4.39% of women who were interviewed immediately after birth experienced a breach in privacy and confidentiality during childbirth, while the prevalence of breach of confidentiality reported by Okafor et al. (2015) was up to 26%.

Factors that Contribute to an Experience of Disrespect and Abuse

Factors such as maternal age, tribe, marital status, educational level and parity have been found to have no association with a woman's experience of disrespect and abuse during childbirth in a cross-sectional study of 446 women in Eastern Nigeria (Okafor et al. 2015). However, a survey of 641 postpartum women by Abuya et al. (2015) in health facilities in Kenya showed that women delivering at night were associated with a higher risk of disrespect and abuse compared to those that deliver during the day (adjusted odds ratio 1.4; 95% CI: 1.0-1.8). This particular study also demonstrated that wealth, two previous deliveries and single marital status were associated with experience of disrespect and abuse. Women who were HIV positive had greater odds to experience non-consented care during childbirth compared to HIV-negative women (AOR 9.16; 95%CI: 1.73-115.00, p-value=0.03) (Sando et al. 2014). These findings are supported by a qualitative study by (Turan et al. 2008) which showed that HIV-positive women are more likely to experience disrespect and abuse. Moreso, Janevic et al. (2011) showed in their focused group discussion with 71 Romani women seeking maternal health care in Serbia and Macedonia that racism has also been implicated as a determinant of disrespect and abuse during childbirth.

Another factor that influences the experience of disrespect and abuse during childbirth includes health worker perspective of respectful maternity care (Erlandsson et al. 2014). For instance, health workers who participated in focused group discussions have the perception that they are protecting the woman and her baby by not encouraging her to relax during labor (Erlandsson et al. 2014). Poor working conditions, high staff turnover, technical malfunctions, inadequate infrastructure, and lack of training and ignorance of clients' rights issue also contribute to the perpetration of disrespect and abuse by health workers in Burkina Faso (Ouedraogo et al. 2014; Dao, 2012).

Factors that promote respectful maternity care include having a respectful, supportive and trusting relationship with service providers (Vedam et al. 2015). Promoting respectful maternity care requires political commitment, legislative reforms, budgetary allocation, engagement with health regulatory bodies and development of standards of practice (Jolivet, 2012).

Effectiveness of Interventions for Promoting Respectful Maternity Care and Reducing Disrespect and Abuse during Pregnancy and Childbirth.

An uncontrolled before and after evaluation of the effectiveness of an intervention for promoting respectful maternity care and reducing disrespect and abuse during childbirth in 13 health facilities in Kenya showed a 7% absolute decline in the prevalence of reported disrespect and abuse after the intervention (Abuya et al. 2015a). The prevalence of reported disrespect and abuse was 20% and 13% before and after the intervention respectively (Abuya et al. 2015a; Abuya et al. 2015b). The odds of experiencing disrespect and abuse after the intervention was 0.6 times less than before the intervention (OR 0.6; 95% CI: 0.4-0.8).

Critical Appraisal of Included Quantitative Studies

Systematic Review

The CASP checklist for systematic reviews was used to assess the methodological quality of Bohren et al. (2015). This review addressed a clearly focused question which was to elucidate the typologies of disrespect and abuse experienced by women during pregnancy and childbirth. The study included both quantitative and qualitative studies to address the research questions and objectives. These studies were selected through a robust search of electronic databases (PUBMED, CINAHL, EMBASE, DISCOVERY), reference list of other published studies, contact with experts and retrieval of gray literature. No meta-analysis was conducted due to a high level of heterogeneity in the included studies. However, a narrative synthesis was used to generate a typology for disrespect and abuse experienced by women during pregnancy and childbirth.

Uncontrolled Before and After

The CASP checklist for assessing trials and NIH/NHLBI checklist for the quality assessment of Before-After (Pre-Post) studies with no control group were used to conduct the methodological quality of Abuya et al. (2015).

The research question for this study was clearly stated. The study aims at evaluating the effect of a multi-component intervention on disrespect and abuse during childbirth in health facilities supported by the Heshima project in Kenya. The eligibility criteria for inclusion into the study were clearly stated. The participants were representative of the general population of interest and those who participated in the before and after client exit interviews had similar demographic and social characteristics. The intervention outcome measures were clearly described. The sample size was calculated and had enough power to detect a statistically significant effect size before and after the intervention. Appropriate statistical analysis (proportions and logistic regression) was conducted to elucidate change in outcome measure from baseline. The effect size noted in this study was statistically significant with narrow confidence intervals, however, the p-values of some of the association between exposure variables and the outcome variable were not stated.

Cross-Sectional Studies

Five cross-sectional studies (Asefa and Bekele 2015; Kruk et al.2014; Okafor et al. 2015, Rosen et al. 2015; Sando et al. 2014) included in this literature review had clearly defined the research question, study population, inclusion and exclusion criteria, exposure variables, and outcome variables. Only Okafor et al.(2015) clearly showed a sample size calculation.

Summary of Literature and Gaps Identified in Literature

The overall prevalence of disrespect and abuse varied widely across the included quantitative studies, probably because of methodological differences in the definitions of disrespect and abuse and measurement methods across the studies. The difference in prevalence may also be due to contextual factors such as health system conditions, socio-cultural practices in the different settings where the studies were carried out and true differences in the prevalence across settings and populations. However, there was no explanation on how context and setting influenced the prevalence of disrespect and abuse in the previous systematic review (Bohren et al. 2015).

Out of the few quantitative studies that elucidate the prevalence of disrespect and abuse, only one study evaluated the effectiveness of a respectful maternity care intervention. This evaluation used an uncontrolled before and after design. Observed changes from baseline in an uncontrolled before and after study cannot be wholly ascribed to the intervention because secular trends and sudden changes can influence the findings of outcomes of the intervention (Grimshaw et al. 2000). The Hawthorne effect which may occur in this study design may also lead to overestimation of intervention effect (Grimshaw et al. 2000). While the literature review has shown the effectiveness of a multi-component intervention, there is no evidence to support the effectiveness of an isolated educational intervention and this is the gap this study aims to fill.

Method

Study Design

The study used a quantitative methodology as it is a quasi-experimental research designed as a control before and after with a comparison to evaluate the effect of a single intervention on the prevalence of disrespect and abuse experienced by women during pregnancy and childbirth using two health facilities. Quasi-experimental studies are nonrandomized pre-post intervention study design used when it is not logically possible or ethically feasible to conduct a randomized control trial to evaluate the effects of a specific intervention. It aims to demonstrate causality between intervention and an outcome like in randomized control trials (Harris et al. 2006). Here a two-group pretest-posttest design was used to evaluate the effect of an educational intervention (Harris et al. 2006; White & Sabarwal 2014).

Health workers in one facility received the intervention while the other health facility did not receive any intervention. This intervention borders on a three-day educational training on value clarification and attitude transformation targeted at health workers with a view to providing them with knowledge on respectful maternity care and how to cultivate values and attitude that will prevent them from treating women with disrespect and abuse during childbirth (WRAN, 2015). Differences at baseline between the two facilities were tested. The prevalence and pattern of disrespect and abuse were measured before and after the intervention using the same survey in the two health facilities.

Research Setting

Abuja is the federal capital city of Nigeria with a population of 1, 406,239 people out of the total population of Nigeria which is 140,003,542 NPC (2006). Out of this population, only 54% of women deliver in health care facilities (NDHS, 2013). Abuja has fourteen General hospitals providing facility-based maternal care and these are: Maitama, Asokoro, Wuse, Nyanyan, Kubuwa, Life Camp, Kuje, Bwari, Karshi, Kwali, Abaji, Rubochi, Karu and Zuba general hospitals. Out of these, Bwari and Karshi general hospitals were selected for the study because they have a high volume of patients accessing maternity care and they are comparable in terms of their capacity to provide maternity care services (see Table 1 below).

Table 2. Comparison of selected health facilities

	Bwari district Hospital	Karshi district Hospital
Average facility attendance rate/month	6,300	3,358
Average Antenatal care attendance rate/month	820	962
Average number of deliveries /month	204	184
Number of beds	60	40
Number of Midwives	48	48
Number of Nurses	79	65
Number of Doctors	25	15

The intervention was implemented in Bwari General Hospital (treatment hospital) while Karshi General Hospital did not receive the intervention (control hospital). Bwari General Hospital was selected as the health facility to receive the intervention because the hospital administrator was willing to provide technical support for the training. However, the evaluation was conducted independently. Regarding the sampling procedure, a list of women whose expected date of delivery fell between six (6) weeks and one week before the intervention was delivered, was compiled for each of the two hospitals. A table of random numbers was used to randomly select women who were invited to participate in the pre- intervention survey in both health facilities. The same sampling procedure was employed to select women for the post-intervention survey. Therefore, the women that participated in the pre-intervention survey were not the same as those that participated in the post-intervention survey. The inclusion criteria include women who have given birth to a baby within six weeks before the survey in these two selected health facilities. This is borne out of the fact that women who have given birth to a baby within six weeks will still be receiving post natal care, and so their recall will not be affected. It also includes women who consented to be interviewed. On the other hand, the exclusion criteria include women that are 18 years old.

Sample Size

A baseline assumption of 98% prevalence of disrespect and abuse during childbirth in Nigeria was undertaken by using the figure from a previous study by Okafor et al. (2015) on 446 women attending post-natal care in a tertiary health care facility in Enugu state, Nigeria. By using epiifo and assuming a 95% absolute difference between the two health facilities in proportion of disrespect and abuse during childbirth following the intervention based on a study by Abuyaet. al. (2015), power of 80% and two sided alpha of 0.05, a sample size of 332 was calculated (166 for each health facility). With a non-response rate or missing data of 10% anticipated, a final calculated sample size of 182 in each facility giving a total sample size of 364 was arrived at for the pre and post intervention surveys. Furthermore, randomly selected women were approached by the researcher when they came for their post- natal care visit and introduced to the study. They were provided with the participant information sheet and given the opportunity to ask questions. Women who are willing to participate in the study were given a questionnaire to complete and an envelope in which to return it to the researcher once completed.

Regarding the instrument of data collection, a structured self-administered questionnaire on nine different types of abuse and disrespect: verbal abuse, physical abuse, stigmatization, sexual harassment, privacy violation, violation of confidentiality, failure to meet professional standard of care, poor rapport and detainment was used to collect the data. The questionnaire was adapted from the exit questionnaire used by Abuya et al. (2015) by including questions such as gravity, complications during delivery, history of attendance of anti-natal clinic, method of delivery and sexual harassment. A pilot study comprising of twenty (20) post-natal women in Nyanya General Hospital was conducted to ascertain the reliability and validity of the items employed. Discussions were held with these women after they received and filled the questionnaires. The discussion was aimed at eliciting difficulties that the women experienced when filling the questionnaires as well as to elicit how well they

understood it. Based on their responses, it was discovered that most of the women were unwilling to give information about their income probably because of tax reasons. Also, the women were unable to correctly respond to the variable "date of last delivery". They confused this response with the last delivery before the index delivery. Hence, these variables were subsequently deleted from the final survey. In the same vein, the items on attendance of ante-natal clinic and being accompanied to the clinic by a family member that were omitted in the pilot questionnaire were included in the final questionnaire base on suggestions from the respondents. English is widely spoken in Abuja, so there was no need to translate the questionnaire into other Nigerian Languages. A participant was taken as having experienced abuse and disrespect if she responds to yes for one or more of the 23 questions on the different types of abuse and disrespect.

[1]The researcher used a positivist epistemological approach or empiricism which is derived from scientific method originating from the physical sciences. By this approach, numerical data can be used to quantify or measure phenomena through objective assessment, a systematic process of analysis and a deductive process from existing knowledge (Bruce et al. 2008). This study assumes an objective reality about the prevalence of disrespect and abuse and that the effectiveness of an educational intervention can be measured by the analysis of the data collected from the self-reported experiences of the study participants.

[2]The intervention program which is in the form of three days education/training program was administered on doctors, nurses and other paramedics at the experimental site (Bwari General Hospital) by two skilled professionals who are class-room instructors in health disciplines in Nigerian institution of higher learning.

Data Analysis

Continuous data were summarized by using mean and standard deviation and were checked for normality by using normality plot and histogram (Kirkwood & Sterne 2003 P.33-44). Categorical data were then summarized as frequency and proportions. The data was entered into an Excel worksheet and imported into SPSS version 23 for analysis after which efforts were made to check for missing data and outliers using box plots. A participant was taken as having experienced abuse and disrespect if she responds to yes for one or more of the 23 questions describing the types of abuse and disrespect.

Moreso, a descriptive statistics was conducted to summarize and compare socio demographic- characteristics of the participants in both health facilities to identify any significant difference between the facilities according to these characteristics. The independent t-test was employed in testing for a significant difference in the age (continuous variable) of participants while the Mann-Whitney test was employed in testing for any significant difference in respondent's gravidity and parity since they are discrete variables (0latunji 2004). Categorical variables were summarized as frequencies and percentages, and the Chi-square test of difference was used to identify any difference in the categorical variables between the control and intervention sites. (0latunji, 2004).Secondly, frequencies and percentages were used to calculate the overall prevalence in both health facilities. Thirdly, a cross comparison of the two health facilities according to the various components of disrespect and abuse was carried out to determine if there is any significant difference in the prevalence of each component between the two facilities at baseline, while frequencies and percentages were used to calculate the prevalence of disrespect and abuse in the two sites. In addition, Chi-square test was used to check for any difference in prevalence of disrespect and abuse between the two health facilities.

To determine if any significant relationship exists between the experience of disrespect and abuse and the exposure variables at baseline, and in the prevalence of disrespect and abuse between the two health facilities, univariate logistic regression models were carried out separately for each of the variables since the outcome variable is binary (yes/no). The exposure variables that were found to be significantly associated with disrespect and abuse (type of health facility and experience of complications during delivery) were included in a separate multivariate logistic regression to control for their effect on the association between the type of health facility (control/intervention) on the outcome variable (disrespect and abuse). Lastly, the z-score test was used to test for the difference in the prevalence of disrespect and abuse experienced by the women before and after the intervention in both the control and intervention health facilities. P-value was set at 0.05 (Bruce et al, 2008).

Ethical approval was sort and obtained from the Federal capital territory administration in Abuja Nigeria. Letters were obtained from the administration of the two health facilities welcoming the researcher and ensuring their maximum cooperation. The participant information sheet (PIS) provided detailed information about the research including consent. The participants were given the PIS and allowed enough time to think over it and ask questions. Consent was implied when a woman reads this brief information ("*By completing this*

questionnaire you are consenting to take part in this study") and proceeded to complete the questionnaire. To ensure confidentiality, the questionnaires were completed in a private room at the exit gate of the two facilities. Identifiable information was not collected to ensure anonymity. Data will be kept for five years and then destroyed.

Results and Discussion

Results

Demographic Comparison of Study Participants in Both Control and Intervention Site at Baseline

There are a total 187 observations at the intervention site and 191 observations in the control site. There are no missing data in the entire variable in both the baseline data for the control and intervention sites. Age is normally distributed in the baseline data in both control and intervention sites, but gravidity and parity were not normally distributed.Moreso, the demographic characteristics of participants in the two facilities varied significantly regarding age, occupation, education level, language, time of delivery, experience of complication and being accompanied by a family member with the exception of method of delivery, gravidity and parity (see Table 4.1).

Table 3. Demographic characteristics of study participants in the control and intervention site

Continuous/discrete variables	Karshi (control site) N=191	Bwari (intervention site) N=187	Test Statistics	p-value	df
Age: Means (SD)	25.24(5.7)	28.50(4.61	(independent sample t-test)	0.000	376
Gravidity: Median (IQR)	2(2)	2(2)	(Mann-Withney test)	0.785	
Parity: Median (IQR)	2(2)	2(2)	(Mann-Witheytest)	0.949	
Categorical variables					
Occupation	N (%)	N(%)			
Unemployed	89 (42.6)	62 (33.2)	Pearson's Chi-square	0.012	2
Unskilled	82 (42.9)	91 (48.7)			
Skilled	20 (10.5)	34 (18.2)			
Ethnicity	N(%)	N(%)			
Major Nigerian Ethnic Group(Hausa, Yoruba, Igbo)	128 (67.02)	79 (42.25)	Pearson's Chi-square	0.000	1
Minor Nigerian Ethnic Group (Gbagi, others)	63 (32.98)	108 (57.75)			
Educational level	N(%)	N(%)			
None or primary	49 (25.65)	15 (8.02)	Pearson's Chi-square	0.000	1
Secondary +	142 (74.35)	172 (91.98)			
Language	N(%)	N(%)			
English and Major Nigerian languages (Hausa+Yoruba+Igbo)	125(65.45)	78 (41.71)	Pearson's Chi-square	0.000	1
Others	66 (34.55)	109 (58.29)			
Time of delivery	N(%)	N(%)			

Morning or Day	133 (69.6%)	96 (51.3%)	Pearson's Chi-square	0.000	1
Night	58 (30.4%)	91 (48.7%)			
Method of delivery	N(%)	N(%)			
Normal	121 (63.4%)	128 (68.4%)	Pearson's Chi-square	0.296	1
Caesarean Section	70 (36.6%)	59 (31.6%)			
Experienced complications during the current childbirth	N(%)	N(%)			
No	114 (59.7%)	157, 84.0%	Pearson's Chi-square	0.000	1
Yes	77 (40.3%)	3016.0%)			
Accompanied by a family member	N(%)	N(%)			
No	31 (16.2%)	6 (3.2%)	Pearson's Chi-square	0.000	1
Yes	160 (83.8%)	181, (96.8%)			
Attended ANC for this current childbirth	N(%)	N(%)			
No	26 (13.6%)	5 (2.7%)	Pearson's Chi-square	0.000	1
Yes	165 (86.4%)	182 (97.3%)			
Age group	N(%)	N(%)			
<=24	77 (40.31)	34 (18.18)	Pearson's Chi-square	0.000	2
34-44	105 (54.97)	133 (71.12)			
45+	9 (4.71)	20 (10.77)			
Gravidity (no of pregnancy)	N(%)	N(%)			
0-2	120 (62.83)	121 (64.71)	Pearson's Chi-square	0.704	1
3+	71 (37.17)	66 (35.29)			
Parity (no of Births)	N(%)	N(%)			
0-2	124 (64.92)	121 (64.71)	Pearson's Chi-square	0.965	1
3+	67 (35.08)	66 (35.29)			

Overall Proportion of Disrespect and Abuse and Comparison of Disrespect and Abuse in both Health Facilities at Baseline

Broadly, there are seven main varieties of abuse and disrespect which are several kinds of physical abuse such as kicking and beating, undignified care and non-consented care. Others are non-confidential care, discrimination due to a particular attribute of a patient, abandonment of care for a patient and being detained in health facilities (Browser & Hill 2010). The overall prevalence of disrespect and abuse in both health-care facilities at baseline was 92.33%. The prevalence of physical abuse was 9.52% while other forms of abuse vary from 69.05% for cases where providers do not provide answers to participant questions to 2.65% for experience of stigma and discrimination. These results and that of the comparison between the two health facilities are displayed in Table 4 below.

Table 4. Overall proportion of disrespect and abuse and comparison of disrespect and abuse in both health facilities at baseline

	N	%
Overall prevalence of Disrespect and Abuse		
No	29	7.67
Yes	347	92.33
Experience of Physical Abuse		
No	342	90.48
Yes	36	9.52
Beaten		

No	369	97.62
Yes	9	2.38
		Continues
Slapped		
No	354	93.65
Yes	24	6.35
Kicked		
No	354	93.65
Yes	24	6.35
Pinched		
No	350	92.59
Yes	28	7.41
Restrained		
No	372	98.41
Yes	6	1.59
Gagged		
No	374	98.94
Yes	4	1.06
Sexual Harassment		
No	367	97.09
Yes	11	2.91
Verbal Abuse		
No	263	69.58
Yes	115	30.42
Judgment		
No	356	94.18
Yes	22	5.82
Experience of Stigma and Discrimination		
No	368	97.35
Yes	10	2.65
Experience of Violation of piracy		
No	362	95.77
Yes	16	4.23
Experience of Violation of Confidentiality		
No	351	92.86
Yes	27	7.14
Experience of non-consented care		
No	151	39.95
Yes	227	60.05
Not give pain relief on request		
No	198	52.38
Yes	180	47.62
Experience of Abandonment		
No	315	83.33
Yes	63	16.67
Asked to share bed		
No	360	95.24
Yes	18	4.76
Provider answered question		
No	117	30.95
Yes	261	69.05
Denied companion during childbirth		
No	149	39.42
Yes	229	60.58
Allowed to stay in proffered position during childbirth		
No	267	70.63
Yes	111	29.37
Experience of detainment		
No	347	91.8
Yes	31	8.2

Continues
Continues

Comparison of Prevalence of Disrespect and Abuse in Both Facilities at Baseline

Experience of Disrespect and abuse.	Karshi (control site No 7(3.7%) Yes 184 (96.3%) Bwari (intervention site: No 22 (11.8%) Yes: 165 (88.2%) p-value: 0.003	Experience of physical abuse	Karshi (control site No 156(81.7%) Yes 35 (18.3%) Bwari (intervention site: No 186(99.5%) Yes: 1 (0.5%)	Beaten	Karshi (control site No 183 (95.8%) Yes 8 (4.2%) Bwari (intervention site: No 186 (99.5%) Yes: 1 (0.5%)
Slapped	Karshi (control site No 167 (87.4%) Yes 24(12.6%) Bwari (intervention site: No 187 (100%) Yes: 0 (0%)	Kiked	Karshi (control site No 167 (87.4%) Yes 24(12.6%) Bwari (intervention site: No 187 (100%) Yes: 0 (0%)	Pinched	Karshi (control site No 163 (85.3%) Yes 28 (14.7%) Bwari (intervention site: No 187 (100%) Yes: 0 (0 %)
Restrained physically	Karshi (control site No 183 (96.9%) Yes 6 (3.1%) Bwari (intervention site: No 187 (100%) Yes: 0 (0 %)	Gagged	Karshi (control site No 187 (97.9%) Yes 4 (2.1%) Bwari (intervention site: No 187 (100%) Yes: (0 %)	Experience of Sexual Harassment	Karshi (control site No 180 (94.2% Yes 11 (5.8%) Bwari (intervention site: No 187 (100%) Yes: 0 (0 %)
Experience of verbal abuse (harsh tone and shouting)	Karshi (control site No 173 (90.6%) Yes 18 (9.4%) Bwari (intervention site: No 90 (48 .1 %) Yes: 97 (51.9%)	Experience of judgmental and accusatory comments, threats and blames	Karshi (control site No 174 (91.1%) Yes 17 (8.9%) Bwari (intervention site: No 182 (97.3%) Yes: 5 (2.7%)	Experience of stigma	Karshi (control site No 185 (96.9%) Yes 6 (3.1%) Bwari (intervention site: No 183 (97.1%) Yes: 4 (2.1%)

Continues

Continues

Violation of privacy	Karshi (control site No 177 (92.7%) Yes 14 (7.3%) Bwari (intervention site: No 185 (98.99%) Yes: 2 (1.1%)	Violation of confidentiality	Karshi (control site No 1771 (89.5%) Yes 20 (10.5%) Bwari (intervention site: No 180 (96.3%) Yes: 7 (3.7%)	Experience of non – consented care	Karshi (control site No 118 (61.8%) Yes 73 (38.2%) Bwari (intervention site: No 109 (58.3%) Yes: 78 (41.7%)
Refused to provide pain relief	Karshi (control site No 31 (916.2%) Yes 160 (83.8%) Bwari (intervention site: No 167 (89.3%) Yes: 20 (10.7%)	Experience Abandonment	Karshi (control site No 138 (72.3%) Yes 53 (27.7%) Bwari (intervention site: No 177 (94.7) Yes: 10 (5.3%)	Asked to share a bed with another patient	Karshi (control site No 179 (93.7%) Yes 12 (6.3%) Bwari (intervention site: No 181 (96.8%) Yes: 6 (3.2%)
Health provider answered questions and attended to woman	Karshi (control site No 102 (53.4% Yes 89 (46.6%) Bwari (intervention site: No 15 (8.0%) Yes: 172 (92.0%)	Denied a birth companion	Karshi (control site No 110 (57.6%) Yes 81 (42.4%) Bwari (intervention site: No 39 (20.9%) Yes: 148(79.1%)	Allowed to stay in preferred position during labor or childbirth	Karshi (control site No 102(53.4%) Yes 89 46.6%) Bwari (intervention site: No 165 (88.5%) Yes: 22 (11.8%)
Experience of detainment	Karshi (control site No 161 (84.3%) Yes 30 (15.7%) Bwari (intervention site: No 186 (99.5%) Yes: 1 (0.5%)				

Comparison of Overall Prevalence of Disrespect and Abuse in Both Facilities at Baseline

In the control site, the overall prevalence of disrespect and abuse is 95.3% while in the intervention site, the overall prevalence of disrespect and abuse is 88.2%. This difference is statistically significant with p-value of 0.003 (see Table 4.2).

Univariate Association between Experience of Disrespect and Abuse and Exposure Variable

To determine if any significant relationship exists between the experience of disrespect and abuse and the exposure variable at baseline, univariate logistic regression models were carried out. Univariate logistic regression was also undertaken to test the association between abuse/disrespect at baseline and type of facility (intervention versus control).

Table 5. Unvariate association between experience of disrespect and abuse and exposure variable.

	Odds Ratio	95% CI	P-value
Health Facility:			
Control	Ref		
intervention	0.29	0.12-0.9	0.005
Age	0.97	0.90-1.04	0.368
Gravidity	1.13	0.81-1.56	0.470
Parity	1.11	0.79-1.55	0.545
Occupation			
Unemployed	Ref		
Unskilled	0.58	0.25-1.35	0.206
Skilled	1.08	0.28-4.14	0.913
Ethnicity			
Minor Nigerian EthnicGroup (Gbagi, others)Major Nigerian Ethnic Group (Hausa, Yoruba, igbo)	Ref 0.75	0.35-1.61	0.466
Educational Level			
None or Primary	Ref		
Secondary+	0.77	0.26-2.30	0.64
Language			
Others	Ref		
English and MajorNigeria Languages (Hausa+Yourba+Igbo)	0.79	0.37-1.69	0.543
Time of Delivery			
Morning or Day	Ref		
Night	2.16	0.90-5.18	0.086
Method of delivery			
Normal	Ref		
Caesarean Section	2.09	0.83-5.26	0.119
Experienced			
Complications during the current childbirth			
No	Ref		
Yes	3.68	1.09-12.42	0.036
Accompanied by a family member			
No	Ref		
Yes	1.07	0.31-3.72	0.916
Attended ANC for this current childbirth			
No	Ref		
Yes	0.82	0.18-3.61	0.79
Multivariable Logistic Regression of Significant Exposure Variable and Outcome (experience of disrespect and abuse)			
Health Facility			
Control	Ref		
Intervention	0.34	0.14-0.84	0.02
Experienced Complications during the current childbirth			
No	Ref		
Yes	2.71	0.78-9.40	0.12

As shown in Table 5 above, a significant relationship was observed between health facility and disrespect and abuse. That is, the respondents at the control site were more likely to experience disrespect and abuse than those at the intervention site at baseline (OR 0.29, 95% CI 0.12-0.69, P<0.05). The socio-demographic variables, except for method of delivery and the experience of complications at childbirth are not statistically associated with disrespect and abuse.

Multivariate Logistic Regression of Significant Exposure and Outcome (Experience of Disrespect and Abuse)

To control for the effect of the exposure variables that were significantly associated with the experience of disrespect and abuse, a multivariate logistic regression which includes health facility and experience of complications, was set up. This showed that while health facility has a significant effect on disrespect and abuse, the experience of complication during childbirth by the women does not have any significant association with disrespect and abuse. The result of this model as displayed in Table 6.

Change from Baseline in the Components of Disrespect and Abuse in the Control Site

To determine if there are significant changes in the various components of abuse and disrespect between the baseline and post-intervention at the control site, a Chi-square analysis which involves these two sets of data was carried out. As evidenced there was a significant increase in the prevalence of physical abuse, verbal abuse, and experience of stigma, violation of privacy, violation of confidentiality, abandonment, and bed sharing. However, there was a significant decrease in the prevalence of non-consented care and refusal to give pain relief. See Table 6 below.

Table 6. Change from baseline in the components of disrespect and abuse in the control site

Category	Results							
Experience of physical abuse	Pre-intervention No 156 (81.7%) Yes 35 (18.3%) Post-intervention No 61 (32.6%) Yes 126 (67.4%) P-Value 0.000	Beaten	Pre-intervention No 183 (95.80%) Yes 8 (4.20%) Post-intervention No 133 (71.10%) Yes 54 28.90%) P-Value 0.000	Slapped	Pre-intervention No 167 987.4%) Yes 24 (12.6%) Post-intervention No 120 (64.2%) Yes 67 (35.8%) P-Value 0.000	Kicked	Pre-intervention No 167 87.4%) Yes 24 (12.6%) Post-intervention No 154 (82.4%) Yes 33 (17.6%) P-Value 0.161	
Pinched	Pre-intervention No 163 (85.3%) Yes 28 (14.7%) Post-intervention No 156 (83.4%) Yes 31 (16.6%) P-Value 0.607	Restrained Physically	Pre-intervention No 185 (96.9%) Yes 6 (3.1%) Post-intervention No 169 (90.4%) Yes 18 (9.6%) P-Value 0.01	Gagged	Pre-intervention No 187 (97.9%) Yes 4 (2.1%) Post-intervention No 176 (94.1%) Yes 11(5.9%) P-Value 0.009	Experience of Sexual Harassment	Pre-intervention No 180 (94.2%) Yes 11 (5.8%) Post-intervention No 176 (94.1) Yes 11(5.9%) P-Value 0.959	

Experience of Verbal abuse (harsh tone and Shouting	Pre-intervention No 173 (90.6%) Yes 18 (9.4%) Post-intervention No 118 (63.1%) Yes 69 (36.9%) P-Value 0.000	Experience of judgmental and accusatory comments.	Pre-intervention No 174 (91.1%) Yes 17 (8.9%) Post-intervention No 34 (50.3%) Yes 93 49.7%) P-Value 0.001	Experience of stigma	Pre-intervention No 185 (96.9%) Yes 6 (3.1%) Post-intervention No 149 (79.7%) Yes 38 (20.3%) P-Value 0.000	Violation of privacy	Pre-intervention No 177 (92.7%) Yes 14 (7.3%) Post-intervention No 146 (78.1%) Yes 41 (21.9%) P-Value 0.000
Violation of confidentiality	Pre-intervention No 171 (89.5%) Yes 20 (10.5%) Post-intervention No 135 (72.2%) Yes 52 (27.8%) P-Value 0.000	Experience of non consented care	Pre-intervention No 73 (38.20%) Yes 118 (61.80) Post-intervention No 118 (57.80%) Yes 79 (42.20%) P-Value 0.000	Refused to provide pain relief	Pre-intervention No 31 (16.2%) Yes 160 (83.8%) Post-intervention No 123 (65.8%) Yes 64 (34.2%) P-Value 0.000	Experience abandonment	Pre-intervention No 138 (72.3%) Yes 53 27.7%) Post-intervention No 129 (69.0)%) Yes 58 (31.0%) P-Value 0.000
Asked to share a bed with another patient	Pre-intervention No 179 (93.7%) Yes 12 (6.3%) Post-intervention No 160 (85.6%) Yes 27 (14.4%) P-Value 0.000	Health provider answered questions and attended to woman's cancers	Pre-intervention No 102 (53.4%) Yes 89 (46.6%) Post-intervention No 15 (61.5%) Yes 72 (38.5%) P-Value 0.112	Denied the birth companion	Pre-intervention No 110 (57.6%) Yes 81 (42.4%) Post-intervention No 118 (63.1%) Yes 69 (36.9%) P-Value 0.274	Allowed to stay in preferred position during labor or childbirth	Pre-intervention No 102 (53.4%0 Yes 89 (46.6%) Post-intervention No 114 (61.0%) Yes 73 (39.0%) P-Value 0.138
Experience detainment	Pre-intervention No 161 84.3%) Yes 30 (15.7%) Post-intervention No 104 (55.6%) Yes 83 (44.4%) P-Value 0.000	Previous experience of disrespect and abuse	Pre-intervention No 147 (77.0%) Yes 44 (23.0%) Post-intervention No 150 (80.3%) Yes 37 (19.8%) P-Value 0.441				

Change from Baseline in the Components of Disrespect and Abuse in the Intervention Site

To determine if there are significant changes in the various components of disrespect and abuse between the baseline and post-intervention, at the intervention site, a Chi-square test was used to compare these sets of data. As indicated by the analysis, there was a significant decrease in the following types of disrespect and abuse: verbal abuse, non- consented care and denial of birth companion (see Table 7).

Table 7. Change from baseline in the components of disrespect and abuse in the intervention site

Change from Baseline in the components of Disrespect and Abuse in the Intervention site							
Experience of physical abuse	Pre-intervention No 168 (99.5%) Yes 1 (0.5%) Post-intervention No 186 (100%) Yes 0 (0%) P-Value 0.318	Beaten	Pre-intervention No 186 (99.5%) Yes 1 (0.5%) Post-intervention No 186 (100%) Yes 0 (0%) P-Value 0.318	Slapped	No 187(100%) Yes 0.(0%) Post-intervention No 186 (100%) Yes 0 (0%)	Kicked	Pre-intervention No 187 (100%) Yes 0 (0.0%) Post-intervention No 186 (100%) Yes 0 (0%)
Pinched	Pre-intervention No 187 (100.0%) Yes 0 (0.0%) Post-intervention No 186 (100.0%) Yes 0 (0%)	Restrained Physically	Pre-intervention No 187 (100.0%) Yes 0 (0.0%) Post-intervention No 186 9100.0%) Yes 0 (0%)	Gagged	Pre-intervention No 187 (100.0%) Yes 1 (0.0%) Post-intervention No 186 (100%) Yes 0 (0%)	Experience of Sexual Harassment	Pre-intervention No 187 (100%) Yes 0 (0.0%) Post-intervention No 186 (100%) Yes 0 (0%)
Experience of verbal abuse (harsh tone and shouting)	Pre-intervention No 90 (48.1%) Yes 97 (51.9%) Post-intervention No 145 (78.0%) Yes 41 (22.0%)	Experience of judgmental and accusatory comments, threats and blames	Pre-intervention No 182 (97.3%) Yes 5 (2.7%) Post-intervention No 183 (98.4%) Yes 1.6%) P-Value 0.479	Experience of stigma	Pre-intervention No 183 (97.9%) Yes 4 (2.1%) Post-intervention No 183 (98.4%) Yes 3 (1.6%) P-Value 0.708	Violation of Privacy	Pre-intervention No 185 (98.9%) Yes 2 (1.1%) Post-intervention No 181 (97.3%) Yes 5 (2.7%) P-Value 0.249

Violation of Confidentiality	Pre-intervention No 180 (96.3%) Yes 7 (3.7%) Post-intervention No 181 (97.3%) Yes 5 (2.7%) P-Value 0.564	Experience of non-consented care	Pre-intervention No 78 (41.7%) Yes 109 (58.3%) Post-intervention No 176 (94.6%) Yes 10 (5.4%) P-Value 0.000	Refused to provide pain relief	Pre-intervention No 167 (89.3%) Yes 20 (10.7%) Post-intervention No 171 (91.9%) Yes 15 (8.1%) P-Value 0.385	Experienced Abandonment	Pre-intervention No 177 (94.7%) Yes 180 (96.8%) Post-intervention No 10 (5.3%) Yes 6 (3.2% P-Value 0.312
Asked to share a bed with another patient	Pre-intervention No 181 (96.8) Yes 6 (3.2%) Post-intervention No 186 (100%) Yes 0 (0.0%) P-Value 0.014	Health provide answer questions and attended to women's concerns	Pre-intervention No 15 8.0%) Yes 172 (92.0%) Post-intervention No 10 (5.4%) Yes 176 (94.6%) P-Value 0.307	Denied a birth companion	Pre-intervention No 39 (2.9%) Yes 148 (79.1%) Post-intervention No 173 (93.0%) Yes 13 (7.0%) P-Value 0.000	Allowed to stay in preferred position during labor or childbirth	Pre-intervention No 165 (88.2%) Yes 22 (11.8%) Post-intervention No 81 (43.5%) Yes 105 (56.5%) P-Value 0.000
Experienced detainment	Pre-intervention No 186 (99.5%) Yes 1 (0.5%) Post-intervention No 184 (98.9%) Yes 2 (1.1%) P-Value 0.559	Previous experience of disrespect and abuse	Pre-intervention No 166 (88.8%) Yes 21 (11.2%) Post-intervention No 147 (79.0%) Yes 39 (21.0%) P-Value 0.010				

Change from Baseline in Overall Prevalence of Disrespect and Abuse in Both Health Facilities

There was no change in the overall prevalence of disrespect and abuse at the control site as it remained at 96.3% with a p-value of 0.5. Therefore, there is no significant difference in the prevalence of disrespect and abuse before and after the intervention. However, there is a significant decrease in the overall prevalence of disrespect and abuse in the intervention site from 88.2% to 46.8%. With this result, it can be concluded that a statistically and significant difference exists in the prevalence of disrespect and abuse before and after the intervention. (See Table 8 below).

Table 8: Change from baseline in experience of disrespect and abuse in both health facilities

	Pre-Intervention Karshi	Post – intervention Karshi	P-Value
Experience of Disrespect and abuse	N (%)	N (%)	
No	7 (3.7%)	7(3.7%)	0.500
Yes	184 (96.3%)	180 (96.3%)	
	Pre-Intervention Bwari	Post-Intervention Bwari	
Experience of Disrespect and abuse	N (%)	N (%)	
No	22 (11.8%)	99(53.2%)	0.000
Yes	165(88.2%)	87 (46.8%)	

Discussions

The study's objective was to evaluate the effect of an educational intervention targeted at health workers on the prevalence and types of self-reported disrespect and abuse experienced by women during pregnancy and child birth, in Abuja, Nigeria. Consequent to this, a baseline survey was conducted in the two health facilities. Furthermore, an educational intervention strategy was applied in one of the hospitals after which a post-intervention survey was conducted in the two health facilities. A high proportion of the women examined at baseline reported to have experienced one form of disrespect and abuse with the overall prevalence at the two facilities put at 92.25%. A prevalence of 88.2% was observed at the intervention site, and 96.3% at the control site. The difference in prevalence between these two sites is statistically significant with a p-value of 0.003. The results on overall prevalence shares similarity with the findings by Asefa and Bekele (2015) where it was found that a high proportion of Ethiopian women experienced one form of disrespect and abuse with figures ranging from 73.3% among women who gave birth in health centers and 81.8% among those who had their deliveries in hospitals. It is also in consonance with the empirical findings by Okafor et al. (2015) where cases of disrespect and abuse as high as (98%) were found among women in a tertiary health facility in South East Nigeria. Therefore, this is a pointer that further studies needs to be done in other areas in Nigeria to provide more evidence for country-wide prevalence since only these two studies have so far addressed this important public health issue.

Contrastingly, the findings seem to be slightly different from Kruk et al. (2014) where prevalence as low as (19.48%) and (28.21%) was found for both exit survey and post-natal survey respectively among women in eight health care facilities in North Eastern Tanzania. These large variations in prevalence might be due to two primary reasons: 1) Differences in the study population regarding factors associated with disrespect and abuse. 2) The differences in the type of instrument employed in eliciting responses from respondents, for example, the questionnaire. Hence it is critical that data on abuse should be reported by everyone using the same set of questionnaire to allow for comparison across studies and long-term monitor of the prevalence of abuse.

Overall, these findings at baseline suggests that the prevalence of disrespect and abuse is high in the area under focus in this study which mean that women might not seek to give birth at health facilities thereby putting their health and that of their babies at risk (Okafor et al 2015). As such, relevant intervention strategies must be urgently employed to enhance its reduction.

Furthermore, the post-intervention survey at the intervention site showed a decrease in the prevalence to 46.8% from the baseline figure of 88.2% while the prevalence at the control site remained significantly unchanged at 96.3% with some of the components of disrespect and abuse becoming even more pronounced. Overall, these results suggest the probable effectiveness of the intervention strategy employed in this study. While there was no significant change in the prevalence of abuse pre and post-intervention in the control group, there was a significant fall in the prevalence of abuse in the intervention group. Though, a significant difference was seen between the two sites in some of the socio-demographic characteristics of the respondents at baseline which implies that the two sites are not comparable. Nevertheless it might be inappropriate to conclude that the training program has not contributed to the reduction in the prevalence of disrespect and abuse post-intervention. It further shows that an effective implementation of intervention based training, rendered to health professionals might likely have a corresponding impact on their attitude, and consequently, their behavior during pregnancy and childbirth. This is absolutely in line with the studies by Bowser and Hill (2010) and Abuya et al. (2015) where it was suggested that when intervention strategies are targeted towards attitude change, such will likely lead to a change in behavior among health providers and therefore reducing the prevalence of abuse and disrespect in health care settings.

Of note is the fact that this study did not show association between disrespect and abuse in relation to age, parity and other socio-demographic characteristics. Though other studies, for instance Browser & Hill (2010) reported such associations while Abuya et al. (2015) reported in their study in Kenya that the prevalence of physical and verbal abuse were more common at night. This suggests that the conduct of delivery exercise by healthcare professionals at this time has a linear association with disrespect and abuse as a result of lower number of staff coupled with work related stress that may predispose them to abusive behavior (Abuya et al. 2015). However, this association was not noted in this study.

Parity also did not appear to influence the prevalence of disrespect and abuse as women's previous experience of disrespect and abuse in these or other health facilities may have 'normalize' abusive behaviors from health care providers and therefore underreport it. Also, since litigation for abusive care are uncommon in this environment and as a result of the fact that the joy of having delivered a baby may overwhelm some of the women, they may decide to put the abusive treatment behind them and go on to take care of their babies (Okafor et al. 2015). Furthermore, this study showed that there are still cases of detention in health facilities during maternal care due to the inability of these women to pay medical bills with a baseline prevalence of 8.2%. Health care services are costly and unaffordable for the majority of families in Nigeria as most health care services being out of pocket payments (Okafor et al. 2015). This can be a deterrent to future utilization of skilled maternal care services resulting in the use of unskilled birth attendants with the attendant increase in maternal morbidity and mortality (Kuwajaski 2015).

Conclusion

Maternal mortality is a global public health issue and more especially, in developing countries (Bohren et al. 2015). Poor utilization of maternal health care is a factor contributing to high maternal mortality and disrespect and abuse is a greater deterrent than cost in the decision to use facility-based maternal healthcare services (Jolivet, 2012). The pre-intervention prevalence of disrespect and abuse during childbirth in health facilities in Nigeria particularly in the areas under focus in this study is high (92.25%). Hence relevant and appropriate intervention strategies must be urgently employed to address this important public health issue. Overall, this study has contributed to the literature on disrespect and abuse because whilst there are studies that have shown the effectiveness of multi-component interventional strategies on the prevalence of disrespect and abuse no study has evaluated the effect of a single intervention. Reduction in the prevalence of disrespect and abuse requires a broader contribution from the society, robust policy design and implementation to community involvement and participation.

Implication for Theory

The study has theoretical implications in that it has validate the assumption behind the theory of planned behavior Fishbein and Ajzen (1975) that the behavior and attitude of health workers will change after the intervention, and the prevalence of disrespect and abuse will reduce. Thus, it has been validated by this study that beliefs, perceptions and assumptions can be learnt within the context of a given environment and can act as a predictor of certain behavior including that of health workers which is in line with the opinion offered by Hardeman et al. (2002) that behavior and subjective norms are products of social pressures acting on an individual as a consequence of societal expectations and their intention to comply with it.

Implication for Practice

The absolute reduction in the prevalence of disrespect and abuse of 41.6% (a fall from 88.2% to 46.8%) for this study shows that the intervention has most likely contributed to the reduction in the prevalence of disrespect and abuse in this setting. Though, there might be other contextual factors which have also influenced this reduction. Thus, it is important that efforts should be made by relevant stakeholders to promote intervention strategies that will reduce prevalence of disrespect and abuse. Generally, women assess the quality of maternal care services in terms of respect to patients, privacy and compassion (Asefa & Bekele 2015). Hence, a high level of the prevalence of disrespect and abuse in maternal healthcare services portends negative consequences on maternal service utilization and a deterrent to future uptake of skilled maternal care services (Kuwajaski, 2015).

Recommendations

Recommendations for Policy Makers and Government

There is need for the government to improve the quality of maternal healthcare facilities and the working environment for maternal healthcare workers. More evidence is needed on the prevalence of disrespect and abuse of women during childbirth and there is a need for evaluation of the effectiveness of other interventional measures on the reduction of disrespect and abuse in Nigeria (Okafor et al. 2015). Also, there is the need to include respectful maternity care in the curriculum of our maternal healthcare providers.

Recommendations for Maternal Health Care Providers

* There is the need to attract more women to health facilities by providing more women friendly services and by humanizing services (Asefa & Bekele, 2015).
* There is urgent need for training and retraining of maternal health care providers on respectful maternity care.

Recommendations for the Community and Stakeholders

* Enhancement of accountability through legal redress.
* Establishment of ethical codes of conduct for our health workers in maternal health care.
* Provision of more facilities for privacy and spaces in our maternal care services for birth companions.
* Recognition of respectful maternity care as critical component needed to improve maternal health.
* More awareness should be created among women, their families and maternal health care providers on the rights of women to respectful maternal care.

Suggestions for Further Research

* Considering the limitations of a quasi-experimental design, further studies like qualitative and quantitative (mixed) are needed to unravel the complexities of disrespect and abuse.
* Other interventional methods like advocacy and stakeholder's engagement and facility modifications needs to be evaluated and to compare their effect to educational intervention.
* Future researchers should widen the geographical areas of study and include private health care facilities to determine if the results in these facilities will be similar to the one seen here.
* Other studies should be conducted to determine the long term viability of an educational intervention program in respectful maternity care.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPHELS journal belongs to the authors.

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