

## Status of Respectful Maternal Care in Ndola and Kitwe Districts of Zambia

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Received date: June 26, 2018; Accepted date: July 10, 2018; Published date: July 16, 2018

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### Abstract

**Background:** The purpose of the assessment was to conduct an evaluation on the status of respectful maternal care Ndola and Kitwe districts in the Copperbelt Province.

**Methods:** The assessment used a cross-sectional study design and captured quantitative data on self-reporting of experiences of respectful maternal care during child birth among women in the reproductive age group with a child below the age of 2 years. The study was conducted in two urban districts of the Copperbelt Province of Zambia specifically in Ndola and Kitwe districts. The sample size was 471 resident women of the selected 18 high volume health facilities. Cluster sampling was used to select the sampling units referred to as catchment areas of the health facilities. A structured interview questionnaire was used to conduct household interviews. Univariate and bivariate analysis were conducted on quantitative data to provide descriptive statistics. Chi-square analysis was performed to ascertain associations.

**Results:** The study successfully visited and interviewed 470 women in household giving a 99% response rate. Findings show that 31% were aged between 20 to 24 years, three quarters (75%) were married/living with a partner, 4 in 10 (40%) had a basic education and two-thirds (66%) were not engaged in any form of employment or economic activity. The findings show that on average, 18% of the women had experienced physical abuse by a service provider during child birth. Prominent issues that led to ill-treatment included 43% of the women not provided comfort/pain-relief. On average 41% of the women received non-consented care from the service provider. Women (74%) indicated that the service provider did not allow women to assume position of choice during birth. The findings also show that about 22% of women's right to confidentiality and privacy were not adhered to. Women (42%) also reported that there were no drapes or covering to protect their privacy and 19% indicated that there were no curtains or other visual barrier to protect woman during exams. Findings also show that on average 31% of women's right to dignified care was not adhered to. Overall in the study, 13% of the women were discriminated based on specific attributes. The findings indicate that on average 39% of the women were abandoned or denied care. Key issues include, 65% of the women reported being left without care or unattended to and 28% service provider did not respond in a timely way. Further, only 6% of the women were detained in the health facility.

**Conclusion:** The maternal outcomes observed such as home deliveries and deliveries by skilled and unskilled birth attendants mirror the quality of care in health facilities. Indications of non-adherence to the rights of child bearing women are a barrier to achieving quality of care for child bearing women. There is need to comprehensively train service providers in respectful maternal care and devise mechanisms for implementation and supportive supervision.

**Keywords:** Respectful maternal care; Women's rights; Health services; Self-reporting; Household

### Introduction

A child bearing women's ability to access skilled care during antenatal, childbirth and postnatal is fundamental in improving maternal, neonatal and child health outcomes. The 2013 Millennium Development Goal (MDG) Progress Report noted that although

maternal mortality in Zambia had been decreasing, the decline was insufficient to reach the 2015 target of 162.3 deaths per 100,000 live births (UNDP, 2013a). Most of the maternal deaths can be prevented by ensuring access to good quality maternal health services, [1] (USAID, 2014). Interventions that have been successful and need to be scaled up include provision of and access to emergency obstetric care, improved referral systems, improved use of contraception for birth spacing, prevention of early marriages, and the deployment of more trained midwives and birth attendants, (SMGL 2016 annual report).

Lack of the capacity to efficiently and effectively provide maternal health services contribute to maternal mortality. In the 2017-2021 National Health Strategic Plan, Zambia aims to enhance capacity building in oversight functions and strengthen institutional capacity.

This is aligned to governments goal to reduce Maternal Mortality Ratio from 398/100,000 live births in 2014 to 100/100,000 live births by 2021. In the 2017-2021 National Health Strategic Plan, inadequate community involvement for RMNCAH is one of the key challenges with regard to reproductive and maternal health. Inadequate involvement of the community negatively affects the uptake of reproductive and maternal health services because of a weak link or gap that exists between communities and formal health systems. According to the Alma Ata declaration of 1978, primary health care relies, at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community. The National Health Policy (2012) aims to strengthen community involvement in maternal and child health including the roles of Traditional birth attendants and Safe Motherhood Action Groups.

According to the Zambia Demographic Health Survey (ZDHS 2013/2014) [2], the total fertility rate for Zambia is 5.3. 76% of births take place in a health facility, while 31% take place at home. 64% of births are assisted by a skilled health worker (doctor, clinical officer, nurse, or midwife), with 5% assisted by a doctor. However, it is important to understand the quality of care experienced by women during childbirth in facilities. Lack of Respectful Maternal Care (RMC) by health facility staff negatively affects the quality of care and demand for health services by women of childbearing age. In light of this, the Zambian government through the 2017-2021 NHSP highlights the need to strengthening respectful maternity care.

There are seven universal rights of childbearing women defined in the White Ribbon Alliance's Respectful Maternity Care Charter. These rights include; Every woman has the right to be free from harm and ill treatment; Every woman has the right to information, informed consent and refusal, and respect for her choices and preferences, including companionship during maternity care; Every woman has the right to privacy and confidentiality; Every woman has the right to be treated with dignity and respect; Every woman has the right to equality, freedom from discrimination, and equitable care; Every woman has the right to healthcare and to the highest attainable level of health; and Every woman has the right to liberty, autonomy, self-determination, and freedom from coercion (White Ribbon Alliance 2011). According to a study by Rosen et al. [3], they found that women overall were treated with dignity and in a supportive manner by providers, but many women experienced poor interactions with providers and were not well-informed about their care. Both physical and verbal abuses of women were observed during the study. The most frequently mentioned form of disrespect and abuse in the open-ended comments was abandonment and neglect". Another study by Sheferaw et al. [4] found that women on average received 5.9 (66%) of the nine recommended RMC practices. Health centres demonstrated higher RMC performance than hospitals. At least one form of mistreatment of women was committed in 36% of the observations. A similar study by Asefa et al. [5], found that women experienced one or more categories of disrespect and abuse. The violation of the right to information, informed consent, and choice/preference of position during childbirth was reported by all women who gave birth in the hospital and 89.4% of

respondents in health centres. Mothers were left without attention during labour in 39.3% of cases.

The purpose of the assessment was to conduct an evaluation on the status of respectful maternal care Ndola and Kitwe districts in the Copperbelt Province.

## Methods

### Study setting, design and population

The study was conducted in two urban districts of the Copperbelt Province of Zambia specifically in Ndola and Kitwe districts. The assessment used a cross-sectional study design and captured quantitative data. The study targeted women in the reproductive age group specifically women with a child below the age of two years.

### Sampling and sample size

A total of 18 high volume health facilities (9 health facilities in Ndola and 9 health facilities in Kitwe) were purposively selected to serve as a benchmark for the catchment communities (households). According to the Ministry of Health 2012 List of Health Facilities in Zambia, urban health centres or clinics (UHC) ought to serve a catchment population between 30,000 to 50,000 people (MoH, 2012) [6]. Therefore, probability (random) sampling was used to select participants at household level through cluster sampling method in communities of the selected health centres. The formula with finite population correction was used to calculate a sample of women with children below the age of 2. Given that the percentage of deliveries assisted by a Skilled Birth Attendant (SBA) in the Copperbelt province was 81% (CSO,2013/2014 ZDHS) [2] and a population of children aged below 2 years was 25,538 in Ndola district and 29,581 in Kitwe district (CSO, 2010 census report) [7]. Therefore, given that;  $N$ =Number of children below age 2 (Ndola 25538 and Kitwe 29581),  $Z=1.96$  at 95%,  $P$ =Proportion of facility deliveries at 0.81 and  $d$ =Precision (in proportion of one) at 5%, the sample size was 471.

Cluster sampling was used to select the sampling units referred to as catchment areas of the health facilities. A two stage cluster sampling method was used. In the first stage, random selections of catchment areas of the earmarked health facilities were selected. In the second stage, households with women with a child below the age of two within the selected catchment areas were selected. According to the 2010 Zambia census, Ndola and Kitwe districts had 85,707 and 96,666 households respectively. Therefore, dividing the number of households for each district by the number of children below the age of 2 gives us 3.4 (Ndola) and 3.3 (Kitwe). Impliedly, in every 3 households there was a child aged below 2 years. Based on the 1 child per 3 household's ratio, a sampling interval of 3 and a cyclical sampling procedure with a propensity to replace was engaged due to unavailability of a sampling frame of households with women with a child below the age of 2.

### Data collection, tools and analysis

A structured interview questionnaire was used to conduct household interviews with women with a child below the age of 2. The tool collected self-reported data on experiences during child birth. The study adopted the Performance Standards for Respectful Maternity Care from the United States Agency for International Development (USAID) and Maternal and Child Health Integrated Program. The data was thus analyzed using Stata version 13. Univariate and bivariate

analysis were conducted on quantitative data to provide descriptive statistics. Chi-square analysis was performed to ascertain associations.

## Results

### Background characteristics

The study successfully visited and interviewed 470 women in household giving a 99% response rate. Table 1 shows that 3 in 10 were

aged between 20 to 24 years, three quarters (75%) were married/living with a partner, 4 in 10 (40%) had a basic education and two thirds (66%) were not engaged in any form of employment or economic activity. With regards to district differentials, similar observations were recorded between Kitwe and Ndola with regards to marital status and education status. However, one third (33%) in Kitwe compared to over a quarter (28%) in Ndola of the women were aged between 20 to 24 and 72% in Kitwe compared to 59% in Ndola of the women were not engaged in any form of employment or economic activity.

Social, economic and demographic characteristics	District		
	Kitwe (%)	Ndola (%)	Total (%)
<b>Age</b>			
<19	11.4	13.2	12.3
20-24	33.1	28.2	30.6
25-29	28.4	26.5	27.4
30-39	24.6	28.2	26.4
40-49	2.5	3.8	3.2
Total	100	100	100
<b>Marital status</b>			
Never married	19.9	16.7	18.3
Married/living together	74.2	75.2	74.7
Divorced	0.8	5.1	3
Separated	3.4	2.1	2.8
Widowed	1.7	0.9	1.3
Total	100	100	100
<b>Education level</b>			
None	1.3	2.6	1.9
Pre-school	0.4	0	0.2
Primary 1-7	22	29.1	25.5
Basic 8-9	38.6	41	39.8
High school 10-12	34.7	25.6	30.2
Tertiary	3	1.7	2.3
Total	100	100	100
<b>Employment status</b>			
Formal (nurse, teacher etc.)	3	0.9	1.9
Informal (farming, business etc.)	25	40.2	32.6
None	72	59	65.5
Total	100	100	100
Sample size	236	234	470

**Table 1:** Percentage distribution of background characteristics of women by district.

### Status of respectful maternal care

Disrespect and abuse is a concept that has been documented in many countries across the world. According to WHO [8] “every woman has a right to the highest attainable standard of health including the right to dignified, respectful care during pregnancy and child birth”. There are seven categories of disrespectful and abusive care during childbirth including physical abuse, non-consented clinical care, non-confidential care, non-dignified care, discrimination and abandonment and detention in health facilities. Women were asked of their experiences during child birth with regards to each of the rights using the performance standards of respectful maternal care indicators. The findings show that on average, 18% of the women had

experienced physical abuse by a service provider during child birth. Prominent issues that led to ill-treatment included 43% of the women not provided comfort/pain-relief and 26% of the women were touched in a cultural inappropriate way. One in 10 (10%) of the women indicted that the service provider used physical force or abrasive behaviour, denied food or fluid in labour were not medically necessary and separated woman from her baby were not medically necessary.

### Physical abuse

Table 2 shows findings which focus on physical abuse and corresponds to the right to freedom from harm and ill treatment.

Physical abuse	District			
	Kitwe	Ndola	Total	Chi square/p-value
Not provided comfort/pain-relief as necessary	107	94	201	1.282
	45.34	40.17	42.77	0.258
Providers did not demonstrate caring in a cultural way	57	64	121	0.629
	24.15	27.35	25.74	0.428
Provider used physical force or abrasive behaviour (e.g. slapping)	26	27	53	0.032
	11.02	11.54	11.28	0.858
Provider denied food or fluid in labour were not medically necessary	37	15	52	10.256
	15.68	6.41	11.06	0.001
Provider separates woman from her baby were not medically necessary	35	16	51	7.76
	14.83	6.84	10.85	0.005
Provider physically restrained the patient	11	11	22	0
	4.66	4.7	4.68	0.984
Total	273	227	500	
	115.68	97.01	106.38	
Cases	236	234	470	
Pearson chi square (34)=47.7836; Pr=0.059				

**Table 2:** Percentage distribution of women that experienced physical abuse by district.

### Non-consented care

Table 3 shows results on consented care which corresponds to women’s right to information, informed consent and refusal, and respect for choices and preferences, including the right to companionship of choice wherever possible.

The results show that on average 41% of the women received non-consented care from the service provider. This stems from the fact that

women indicated that the service provider; did not allow women to assume position of choice during birth (74%); did not encourage the woman's companion to stay with her whenever possible (59%); and half of the service providers did not introduce him/her. There was a statistical significant association between experiences of consented care and district.

Non-consented care	District			
	Kitwe	Ndola	Total	Chi square/p <sup>*</sup>
Woman not allowed to assume position of choice during birth	180	166	346	1.719

	76.27	70.94	73.62	0.19
The service provider did not encourage the woman's companion to stay with her whenever possible	133	142	275	0.907
	56.36	60.68	58.51	0.341
The service provider did not introduce him/herself	121	113	234	0.418
	51.27	48.29	49.79	0.518
Woman was not allowed to move about during labour	122	81	203	13.969
	51.69	34.62	43.19	0
The service provider did not encourage the woman and/companion to ask questions	97	100	197	0.129
	41.1	42.74	41.91	0.72
The service provider did not obtain consent or permission prior to any procedure	82	57	139	6.086
	34.75	24.36	29.57	0.014
The service provider did not explain what was being done and what to expect throughout	86	52	138	11.453
	36.44	22.22	29.36	0.001
The service provider did not respond to questions with promptness and politeness	53	50	103	0.082
	22.46	21.37	21.91	0.775
The service provider did not give periodic updates on status and progress of labour	57	42	99	2.72
	24.15	17.95	21.06	0.099
Total	931	803	1734	
	394.49	343.16	368.94	
Cases	236	234	470	
Pearson chi square (133)=182.1266; Pr =0.003				

**Table 3:** Percentage distribution of women that experienced consented care by district.

### Non-confidential care

Table 4 shows the findings on confidential care, which relates women's right to confidentiality and privacy.

Non-confidential care	District			
	Kitwe	Ndola	Total	Chi square/p <sup>*</sup>
Not appropriate Drapes or covering to protect woman's privacy available	102	96	198	0.232
	43.22	41.03	42.13	0.63
No curtains or other visual barrier to protect woman during exams	56	33	89	7.093
	23.73	14.1	18.94	0.008
Patient files not stored in a place with limited access	9	10	19	0.064
	3.81	4.27	4.04	0.8
Total	167	139	306	
	70.76	59.4	65.11	
Cases	236	234	470	

Pearson chi square (6)=13.1083; Pr=0.041

**Table 4:** Percentage distribution of women that experienced confidential care by district.

The findings show that about 22% of women's right to confidentiality and privacy were not adhered to. Women (42%) reported that there were no drapes or covering to protect their privacy and 19% indicated that there were no curtains or other visual barrier to protect woman during exams. There was a statistical significant association between experiences of confidential care and district.

### Non-dignified care

Table 5 indicate the level of dignified care (including verbal abuse) which corresponds to the right of a woman to be treated with dignity and respect. The table shows that on average 31% of women's right to dignified care was not adhered to.

Key issues under non-dignified care include 63% of the women and or companion not being allowed to observe cultural practices and 20% of the women being talked to in an impolite manner. There was a

statistical significant association between experiences of dignified care and district.

Non-dignified care (including verbal abuse)	District			
	Kitwe	Ndola	Total	Chi square/p*
The service provider did not allow woman and/companion to observe cultural practices	138	160	298	4.965
	58.47	68.38	63.4	0.026
The service provider did not speak politely to woman and/companion	44	50	94	0.545
	18.64	21.37	20	0.46
The service provider insulted, intimidated, threatened or coerced woman and companion	26	22	48	0.334
	11.02	9.4	10.21	0.563
Total	208	232	440	
	88.14	99.15	93.62	
Cases	236	234	470	
Pearson chi square (7) = 8.8987; Pr=0.260				

**Table 5:** Percentage distribution of women that experienced dignified care by district.

### Non-discrimination based on specific attributes

Table 6 shows findings on non-discrimination based on specific attributes and its corresponding right which is the woman receives equitable care, free of discrimination.

The study found that overall, 13% of the women were discriminated based on specific attributes. This stems from women indicating that 19% of the service provider's showed disrespect based on any specific attributes and 6% of the service provider did not speak to woman in a language at a level that they could understand.

Discrimination based on specific attributes	District			
	Kitwe	Ndola	Total	Chi square/p*
The service provider showed disrespect based on any specific attributes	43	46	89	0.158
	18.22	19.66	18.94	0.691
The service provider did not speak to woman in a language at a level that woman could understand	19	9	28	3.708
	8.05	3.85	5.96	0.054
Total	62	55	117	
	26.27	23.5	24.89	
Cases	236	234	470	
Pearson chi square (3)=4.2311; Pr=0.238				

**Table 6:** Percentage distribution of women that experienced non-discrimination based on specific attributes by district.

### Non-abandonment or denial of care

Table 7 shows findings on abandonment or denial of care and it corresponds to the right of women to never be left without care, right to timely healthcare and to the highest attainable level of health. The findings indicate that on average 39% of the women were abandoned or denied care. Key issues include, 65% of the women reported being left without care or unattended to and 28% service provider did not respond in a timely way. There was however no statistical significant association between experiences of abandonment or denial of care and district.

Abandonment or denial of care	District			
	Kitwe	Ndola	Total	Chi square/p*
Woman left alone or unattended to	147	160	307	1.922
	62.29	68.38	65.32	0.166
The service provider did not respond in a timely way	73	56	129	2.892
	30.93	23.93	27.45	0.089
The service provider did not encourage woman to call him/her if needed her service	62	55	117	0.481
	26.27	23.5	24.89	0.488
Total	282	271	553	
	119.49	115.81	117.66	
Cases	236	234	470	
Pearson chi square (9)=8.4046; Pr=0.494				

**Table 7:** Percentage distribution of women that experienced non-abandonment or denial of care by district.

### Non-detention in facilities

Table 8 shows the findings on non-detention in health facilities relating to the right to liberty, autonomy, self-determination and freedom from coercion. A woman should never be detained or

confined against her will. The results show that on average 6% of the women were detained in the health facility. Key issues include woman stopped from leaving the facility when she so wished and woman detained and stopped from leaving the facility for failure to pay.

Detention in facilities	District			
	Kitwe	Ndola	Total	Chi square/p <sup>*</sup>
Woman stopped from leaving the facility when she so wished	24	12	36	4.222
Woman stopped from leaving the facility when she so wished	10.17	5.13	7.66	0.04
Woman detained and stopped from leaving the facility for failure to pay	16	4	20	7.414
Woman detained and stopped from leaving the facility for failure to pay	6.78	1.71	4.26	0.006
Total	40	16	56	
	16.95	6.84	11.91	
Cases	236	234	470	
Pearson chi square (3)=9.3297; Pr=0.025				

**Table 8:** Percentage distribution of women that experienced detention in health facilities by district.

### Discussion

Quality of maternal care has a number of elements including the structure, processes of care, and outcomes. The study assessed the maternal health status in nominated communities of selected health facilities. Disrespect and abuse during maternity care is a violation of a woman's basic right. The study observed that women's experience with respectful maternal care was not adhered to hence a non-zero tolerance to respectful maternal care was not pragmatic. A significant number experienced physical abuse, lack of informed consent, lack of confidential and dignified care, discrimination, abandonment during care, and detention in facilities among child bearing women. This is similar with findings by Dey et al. [9]. It was found that participants (77.3%) self-reported mistreatment in at least 1 of the 17-item measure. Sheferaw et al. [3], also found that women at least experienced (36%) one form of mistreatment of women and Bohren et al. [10], found that women and providers reported experiencing or witnessing physical abuse including slapping, physical restraint to a delivery bed, and detainment in the hospital and verbal abuse, such as shouting and threatening women with physical abuse. Balde et al. [11] in a qualitative study reported that women described being slapped by providers, yelled at for noncompliance with provider requests, giving birth on the floor and without skilled attendance in the health facility. However, according to a study by Rosen et al. [2], they found that women overall were treated with dignity and in a supportive manner by providers, but many women experienced poor interactions with providers and were not well-informed about their care.

Both physical and verbal abuses of women were observed during the study. A study by Mesenburg et al. [12], found that 5% of the women were physically abused, approximately 10% of women reported having experienced verbal abuse and 6% were denial of care. Similar findings were also reported as this study found that 70% of the women were left alone or unattended to at any time while the study by Rosen et al. indicate that the most frequently mentioned form of disrespect and abuse in the open-ended comments was abandonment and neglect. Another study by Sheferaw et al. [3] found that women on average

received 5.9 (66%) of the 9 recommended RMC practices. Health centres demonstrated higher RMC performance than hospitals. At least one form of mistreatment of women was committed in 36% of the observations. A similar study by Asefa et al. found that mothers were left without attention during labour in 39.3% of cases. Other findings [4] show that women experienced the violation of the right to information, informed consent, and choice/preference of position during childbirth was reported by all women who gave birth in the hospital and 89.4% of respondents in health centres. Delays in care and abandonment of women during labour were among respectful maternity care rights violation documented in this paper.

The study found that women in this study were discriminated due to specific socio-economic, demographic and maternal factors. These findings correspond with findings in South Africa by Oosthuizen et al. [13], who found that women's age, language, educational level and length of residence in the district were significantly associated with disrespectful care. Dey et al. [9] also found that women with multiparous birth (AOR=1.50, 95% CI=1.06-2.13), post-partum maternal complications (AOR=2.0, 95% CI=1.34-3.06); new-born complications (AOR=2.6, 95% CI=1.96-4.03) and not having an Skilled Birth Attendant (SBA) trained provider (AOR=1.47, 95% CI=1.05-2.04) were associated with increased risk for mistreatment as measured by self-report.

Women did not have procedures or the labour process explained to them and did not hear about the findings of exams. Zambia has a diverse culture and women expect service provision in culturally appropriate manner. This paper shows that treatment of women in a culturally appropriate manner was not observed. Zambia provides free health care services but the demand for in kind payments from women at labour sometimes results in detaining and stopped women from leaving the facility because the woman did not provide the gloves, disinfectants or other material demands. Non-adherence to particular RMC standards may be due to lack of basic infrastructure i.e. disinfectants. In line with the foregoing, lack of drapes to cover women

when being attended to during labour prevented women from fully realizing their right to privacy.

Reports of women ignored and neglected during facility delivery are not odd to Zambia and different studies have documented cases of women that felt delay and abandonment during labour. The lack of resources, including staff shortages, may be key determinants for abandonment and neglect. According to the 2017-2021 Zambia national health strategic plan, the current number of health workers in the health sector is estimated at 42,630 (against the required establishment of 63,057) indicating a deficit of about a third (20,427) of the establishment. This shortage of human resource has a burden on workload exacerbated by inadequate equipment and supplies needed to provide quality care.

## Conclusion

This paper used the standards in the Respectful Maternity Care Charter basing the overall Quality of Care of this study on international standards. Mistreatment and abuse of childbearing women is evident in health facilities of Kitwe and Ndola districts. The findings indicate the need to intervene in respectful maternal care programs and health services. The maternal outcomes observed such as home deliveries and deliveries by skilled and unskilled birth attendants mirror the quality of care in health facilities. Indications of non-adherence to the rights of child bearing women are a barrier to achieving quality of care for child bearing women. There is need to comprehensively train service providers in respectful maternal care and devise mechanisms for implementation and supportive supervision.

## Study Limitation

The study is based on self-reporting of indicators on respectful maternal care that occurred in a period within two years. However, women were encouraged to provide accurate information on their experiences during child birth as it was vital to collect accurate statistics.

## Acknowledgements

We would like to thank Amref Health Africa for instituting the Closing the Gap between the Community and Formal Health Systems to Reduce Maternal Mortality in Ndola and Kitwe Districts of Copperbelt Province. We also wish to thank all participants in the assessment.

## Funding

This paper was used data that was collected by Amref Health Africa for a baseline survey on closing the gap between communities and formal health systems. The study was conducted by consultants from the Copperbelt University and the University of Zambia.

## Availability of Data and Materials

The data is available in soft copy in Stata formats at Amref Health Africa, Zambia office with the questionnaire equally available in soft copy.

## Competing Interests

The authors declare that they have no competing interests.

## Ethical Considerations

Ethical clearance was sought from ERES CONVEGE reference No. 2017-Oct-028 to conduct the study. Permission to visit health facilities was sought from Ministry of Health. Consent to take part in the study was only sought after informing the participants about all facets of the study and all questions about the study were addressed. For adolescent women below the legal age (below 18 years), consent was sought from parents'/guardians'/caregivers/spouse before assent was sought from the potential participant. Therefore, participants who consented and assented to take part in the study signed or thumb printed the consent form.

## Author Contribution

HTN, contributed to all facets of the paper from inception, design, data collection analysis and writing. TN, NC and PA were involved in inception, design, data collection and writing. BM, DM, HBC N, RC and SK were involved in the design, data collection, supervision and revision of the manual script.

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