

Additional file 5: Process (provision & experience of care) & outcome indicators measuring the quality of post-abortion care provided in the Nigerian and CAR hospitals.

	Indicators	Nigerian hospital			CAR hospital		
	Coverage of key practices	n/N	Percentage %	95% CI	n/N	Percentage %	95% CI
Process - Provision of care	Uterine evacuation management						
	Any uterine evacuation	485/520	93.3%	90.8-95.3	487/548	88.9%	85.9-91.4
	Uterine evacuation by uterotonic	474/520	91.2%	88.4-93.5	267/548	48.7%	44.5-53.0
	Instrumental uterine evacuation (i.e., uterine evacuation using any types of instruments: MVA, EVA, D&E, D&C)	93/520	17.9%	14.7-21.5	387/548	70.6%	66.6-74.4
	Other medical management of severe complications						
	Blood transfusion	219/520	42.1%	37.8-46.5	30/548	5.5%	3.7-7.7
	IV fluids	370/520	71.2%	67.1-75.0	281/548	51.3%	47.0-55.5
	Admission in critical care unit (Intensive Care Unit in Nigeria and High Dependency Unit in CAR ^{&})	31/520	6.0%	4.1-8.4	31/548	5.7%	3.9-7.9
	Hysterectomy	1/520	0.2%	0.0-1.1	5/548	0.9%	0.3-2.1
	Pain management						
	Painkillers in all patients	188/520	36.2%	32.0-40.5	434/548	79.2%	75.6 - 82.5
	Contraception uptake at discharge						
	Contraception uptake in medically discharged	23/495	4.7%	3.0-6.9	301/ 475 [§]	63.4%	58.9 - 67.7
	Actionable information system: completeness of clinical medical record	n/N	Percentage %	95% CI	n/N	Percentage %	95% CI
	Women with complete key pieces of information in their medical record ^Ω	390/520	75.0%	71.1-78.7	332/548	60.6%	56.4-64.7

	Indicators	Nigerian hospital			CAR hospital		
	Application of post-abortion care evidence-based clinical guidelines	n/N	Percentage %	95% CI	n/N	Percentage %	95% CI
Process – Provision of care (to be continued)	Uterine evacuation management						
	Dilatation & (sharp) Curettage (D&C) among women who had an instrumental uterine evacuation	1/93	1.1%	0.0 - 5.8	9/387	2.3%	1.1 - 4.4
	Blood transfusion						
	Blood transfusion when indicated ^π	95/97	97.9%	92.7-99.7	25/30	83.3%	65.3 - 94.4
	Blood transfusion with no documented indication ^π	124/423	29.3%	25.1-33.9	5/518	1.0%	0.3 - 2.2
	Infection prevention and management						
	(Curative) Antibiotics among septic abortions ^Σ	68/80	85.0%	75.3-92.0	117/145	80.7%	73.3– 86.8
	(Prophylactic) Antibiotic when having an instrumental or surgical intervention	92/96	95.8%	89.7-98.9	157/392	40.1%	35.2-45.1
	Antibiotic with no documented indication ^ψ	99/358	27.7%	23.1-32.60	35/115	30.4%	22.2– 39.7
	Tetanus immunization status checked and managed adequately among all women	10/520	1.9%	0.9-3.5	38/548	6.9%	5.0 – 9.4
	Pain management						
	Anesthesia (para cervical block, spinal anesthesia, general anesthesia) in instrumental uterine evacuation	83/93	89.3%	81.1-94.7	238/387	61.5%	56.4 - 66.4
	Iron/Folic acid at discharge						
	Iron in patients with anemia medically discharged	378/403	93.8%	91.0-96.0	206/208	99.0%	96.6-99.9
	Folic acid in patients with anemia medically discharged	373/403	92.6%	89.5-94.9	206/208	99.0%	96.6-99.9
	Contraception counseling at discharge						
	Contraception counselling in medically discharged	195/495	39.4%	35.1-43.9	509/516 ^μ	98.6%	97.2 - 99.5
	Composite indicator of application of post-abortion care evidence-based practices						
	Poor key evidence-based practices^Δ	213/520	41.0%	36.7-45.3	292/548	53.3%	49.0-57.5

Process - Experience of care	Indicators	Nigerian hospital			CAR hospital		
	Reported Experience of post-abortion care	n	Percentage %	95% CI	n	Percentage %	95% CI
	Effective communication	N=359 ^u			N= 361 ^u		
	During your stay at this hospital, were you given explanations regarding your care and treatment?	177	49.3	44.0-54.6	214	59.3	54.0-64.4
	Were you able to ask questions during examination and treatment?	59	16.4	12.8-20.7	53	14.7	11.2-18.8
	Respect and preservation of dignity	N=359 ^u			N= 361 ^u		
	Were you spoken to nicely?	315	87.7	83.9-91.0	286	79.2	74.7-83.3
	Did you receive pain medications during your hospital stay?	287	79.9	75.4-84.0	296	82.0	77.6-85.8
	During your physical examination, were you covered up (or given privacy in such a way that only the doctor or nurse examining you could see you)?	N=358 ^a			N= 361 ^u		
	Yes, all the time	309	86.3	82.3-89.7	134	37.1	32.1-42.3
	Yes, most of the time	21	5.9	3.7-8.8	154	42.7	37.5-47.9
	Yes, a few times	16	4.5	2.6-7.2	48	13.3	10.0-17.2
	Never	6	1.7	0.6-3.6	21	5.8	3.6-8.7
	Not examined	6	1.7	0.6-3.6	4	1.1	0.3-2.8
	How do you feel about the amount of time you waited to see a health provider?	N=358 ^a			N= 358 ^β		
	Very short	251	70.1	65.1-74.8	96	26.8	22.3-31.7
	Somewhat short	41	11.5	8.3-15.2	125	34.9	30.0-40.1
	Somewhat long	41	11.5	8.3-15.2	64	17.9	14.0-22.2
	Very long	25	7.0	4.6-10.1	73	20.4	16.3-24.9
	Composite indicator of reported experience of post-abortion care	N=358 ^a			N= 358 ^β		
	Number of poor experiences of care						
	<2 poor experiences	113	31.6	26.8-36.7	63	17.6	13.8-21.9
	>= 2 poor experiences	245	68.4	63.3-73.2	295	82.4	78.1-86.2

	Indicators	Nigerian hospital			CAR hospital		
		n	Percentage %	95% CI	n	Percentage %	95% CI
Outcomes	People-centered outcome	N=359 ^μ			N= 361 ^μ		
	Did you feel the doctors, nurses and other staff at the facility took the best care of you?						
	Yes, all the time (optimal care)	232	64.6	59.4-69.6	124	34.3	29.5-39.5
	No, not all the time (no optimal care)	127	35.4	30.4-40.6	237	65.7	60.5-70.5
	Abortion-related health outcomes (definitions in Supl. table 1)	n/N	Percentage %	95% CI	n/N	Percentage %	95% CI
	Abortion-related mortality index (Original WHO near-miss criteria [†])	1/24	4.2	0.1-21.1	2/21	9.5	1.2-30.4
	Abortion-related mortality index (WHO near-miss criteria adapted for Sub-Saharan Africa [†])	1/103	1.0	0.0-5.3	2/34	5.9	0.7-19.7
	Risk of healthcare-related near-miss (Original WHO near-miss criteria [†])	1/520	0.2	0.0-1.1	6/548	1.1	0.4-2.4
	Risk of healthcare-related near-miss (WHO near-miss criteria adapted for Sub-Saharan Africa [†])	7/520	1.3	0.5-2.6	12/548	2.1	1.1-3.8

^Ω All the following key pieces of information are available in their medical record: estimate of gestational age, information on vital signs (temperature, systolic & diastolic blood pressures, heart rate, respiratory rate), abdominal examination, cervix examination, mental status, appearance at presentation & final diagnosis.

[&] An intensive care unit (ICU) is a unit that provides 24-hour medical supervision (including continuous vital signs monitoring), mechanical ventilation (including oxygen) and continuous vaso-active drugs. The High Dependency Unit (HDI) is a unit with all characteristics except the mechanical ventilation.

^π A woman who had an indication of blood transfusion is defined by (MSF guidelines 2019(1)) a woman with:

- Hb ≤ 5 g/dl, even if there are no signs of decompensation

- Hb > 5 g/dl and < 7 g/dl if there are signs of decompensation (lowest SBP ≤ 90 mm Hg & pulse ≥ 100 b/min) or sickle cell disease or severe malaria or serious bacterial infection or pre-existing heart disease.

^Σ Septic abortions include uterine infection, generalized peritonitis or severe systemic infection with genital origin and exclude extra-genital infections (malaria, urinary infections, etc.)

^ψ No documented indication of antibiotics includes: no documented 1- infection, 2- instrumental/surgical procedure, 3- trauma/perforation (no evidence of cervix/vaginal mechanical injury at clinical examination, uterine perforation or other intra-abdominal perforation confirmed at laparotomy or at clinical examination), 4- notion of septic maneuver to induce abortion and 5- foreign body found in the vagina.

^Δ Get at least one of these interventions not following MSF guidelines: get D&C or did not get antibiotics in septic abortions or did not get antibiotic in instrumental or surgical treatment or get antibiotic when not indicated or did not get blood transfusion when indicated or get blood transfusion when not indicated.

[§] Missing data: n=42; ^μ Missing data: n=1; ^α Missing data: n=2; ^β Missing data: n=4

[†] Near- miss cases: women with organ dysfunction of either one or more of the following: cardiovascular, respiratory, renal, coagulation, hepatic, neurological or uterine dysfunction using 1) original WHO near-miss criteria(2) to allow comparison with literature & 2) WHO near-miss criteria adapted for Sub-Saharan Africa(3) as a sensitivity analysis.

MVA: Manual Vacuum Aspiration, EVA: Electric Vacuum Aspiration, D&E: Dilatation & Evacuation, D&C: Dilatation & (sharp) curettage (not recommended)

References:

1. MSF. Essential Obstetric and Newborn care : Practical guide for midwives, doctors with obstetrics training and health care personnel who deal with obstetric emergencies [Internet]. Medecins Sans Frontieres. 2019. 252 p. Available from: <https://medicalguidelines.msf.org/en/viewport/ONC/english/essential-obstetric-and-newborn-care-51415817.html>
2. World Health Organization, Organization WH. Evaluating the quality of care for severe pregnancy complications: the WHO near-miss approach for maternal health [Internet]. WHO. Geneva: World Health Organization; 2011 [cited 2018 Apr 11]. Available from: www.who.int/reproductivehealth
3. Estelle Pasquier, Onikepe O. Owolabi, Tamara Feters, Richard Norbert Ngbale, Mariette Claudia Adame Gbanzi, Timothy Williams, et al. High severity of abortion complications in fragile and conflict affected settings: A cross-sectional study in two referral hospitals in Sub-Saharan Africa (AMoCo study). BMC Pregnancy Childbirth [Internet]. 2023;6(143):1–15. Available from: <https://doi.org/10.1186/s12884-023-05427-6>