

Kano State and Kaduna State

**Maternal and Child Health
Hospital – Report 2008**



Maternal and child Health – Prevention and Treatment of Obstetric Fistula
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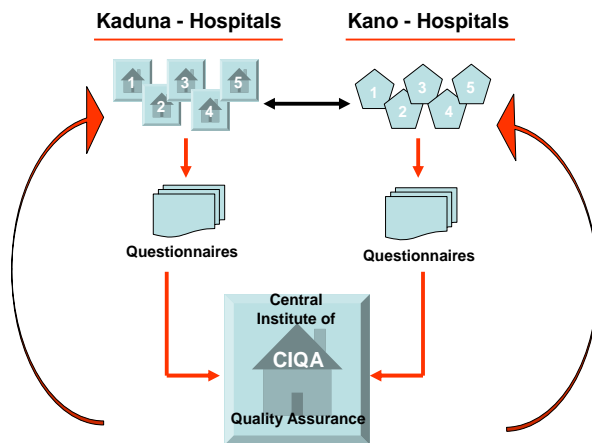
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I. Organization of the Institute

1. Office of the Institute of quality assurance: data collection and evaluation

The Institute is located at the Aminu Kano Teaching Hospital (AKTH) in Kano. Questionnaires with obstetrical data are routinely collected by the chief midwife Zainab M.S Pawa and evaluated according to defined principles by the statistician Sadik Abdul Mumann. The data evaluation is supervised by Dr. Hadiza Galadanci and Dr. Oladapo Shittu. The data are regularly presented to the participating hospitals at half year meetings at the Aminu Kano Teaching Hospital.

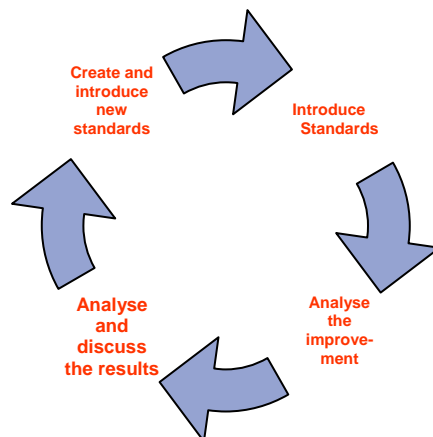
The data flow takes place according to the graph below



2. Principles of quality assurance

Basic principles of quality assurance in a hospital are based on three parameters: 1. Quality of structure, 2. Quality of process and 3. Quality of outcome. All three parameters are interdependent and closely connected. *Quality of structure* comprises the condition of the hospital building: water supply, power supply, hygienic conditions, number of staff and the equipment available. The *quality of process* is predominantly dependent on a sufficient structure, but also on trained and well functioning experienced personnel and on professional performance. This can be achieved by a continuing evaluation of the results and by benchmarking. This will lead to a spiral of improvement of maternal and infant health care and *quality of outcome*.

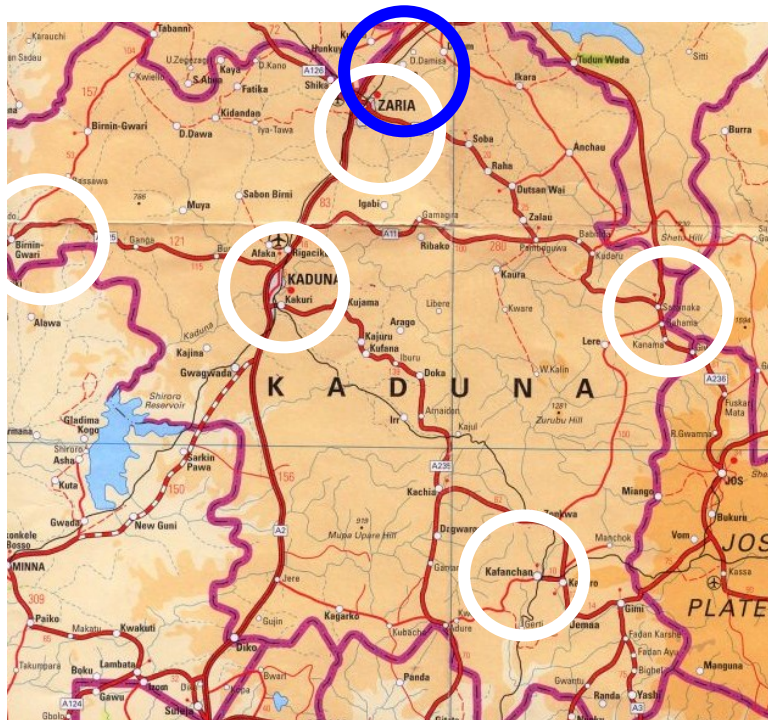
3. Circle of continuous quality improvements (Quality circle)



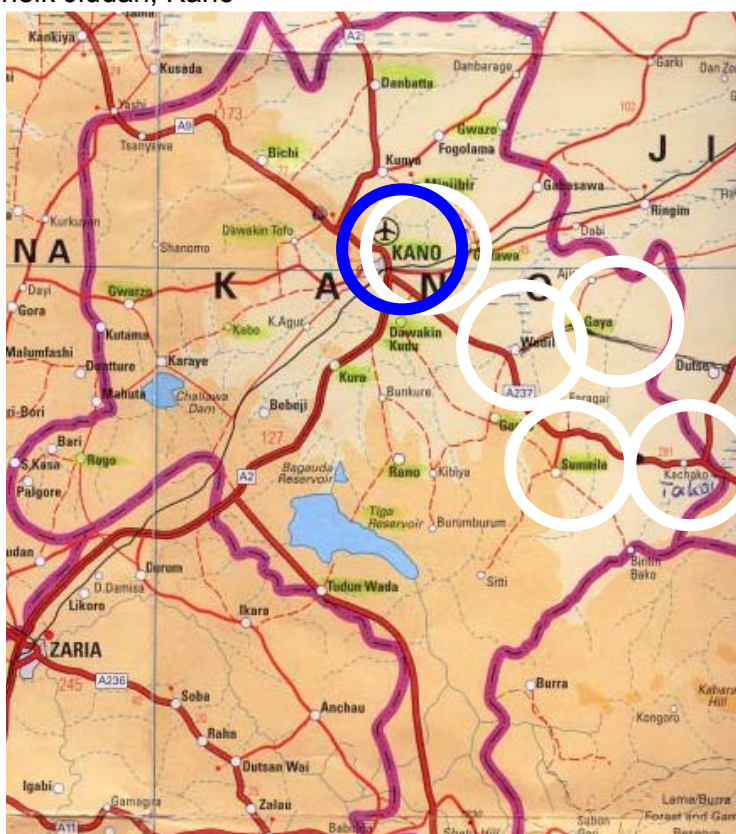
4. Hospitals participating in quality assurance in obstetrics

Ten hospitals, five from Kano and five from Kaduna decided to participate in the data collection in obstetrics. The maps show the location of the hospitals in both states. The following hospitals took part:

Kaduna state hospitals: *Amadu Bello University Teaching Hospital (ABUTH) Zaria, Yusuf Dantoshu General Hospital, Kaduna, General Hospital Kafanchan, General Hospital Birni Gwari, Gambo Sawaba Hospital, Kofan Gaya Zaria, General Hospital Saminaka*



Kano State Hospitals: *Aminu Kano Teaching Hospital, Kano General Hospital, Sumaila General Hospital, Gaya General Hospital, Wudil General Hospital, Takai General Hospital, Sheik Jiddah, Kano*



III. Quality assurance in Obstetrics

1. Instruments for data collection

In consideration of the high maternal and infant mortality it was not advisable to use a difficult and comprehensive questionnaire for data collection. The present questionnaire was combined with the introduction of a maternity record book with simple indicators of maternal and child health. The data are routinely collected every month by the chief midwife. The questionnaire comprises the following data: □

Monthly Maternity statistics																Rotary Intl. Project "Improvement of maternity Health"																															
Hospital: Kano State																2nd Quarter																Year: June, 2008															
Hospital code	ANC		abortion		Deliveries					M.M		Fetal outcome		Eklampsia		retained Placenta PPH	VVF																														
	new	Follow up	MVA	D/C	Total No. of deliveries	No. of Twin deliv.	No. of breech deliv	No. of vacu deliv.	C/S	No. of maternal death	alive	Dead	fits	No fits																																	
22	369	151	11	0	132	2	0	0	4	3	126	11	8	2	14	0																															
23	770	1275	13	1	160	4	1	0	10	3	137	9	4	0	3	0																															
24	286	241	5	3	44	1	0	0	3	3	33	10	3	1	9	0																															
25	357	386	10	0	41	0	2	0	8	2	29	12	19	9	5	2																															
26	773	1682	0	6	162	0	0	0	6	3	159	18	10	0	17	0																															

Information regarding number of antenatal clinic (ANC) visits (new cases and follow up) and abortions. Further information is provided by important indicators of maternal and child health: maternal death and infant death, and eclampsia and postpartum haemorrhage. All these indicators will be related to the total number of deliveries which allows comparison of the management and outcome among the hospitals.

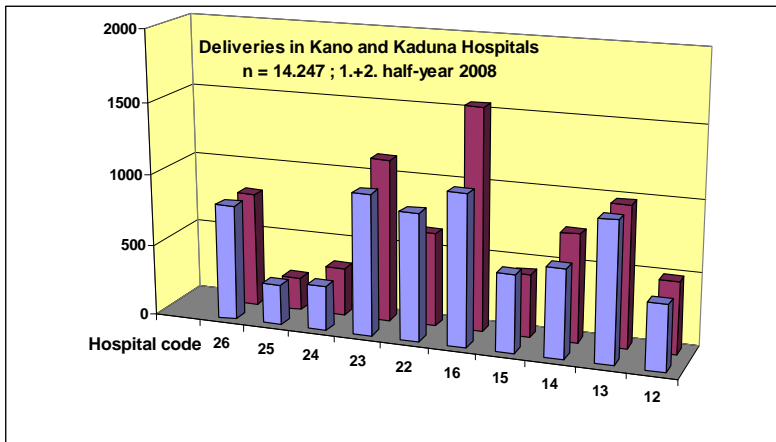
2. Results of obstetrical management in 2008

	Deliveries		CS		MMR		FMR		Eclampsia		PPH	
	N	n (%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
January – June	6.878	494 (7,18)	123	(1.79)	584	(8.49)	484	(7.04)	301	(4.38)		
July – December	7.369	451 (6,12)	120	(1.63)	653	(8.86)	490	(6.65)	333	(4.52)		
Total 2008	14.247	945 (6,63)	243	(1.71)	1.237	(8,68)	974	(6.84)	634	(4.45)		

CS Caesarean section, MMR Maternal Mortality Ratio, FMR Fetal Mortality Ratio, PPH Post partum haemorrhage

The table shows the results of the indicators of the first and second half year 2008. MMR indicates a slight but not significant fall. Better information is obtained by looking at the results of the hospitals.

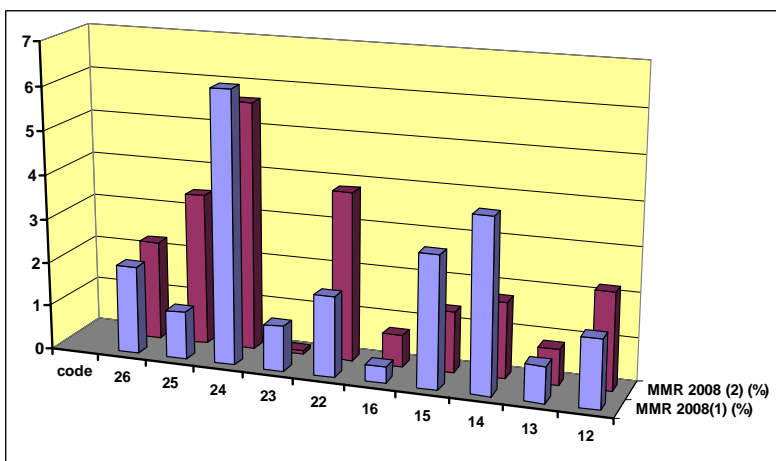
3. Incidence of maternal and fetal mortality ratio of the 10 hospitals



Deliveries in Kano and Kaduna hospitals in 2008.

Blue columns: January-June.
Red columns: July - December.

The hospital code represents the respective hospital and guarantees confidentiality.

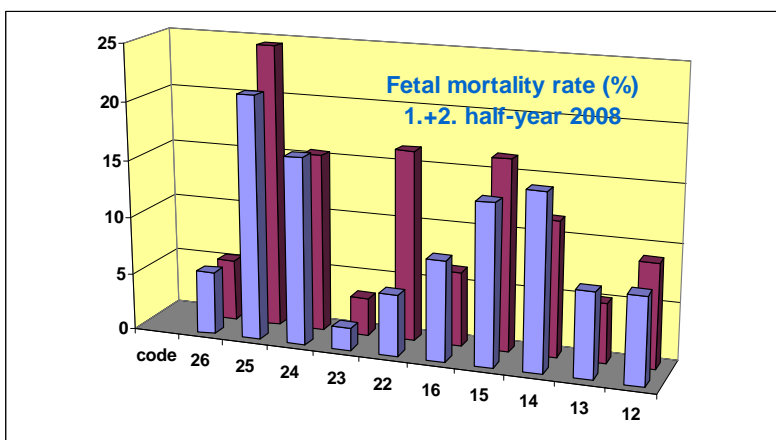


Maternal mortality ratio (%) in 2008

Blue columns: January-June.
Red columns: July - December.

The hospital code represents the respective hospital and guarantees confidentiality.

MMR fell in 3 hospitals, increased in 3 hospitals and remained unchanged in 4 hospitals. MMR had a range from 500/100 000 deliveries up to 5 500/100 000 deliveries

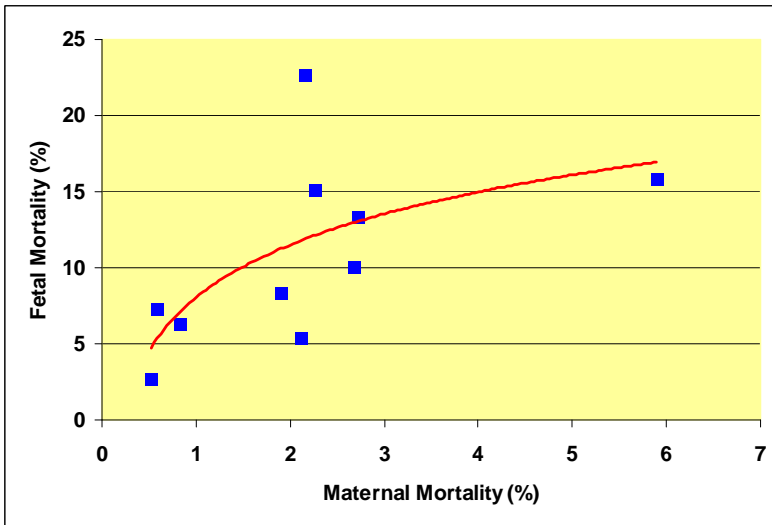


Fetal mortality ratio (%) in 2008

Blue columns: January-June.
Red columns: July - December.

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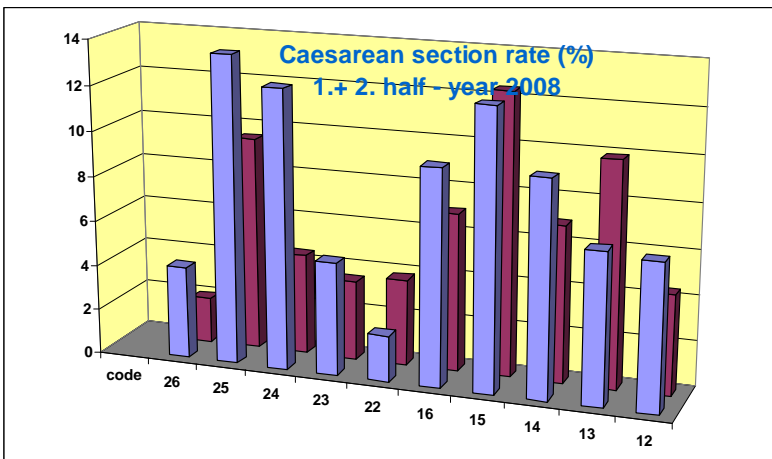
FMR showed also a striking variation among the hospitals from 4% up to more than 20%



The relationship between maternal mortality and fetal mortality

FMR is increasing with MMR. The variance in some cases has to be investigated.

4. Influence of interventions on fetal mortality

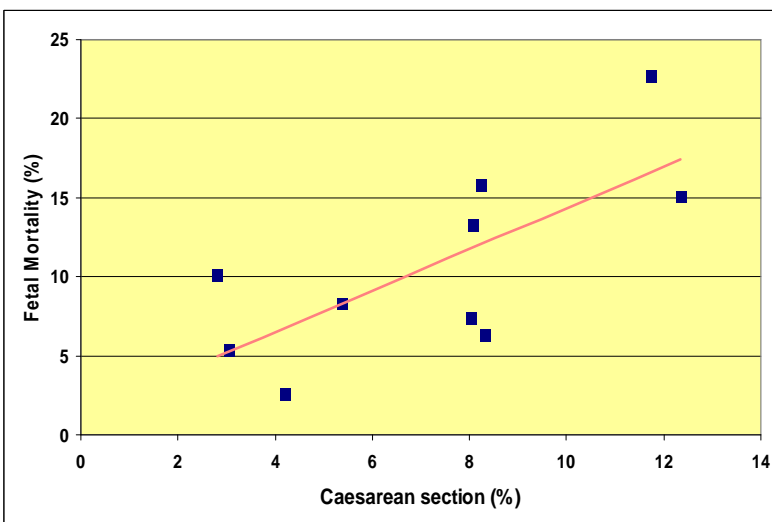


Caesarean Section Rate

Blue columns: January-June. Red columns: July-December.

The hospital code represents the respective hospital and guarantees confidentiality.

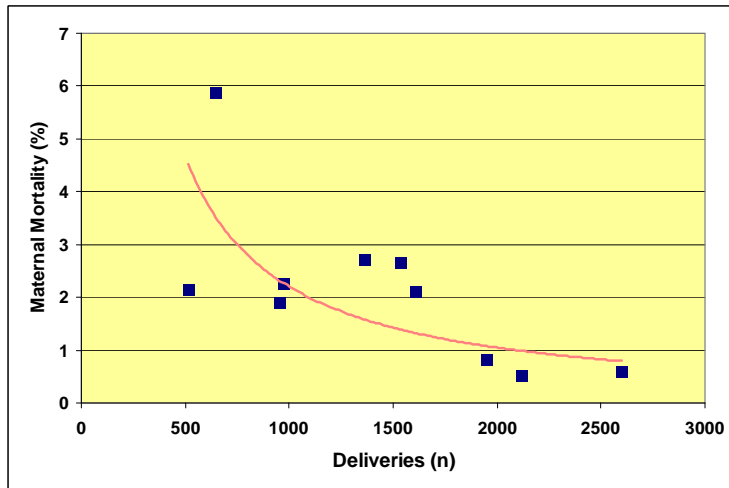
The CS rate shows a big variance among the participating hospitals



Relationship between Caesarean section rate (%) and fetal mortality (%)

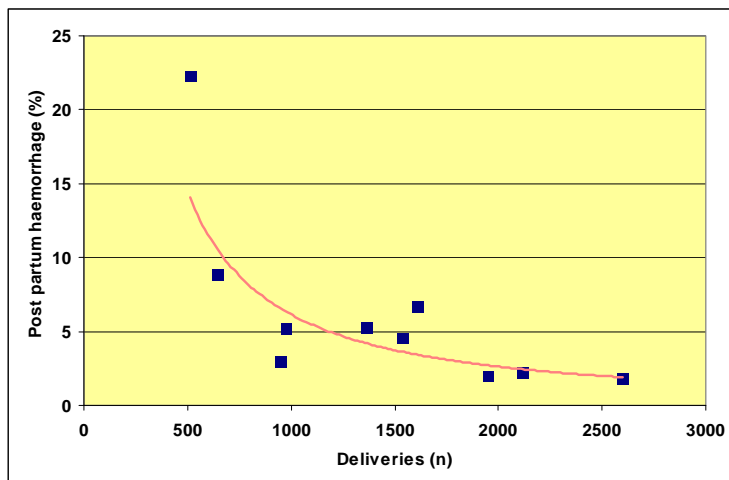
A paradoxical relationship is shown: FMR increases with the rise of CS. The reverse situation has to be expected. The rationale behind is the rate of CS even in a dead fetus to save the life of the mother, i.e. in cases of eclampsia or severe haemorrhage.

5. Associations between the number of deliveries, maternal mortality and post partum haemorrhage



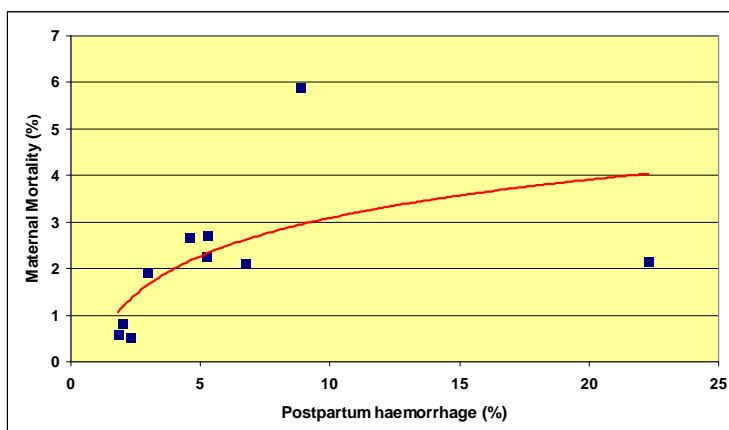
The relationship between the number of deliveries in a hospital and the maternal mortality

In hospitals with low delivery rates per year the MMR is rising. This association has to be investigated and is most likely related to management problems in difficult surroundings.



Post partum haemorrhage is associated with the number of deliveries in a hospital.

Smaller hospitals with low delivery rates have a higher rate of PPH.



The association of post partum haemorrhage and maternal mortality.

MMR seems to be influenced by PPH. The deviation of high rate of PPH (23%) and MMR (2%) and low PPH (8%) and high MMR (6%) has to be investigated.

III. Clinical profile

	Median	Range (min – max)	Reference Hospital
Antenatal clinic (n)	3.284	(1.999 - 9.684)	9.684
Antenatal clinic follow up (n)	6.584	(2.999 - 18.208)	16.824
Number of deliveries (n)	1.362	(511 – 2.597)	2.155
Twin deliveries (%)	2,20	(1,07 – 3,96)	1,65
Breech deliveries (%)	2,23	(0,95 – 3,81)	1,61
Caesarean section (%)	8,0	(2,8 – 12,3)	4,2
Vacuum extraction (%)	0	(0 – 3,08)	0
Eclampsia/Preeclampsia (%)	6,1	(1,8 – 30,5)	1,8
Post partum haemorrhage (%)	4,5	(1,8 – 22,3)	5,3
Maternal mortality (%)	2,1	(0,52 – 5,90)	0,52 *
Fetal Mortality (%)	8,3	(2,65 – 22,7)	2,65

* the hospital with the lowest maternal mortality was used in the clinical profile as a reference hospital

IV. Activities

1. References

Künzel,W., H. Galadanci, D. Shittu, M. Gruhl, R. Zinser : A model to reduce maternal mortality and fetal mortality in ten hospitals in Kaduna and Kano, Nigeria – Continuously conducted quality assurance in obstetrics.

International Stillbirth Conference (ISC/NPF) November 5-7, Oslo 2008 (Abstract)

2. Meetings

Perinatal conference Zaria August 2008

Perinatal conference Kano 21. February 2009

3. Reports in Media and Press

Frankfurter Allgemeine Zeitung 2009, C.P. Müller von der Grün
“Minütlich stirbt eine Frau im Kindbett”

Giessener Allgemeine Zeitung 20.4.2009 „Mütter-und Kindersterblichkeit weiterhin hoch –
Bei einem Vortragsabend des Rotaract Clubs Giessen stand die nachhaltige
Familienplanung in Afrika im Mittelpunkt