

national vvf project nigeria

largest obstetric fistula project in the world

evaluation report XXI

2004

reprint

state of the art surgery

evidence based results

ground breaking research

peer reviewed science

complete documentation

kees waaldijk MD PhD

chief consultant fistula surgeon

reprint

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national vvf project nigeria

evaluation report XXI

2004

Nigeria

Ebonyi State University Teaching Hospital
ABAKALIKI

Special VVF Center
B_KEBBI

Faridat Yakubu VVF Hospital
GUSAU

General Hospitals
HADEJIA - JAHUN

Laure Fistula Center
KANO

Babbar Ruga Fistula Hospital
KATSINA

Maryam Abacha Hospital
SOKOTO

Kofan Gayan Hospital
ZARIA

République du Niger

Centre Hospitalier Départemental
MARADI

Maternité Centrale
ZINDER

table of contents

foreword	5
executive summary	6
evaluation report	7
surgery	10
training	11
research	12
ebonyi state	13
jigawa state	14
kaduna state	15
kano state	16
katsina state	17
kebbi state	18
sokoto state	19
zamfara state	20
république du niger	21
operations by chief consultant	22
performance of trainees	23
immediate management	24
workshop république du niger	29
workshop tanzania	30

the (surgical) management of the obstetric fistula has to start the moment the leaking of urine becomes manifest

no need to become an outcast

the immediate management by catheter and/or early closure is highly successful and will prevent the woman from becoming an outcast

do not waste time, energy and money on things which make no sense

concentrate on the most important thing: close the fistula

executive summary

since major organizations, UNFPA, FIGO, AMDD, WHO and others, have become involved in the initiative against fistula and there is a renewed interest in **the obstetric fistula as a major public health problem** especially at international level, there is a slow but steady progress in capacity building all over Africa though it will take some time before the obstetric fistula patients themselves will benefit from all these efforts

the problem is that the prevention and the treatment of the obstetric fistula can only be dealt with by high-quality surgery in secondary and tertiary health institutions, not to mention all the aspects of infrastructure; especially the training of doctors in the **complicated surgery of the obstetric fistula** requires time, energy and money

two workshops were held, one in Niamey in République du Niger and one in Dar es Salaam in Tanzania

during the year a total of 1,637 VVF/RVF-repairs were performed in the centers whilst a total of 26 doctors, 62 nurses and 2 medical students attended our regular training program or the workshops making **a grand total of 21,265 repairs, 556 trainees and 13 workshops**

the Federal Government of Nigeria becomes more and more involved in the obstetric fistula realizing it has to do something about this major public health problem and the same applies to the State Governments

UNFPA was pressing forwards a major surgical exercise next year whereby a large number of patients will be operated in the centers in Kano, Katsina, Kebbi and Sokoto State during a period of 2 weeks: in order to achieve this these 4 centers will be renovated and upgraded as regards to facilities, equipment and staff

at last the board members of the SK_Foundation visited the project in March to see with their own eyes what they have been sponsoring for years; and they made available the additional funds for a TOYOTA prado 4-wheel-drive car for the project

in September three members of the “house committee on health” from the National Assembly visited the project after which the obstetric fistula was taken into the budget for next year; a major step forwards in creating the awareness the obstetric fistula deserves

the results of our ground-breaking research about the **immediate management** in 1,716 patients were published in the American Journal of Obstetrics and Gynecology, the leading international journal in its field; there is really **no need to become an outcast**

in Babbar Ruga Hospital a start was made with dissolving the “**fistularium**”-like aspects of the 150-bed hostel; after careful explanation and instructions all the “incurable” patients were sent home to report once a year for further examination, evaluation and possible treatment; once the new hostel_rehabilitation center has been built outside the hospital premises the Ministry of Women’s Affairs and Social Welfare will take over their social care so that the professional surgeons will concentrate only on the surgical aspects

by continuing our efforts in the struggle against the obstetric fistula we hope to have an impact upon an almost hopeless situation which will last another 100 years

evaluation report XXI

introduction

the obstetric fistula constitutes a social disaster of the highest order; wherever these patients go, whichever place they enter, people turn away from them because of the urine leakage and the offensive smell; and they lose all dignity, as a woman and as a human being, with progressive downgrading medically, socially and mentally

the obstetric fistula is a major public health/social problem on the rise with a minimum of 1,500,000 patients in the whole of Africa and 250,000 in Nigeria alone,

prevention of the obstetric fistula, as achieved in the industrialized world over a period of 100 years, is only possible by establishing a network of 125,000 to 150,000 functioning obstetric units throughout inhabited (rural) Africa which **is a utopia** for another 100 years

the best rehabilitation into society is by a **successful closure** of the fistula and for the moment we have to concentrate upon this aspect

prevention of the social disaster is very well feasible by the **immediate management** by catheter and/or early closure; there is **no need to become an outcast**

this VVF Project aims to have an impact upon this hopeless situation by providing a VVF service, by establishing VVF centers, by training all kinds of doctors, nurses and paramedical personnel and by providing training materials with the emphasis on keeping it simple, safe, effective, feasible, sustainable and payable under African conditions

long-term objectives

to establish a lasting VVF service with ultimately the total eradication of the obstetric fistula, first in Nigeria but later on also in the rest of Africa

the 10 established centers are capable of dealing with the obstetric fistula within a radius of 100-120 km; however, this is not sufficient by far

to keep the existing expertise available for present and future fistula surgeons

short-term objectives

to further upgrade the repair and training services in the existing centers and to start new centers

Ebonyi State

Dr Moses I Sunday-Adeoye set up a VVF unit within the Ebonyi State University Teaching Hospital; there was a setback since the funds for the obstetric fistula were exhausted

Jigawa State

Dr Said Ahmed left the government service and Dr Isah Adamu took over after some additional training; the new hydraulic operating table is of great help

Kaduna State

the total structural renovation of the hospital is moving forward; as soon as the renovation has been completed, the new hydraulic operating table will be released to the hospital; Rotary International is interested

Kano State

by a major effort the situation is more or less under control; a large proportion of the patients come from within KANO city; they wait to look seeking professional help for obstructed labor; the VVF-facilities will be upgraded for the UNFPA exercise; Rotary International is interested

national training center

the training of doctors is functioning well but we could handle more nurses

Katsina State

still remains the base of all our activities; we do not notice yet a reduction in the number of patients coming from République du Niger; the hospital was completely renovated for the UNFPA exercise; a start was made with dissolving the "fistularium"

international training center

the training of doctors is functioning well but we could handle more nurses; since the center becomes more and more known the interest is rising

Kebbi State

the old center was converted into the school of nursing/midwifery, and a completely new center is under construction to be finished before the UNFPA exercise starts

Sokoto State

Dr Abdullahi Gada is now in charge of the obstetric fistula surgery after additional training; a fire destroyed the postoperative wards but due to personal intervention of the governor everything was reconstructed within 40 days; later on facilities were upgraded for the UNFPA exercise

Zamfara State

the work is satisfactory though the center has been converted into a general hospital and another hospital for women and children is still under construction

MARADI/NIAMEY/ZINDER in République du Niger

the new VVF center in Zinder is functioning well under the direction of Dr Lucien Djangnikpo; the obstetric fistula service in Maradi has to be restarted

new centers

after the workshop in Niamey the first priority now is first to select and then train a team who will take charge of the obstetric fistula; one doctor and 3 of her staff received the first part of their training

traveling rhythm

it is not easy to travel by car 1,200-1,500 km a week, and an executive 4/WD Toyota Land/Cruiser has been ordered

activities (see annexes)

surgery

over the year a total of 1,637 procedures were performed in the 10 different centers making a **grand total of 21,265 operations: 19,517 VVF-repairs and 1,748 RVF-repairs**

postgraduate training

it poses an enormous continuous stress on all of us; the coordination was done by GHON, by UNFPA and by the Federal Ministry of Health

over the year a total of 25 doctors, 62 nurses and 2 medical students were trained making a **grand total of 556 persons: 255 doctors, 271 nurses and 30 other persons**

workshops

the consultant surgeon cofacilitated 2 workshops, one in Niamey as organized by UNFPA in République du Niger and one in Dar es Salaam as organized by Dr Tom Raassen from AMREF Tanzania making a **grand total of 13 workshops**

research

this is a continuous process; the intention was, is and will be to make complicated things simple, safe, effective, feasible, sustainable and payable under African conditions

general surgical principles

the **principles of septic surgery** cannot be overvalued since the vagina is not sterile: water-tight closure of the bladder, air-tight closure of the rectum whilst the anterior/posterior vagina walls are only adapted, half closed or left open

VVF

the **classification** in type I, IIAa, IIAb, IIBa, IIBb and III is well established now and very useful with regards to operation technique and prognosis

the **circumferential repair** by end-to-end vesicourethrostomy is the standard technique for the circumferential fistula type IIAb; the same principles are being applied in type IIBb fistulas where an additional urethra reconstruction is necessary

urethralization and anterior fasciocolposuspension is now standard in severe (post-repair) urine stress incontinence; it has highly promising theoretical and practical potentials with a total dryness in over 60% of the patients

the **immediate management** by catheter and/or early closure cured 3,500 patients and prevented them from becoming an outcast

urethra reconstruction with anterior fasciocolposuspension is now standard in type IIBa and IIBb fistulas with excellent results

preoperative high oral fluid intake ensures patient compliance, keeps her well hydrated during spinal anesthesia, makes it easier to find the ureters during operation and lessens the incidence of blocked catheters postoperatively

RVF

though the classification in type Ia, Ib, Ic, IIa, IIb, and III is useful with regards to operation technique no conclusions can be drawn regarding prognosis

sphincter ani rupture: the best result is by minimal dissection, meticulous closure of rectum with adaptation of the internal sphincter and end-to-end adaptation of the sphincter ani muscle (no overlapping)

separation of repair and rehabilitation

since a professional surgeon is not a professional social worker and since he solely has to concentrate on his surgery (already difficult enough), the repair center has to be managed by the Ministry of Health and the rehabilitation center by the Ministry of Social Welfare: otherwise there will be conflict of interest

funding

basically the project is funded by the Federal Government and by the individual State Governments but this is not sufficient

further funding came from the Scandinavian Society Nigeria and from several Dutch NGOs among which the SK Foundation in combination with the TTT Foundation are the most important; were are also grateful to the Wereldwinkel Maastricht

the hard and soft ware as funded by AMDD is of great help in developing multimedia training materials for present and future fistula surgeons

new nation-wide development

the Federal Ministry of Health, the Federal Ministry of Women Affairs and the individual State Governments are becoming more and more involved in the project; the Federal Minister of Women Affairs made the obstetric fistula a major point of her campaign

three member of the "house committee on health" from the National Assembly visited Babbar Ruga Hospital in order to enter the obstetric fistula into the national budget for 2005

UNFPA has established offices in Katsina, Kebbi and Sokoto to coordinate strategies for the obstetric fistula and is pushing forwards a major exercise to operate a large number of patients during a short period of time in 2005; Virgin United will sponsor this exercise

Rotary International is interested in sponsoring the obstetric fistula work in some hospitals in Kaduna and Kano State once they have secured the funds

Family Care continues its commitment and is even extending their efforts to rehabilitate the obstetric fistula patients to more centers

new world-wide development

since UNFPA, AMDD and FIGO started an **initiative against fistula** in 2001 there has been a renewed international interest in the obstetric fistula; and it was high time

the consultant attended the African Meeting on the Obstetric Fistula in Accra as organized by UNFPA; surprisingly, little was known about the activities in Nigeria

FIGO is willing to sponsor a training programme but first their consultants have to come and visit this project

conclusion

though there is a continuous improvement in the quantity and quality of this project in terms of service, training and research far more has to be done to solve this major public health problem

fistula surgery 1984-2004

	ebonyi		jigawa		kaduna		kano		katsina		kebbi		sokoto		zamfara		rép niger		total
	VVF/RVF		VVF/RVF		VVF/RVF		VVF/RVF		VVF/RVF		VVF/RVF		VVF/RVF		VVF/RVF		VVF/RVF		
1984	-	-	-	-	-	-	83	6	-	-	-	-	-	-	-	-	-	-	89
1985	-	-	-	-	-	-	196	20	-	-	-	-	-	-	-	-	-	-	216
1986	-	-	-	-	-	-	260	18	-	-	-	-	-	-	-	-	-	-	278
1987	-	-	-	-	-	-	318	7	-	-	-	-	-	-	-	-	-	-	325
1988	-	-	-	-	-	-	353	31	-	-	-	-	-	-	-	-	-	-	384
1989	-	-	-	-	-	-	464	21	-	-	-	-	-	-	-	-	-	-	485
1990	-	-	-	-	222	25	416	29	-	-	-	-	-	-	-	-	-	-	692
1991	-	-	-	-	248	17	195	4	-	-	-	-	-	-	-	-	-	-	464
1992	-	-	-	-	348	27	529	34	-	-	-	-	-	-	-	-	-	-	938
1993	-	-	-	-	416	35	488	62	-	-	-	-	-	-	-	-	-	-	1,001
1994	-	-	-	-	373	43	496	45	-	42	-	-	-	-	-	-	-	-	999
1995	-	-	-	-	373	51	537	51	-	161	11	-	-	-	-	-	-	-	1,184
1996	-	86	-	-	311	37	562	60	41	-	98	5	-	-	66	2	-	-	1,268
1997	-	211	4	-	295	38	513	55	107	2	181	14	-	-	33	2	-	-	1,455
1998	-	185	5	42	4	278	28	416	60	37	4	288	34	30	6	43	4	-	1,464
1999	-	30	3	37	3	280	36	441	62	80	5	238	12	64	3	49	2	-	1,345
2000	-	204	7	102	7	283	41	420	60	108	4	134	16	102	5	69	7	-	1,569
2001	-	320	27	80	1	415	41	515	55	98	4	157	9	65	5	74	5	-	1,871
2002	-	383	26	44	2	464	49	453	41	113	3	144	7	42	3	82	3	-	1,859
2003	48	5	245	15	39	1	376	52	475	51	96	4	151	7	35	4	56	3	1,663
2004	24	2	159	17	59	5	410	33	496	64	65	2	119	6	22	-	115	8	1,606
total	72	7	1,823	104	403	23	5,092	553	8,626	836	745	28	1,713	121	360	26	587	36	21,155

total VVF-repairs and related operations: **19,421** + in workshops 96 = **19,517**

total RVF-repairs and related operations: **1,734** + in workshops 14 = **1,748**

grand total 21,265

success rate at VVF closure: 90% per operation at early closure: 95% per operation

success rate at RVF closure: 85% per operation

healed by catheter only: 891 patients

wound infection rate: < 0.5%

postoperative mortality rate: 0.5-1%

final success rate (after one or more operations): > 98%

final severe incontinence rate after successful closure: 2-3%

obstetric fistula training 1989-2004

since it is by training that more and more people will involve themselves in the management of the obstetric fistula, it has become one of the corner-stones in the project

however, training drains all our energy whilst **2 operations less a day** are performed

the objectives of the training are to demonstrate/learn the complex trauma of the obstetric fistula and the noble art of its (surgical) management under primitive African conditions; each trainee is given a hand-out

the training of nurses and other (para)medical personnel can be done in groups by theoretical and practical sessions; this can be achieved either by formal training or during workshops

the training of doctors is purely individual since surgery is handwork and that has to be learned by the practice of performing the surgery themselves; during their training they can only be taught the **basic principles of obstetric fistula surgery**; this can be done by formal training exclusively; then they will know which fistulas they can handle themselves confidently and which fistulas they have to refer to a more experienced surgeon; spinal anesthesia is included in the training

the training of trainers will be even more time- and energy-consuming; their minimum requirements is 200-250 personal repairs before they can attend this training

a grand total of 556 doctors, nurses/midwives, other highly educated persons and paramedical staff were trained/attended our training program:

a total of 255 doctors

- 111 general doctors with 3 years of surgical experience
- 113 consultant gynecologists/surgeons/urologists
- 29 senior registrars in gynecology/obstetrics
- 2 senior registrars in anesthesia

a total of 271 nurses/midwives

- 193 pre- and postoperative nurses/midwives
- 63 operating theater nurses
- 15 anesthetic nurses

a total of 3 other academic persons

- 1 anthropologist
- 1 physiotherapist
- 1 sociologist

a total of 7 medical students

a total of 20 paramedical persons

the hand-out to the trainees and other training materials are upgraded continuously in order to provide the latest information

fistula research 1984-2004

this is a continuous process; based upon a meticulous documentation and evidence-based postoperative check-ups up to 6 months postoperatively (with over 2.5 million parameters in total) the following could be developed and demonstrated, with peer-reviewed articles in leading international journals

minimum surgery

immediate management by catheter and/or early closure; ?why become an outcast?

preoperative high oral fluid intake

no routine antibiotics

spinal anesthesia

the vagina as route of choice

exaggerated lithotomy position

good access by episiotomy(ies)

classification of VVF

classification of RVF

one-layer bladder closure, water-tight

no MARTIUS fibrofatty pad graft

two-layer rectum closure, air-tight

half-open adaptation of anterior and/or posterior vagina wall

circumferential repair by end-to-end vesicourethrostomy of type IIAb fistulas

urethra reconstruction with fasciocolposuspension of type IIBa fistulas

a variety of rotation/advancement flaps

end-to-end adaptation of sphincter ani rupture

postoperative high oral fluid intake

vaginoplasty in vagina atresia

bladder drill as conservative treatment of stress incontinence

urethralization and fasciocolposuspension in severe total stress incontinence

Special Fistula Unit
Ebonyi State University Teaching Hospital

ABAKALIKI

report on VVF/RVF repairs

2002-2004

VVF-repairs:	72
RVF-repairs:	7
total	72 repairs

this unit was set up during 2002-03 by Dr Moses I Sunday-Adeoye from the Department of Obstetrics and Gynecology

when the money allocated for obstetric fistula repair was exhausted this service was interrupted but will soon restart

Dr Sunday-Adeoye came for further training under a federal programme, together with 2 of his nurses

more staff, doctors and nurses, have to be trained

surgeon: Dr Moses I Sunday-Adeoye; once in a while chief consultant

Fistula Units
B_KUDU, HADEJIA and JAHUN
Jigawa State

report on VVF/RVF repairs

1996-2004

This is completely the work of Dr Said AHMED who is involved in the VVF/RVF-repair since 1991. Unfortunately he left the government service

VVF-repairs: 1,823

RVF-repairs: 104

total 1,927 repairs

the fistula surgery is concentrated now in JAHUN General Hospital

since dr Said AHMED left the service as the most experienced nigerian fistula surgeon (3,000 repairs!), dr Isah ADAMU took over from him

the problem with the operating table has been solved as the Federal Ministry of Women Affairs and the Federal Ministry of Health donated a fine SEWARD operating table complete with all the accessories

more staff, doctors and nurses, have to be trained

surgeons: Dr Said AHMED, Dr Isah ADAMU and Dr Salisu BABURA

Kofan Gayan Hospital

ZARIA

Kaduna State

report on VVF/RVF repairs

1998-2004

VVF-repairs:	403
RVF-repairs:	23
total	426 repairs

the complete structural reconstruction of the hospital is in its final stages; it is the only hospital where systematically a caesarean section is performed in future deliveries following a successful repair

Rotary International may support the obstetric fistula service once they have secured the funds

more staff, doctors and nurses, have to be trained

in principle the team from Babbar Ruga Hospital comes once every 2 weeks to perform the "simple" surgery; the "difficult" surgery is referred to KATSINA

also a VVF-repair service has been started in KADUNA Nursing Home by consultants trained within the National VVF Project: figures are not available

surgeons: Dr Halliru IDRIS, Dr Abdulrasheed YUSUF, Dr Joel ADZE, Dr Julis GAJERE and chief consultant

Laure Fistula Center Murtala Muhammad Hospital

KANO

Kano State

report on VVF/RVF repairs

1990-2004

VVF-repairs:	5,092
RVF-repairs:	553
total	5,645 repairs

the obstetric fistula service within Kano State should be a model for the other states since the rehabilitation center annex hostel is outside but near the hospital and managed by the Ministry of Social Welfare; so there is no conflict of interest; the cooperation is fine

it is an excellent place for training nurses and other health personnel, and plays a major role in the training of doctors

after the riots in KANO the service was interrupted for some 4 weeks

the center will be upgraded and renovated as preparation for the UNFPA exercise

other VVF-repair services have been set-up in Aminu Kano Teaching Hospital, Nasarawa Specialist Hospital, Sheikh Jiddah Hospital and other hospitals, the doctors have been trained within the National VVF Project

Rotary International may sponsor some of the other hospitals once they have secured the funds

still more staff, doctors and nurses, have to be trained

surgeons: Dr Imam AMIR, Dr Said AHMED, Dr Zubairu ILIYASU, Dr Kabiru ABUBAKAR, Dr Idris ABUBAKAR, Dr Hauwa ABDULLAHI, Dr Muktar HAMZA, Dr Hadiza GALADIMA, Dr Halliru IDRIS. Dr Abdulrasheed YUSUF, chief consultant and others

Babbar Ruga Fistula Hospital

KATSINA

Katsina State

report on VVF/RVF repairs

1984-2004

VVF-repairs:	8,626
RVF-repairs:	836
total	9,462 repairs

there are three main services within the hospital: obstetric fistula center, referral center for leprosy and referral center for tuberculosis; plans have been prepared to expand it further into an infectious disease hospital for Katsina State

it is of utmost importance to construct a hostel annex rehabilitation center on the hospital land but outside the hospital premises and managed by the Ministry of Social Welfare to avoid conflict of interest

all requirements have been fulfilled to function as an (inter)national obstetric fistula training center acknowledged by WHO with good infrastructure

the hospital was completely renovated as preparation for the major UNFPA exercise

also some fistula surgery is being performed in Funtua General Hospital, Katsina Maternity Hospital and Malumfashi ABU Hospital; the doctors have been trained within the National VVF Project

still more staff, doctors and nurses, have to be trained

surgeons: Dr Yusha'u ARMIYA'U, Dr Shehu BALA, Dr Halliru IDRIS, Dr Jabir MOHAMMED, Dr Aminu SAFANA, Dr Isah SHAFI'I, Dr Abdulrasheed YUSUF, chief consultant and others

Special Fistula Center

B_KEBBI

Kebbi State

report on VVF/RVF repairs

1996-2004

VVF-repairs:	745
RVF-repairs:	28
total	773 repairs

the center has been set up and is still being managed by Dr Hassan L WARA who performs most surgery

the old center has been converted to school of nursing/midwifery, and a completely new center is under construction to be finalized beginning of next year before the UNFPA exercise will start

this interrupted the obstetric fistula programme in Kebbi State

definitely, more staff, doctors and nurses, have to be trained

fistula surgeon: Dr Hassan WARA and once in a while chief consultant

Maryama Abacha Hospital

SOKOTO

Sokoto State

report on VVF/RVF repairs

1994-2004

VVF-repairs:	1,713
RVF-repairs:	121
total	1,834 repairs

it is a very important center with good facilities and a high-quality service where many patients present for surgery; it needs further development with regards to manpower in order to perform the 250-300 repairs needed

the team from Babbar Ruga Hospital makes a major effort to come every 2 weeks for 2-3 days of surgery

more staff, many doctors and many nurses, have to be trained

Dr Abdullahi GADA has come for further training within the federal training program, and is performing the repair of simple fistulas

a fire destroyed most of the postoperative wards and interrupted the service but due to the personal intervention of the governor everything was reconstructed including beds etc within 40 days

later in the year the center was upgraded as preparation for the UNFPA exercise

surgeons: Dr Abdullahi GADA, Dr Zubairu ILIYASU, Dr Bello TSAFE, Dr Abdul-rasheed YUSUF, Dr Halliru IDRIS and chief consultant

Faridat Yakubu VVF Hospital

GUSAU

Zamfara State

report on VVF/RVF repairs

1998-2004

VVF-repairs:	360
RVF-repairs:	26
total	386 repairs

since the existing general hospital has become a federal center and then this hospital has become a general hospital, another separate hospital for women and children is under construction where future VVF-surgery is planned

several doctors have been trained but they left and went abroad for further training

definitely, more staff, doctors and nurses, have to be trained

due to several constraints the chief consultant and his team could not come as frequently as wished

surgeons: Dr Halliru IDRIS, Dr Abdulrasheed YUSUF and chief consultant

**Hopital National /Centre Hospitalier/Maternité Centrale
Départemental**

NIAMEY/MARADI/ZINDER

République du Niger

report on VVF/RVF repairs

1996-2004

VVF-repairs:	587
RVF-repairs:	36
total	623 repairs

the service in ZINDER has been set up by Dr Lucien DJANGNIKPO, and the new 20-bed VVF unit is functioning well

it has all the requirements to become in the near future the fistula training center for République du Niger

the team from Babbar Ruga Hospital tries to come once a month or every 6 weeks

twice this year the chief consultant and his team visited NIAMEY where the first priority now is to select and train their own obstetric fistula team

Dr Madeleine OUSMANE and 3 of her staff came for the first part of their training under the UNFPA programme

surgeons: Dr Lucien DJANGNIKPO, Dr Akpaki FAUSTIN, Dr Halliru IDRIS and chief consultant

operations chief consultant 1984-2004

	VVF	RVF	total
nigeria			
ebonyi	17	5	22
jigawa	-	-	-
kaduna	227	20	247
kano	4,024	529	4,553
katsina	7,220	815	8,035
kebbi	71	10	81
sokoto	809	106	915
zamfara	203	20	223
république du Niger			
maradi	72	6	78
niamey	50	8	58
zinder	183	16	199
kenya			
machakos	13	2	27
tanzania			
dar es salaam	51	7	58
mwanza	14	2	16
burkina Faso			
dori	18	3	21
total	12,972	1,549	14,521

performance of trainees 1984-2004

Dr Said AHMED	3,000 repairs
Dr Immam AMIR	1,100 repairs
Dr Halliru IDRIS	800 repairs
Dr Hassan WARA	750 repairs
Dr Abdulrasheed YUSUF	700 repairs
Dr Zubairu ILIYASU	550 repairs
Dr Aliyu SHETTIMA	450 repairs
Dr Jabir MOHAMMED	300 repairs
Dr Lucien DJANGNIKPO	300 repairs
Dr IDRIS ABUBAKAR	300 repairs
Dr Meryl NICOL	200 repairs
Dr Aminu SAFANA	150 repairs
Dr Khisa WAKASIAKA	120 repairs
Dr Isah SHAFI'I	100 repairs
Dr Fred KIRYA	100 repairs
Dr Odong EMINTONE	80 repairs
Dr Julius KIIRU	70 repairs
Dr Moses ADEOYE	60 repairs

other trainees: no data available



The immediate management of fresh obstetric fistulas

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KEY WORDS

Obstetric fistula
Immediate management
Catheter
Early closure

Objective: It has been a general rule to wait with the repair of an obstetric fistula for a minimum period of 3 months allowing the patient to become an outcast. In a prospective way an immediate management was studied and antibiotics were not used, all according to basic surgical principles.

Methods: A total of 1716 patients with a fistula duration of 3 to 75 days after delivery were treated immediately on presentation by catheter and/or early closure. Instead of antibiotics, a high oral fluid regimen was instituted. The fistulas were classified according to anatomic and physiologic location in types I, IIAa, IIAb, IIBa, and IIBb, and according to size in small, medium, large, and extensive. The operation became progressively more complicated from type I through type IIBb and from small through extensive.

Results: At first attempt 1633 fistulas (95.2%) were closed and another 57 could be closed at further attempt(s), accounting for a final closure in 1690 patients (98.5%); 264 patients (15.4%) were healed by catheter only. Of these 1690 patients with a closed fistula, 1575 (93.2%) were continent and 115 (6.8%) were incontinent. The results as to closure and to continence became progressively worse from type I through type IIBb and from small through extensive. Postoperative wound infection was not noted; postoperative mortality was encountered in 6 patients (0.4%).

Conclusion: This immediate management proves highly effective in terms of closure and continence and will prevent the patient from becoming an outcast with progressive downgrading medically, socially, and mentally.

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If a woman, still a teenager, survives the enormous stress of obstructed labor lasting 2 to 5 or even more days, the end result is usually a stillborn infant and the complex trauma of the obstetric fistula; and then the real trouble begins. Because the continuous urine leakage with wetting of cloths, bed, floor, and the offensive smell are unacceptable in any society, it constitutes a social disaster. The longer it takes to treat the fistula, the more difficult it becomes to reintegrate the woman

into her own community. Therefore, the first priority is to close the fistula to restore her dignity; the earlier the better.

Unfortunately, it has been a generally accepted rule to wait with the repair of an obstetric vesicovaginal fistula (VVF) for a minimum period of 3 months until all the tissue reactions have subsided.¹⁻⁵ The nonmanagement of the fistula for so long is the first step into the direction of becoming an outcast with progressive downgrading medically, socially, and mentally.

However, this passive attitude seems to be in sharp contrast with the established management of other necrotic lesions, such as bedsores (also pressure necrosis)

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Table I Duration of leakage in days at catheter/surgery

	0-15	16-30	31-45	46-60	61-75	Total
No.	234	509	422	343	208	1716
In%	13.6%	29.7%	24.6%	20.0%	12.1%	100%

Table II Classification of fistulas according to anatomic/physiologic location

	I	IIAa	IIAb	IIBa	IIBb	III	Total
No.	243	888	366	87	132	—	1716
In%	14.2%	51.7%	21.3%	5.1%	7.7%	—	100%

Type I: Fistulas not involving the closing mechanism; type II: fistulas involving the closing mechanism; **A**, without (sub)total urethra involvement; **a**, without circumferential defect; **b**, with circumferential defect; **B**, with (sub)total urethra involvement; **a**, without circumferential defect; **b**, with circumferential defect; type III: miscellaneous, e.g., ureter and other exceptional fistulas.

and burn wounds (thermal necrosis). Here the wounds are immediately attended to, first by repeated debridement and then by covering or closure as soon as the wounds are clean. So why should the obstetric fistula be treated differently?

Over the years 1984 to 1992 an immediate management of fresh obstetric fistulas was developed according to basic surgical principles: decompression of the bladder by catheter, debridement, early closure, high oral fluid intake, and no antibiotics.

A prospective study was started in August 1992, and after a preliminary report⁶ this is a final evaluation.

Patients

During the 9-year period August 1992 to August 2001, a total of 1,716 patients with an obstetric VVF of less than a 3-month duration were treated according to these principles in the centers in Katsina and Kano in Northern Nigeria. These 2 centers are the backbone of a large obstetric fistula project where, in 10 hospitals, almost 20,000 fistula operations have been performed and some 450 doctors, nurses, and other persons have been trained during the 20-year period 1984 to 2003. The conditions are very primitive and cannot be compared with those of hospitals in the industrialized world.

At first presentation of the patient, an extensive history was taken and a vaginal examination performed, together with an assessment of her general health and other lesions caused by obstructed labor.

The age of the patients varied from 14 to 41 years, and the parity varied from 1 to 18. However, 728 patients (42.4%) were younger than 16 years and 937 pa-

Table III Fistula size

	Small < 2 cm	Medium 2-3 cm	Large 4-5 cm	Extensive ≥ 6 cm	Total
No.	685	481	168	382	1716
In%	39.9%	28.0%	9.8%	22.3%	100%

tients (54.6%) were para 1; and 211 patients (12.3%) had an obstetric rectovaginal fistula (RVF) as well. A total of 1389 patients (80.9%) had signs of an obstetric unilateral or bilateral peroneal nerve motor trauma, whereas other lesions such as vagina stenosis, shortening, and/or stricture as well as (partial) pubococcygeus muscle loss were frequently encountered.

The duration between delivery and catheter insertion if healed by catheter only or between delivery and early closure ranged from 3 to 75 days, as presented in Table I.

The fistulas were divided into 6 types according to the following classification as used by the author in all VVFs (Table II).⁷

This classification has been based on the qualitative and quantitative amount of tissue loss of the closing mechanism with consequences for the operation technique and prognosis.

The size of the fistulas varied from 0.1 to 8 cm, and a further classification according to size could be made, as presented in Table III.

Methods

If the patient presented with a necrotic fistula, a Foley catheter Ch 18 was inserted and the patient instructed to drink as much as possible. The patient was examined vaginally once a week to determine the prospects of spontaneous healing or surgery. If it appeared the fistula would heal spontaneously, the catheter treatment was continued for in total 4 weeks.

If there were no signs of spontaneous healing, the catheter was removed; and if slough developed, this was excised to speed up the cleaning and healing processes, in addition, the patient was instructed to clean herself intravaginally with water and a detergent 3 times daily. As soon as the fistula edge was clean, even with some inflammation, the patient was considered to be a candidate for early surgical closure.

If the patient presented at first visit with an already clean fistula, she was in surgery the following day.

Under spinal anesthesia, the patient was placed on the operating table in the exaggerated lithotomy position with the legs flexed and abducted in legholders. If necessary, unilateral or bilateral episiotomies were given to improve the accessibility. An Auvard-weighted speculum was inserted into the vagina, a careful examination was

Table IV Results as to closure and continence

	No	Closed	Continent	Incontinent	Fistula	Mortality
First attempt						
Catheter	265	264	257	7	—	1
Operation	1451	1369	1270	99	76	6
Total	1716	1633	1527	106	76	7
In %		95.2%	93.5%	6.5%	4.4%	0.4%
More attempts	62	57	48	9	5	—
Final		1690	1575	115	19	7
In %	100%	98.5%	93.2%	6.8%	1.1%	0.4%

A total of 14 patients with residual fistula defaulted 2 to 3 months after first attempt.

made, and a classification was performed. The fistula edge was freshened and a dissection of the anterior vagina wall from the bladder/urethra performed. The bladder/urethra was closed, most of the time transversely, with a single layer of inverting polyglycolic acid 0. In type I fistulas, only simple closure was performed; in type IIAa fistulas, an effort was made to restore the urethrovesical junction and its position; in type IIAb fistulas, a circumferential dissection was performed, followed by a circumferential repair as end-to-end vesicourethrostomy; in type IIBa and IIBb fistulas, the aim was to close the fistula as a first stage and to do something about the continence in a second stage, whereas type IIBb fistulas needed a circumferential dissection and circumferential repair. After closure of the bladder/urethra a Foley balloon catheter Ch 18 was inserted for total decompression of the bladder. The anterior vagina wall was only adapted or half closed by interrupted everting nonabsorbable nylon 0 sutures taking good bites, and if applicable, the episiotomies were closed. A loose vagina pack soaked in acriflavine was applied for 24 hours, the procedure ended, and the patient transferred to the postoperative ward.

The patient was instructed to drink as much as possible to produce a minimum of 4000 to 6000 mL of urine per 24 hours, and to report immediately when the catheter got blocked. If this occurred, the catheter was flushed or changed for another. No uroseptics or antibiotics were ordered, either preoperatively, intraoperatively, or postoperatively unless generalized sepsis or a specific infection should develop. After 14 days she was transferred to the hostel and instructed to continue drinking to sustain a high urine output. She had to report once a week as to leakage and then she was instructed again to drink.

After 4 weeks the catheter was removed and the patient instructed to pass urine immediately and frequently, and to continue drinking. One week later the intravaginal nylon sutures were removed and a careful examination performed as to healing and continence. If the fistula had healed, she had to report regularly, once every 1 to 2 months, for a check-up for up to 6 months postopera-

tively before she was allowed to resume sexual activities. At each check-up the patient was asked systematically about leakage, (in)continence, and micturition. She was examined vaginally for healing, (in)continence, and elevation of the bladder neck/urethra. All the patients were examined vaginally at least 2 times and more than 90% of them 5 to 6 times postoperatively. In any patient with persistent incontinence for more than 4 months, a dye test with gentian violet was also performed to exclude a minute fistula or to determine the type of incontinence.

If it had not healed she was prepared for another VVF-repair under spinal anesthesia. In principle, if there was a combination of VVF and RVF, both fistulas were operated in the same session, but this has not been worked out further in this study.

Results

The results have been based on the findings at the last check-up of the patients and in more than 90% of the patients, 5 to 6 months postoperatively. The management was considered to be successful if the fistula had healed completely. The management was considered to be a failure if there was still a fistula. If at the last check-up the patient with a healed fistula complained about leaking urine during stress and this was objectively verified as urine loss from the external urethra opening at cough, it was considered to be healed with incontinence.

The results at first attempt, either by catheter or by repair, the results at more attempts and the continence rate of the closed fistulas have been compiled in Table IV.

Analysis of the 76 patients with a failure after first attempt according to fistula size was as follows: 9 (1.3%) of the 685 small fistulas, 21 (4.4%) of the 481 medium fistulas, 10 (6.0%) of the 168 large fistulas, and 36 (9.4%) of the 382 extensive fistulas.

Analysis of these 76 patients according to fistula type gave the following results: 4 (1.6%) of the 243 type I fistulas, 20 (2.3%) of the 888 type IIAa fistulas, 27 (7.4%) of the 366 type IIAb fistulas, 7 (8.0%) of the

Table V Results as to physiologic/anatomic location

Type	No.	Closed first attempt	Finally Closed	Incontinent	Mortality
I	243	238 (97.9%)	242 (99.6%)	1 (0.4%)	1
IIAa	888	868 (97.4%)	888 (100%)	11 (1.2%)	—
IIAb	366	333 (91.0%)	353 (96.4%)	30 (8.5%)	6
IIBa	87	80 (92.0%)	86 (98.9%)	14 (16.3%)	—
IIBb	132	114 (86.4%)	121 (91.7%)	59 (48.8%)	—

87 type IIBa fistulas, and 18 (13.6%) of the 132 type IIBb fistulas.

Among these 76 patients there were 21 (27.6%) who had an obstetric RVF as well. The results according to fistula type at first attempt, final attempt, and the incontinence rate of the finally closed fistulas have been compiled in Tables V and VI.

The 115 patients with severe postrepair stress incontinence were analysed according to fistula size as well with the following results: 3 (0.4%) of the 684 small fistulas, 35 (7.4%) of the 473 medium fistulas, 14 (8.4%) of the 167 large fistulas, and 63 (17.2%) of the 366 extensive fistulas.

Analysis of these 115 patients according to fistula type showed the following: 1 (0.4%) of the 242 type I fistulas, 11 (1.2%) of the 888 type IIAa fistulas, 30 (8.5%) of the 353 type IIAb fistulas, 14 (16.3%) of the 86 type IIBa fistulas, and 59 (48.8%) of the 121 type IIBb fistulas. The only patient with type I fistula was a para 7 who defaulted at 4 months postoperatively.

The distance of the external urethra opening to the fistula was less than 1.5 cm in 93 (80.9%) and even 1 cm or less in 74 (64.3%) of these 115 patients.

Of the 115 patients with severe postrepair stress incontinence, 7 showed signs of severe detrusor instability as well; these patients had a diminished bladder capacity.

There were 27 patients with mild postrepair stress incontinence at 4 to 6 months postoperatively, which did not disturb them. They were treated by bladder drill and did not return for further treatment.

Postoperative wound infection was not noted, and all the episiotomies were healed at suture removal 7 to 10 days after repair.

The cause of postoperative/postcatheter mortality was the use of native drugs resulting into abdominal distension with hepatorenal failure in 3 patients, severe gastroenteritis in 2 patients, cerebral malaria in 1 patient, and sudden unexpected death (pulmonary thrombo-embolism) in 1 patient. Fifteen patients with very poor general condition in whom a catheter was inserted died within 1 to 3 days of admission before anything else could be undertaken and were not included in this study.

Table VI Results as to size of fistula

Size	No.	Closed first attempt	Finally Closed	Incontinent	Mortality
Small	685	676 (98.7%)	684 (99.9%)	3 (0.4%)	—
Medium	481	460 (95.6%)	473 (98.3%)	35 (7.4%)	4
Large	168	158 (94.0%)	167 (99.4%)	14 (8.4%)	—
Extensive	382	346 (90.6%)	366 (95.8%)	63 (17.2%)	3

Comment

The continuous leakage of urine and offensive smell are unacceptable in any society. Therefore, the fistula management has to start the moment the leaking of urine becomes manifest to prevent this social disaster.

This is the first time a systematic study has been made of immediate (surgical) intervention in fresh obstetric fistulas. It means a radical change from a passive attitude of waiting 3 months allowing the patient to become an outcast to an active surgical strategy, immediately when a patient starts leaking urine post partum; the earlier the better.

Its main advantage is not only the high success rate, but especially the prevention of the woman from being ostracized from her own society, her friends, and even her family. The importance of immediate bladder catheterization cannot be stressed enough because this will cure 15% to 20% of the patients if performed within the first 4 to 6 weeks after delivery.⁸

The high oral fluid intake, already started preoperatively, with resulting polyuresis will contribute to cleaning of the fistula, keeping the patient well hydrated during the operation, identifying the ureters intraoperatively, keeping the catheter open, and preventing or curing ascending urinary tract infection.

The use of antibiotics seems to be unnecessary as illustrated in this study and illogical as the fistula is caused by pressure necrosis and not by infection; also, the high urine output will prevent ascending urinary tract infection. Because antibiotics are expensive, this money can be used for something that is needed such as a high-protein diet.

The high success rate is comparable to, though slightly better than, that of other VVF-repairs at first attempts or more by the same surgeon in the same hospitals (so far more than 13,500 procedures). Even if the catheter curcs are excluded, the success rate at closure at first attempt is still 1,369 (94.3%) of 1,451 patients.

In principle, the dissection and operation become progressively more complicated from type I through type IIBb, whereas the success rate as to closure and continence becomes progressively worse; the same applies to fistula size from small through extensive.

Theoretically, it falls within the time of the physiologic wound healing processes, before fibrosis and scar-

ring develop. This might account for the low rate of severe postrepair stress incontinence. The critical urethra length for continence seems to be 1.5 to 2 cm; if it is 1.5 cm or less, there is little chance of becoming continent once the fistula has been closed.

The only exception to this management is when the fistula is complicated and the general health of the patient too poor for anesthesia.

The prevention of the obstetric fistula in Africa is a utopia for at least another 100 years because a network of 125,000 to 150,000 fully equipped and well-functioning obstetric units (secondary health care) are needed, evenly distributed throughout the inhabited parts of rural Africa; who is going to pay for them, who is going to establish them, who is going to train the personnel, and who is going to run them?

However, the prevention of the woman with an obstetric fistula from becoming an outcast is very well feasible even under primitive conditions as has been demonstrated in this study.

Conclusion

The immediate management of the obstetric fistula proves highly effective in terms of closure and continence. If successful, it will prevent the woman from be-

coming an outcast in her society and her family and will prevent her from progressive downgrading medically, socially, and mentally.

This management is simple, fast, safe, effective, easy to learn, and cheap, and can be applied under primitive conditions. That is exactly what is needed in developing Africa with an annual incidence of at least 100,000 new obstetric fistula patients.

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vvf workshop niamey

Centre Hospitalier Régional Poudrière

from Monday 16th thru Friday 20th of February 2004

executive summary

since the obstetric fistula is prevalent all over Africa there are many patients also in République du Niger, and the team from Katsina_Zinder was invited as facilitators for a 5-day workshop in Niamey

on Saturday 14th of February 2004 after a 1-day journey of almost 1,100 km by road we arrived safely in Niamey where we were received with warm hospitality

we had three objectives in mind:

first to assess the severity of the problem

second to demonstrate the **art and science of obstetric fistula surgery**

third to work out modalities for a regular service

the **severity of the problem** was highlighted by the fact that in the Hôpital National there were nine patients who had been operated 5x, three patients who had been operated 4x, seven patients who had been operated 3x, six patients who had been operated 2x, ten patients who had been operated 1x, and only six patients who had never been operated making a total of 41 patients in need of surgery; as well during the workshop another 15 patients reported including one who had been leaking urine for 30 years without attempted surgery

the **art and science of obstetric fistula surgery** was demonstrated by 30 procedures in 28 patients (2 patients with combination VVF_RVF) during the effective 4 full days of surgery; before, during and after operation the surgeon explained/demonstrated step-by-step the details of each procedure; also spinal anesthesia was proven as simple, safe, effective and cheap; and one lecture was given about the urine continence mechanism in the female

the **modalities for a regular service** were discussed in a fine visit to the First Lady of République du Niger, with the Minister for Health, with the officials of UNFPA and with the president of DIMOL

the **first priority** for Niamey now is to select, train and establish an obstetric fistula management team consisting of one surgeon, one theater nurse, one pre-/post-operative nurse and one anesthesia nurse; for their training they have to come to Babbar Ruga Hospital in Katsina, Nigeria

on Saturday 21st of February we travelled the same long road back and arrived safely at home in Zinder resp Katsina

fourth national vvf workshop Tanzania

ccbrrt hospital in dar es salaam

from Monday 6th thru Friday 17th december 2004

executive summary

as part of the obstetric fistula training programme in tanzania the fourth national workshop was organized in ccbrrt hospital in dar es salaam, and the chief consultant from the national vvf project nigeria was invited as cofacilitator

the **objectives** of this obstetric fistula workshop were:

- a to demonstrate the complex trauma of the obstetric fistula
- b training of new doctors in the principles of obstetric fistula management
- c update the skills and knowledge of doctors who had been trained already and who had sufficient personal experience in the repair of the obstetric fistula
- d training of nurses in the pre-, intra- and postoperative management
- e exchange opinions and operation techniques between tanzania and nigeria
- f demonstrate the latest technique "urethralization and fasciocolposuspension" for stress incontinence in theoretical and practical sessions

during the 10 effective working days of the workshop the **art and science of obstetric fistula surgery** were demonstrated step-by-step by a total of 58 procedures in 50 patients backed up by questions and answers and by 7 lectures

the consultant from nigeria left after 7 working days whilst the consultant from amref continued

there were few patients for the new doctors-trainees since many of the patients had been operated already 2-3 times or even more

all in all it was a successful workshop during which the theoretical knowledge and the practical skills of all the participants were updated

however, since it is difficult to train new doctors in such a short exercise perhaps in future workshops it would be better to concentrate on the advanced training of more experienced fistula surgeons as training is a continuous process

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