

Historical Perspectives

Fighting the first Ebola virus epidemic in the World in 1976: Memoirs of a young doctor

Adbel Ghani Bakri

EDITORIAL NOTE:

Dr Abdel Ghani Bakri was invited by the International Editor of the Sudanese Journal of Paediatrics to contribute this article. He was also interviewed in Khartoum in October 2014. The father of Dr Abdel Ghani Bakri migrated from Jira, near Al Dabba (Figure 1A), in the north of Sudan, to live and work in Gezira Scheme, one of the largest irrigation projects in the world [1]. He had his elementary and intermediate schooling in, respectively, Um Dagarsy village and Abu Usher near Al Kamlin (Figure 1B). Thereafter, he joined Hantoub Secondary School, one of the governmental British style secondary boarding schools [2] located near Wad Madani (Figure 1C). He joined the Faculty of Medicine, University of Khartoum and graduated in 1974 (Figure 2)[3]. His last medical post was at Dammam Health Centers, Dammam, Saudi Arabia where he worked as General Physician. Currently he lives in Alsalama Residence, Khartoum, Sudan. Three of his children graduated from universities, including a daughter (Engineer) and two sons (Physician and Engineer).

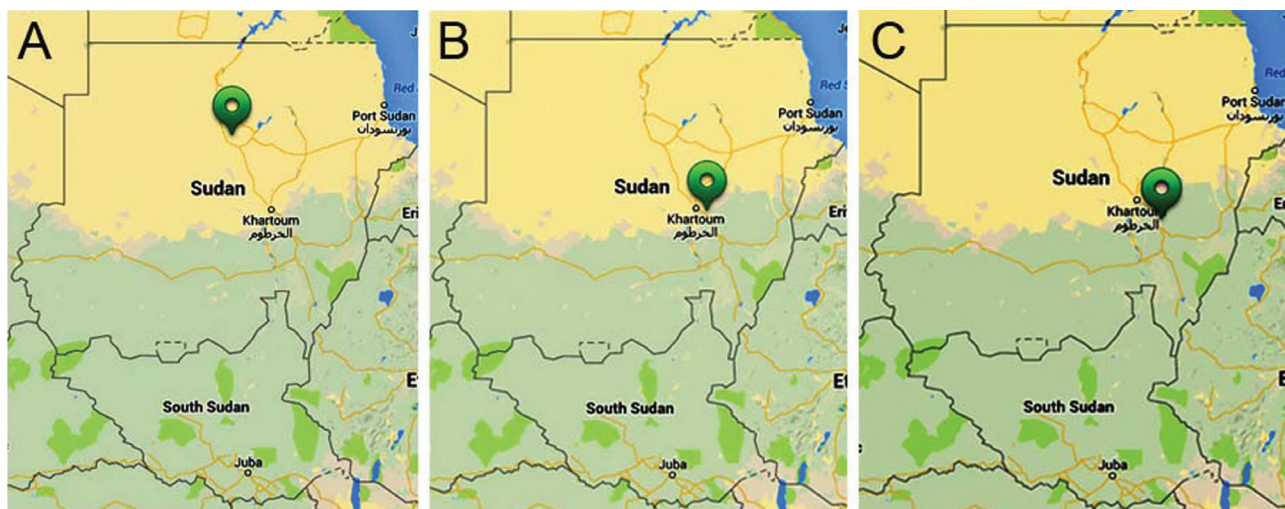


Figure 1 - The father of Dr Abdel Ghani Bakri migrated from Jira, near Al Dabba (A), in the north of Sudan, to live and work in Gezira Scheme. He had his elementary and intermediate schooling in, respectively, Um Dagarsy village and Abu Usher near Al Kamlin (B). Thereafter, he joined Hantoub Secondary School, one of the governmental British style secondary boarding schools, located near Wad Madani (C).

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Figure 2 - During a lecture on microbiology by Prof Mansour Ali Haseeb [4,5] to the Fourth Year medical students, Faculty of Medicine, University of Khartoum (U of K). The Author is sitting second from left in the second row. Third from left, fourth row: Prof Abdel Raouf Sharfi, Department of Surgery, Faculty of Medicine, U of K, Ex-President, Sudan Association of Surgeons and Convenor, The Royal College of Surgeons of Edinburgh MRCS Examinations in Khartoum, Sudan [6].

I am not going to write on symptoms, signs or specific treatment of the Ebola virus disease but I am going to write on my personal experience and the role of the different medical teams in the control of an epidemic of unknown hemorrhagic fever with high infectivity and high mortality rate. This occurred in Western Equatoria, Southern Sudan (currently South Sudan) in Nzara and Mardi during the period August to December 1976 [7-12].

I was transferred to Equatoria Province, South Sudan, soon after finishing my housemanship (internship period) with a group of my classmates. I joined Juba Hospital in January 1976 (aged 27 years). There was a good organization of work in Juba Hospital; all the beginners start in Juba and each will have his turn to an outstation (rural hospital).

September 1976 was my turn to an outstation. On 23/09/1976, I was informed by the director of Juba Regional Hospital to replace Dr Abdeen Khairy in Mardi because he was sick and I was directed to see the Deputy Director of the Regional Ministry of Health, Juba. I met the Deputy Director in the same day and in his office I came to know there was something

abnormal in Maridi. I was informed that I will fly to Maridi tomorrow and to be around if tomorrow is Eid al-Fitr; 23/09/1976 being the last day of Ramadan 1396 [Hijri Calendar]). In the same day evening 23/9/1976, Dr Abdeen arrived from Maridi accompanied by Dr Abdelrahman Ali, the doctor in charge of Lewi Hospital. He (Dr Abdeen) was too sick to be questioned about what is going on in Maridi. He was scheduled to be transferred to Khartoum next day.

On 24/9/1976 morning (Eid al-Fitr, 1396), the Minister of Health Dr Justin Yac, Deputy Director, Ministry of Health and Director of Juba Hospital visited Dr Abdeen in the Doctors Rest House and it was declared that Dr Abdeen should not be transferred before getting an opinion of a senior physician from the Central Ministry of Health in Khartoum, as it might be very risky to import the disease to Khartoum. He requested Dr Abdelrahman Ali to go to Khartoum and to consult with the Deputy Director, or even the Minister of Health on the same day.

In the same morning I left for Maridi and Dr Abdelrahman Ali left to Khartoum. I arrived in Maridi on 24/9/1976 at 2pm. In Maridi we found all the senior

officials of Mairi and they explained how serious was the situation there. I entered Maridi Hospital where there was Dr Isiah Mayom Deng (Figure 3), the Medical Inspector, who arrived from Nzara the day

before (having been covering there). Maridi Hospital was run by Medical Assistants starting from the same day when Dr Abdeen Khairy was sick till 23/9/1976.



Figure 3 – The Author (second from left) with Dr Isiah Mayom Deng (third from left) in front of the Quarantine which was built using local material.

On arrival day, 24/9/1976, we made a round with Dr Isaiah and started sorting cases and reviewing treatment initiated by the Medical Assistant. Most of the patients were very toxic, dehydrated and in panic and most of the inpatients were known to Dr Isaiah. He introduced them to me as being Hospital Staff. We revised and initiated treatment which was mainly supportive hydration, including antipyretics, with or without antimalarial and anti-typhoid treatments, as it was thought initially to be an epidemic of typhoid fever [13].

At that time, other than the Hospital Staff, the official representative of the Regional Ministry of Health there was the Assistant Commissioner for Health, Anthony Lagu Gillo.

In the last week of September 1976, some more active work towards the control of the epidemic started arranged by the District Public Health Committee:

- A district public committee was established.
- Mass vaccination for typhoid was conducted.
- Roads in and out of Maridi were closed.
- Public gathering was forbidden.
- Quarantine was built (using local material) [Figure 3].
- Burial of dead was done by public health staff and not the deceased relatives.
- Protective materials were supplied: gowns, caps, gloves and masks.
- All the officials shared in control of the epidemic.

In the last week of September and beginning of October

1976, maximum number of cases was reported as well as maximum number of deaths; and during this period Dr Abdeen Khairy died in Khartoum. This created a great panic among the population of Maridi as well as the Hospital Staff.

It was observed that most of the patients were hospital staff or household of the hospital staff. Patients started to avoid coming to Maridi Hospital considering it to be the source of infection. In Maridi there was a drug store at the Military Hospital ran by a medical assistant. Patients used to take self-treatment from this drug store or as an outpatient from the Military Hospital and they preferred not to come to Maridi Hospital unless they were very sick.

During that period a medical team started a visit to the area. A virologist, Dr Babiker Mohamed El Tahir, from the National Health Laboratory, Khartoum, Sudan arrived with a team and collected specimens for virological studies including sera, throat swabs and urine [8]. These were transported by air to Khartoum and then to the Microbiological Research Establishment, Porton Down, Salisbury, England, where the etiologic agent was isolated [9]. A bacteriologist, Dr. Abdelrahman Banda with a

technician from the Military Hospital, Omdurman arrived in Maridi and performed the needed simple investigations and stayed in Maridi till the epidemic was over.

The students of the Medical Assistants Training School, Juba arrived in Maridi and joined the Hospital Staff and did well, given the shortage of nursing staff. On 4 October 1976 an epidemiologist from the Central Ministry of Health, Dr Ali Ahmed Idris, accompanied by a clinical team of physicians arrived in Maridi. He stayed in Maridi and Nzara till 9 October 1976. The team of physician who accompanied the epidemiologist consisted of Dr Mahgoub Osman Karrar and Dr Awad Osman Mahdi (both were Medical Registrars at Khartoum Hospital, Khartoum) and Dr Hyder Hamza who had just finished his housemanship. This group (Drs Magoub, Awad and Hyder) joined the Hospital Staff and dealt with the patients till the end of the epidemic.

On 22 October 1976 Dr Pacifico Lolik, Deputy Director of Preventive Medicine arrived in Maridi and established the Epidemic Control Centre, and headed the District Health Committee (Figure 4).



Figure 4 – The Epidemic Control Centre in Maridi. Dr Pacifico Lolik, Deputy Director of Preventive Medicine, Regional Ministry of Health and Head of the District Health Committee standing second from left.

On 29 October 1976 a WHO team arrived in the area – they raised the alarm of protective measures by greeting without shaking hands; “no shaking hands in Maridi”. The WHO team was only concerned with epidemiological study and they collected some plasma from the convalescent patients and contacts [9]. During their stay the WHO team received the report of the specimens collected earlier by the National Team which included Dr Babiker Mohamed El Tahir of the National Health Laboratory, Khartoum, Sudan [8,9]. A virus which is morphologically similar but antigenically different from the Marburg virus was isolated. It was suggested first to call it Maridi virus. However, it was later suggested not to use names of countries or specific towns due to the lack of specific knowledge of the original natural source of the virus

and in deference to the countries involved [9]. Instead, it was called Ebola virus after a small river in Zaire north of the village of origin of the patient (Yambuku) from whom the first isolate was obtained [9].

In November 1967 religion leaders, both Muslims and Christians, called for prayers appealing to God to abort the epidemic. It was announced officially and conducted on Friday morning, Muslims being in the mosque and Christians in the Freedom Square. All Maridi was out that day; it was really unforgettable day.

By the end of October and beginning of November 1976 the reported new cases decreased and cure rate increased, the last death being reported in Maridi on 23 November 1976. By the beginning of December 1976 the epidemic was aborted (Figure 5).



Figure 5 – The Author (first left) in Maridi Hospital office in December 1976.

I was back in Juba from Maridi on 10 December 1976. Dr. Pacifico Lolik, myself and students of the Medical Assistants School were kept in the Ministry of Health Rest House for 15 days, which has been considered to be the maximum incubation period.

Epidemic outcome:

Total cases reported:	146
Total number of deaths:	86
Death of Hospital Staff:	42
Total number of Hospital Staff:	115

The total number of cases does not reflect the actual numbers, as mild cases used to escape the Hospital and apply self treatment or obtain therapy from the Medical Assistant at the Military Hospital. The total

death was actual figure because deaths were reported inside and outside the hospital.

CONCLUSION

With minimal resources and good cooperation between medical staff, officials and the public the epidemic was controlled. A soldier in a battle will not feel panic. All members of the medical group spent good time in Maridi (Figure 6), despite the high mortality rate among the Hospital Staff averaging more than 36%.

Maridi is a beautiful town, has good climate, water springs, delicious mango, pineapple, and vegetables, and friendly Zande people.

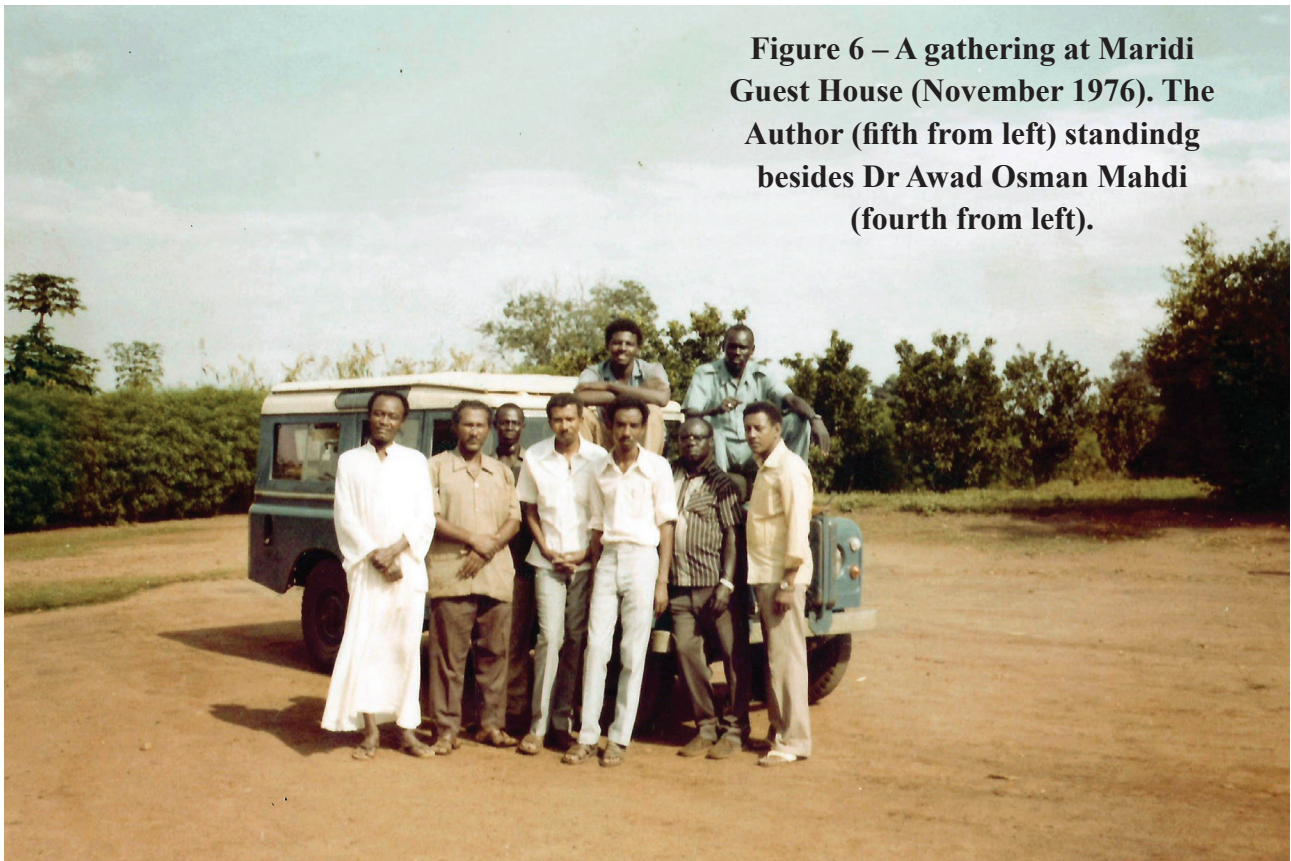


Figure 6 – A gathering at Maridi Guest House (November 1976). The Author (fifth from left) standingg besides Dr Awad Osman Mahdi (fourth from left).

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