

## Socio-Cultural and Behavioural Contexts of 2014 Ebola Virus Disease Outbreak in Nigeria: Community Perspectives and Nurses' Preparedness

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Received: 06 June 2017; Accepted: 24 June 2017

**Citation:** Mildred E John, Patience E Samson-Akpan, Edidiong E John, et al. Socio-Cultural and Behavioural Contexts of 2014 Ebola Virus Disease Outbreak in Nigeria: Community Perspectives and Nurses' Preparedness. *Int J Nur Care*. 2017; 1(2): 1-6.

### ABSTRACT

*The 2014 Ebola Virus Disease (EVD) outbreak in two states of Nigeria created social challenges because of the socio-cultural and behavioural implications of the disease. The outbreak lasted for three months, had twenty cases, eight deaths, and a case fatality of 40%. Ebola control guidelines suggest consideration of the socio-cultural responses to the outbreak. Therefore this study sought to identify the socio-cultural responses that influenced Ebola control, and determined nurses' preparedness to provide relevant socio-cultural care during the Ebola outbreak. Quantitative and qualitative methods were used to explore the socio-cultural and behavioural perspectives of Ebola in different communities for 3 weeks during the epidemic. Qualitative data were collected from 178 conveniently selected adults living in four communities in two South-South states of Nigeria; transcribed and analysed using NVivo 7.0. Quantitative data were collected from 85 nurses randomly selected from 6 community health centres, and data were analysed using descriptive statistics on SPSS 20.0. Approval for the study was obtained from the Ministry of Health of both states. Results revealed five themes: "naming the disease", "beliefs that impede Ebola control", "socio-cultural practices that impede control", "behavioural responses that enhance control" and "social concerns about the epidemic". Only 41% nurses were able to identify the Ebola-related socio-cultural factors; over 55% did not see socio-cultural factors as playing any important role in Ebola care; and only 36.5% agreed that they need training to provide such care. This study sheds light on the rarely considered issue of socio-cultural influence on Ebola control, and the results reveal low level of nurses' preparedness to deal with socio-cultural issues and provide relevant socio-cultural care during the epidemic. Although certain socio-cultural beliefs and practices influencing EVD control existed in Nigeria during the epidemic, nurses working in the community had inadequate knowledge of these.*

### Keywords

Behavioural perspectives; Community perspectives; Ebola Virus Disease; Nurses' preparedness; Socio-cultural context.

### Introduction

There have been fifteen isolated outbreaks of Ebola in sub-Saharan Africa since 1976, but the 2014/2015 Ebola Virus Disease (EVD) outbreak in West Africa was unprecedented in magnitude and persistence and has been described as the largest and most deadly [1,2]. This latest outbreak was the most widespread (22,500 cases in eight countries as at February 2015); and the most prolonged

(up to fifteen months in some countries). It was also the most severe and most deadly (over 9,000 deaths), a high mortality among health workers (500 died, of which more than 55% were nurses and midwives), giving a case fatality of 68% among nursing personnel [3]. The 2014/2015 episode was so severe that it was declared "a public health emergency of international concern" by the World Health Organization [4], and the Centre for Disease Control and Prevention (CDCP), stated that the outbreak "is unlike anything since the emergence of HIV/AIDS" [5]. The epidemic affected mainly the Mano River Union countries (Guinea Conakry, Sierra Leone and Liberia), with smaller outbreaks in Nigeria, Mali

and Senegal. The morbidity and mortality among frontline health workers took a heavy toll on the already scare health manpower, weak health system and scarce health resources in the affected countries. The WHO Director-General therefore raised the concern that the number of Ebola patients "is moving far faster than the capacity to manage them" [6].

The outbreak of Ebola in Nigeria was officially declared on July 20 2014 when the index case travelled into Lagos from Liberia, and was confirmed of having the Ebola Virus Disease. By the time he died five days later, seventy two persons had been potentially exposed. The second outbreak site was Port Harcourt on August 1, 2014, when a close contact of the index case came to seek the services of a private physician and initiated the Port Harcourt case cluster. The outbreak lasted 93 days from July 20, 2014 (when the index case was identified) to October 20, 2014 (when WHO declared the country Ebola-free being 42 days since the last new case). During the period, there were twenty cases, eight deaths, and a case fatality of 40% [7, 8]. Eleven cases were health workers out of which five died (46% case fatality). Contacts totalling 894 were identified and under follow-up (349 in Lagos, and 545 in Rivers). Contacts under follow-up were higher in Rivers State (though the state had only 4 cases) because known suspected cases (who later died) had attended a wedding, and their contacts had to be traced and quarantined or followed up closely.

The outbreak and extensive contact follow-up had profound social impact on infected persons, contacts, their families and communities. Survivors and families of victims experienced tremendous social problems, stigmatization and psychological distress. Because of the aggressive contact tracing, follow-up and isolation of suspected cases in Rivers State; many contacts and their families relocated to neighbouring states to avoid quarantine and stigmatization. Ebola is not just a medical problem, but also a "people" problem, with community responses being driven by cultural beliefs and practices. Therefore effective control of EVD does not only involve screening, isolating and treating cases but also requires an understanding and consideration of the psychological, socio-cultural and behavioural responses to the disease in the general population. However despite the social impact of Ebola on the citizenry, their local views and social responses to the outbreak were neither adequately considered nor targeted by the containment programmes.

Some socio-cultural beliefs and practices are so deeply rooted that they have the tendency to influence Ebola control in any community [8]. One of such cultural practices is the tradition of solidarity/standing by and being close to sick family members to nurse them, as a mark of love, respect and honour. This practice is particularly fraught with danger in the case of Ebola and other contagious diseases. Understanding the behaviour of the society can help to effectively mitigate, and control infectious disease transmission and re-emergence. Therefore lack of knowledge of socio-cultural factors influencing Ebola transmission and control hinders the ability of nurses to give effective health promotion and provide culturally-relevant care. Although guidelines for

Ebola control suggest considering and understanding the local views and responses to the outbreak as very important [4], control interventions in Nigeria did not focus on socio-cultural issues. Even health care personnel were not trained to focus on these issues during the outbreak. This was a big omission in a country whose citizens are largely socio-cultural in nature, and where community responses to disease are usually driven by socio-cultural beliefs and practices. This aggregate of socio-cultural issues served as the impetus for this study. Moreover few studies exist in this area, notable of which is the one in Uganda in 2003 [9]. The present study fills this gap and sheds new light on the rarely considered issue of socio-cultural and behavioral influences on Ebola control.

The aims of the study were to identify the socio-cultural beliefs and practices and behavioural responses that had the capacity to influence the control of Ebola in the community; and to determine nurses' knowledge of the socio-cultural perspectives of Ebola and their preparedness to provide relevant socio-cultural care.

## Methods

Mixed method design (involving qualitative and quantitative methods) was used. For the qualitative part, Kleinman's mini-ethnographic explanatory model [10] was used to explore the socio-cultural and behavioural influences of Ebola Virus Disease spread and control. The model proposes that individuals and groups can have vastly different notions of health and disease. The quantitative method assessed the knowledge of nurses on the socio-cultural aspects of EVD and their preparedness to give appropriate socio-cultural care. The study was conducted in four randomly selected communities in Rivers and Akwa Ibom states of Nigeria and 6 community health centres in the 2 states. The two states were studied because there was Ebola outbreak in Rivers and contacts under surveillance migrated to nearby states, including Akwa Ibom State, to avoid quarantine and stigma.

The study sample comprised of 178 conveniently selected consenting adults living in the four selected communities, and 85 randomly selected nurses working in 6 health centres in the four communities. Approval for the study was obtained from the Ministry of Health of the two states. Qualitative data were collected through focus-group discussion (FGD) and semi-structured interview recorded on audio-tapes and field notes, and transcribed for content analysis using NVivo 7.0. Data were coded into categories and themes and only factors mentioned by at least ten persons were retained. Quantitative data were collected through a structured questionnaire schedule with 24 items and a Cronbach's alpha of 0.75, and analysed using descriptive statistics on SPSS 20.0. Quantitative data were weighted 5 points per item with maximum score of 60 for each variable (Knowledge and Socio-cultural readiness). Scores of 45 to 60 on the knowledge and readiness schedules indicated good knowledge and adequate preparedness (readiness).

## Results and Discussion

### Socio-demographic characteristics

For community members (n = 178), mean age was 40±3.6

with 42.7% being 31 to 40 years; 59.0% were male; 46.6% had Secondary School education; 29.2% were farmers and 28.7% petty traders. For nurses (n = 85); mean age was 36±2.6 with 40.0% being between 31 and 40 years; 69.4% were female; 42.4% had Community Health certificates, with 70.6% in the senior cadres.

### Qualitative data

These are presented according to 5 themes: Notions of the disease, Naming of the disease, Social issues of Concern, Beliefs/Socio-cultural practices that enhance spread and impede control measures, Behavioural responses that enhance control.

Characteristics		Number	Percentage
Age in years Mean age = 40 ± 3.6	20 to 30	33	18.5
	31 to 40	76	42.7
	41 to 50	48	27.0
	Over 50	21	11.8
Gender	Male	105	59.0
	Female	73	41.0
Education (highest obtained)	Primary level	71	39.9
	Secondary	83	46.6
	Tertiary	24	13.5
Occupation	Farming	52	29.2
	Fishing	42	23.6
	Trading	51	28.7
	Civil servant	24	13.5
	Others	9	5.1
Religion	Christianity	148	83.1
	Islam	9	5.1
	Traditional religion	21	11.8

**Table 1:** Socio-demographic characteristics of community participants (n = 178).

Notions of the disease were in 2 domains - socio-cultural (outbreak is a “deception by the whites to destroy our cultural heritage”) and spiritual (outbreak believed to be “caused by angry gods, evil spirits and witchcraft affliction”). At the beginning of the outbreak, there was general disbelief and scepticism (majority of the people in the community did not believe that the disease existed). People often wondered why they could no longer shake hands with or hug other people simply because there is a “new disease in town”. They also wondered why they could not touch or care for their loved ones who were sick; and why their sick relatives had to be taken away to places the family could not reach them. There was also belief in a conspiracy theory that the outbreak was “a lie invented to collect money from government”; “It is a scam, there is no such thing as Ebola”; while others who believed that it exists, said “it is a disease brought by the white people to kill off our people and reduce our number”. These notions initially affected receptivity to health promotion messages and treatment. However within 3 weeks of the outbreak and the seriousness of its effects, many said they realised “this is no ordinary disease that sacrifice to the gods can deal with”.

**Naming the disease:** Ebola was referred to by people in the community as “touch and die disease”; “virus of quick death”; “Ebo-Lie” (a deception); “Hug and get”; and “Kill-fast disease”.

### Social issues of concern during the outbreak

Results revealed that the outbreak was marked by uncertainty, stress, and confusion and these produced devastating social implications. It also affected the wellbeing of those infected, their family, community members and the health workers treating people with Ebola. In Nigeria, like elsewhere in Africa, people have a collectivistic culture, are communal in their decisions and actions, and are heavily influenced by the social and mutual obligations of the group. They therefore tend to focus on their social responsibilities and obligations while trying to avoid behaviours that might disappoint significant others. This socio-cultural view of self and relationships tended to have implications on how Ebola Virus Disease was experienced and acted upon by participants, but may be contrary to safe care of people with Ebola [11].

Characteristics		Number	Percentage
Age in years Mean age was 36 ± 2.6	20 to 30	18	21.2
	31 to 40	34	40.0
	41 to 50	21	24.7
	Over 50	12	14.1
Gender	Male	26	30.6
	Female	59	69.4
Highest professional qualification	RN	16	18.8
	RN/RM	31	36.5
	Community Health courses	36	42.4
	Bachelor's degree	2	2.4
Position/rank	Nursing officer	25	29.4
	Senior Nursing/Health officer	49	57.6
	Principal Nursing/Health officer	11	12.9

**Table 2:** Socio-demographic characteristics of nurses (n = 85).

During the outbreak people were separated from their loved ones who were infected or dead, and this created concerns about stigmatization, isolation/quarantine, and inappropriate burial rights. Ebola survivors, infected persons and those who had been in contact with them, as well as their families, were stigmatized, even after the period of the outbreak [12]. Even people who had symptoms similar to those of Ebola but were not diagnosed of it were stigmatized. Health workers who cared for patients were subject to the same issues as the patients - sickness, surveillance, loss of colleagues, and stigma. This led to low morale among them. Stigmatization involved stigmatizing actions and labelling (workers in the isolation centres were called “Ebola nurses” or “evil grave diggers”). Stories abound of eviction of survivors and families and affected health workers from their rented residence, and such homes being sealed off by landlords. Participants also reported concerns about burial of the dead and stated, “They hurriedly bury our dead relatives without our consent and

in a manner that is not culturally acceptable". Burial rituals are important in most African communities because they are considered as honouring the dead and are linked to the continued progress and prosperity of descendants. Funeral practices and rituals include touching, washing, and dressing the corpse, and displaying it for several hours or days for family members to touch, kiss, and mourn over the body. Sometimes the corpse is taken to the ancestral homestead for burial (at times travelling long distances to do so). These practices pose a substantial risk for Ebola transmission because contact with a potentially infectious corpse could cause contamination [13,14]. However preventing people from performing culturally prescribed burial rituals raised serious concerns and caused mistrust, resentment, anger, frustration, fear and helplessness, ("Not performing proper traditional burial rites means dishonouring the dead and may bring repercussions"). It also made them suspicious of the health authorities ("Hmm who knows? They may even be using the body of our dead relatives for their studies.").

As a result of these concerns and in order to avoid having their relatives buried "inappropriately", some participants stated "I would rather hide and bury my dead relative in the "evil forest" than hand them over to health workers for burial". It was therefore common practice in many communities not to notify the health authorities about deceased relatives, despite consistent health messages. It was difficult to convince the average Nigerian that the Ebola virus is still viable and active for up to seven days after death of the infected person [13]. The practice of burying a potentially infectious corpse is capable of enhancing the spread of Ebola as reported in a study in Sierra Leone where a sharp increase in the number of Ebola cases was found in a previously low incidence district, because people in that locality had attended the 3-day funeral rites of an infected prominent health worker [14].

Isolation/quarantine of contacts also posed concerns and discontent in the communities. Responses were "they just take away the sick person to an unknown place and the family cannot even visit"; and "if they suspect that you had contact with a suspected sick person, they just keep you under house arrest and everyone avoids you". To overcome this, ill persons and contacts generally ran away to avoid being quarantined and stigmatized.

**Socio-cultural beliefs and practices that could impede Ebola control measures**

Results on the socio-cultural beliefs and practices that could impede Ebola control are presented on Table 3. The acceptable Nigerian traditional greeting involves touching, shaking hands and hugging. The people also believe in close compassionate contact with loved ones during illness, and that "family members should be in close contact with and stand by one another". Therefore "not touching or caring for sick relatives means abandonment and is culturally wrong" because it negates the principle of 'traditional solidarity' with the sick person. As a result of this family members must touch and care for the sick, even if they are suspected of having Ebola. Participants therefore listed touching, hugging, close contact with the sick, and some religious beliefs like linking disease causation

to punishment from an angry god/God as factors that may increase the risk of transmission and impede the control of Ebola. Studies have found such socio-cultural beliefs and practices as contrary to the control of Ebola [8,9,15-17].

Beliefs that could impede Ebola control	Social and cultural practices that could impede control
<ul style="list-style-type: none"> <li>• "Not performing traditional burial rites is dishonouring the dead and may bring repercussions".</li> <li>• Hiding to bury their dead in the "evil forest" than hand them over to health workers.</li> <li>• "Not touching or caring for sick relatives means abandonment and is culturally wrong"; "It shows lack of social support of family"</li> <li>• "Family members should be in close contact with one another"</li> </ul>	<ul style="list-style-type: none"> <li>• Culture that is heavily reliant on close physical contact, especially during illness;</li> <li>• Traditional greeting which includes hugging, touching and shaking hands;</li> <li>• Funeral/burial rites where family members touch, kiss, wash and dress the corpse;</li> <li>• Family members sleeping on same bed or mat;</li> <li>• Hunting and eating of "bush meat".</li> <li>• Taking care of sick relatives</li> <li>• Delay in healthcare seeking by people with "suspicious symptoms"</li> <li>• Running away from contact monitoring/ quarantine</li> </ul>

**Table 3:** Socio-cultural beliefs and practices that could impede control of Ebola.

Other practices reported by participants that had the potential to enhance spread of EVD or inhibit its control were the practice of family members (both sick and well) sleeping on the same bed or mat, and the hunting and eating of "bush meat" ("game") which is a prized delicacy in the communities. Ebola has been linked to hunting and eating of infected wild animals, as hunters and sellers of "bush meat" also get into close contact with infected bats. Belief in and practice of "fake Ebola cure" measures also had the tendency of negating Ebola control measures.

Hoax messages of fake Ebola cure made their rounds during the outbreak and many believed that bathing with hot salt water before 5.00 a.m. of a particular day and drinking as much of it as possible prevents/cures the infection. Unfortunately people who were not even infected but utilized these fake measures for prevention were hospitalized with excessive salt intake, with at least seven deaths in different parts of the country (reported by various national dailies on 9th and 14th August, 2014). Other fake protection/cure messages included encouraging people to use 'Blessed anti-Ebola salt', and chewing lots of Garcinia kola (bitter kola) to prevent/cure Ebola. Several studies have reported that the widespread embracing of certain religious practices had tremendous negative effects on the spreading of the Ebola virus disease in West Africa [15,16]. A previous study in Uganda [9] also highlighted this. Such beliefs can make it difficult for the ordinary citizen to link Ebola-related deaths with a viral infection. Moreover the heavy reliance on traditional and religious healers, and the false claim by some of them of their capability to cure Ebola, posed problems for effective control during the initial stage of the outbreak. Therefore consideration of traditional and religious practices is critical to the understanding of transmission dynamics and subsequent control of highly infectious diseases like Ebola.

### Behavioural responses that enhanced control

Participants reported that several behaviours and practices by the people had the tendency of enhancing Ebola control during the outbreak. These practices bordered on intensive community mobilization, education and engagement in control efforts; and encouragement of the citizenry to take personal responsibility for self-protection. Data revealed that people generally suspended the traditional way of greeting and followed the "no touching" rule prescribed by the health messages. Posters were placed all over the communities with messages like "Sorry, no shaking hands today, a smile or a nod will do" and "Keep calm and keep your hands to yourself." These were translated into the local dialects. There was also suspension of public funerals, and the ban on transportation of corpses from one community to another. Hand washing kits and hand sanitizers were strategically placed in public places and individuals were encouraged to carry hand sanitizers in their handbags and pockets and use them as often as possible. The government also announced delay in the re-opening of schools until Nigeria was declared Ebola-free. Participants reported that these measures enhanced control of the epidemic.

### Quantitative data

#### Nurses' knowledge of Socio-cultural care of patients with Ebola

Only 41.2% nurses (especially younger nurses and those qualified within the past five years), were able to identify some Ebola-related socio-cultural factors, and only 29.4% nurses had adequate knowledge of such socio-cultural factors. Only 38.8% viewed socio-cultural factors as playing any important role in Ebola care (Table 4), therefore only 36.5% agreed that they needed training in socio-cultural care of Ebola patients.

	Variables	Number	Percentage
Areas of knowledge	Possible socio-cultural influencing transmission of Ebola in the community	35	41.2
	Importance of social factors (beliefs, habits and behaviours) in Ebola spread/control	28	32.9
	Importance of cultural factors in Ebola spread/control	33	38.8
	Socio-cultural factors that could enhance spread of Ebola	25	29.4
	Socio-cultural factors that could enhance control of Ebola	23	27.1
	How people's habits, beliefs and behaviour may influence health during the epidemic	21	24.7
Knowledge of socio-cultural aspect of Ebola care	Poor	60	70.6
	Good	25	29.4
Readiness to give socio-culturally relevant care	Low	61	71.8
	High	24	28.2

**Table 4:** Nurses' knowledge and of socio-cultural perspectives of Ebola

(n=85).

These results reveal low level of preparedness of nurses to deal with the socio-cultural issues of the Ebola epidemic and provide relevant socio-cultural care. Most health care providers seem to adopt the biomedical model during epidemics of acute infections. In order to be effective care providers nurses need to understand the importance of culture and social factors in EVD; how socio-cultural factors relate to its spread and control; the way people think about EVD in terms of individual pattern of beliefs; and behaviours and habits that may influence people's health during the outbreak. Since socio-cultural factors shape attitudes and intentional behaviour in contagious diseases such as Ebola, effective control of EVD requires an understanding and consideration of the psychological, socio-cultural and behavioural responses to the disease in the general population. The socio-cultural model states that all health care is practised in a social and cultural context therefore the healthcare provider should understand Ebola from a socio-cultural perspective in order to give appropriate care. Lack of knowledge of these factors hinders the ability of nurses to give effective health promotion and provide culturally-relevant care to Ebola patients and psychosocial counselling to family members.

#### Nurses' preparedness to provide relevant socio-cultural care to patients with Ebola

Almost 72% nurses had low readiness scores, 100% reported having no formal training or preparation on socio-cultural aspects of Ebola care. Only 12.9% actually gave care based on social and cultural considerations to patients with infections whether or not they had symptoms of Ebola. These results signify low level of preparedness for providing socio-cultural care to patients with Ebola virus disease; and have implications for health policy, nursing education and nursing practice.

There is need for training and capacity building for health workers (especially nurses) to provide appropriate socio-cultural care to people infected and/or affected by Ebola and other epidemic diseases. Stigma disrupts the quality of life of affected persons and families therefore there is need for sustainable community-based stigma reduction programmes to assist survivors and their families to deal with social stigma. Policies and strategies should focus on tackling negative labelling, alongside intensive anti-stigma campaigns. Since social norms greatly impact people's perceptions during a time of crisis, health policy should consider cultural norms and practices as part of the process of controlling Ebola (and any other outbreak of infectious diseases in the future). Health messages should be congruent with and adapted to the dominant socio-cultural orientations, beliefs and behaviours of the citizenry. Family and community interventions should be designed so that they are not only relevant, technically feasible, and effective but also socially and culturally acceptable.

### Conclusion

Certain socio-cultural beliefs and practices that could influence Ebola control existed in Nigeria during the 2014 epidemic. However nurses working in the community did not have adequate knowledge of these factors to enable them provide relevant socio-

cultural care. They also had low level of preparedness to deal with the socio-cultural issues of the Ebola epidemic.

### Acknowledgment

This study was fully funded by the researchers themselves. The paper was presented at the Sigma Theta Tau 43rd Biennial Convention in Las Vegas, USA in November, 2015.

We acknowledge Margaret I. Ekanem, of Diseases Control Unit, Ministry of Health, Uyo, Akwa Ibom State, and Ibitoru Peterside of Braithwaite Memorial Hospital, Port Harcourt, Rivers State for assistance with data collection.

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