

**DIFFUSION AND USE OF INFORMATION ABOUT EBOLA SALT WATER THERAPY BY STUDENTS IN AHMADU BELLO UNIVERSITY, ZARIA DURING 2014 EBOLA EPIDEMIC IN NIGERIA**

By

Baba Abdu, Abdullahi Musa Ibrahim Ph.D and Babangida Umar Dangani Ph.D

**Abstract**

*This study is aimed at determining the diffusion and use of Ebola salt water therapy information by students in Ahmadu Bello University (ABU) Zaria, Kaduna state, Nigeria. Using qualitative case study approach, the researcher adopted Electronic Word-of-Mouth communication (eWOM) model as a guide. The researcher used 58 electronic narratives from Short Messaging Services (SMS), Twitter, and Facebook used in the diffusion of Ebola salt water therapy information by the ABU students during the 2014 Ebola epidemic and conducted one-on-one interviews with 19 participants that have discussed in social media, received the call, or message on and practiced Ebola salt water therapy. The study found that the information about Ebola salt water therapy diffused among ABU students through electronic and interpersonal means of communication by their close relations and opinion leaders, also the students used the information because of fear and the repeated number of calls and messages they received. The research recommended that the University Health Services Unit of ABU should have official online social platform for diffusion and discussion of health related matters where professionals will respond and attend to students' questions and complaints.*

**Introduction**

Diffusion and use of unsubstantiated health information is a major cause of morbidity and mortality (Poland and Jacobson, 2001). Unsubstantiated health information refers to misconceptions and scientifically unproven claims that can lead to gross misinformation about health (World Health Organisation, 2013b). Unsubstantiated health information is a major phenomenon globally. For instance, the South African

“virgin cleansing myth”, which is the belief that having sex with virgin cures male of HIV. This practice has led to increased incidences of rape of children thereby making the victims vulnerable to HIV (Leclerc-Madlala, 2002). Similarly, unsubstantiated health information that is common in USA leading to ill health is a phenomenon that electronic cigarette (e-cigarette) is safe and healthy alternative to conventional cigarettes. That is why e-cigarette is widely

accepted and used in USA. But health care professionals confirmed that it contains a number of toxicants and tobacco-derived nicotine in form of aerosol (Brandon *et al.*, 2015; Palazzolo, 2013). The consequences of using these toxicants and nicotine substances contained in e-cigarette include the death of a child in New York in December 2014 (Lewis, 2014), and the death of a man in Buckinghamshire, Britain in September 2015 (Linning, 2015). It has also resulted in severe health condition among users. For example, a woman was reported to have suffered from pneumonia due to e-cigarette use (McCauley *et al.*, 2012).

In view of the above mentioned consequences, the World Health Organisation (2013b) has stressed that unsubstantiated health information, hurts rather than help efforts by individuals, families and communities to prevent, detect or effectively treat the disease. In spite of World Health Organisation's words of warning, unsubstantiated health information is still prevalent, diffused rapidly and used in communities. A case of unsubstantiated health information in Nigeria was "Ebola salt water therapy".

Ebola salt water therapy is a speculation that went viral on the night of 7<sup>th</sup> August, 2014, communicated among friends and families in Nigeria to drink and bath with salt water as protection against Ebola disease. This resulted in at least two people dying and many others were hospitalized on different cases such as miscarriage (Shuaib, 2014), hypertension (Oyeyemi, Gabarron, and Wynn, 2014), and diarrhoea (Modibbo, 2014).

In spite of the consequences of unsubstantiated health information leading to mortality and morbidity, very little researches have been conducted about unsubstantiated health information and its adverse consequences on health and wellbeing. Therefore, there is a compelling need for research about unsubstantiated health information. This research, using the constructs of "Electronic Word-of-Mouth Communication" model investigated the diffusion and use of health information in Nigeria by investigating the diffusion and use of Ebola salt water therapy information among Ahmadu Bello University, Zaria (ABU) students. To counteract the consequences of

unsubstantiated health information, scholars stress the importance of health information literacy.

### **Statement of Problem**

It is expected that individuals should have the capacity to identify, obtain, process, and understand basic health information and services needed to make suitable health decision. Unfortunately, a lot of people do not have that capacity; as a result they obtain and use health information from unconfirmed sources such as neighbours, co-workers, friends and families. Relying on non-expert for health information may lead to diffusion and use of unsubstantiated health information such as myths and rumours. Health rumours may misinform the patient leading to misdiagnosis and mistreatment which may result in infections, complication of health conditions and even death. People may also take action that will be detrimental to their wellbeing, for example, when calls, emails, and text messages were circulating among people in Nigeria that they should wake up in the night to take bath with salt water and drink some to protect themselves from being infected

with Ebola virus, people complied and the action was harmful to the extent that the compliance resulted in so many problems such as diarrhoea, miscarriage, hypertension, and even death (WHO, 2014a; Aliyu and Nanlong, 2014).

Moreover, this research seeks to build upon the few studies which explored health information literacy as related to the infectious diseases, such as Ebola, specifically in Northern Nigeria.

### **Theoretical Framework**

This study adopted electronic Word-of-Mouth communication model as framework guide to the findings of this research.

The basic principles of eWOM model are centred towards factors that influenced the flow of information via online network. They are pointed as: tie strength, homophile, and source credibility.

**1. Tie strength:** Communication usually take place within a social relationship context that might be characterized by the closeness of the relationship established between the information seeker and the source, named “tie strength”. Therefore, strong ties that bind individuals make them interact more

frequently and exchange more information and have greater influence on the receiver due to the frequency of social contacts among strong tied individuals. Thus, strong ties are perceived to have a positive impact on the decision making within a dyad.

**2. *Homophily or demographic similarity:*** Homophily is the concept that describes the composition of a group regarding issues, such as to what extent pairs of individuals are similar when analyzed from age, gender, education or lifestyle perspectives. Moreover, people who are alike have the tendency to interact more often and communicate more easily with persons closer to them in age, sex and social status. Thus, individuals affiliate with others who are sharing similar interests and face similar situations.

**3. *Source credibility:*** Source credibility refers to a message receiver's perception of the credibility of a message source, reflecting nothing about the message itself. It is seen as the extent to which an information source is perceived to be believable, competent, and trustworthy by information receivers.

## **Methodology**

This study adopted qualitative methodology. Qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. However, this study employed case study approach.

## **Population of the Study**

The population of this study consist of total enrolment of undergraduate 33,717 and postgraduate 8,090 students of Ahmadu Bello University, Zaria, making the total of 41,807 students (Management Information System unit, ABU, 2016).

## **Sample and Sampling Procedure**

Nineteen respondents (nine undergraduate and ten postgraduate students) were purposively selected for interview in this research. Similarly, the researcher sampled 58 electronic documents used in the diffusion of information about Ebola salt water therapy from Facebook, Twitter, and SMS.

## **Data Collection**

A one-on-one, interview was used to collect the data for the study. A

semi-structured interview approach was chosen because of its flexibility allowed for in-depth investigation of meanings and to seek clarification on unclear response. Moreover, the researcher used those electronic documents used in diffusing the information about Ebola salt water therapy from Facebook, Twitter, and SMS on 7<sup>th</sup> August 2014 16:00 through 8<sup>th</sup> August 2014 08:00.

### **Procedure for Data Collection**

The researcher personally visited both Samaru and Kongo campuses of Ahmadu Bello University, Zaria, Kaduna state, Nigeria for interview, and the interview with the participants (the students). The discussion with the participants last for 15-20 minutes. The Interviews were audio taped using digital media to minimize loss of information and allowed for the full attention of the interviewer. The interviews were transcribed for review. Handwritten notes were also taken during the interviews for the purposes of extending questions and as the researcher's personal notes for further investigation. The interviews were conducted on the university campus. Likewise, the researcher tracked the electronic

documents used in diffusing the information about Ebola salt water therapy from Facebook, Twitter, and SMS by participants under study.

### **Findings and Discussion**

The cumulative number of nineteen (19) transcribed interviews and fifty eight documents were read, examined, and re-examined using an analytic inductive process in which the researcher iterate between the themes and the database until the researcher has established a comprehensive set of themes. While reading the documents, the researcher highlighted words, phrases, and sentences related to the diffusion and use of Ebola salt water therapy information among ABU students.

Two (2) themes emerged from the analysis, seven (7) frequent topics evolved as categories, and eleven (11) sub-categories were also developed. These are explained below:

#### **The Means of Diffusion of Ebola Salt Water Therapy Information**

Five (5) categories were emerged from this theme as follows: electronic means of information diffusion, interpersonal communication,

close friends, close relation, opinion leaders. These categories are explained below:

**Category one – Electronic Means of Information diffusion**

This category includes narratives related to the types of electronic media used in the diffusion of Ebola salt water therapy information among the students of Ahmadu Bello University, Zaria. The category has three (3) subcategories: through the phone call, through the social media, and received text message (SMS).

***Through the Phone Call:*** The information about Ebola salt water therapy diffused among Ahmadu Bello University, Zaria students through phone call. A phone call was means of communication used in the viral spread of Ebola salt water therapy information among the students of ABU. For instance, a dialogue with a student emphasize this point as: *“That early morning around 2:30am I had a phone call telling me to bath with salt and drink some salt water”*.

***Through the Social Media:*** The information about Ebola salt water therapy diffused among Ahmadu Bello University, Zaria students through the

social media. Due to its greater virality, urgency and likelihood to share and re-share the information content, social media played an important role in the diffusion of information of Ebola salt water therapy among these said students. Therefore, many of them got to know about Ebola salt water therapy through the Twitter. In an interview with a student it is stated that Facebook was used by the students in the diffusion of such information: *“I receive a call about 1:00 am from one of my friends that I should take bath with salt water, drink it and I have done that. There were text messages I also received on my Facebook wall, twitter, whatsapp and SMS alert”*.

***Received Text Message (SMS):*** The information about Ebola salt water therapy diffused among Ahmadu Bello University, Zaria students through text messages. Short Message Service (SMS) serves as an alternative way of alerting people about an event using texts, especially to many recipients at a time via mobile telephones. SMS was also used in the spread of Ebola salt water therapy information. Many students in ABU received text messages (SMS) on

their phones, informing them about the Ebola salt water therapy. The following excerpts from an interview with a student provide evidence on this idea *I got a text message quite alright and like I've said I receive a call from my parent and WhatsApp was also there, I saw some messages on WhatsApp*".

**Category two –Through Interpersonal Communication**

This category explains that some students of Ahmadu Bello University, Zaria were personally informed about the Ebola salt water therapy. The category has one (1) subcategory: face-to-face communication.

**Face-to-face Communication:** The information about Ebola salt water therapy diffused among Ahmadu Bello University, Zaria students through face-to-face communication. The following quotation provides evidence on this idea in which a student highlighted: *"...My brother was the first person that called me, then a friend of mine a colleague in the office called me, then my neighbour came, she also knocked at my door, we are living in the same yard"*.

**Category Three –through Close Friends**

In this category the narratives related to the closed friends as a relationship through which information about Ebola salt water therapy diffused are highlighted. The category has one (1) subcategory: from friends and colleagues.

**From friends and Colleagues:**

The information about Ebola salt water therapy diffused among Ahmadu Bello University, Zaria students via friends and colleagues. Many students of ABU got informed about Ebola salt water therapy through their friends. This point is supported in an interview with a student who received the information about Ebola salt water therapy from a friend: *"A friend of mine in the town gave me a call in fact about 3 or 4, then my brother from Dogarawa area here in Zaria give a call and then a friend of mine in Samaru. Another one also called me informed me that this is the information he received, which I did not bother to ask him from where?"*.

**Category Four – through Close Relation**

This category describes the role played by family members in the

diffusion of Ebola salt water therapy information among the students of Ahmadu Bello University, Zaria. This category has one (1) subcategory: family members.

**Family members:** The information about Ebola salt water therapy diffused among Ahmadu Bello University, Zaria students through family members. Family members such as brothers, sisters and parents partake in the diffusion of Ebola salt water therapy information. This point is buttressed by an interview with a student which exposed the role played by brothers and sisters in the spread of Ebola salt water therapy information: *“my brother was the first person that called me, and then friend of mine who is colleague in the office, he also called me... And the text message was from my elder sister (our first born)”*.

#### **Category Five – through Opinion Leaders**

The category explains that some of the students in Ahmadu Bello University, Zaria were informed about the Ebola salt water therapy by their traditional rulers and religious leaders. This category contains two (2)

subcategories: From our religious leaders and through traditional rulers.

**From our Religious Leaders:** The information about Ebola salt water therapy diffused among Ahmadu Bello University, Zaria students via religious leaders. Participation of Pastors contributed in the diffusion of Ebola salt water therapy information among the students of ABU. In support of this idea, a post on student’s Twitter indicated that: *“After sensitizing my staff about Ebola, the next day they said their pastor said if they put salt in their bath water and also pray in it, thereafter they will be saved”*.

**Through Traditional Rulers:** The information about Ebola salt water therapy diffused among Ahmadu Bello University, Zaria students via traditional rulers. Following the respect people have in them, the traditional rulers also played role in the diffusion of Ebola salt water therapy information. A Twitter message received by a student discovered: *“Attah of Igala said all should put salt inside water, bath with it, without the use of soap, pray, to help prevent Ebola”*.

#### **Reasons for the use of Ebola salt water therapy information**



Two (2) categories emerged from this as follows: fear and repetition of the same information. The explanation of these categories can be seen as follows:

### **Category One – Fear**

This category revealed that many students of Ahmadu Bello University, Zaria were scared when they were informed about taking bath with salt water. This category has two (2) subcategories: scaring statement and peculiarity of the period.

**Scaring Statement:** Ahmadu Bello University, Zaria students used the information about Ebola salt water therapy because of their fear due the scaring nature of the statements used in diffusing the information. The statements requires one to take an instant measure or before daybreak, Ebola is in the air, it is on its way coming even it is within the town, and alike, was actually scaring. Therefore, many students of ABU were shocked when they were informed to take bath with salt water using such approaches. The following quotation is a dialogue with another student emphasizing this point: *“She called me around three o’clock am and*

*she told me that we should take bath with salt water and also to take a little of salt water, I said what for? She then said that Ebola will be spread on air. I said okay, well... and they told me that I should take my bath before sunrise. As she told me I said ok let me just do it...”*.

### **Peculiarity of Period of Diffusion of the Information:**

Ahmadu Bello University, Zaria students used the information about Ebola salt water therapy because the peculiarity of the period in which the information diffused. Moreover, the period in which the information diffused (mid night) was also scaring because it was unusual. An interview with a student illustrates how using odd time pushed him to used the Ebola salt water therapy information: *“I receive a call about one o’clock am from one of my friends that I should bath with salt water, drink it and I have done that... at that moment I don’t care about the source rather than the information, because I was so scared”*.

### **Category Two – Repetition of the Same Information**

Some students in Ahmadu Bello University, Zaria were convinced to use Ebola salt water therapy due to rate at which they messages and calls. This

category has one (1) subcategory: recurrence of the calls and messages.

***Recurrence of the Calls and Messages:***

Ahmadu Bello University, Zaria students used the information about Ebola salt water therapy because of the repeated number of calls and messages they have received. The rate of calls and messages during that night convinced many students of ABU to trust and use Ebola salt water therapy. An interview dialogue with a student revealed: *“In fact, I think that very night, I received about 3-5 calls, the rumours was circulating that there was Ebola, the most funny aspect of it was the one with my friend who called me, and said Ebola was on its way, I said ah-ah for what? He said it just passed Abuja, and now it’s on its way to Kaduna. ...Then I got another call”*.

**Summary of the Findings**

This section contains the summary of the findings of the study.

1. The information about Ebola salt water therapy diffused among the participants through electronic and interpersonal means of communication by their close relations and opinion leaders.

2. The study found that the participants used information about Ebola salt water therapy because of fear and the repeated number of calls and messages they received.

**3. Conclusion**

4. From the result of this study it is concluded that the ABU students used both electronic and interpersonal means of communication with their close relations and opinion leaders for information about Ebola disease specifically Ebola salt water therapy. It is also found that ABU students used information about Ebola salt water therapy because of the fear and the repeated number of calls and messages they received.
5. Finally, the information about Ebola salt water therapy proved to be unsubstantiated diffused, used and resulted in so many casualties. Hence, it is hoped that this work has drawn the attention of and provided evidence that ABU students need to have the ability to identify, obtain,

process, and understand and use basic health information and services required to make suitable health decision.

Health Services unit before using any health information or taking any further action during emergencies.

### Recommendations

Based on the major findings, the study recommended that:

1. The University Health Services Unit of ABU should have an official online social platform for diffusion and discussion of health related matters where professionals will respond and attend to students' questions and complaints and also counteract any unsubstantiated health information in circulation.
2. Furthermore, the public relation unit of the University Health Services of ABU should also provide emergency hotlines in some strategic places within the university premises for students to have easy contact to them whenever there is diffusion of unproven health information.
3. The ABU Zaria students should contact the management of the university through the University

### References

- Aliyu, A. and Nanlong, M. (2014,). Ebola: Two dead, 20 others hospitalised over excessive salt consumption. *Vanguard*. Retrieved from <http://www.vanguardngr.com>
- Brandon, T. H. *et al.* (2015). Electronic nicotine delivery systems: A Policy statement from the American association for cancer research and the American society of clinical oncology 33 (6)
- Cheung, M. & Thadani, D. R. (2012). The impact of electronic Word-of-Mouth communication: A literature analysis and integrative model. *Decision Support Systems* 54, 461–470
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among the five*

- traditions*. Thousand Oaks, CA: Sage.
- Leclerc-Madlala, S. (2002). On the virgin cleansing myth: gendered bodies, aids and ethnomedicine. *African Journal of AIDS Research, 1*, 87-95.
- Lewis, T. (2014). NY toddler dies after drinking liquid nicotine in e-cig refill. *Consumer Affairs*. Retrieved from <http://www.consumeraffairs.com/news/ny---toddler---dies---after---drinking---liquid---nicotine---in---e---cig---refill---121514.html>
- Linning, S. (2015,). BBC engineer who loved his job becomes 'Britain's first' e-cigarette suicide after drinking liquid nicotine and bingeing on cider. *DailyMail*. Retrieved from <http://www.dailymail.co.uk/news/article-3336284/BBC-engineer-loved-job-Britain-s-e-cigarette-suicide-drinking-liquid-nicotine-bingeing-cider.html>
- McCauley L, Markin C, Hosmer D. (2012). An unexpected consequence of electronic cigarette use. *Chest* 141:1110–3. doi:10.1378/chest.11-1334
- Modibbo, I. K. (2014,). Ebola virus and the salt water of ignorance. *Vanguard*. Retrieved from <http://www.vanguardngr.com>
- Nwagwu, W. E. & Ajema, M. (2011). Women's health information needs and information sources: A study of a rural palm business community in South-Western Nigeria. *Annals of library and information studies, 58*(1), pp 270-281.
- Oyeyemi, S. O., Gabarron, E., & Wynn, R. (2014). Ebola, twitter, and misinformation: a dangerous combination? *BMJ (Clinical Research Ed.)*, 349, <http://dx.doi.org/10.1136/bmj.g6178>
- Palazzolo, D. L. (2013) Electronic cigarettes and vaping: A New challenge in clinical medicine

- and public health. A Literature Review. *Front Public Health*, 1, 56.  
<http://dx.doi.org/10.3389/fpubh.2013.00056>
- Pew Research Centre (2012). *Caregivers and health activities*. Washington, DC: Pew Research Centre.
- Poland, G. A., & Jacobson, R. M. (2001). Understanding those who do not understand: A brief review of the anti-vaccine movement, *Vaccine*, 19(17-19), 2440-2445.
- Richter, L. M. (2003), Baby rape in South Africa. *Child Abuse Rev.*, 12, 392–400. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/ab.1003>
- Shuaib, F., Gunnala, R., Musa, E. O., Mahoney, F. J., Oguntimehin, O., Nguku, P. M., Nyanti, S. B., Knight, N., Gwarzo, N. S., Idigbe, O., Nasidi, A., Vertefeuille, J. F. (2014). Ebola virus disease outbreak - Nigeria, July- September 2014. *Morbidity and Mortality Weekly Report*. 3;63(39), 867-72.
- World Health Organisation (2014a). Ebola: Experimental therapies and rumoured remedies. <http://www.who.int/mediacentre/news/ebola/15-august-2014/en/>
- World Health Organization (2013b). Beyond world cancer day: raising awareness, dispelling myths about cancer. Retrieved from <http://www.afro.who.int/en/mediacentre/afro-feature/item/6767-beyond-world-cancer-day-raising-awareness-dispelling-myths-about-cancer.html>