

Awareness And Use Of The National Agency For Food And Drug Administration And Control's Mobile Authentication Service For Detecting Counterfeit Drugs In Nigeria.

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Abstract: *The aim of this study was to determine the reasons for the low usage of NAFDAC's Mobile Authentication Service (MAS) in Nigeria with the objectives of assessing the awareness and utilisation level of the service. Mixed methods of both quantitative as well as qualitative techniques such as in-depth interview with 10 persons and Focus Group Discussions (FGDs) with 30 participants in 4 locations were used to solicit for information to achieve the objectives of the study. Results from the study indicated that awareness and use of MAS is low in the studied area due to low mobilisation of the population especially in rural communities, poor network of mobile phones service providers, partial implementation of MAS among drugs manufacturers and poor infrastructures. The study recommended increase tempo of awareness creation to get more persons to be aware of MAS, discussion with mobile network service providers, get all drugs manufacturers to adopt MAS and general improvement in infrastructures by government.*

Key Word: *Awareness, counterfeit drugs, mobile authentication service, Nigeria, use*

I. Introduction

One of the greatest challenges plaguing the world is the issue of drug counterfeiting. Several countries desirous of sound health systems have raised alarm to the danger posed by the activities of drug counterfeiters especially in developing nations such as Nigeria so much so that the former Director General of National Agency for Food and Drug Administration and Control (NAFDAC) - the agencies statutorily saddle with drug regulation, described the incidences of drug counterfeiting as attempted murders (1, 2). What is drug counterfeiting? The World Health Organisation (3) noted that there is no agreement across countries of the world of what constitute counterfeit drug. Today, the most widely accepted definition of counterfeit drug is the working definition by WHO. According to WHO (4), "a counterfeit drug is one which is deliberately and fraudulently mislabeled with respect to its identity or source. Counterfeiting can apply to both branded and generic products and counterfeit products may include products with the correct or wrong ingredients, without active ingredients, with insufficient active ingredients or with fake packaging."

Reggi (5) attempted to make a distinction between counterfeit drugs and substandard drug – where all counterfeit drugs were described as substandard while all substandard drugs may not fall into the category of counterfeit drugs. Rodionova et.al (6) identified the three types of counterfeit drugs. According to them, there is a group of counterfeit drugs that do not contain active substances, including active substances marked in the packing (about 43%), another category of counterfeit drugs that contain active substances that are not marked in the packing (about 7%). Ordinary in such "medicine" the more expensive active substance is substituted by a less active and respectively cheaper substance and a last type of drug which they described as actually containing the marked substance, but are produced by another manufacturer (about 50%). They include 21% with low content of active substance, about 5% improper packing, and about 24% with low quality drugs. The challenge of counterfeit drug is an international problem which had spread to about 70% to developing nations and 30% to market economy countries (7). Newton et.al (8) posited that the actual prevalence of counterfeit drugs is difficult to ascertain due to failure of the majority of member nations of the World Health Organisation to report instances of drug counterfeiting covered in their countries since drug counterfeit is an underground business that only come to light only when death occur.

Combating counterfeit drugs is a daunting job requiring the efforts and collaboration of the stakeholders ranging from drug manufacturers, drug importers, wholesalers, retailers, drug professionals (the pharmacists) informal drug sellers, drug buyers (consumers) and the controllers or government regulating bodies (9), Several methods and techniques have been put in place to detect counterfeit drugs including: using

suspicious packaging, inconsistent odour, taste, or shape of the drugs to provide clues to its authenticity (10). However, according to them, while these techniques of drugs identification are simple, rapid and economical, they are only effective if the patient is familiar with the authentic drugs. Since good quality printing technology has become affordable, duplicating authentic packaging is relatively easy, but duplicating the proportions of pharmaceutical ingredients is much more problematic for the criminals, hence they advocated for sophisticated techniques which make faking of drugs more difficult. Other technologies of detecting counterfeit drugs are: Raman spectroscopy (11), liquid chromatography–mass spectrometry (LC–MS) (12), Fourier-transform infrared spectroscopic imaging (13, 14), and colorimetric assays (15). Near-infrared spectroscopy (NIRS) (16,17), 2D bar code reader Garmire (18) and Radio Frequency Identification (RFID) (19).

In Nigeria, NAFDAC in February 2, 2010, among other techniques of detecting counterfeit drugs launched what is called Mobile Authentication Service (MAS). The technology enables a consumer to determine whether a drug is fake or genuine through a mobile phone by typing a unique digit number hidden under a scratch off panel that comes with the pack of every Mobile Authentication Service (MAS)-enabled drug product and sending as SMS to a code number and in a few seconds the consumer receives an SMS confirming whether the drug has been approved by NAFDAC or not without direct contact with the manufacturer (20). This brings to reality the place mobile phones for large-scale public health programming as noted by Danis et al, (15), the value of Text to Change” campaigns for HIV awareness in Uganda and the use of SMS as an excellent opportunity to integrate health messaging into daily use of mobile technology with specific reference to identifying counterfeit medicine before making purchases. Despite the introduction of MAS to detect counterfeit drugs and the attendance huge resources investment by the Nigerian Government through NAFDAC most drug buyer/users in medicine stores and pharmacies across the country do not bother to check whether the drugs they purchase have this authentication scratch off panel in them. Even when some eventually purchase drugs with the scratch off panel they do not bother to actually scratch and authenticate the drugs before payment is made – thus observing in the study that only sixty one percent of respondents have heard of MAS with the higher proportion being in the urban areas compared to the rural communities (20). Eronmhonsele (20) further observed that awareness and use of MAS is low. The aim of this study was to determine the reasons for the low usage of NAFDAC’s Mobile Authentication Service in Nigeria with the objectives of looking at (1) the awareness level in two major cities of Ughelli and Warri and compare the result to the awareness level in some rural communities in Delta State and (2) Determine the level of usage of the MAS in both the urban centres and the rural communities as well (3) Provide policy statements that will improve the usage of the MAS based on the evidence from of this study.

II. Methods

Research Design and Study Setting

The study adopted mixed methods of both quantitative and qualitative techniques due to the nature of the study which was essentially exploratory. Quantitative techniques involved the use of structured questionnaires to understand the socio-demographic attributes of respondents on one hand and the pattern of awareness, the level of use of the MAS on the other hand. Qualitative methods used were in-depth interviews and focus group discussions (FGDs) used to enhance, as well as clarify, the quantitative results generated in the survey (21). The study took place in two Local Government Areas (LGAs) of Delta State where two towns of Warri and Ughelli were selected purposively in Warri South and Ughelli North Local Government Areas respectively due to their centrality and two of hubs of very high economic activities of the state with the presence of pharmacies as well as medicine stores. At another level six rural communities with three each adjoining Ughelli town as well as three villages which were closed to Warri were selected for the study. These six communities depicted the characteristics of rural dispositions were selected that have high volume of the activities of patent medicine stores and their dealers observed from earlier recognisance visits. The study began with contact setting and visits to relevant stakeholders and authorities to inform them of the purpose and permission to start the study - including local government authorities responsible for health care practitioners, community leaders and pharmaceutical management bodies responsible for regulations of their members and practice.

Questionnaire for the Study and Meeting with Respondents

Due to the nature of the study which was basically exploratory and in view of the nature of the subject being studied, the question asked was limited but sufficient enough to meet the objective of the study. Questionnaires sort such information such as: sex, age, educational status, occupation, marital status, religion, and awareness on the government campaigns against fake and counterfeit drugs, source of information of the campaigns against fake drugs, awareness of NAFDAC Mobile Authentication Service (MAS), source of information of MAS, ever use of the MAS service, current usage, reasons of lack of use despite awareness, constraint for effective usage of MAS and solution to perceive constraints of the usage of MAS. In all, 151

questionnaires were administered including 74 that were administered in both urban areas and 77 that were administered in the rural communities. The study took place from July to November, 2015.

In each study location, the customers in pharmacies as well as patent medicine stores were targeted. In each of such stores during the days of data collection, data collectors who were fully trained for the purpose keep at a respectable distance from such drugs dispensing facilities and approach a customer who was through with his business with the pharmacies or stores with courtesy. After the initial introduction/consent seeking and based on the mood of the customer in question, a brief administration of the questionnaire may take place with a further request if such a person will be willing to participate in further discussions about the subject. Usually, the people who receive this kind of request would have shown a very high enthusiasm on the subject. In this way, his/her phone numbers or contact details were collected for further interaction either for an interview or to participate in focus group discussion also considering other factors such as the ease of getting the person to convenient locations on the days of discussion and the availability. In all, those who agreed to take part in the survey were given a unique number to make sure that such persons were never ask to participate a second time in the quantitative survey. Usually the question begins on a light mood with data collector asking such persons if they have been interrogated on this subject by another person in the last six months.

Interviews and Focus Group Discussions (FGDS)

In all, ten in-depth interviews were held with different stakeholders on drugs sales, counterfeiting, regulations, awareness and the use of MAS and NAFDAC fight against fake and counterfeit drugs generally based on the their knowledge of the subject. Regarding FGDs, four of them were held including one each in Warri and Ughelli towns and two in the rural communities. At the rural area, three communities were grouped together based on their proximities to one another. In all, ten persons participated in the in-depth interview include 6 men and 4 women. A total of 30 participants took part in the FGDs both for the two in the towns and the two in the rural communities include eight persons each in the one in Ughelli (five males and three females) and Warri (four males four females) and seven persons each in the one in the rural communities, comprising eight males and six females – with each group of FGDs having four males and three females. All, participants were paid stipends for their transportation fare and refreshments given to them at the end of each session in line with the promise to motivate them to be part of the exercise. The interviews as well as the FGDs were conducted in English and the corrupted version - pidgin.

Data Analysis

Quantitative data were analysed using SPSS software IBM version 21. Being an exploratory study, analysis was done using percentages and cross tabulations. Analysis of qualitative data entailed the use of N6 software after transcription of data and coding and content analysed in term of the themes and objective that the study tried to achieve. In analyzing the transcripts from the focus group discussions, in-depth and key informant interviews, the thematic analysis technique was used to uncover themes and trends. Comments on each aspect of the objectives of the study were compared by place of interview. Excerpts of the transcripts were used to complement the quantitative results where possible. Such excerpts are the views expressed by the majority of the discussants. These were also supported with similar views from the FGDs and in-depth interviews.

Ethical Considerations

As always, approval for this work was given by Centre for Population and Environmental Development Ethical Committee. Though the study was classified as a low risk one in term of the objects of investigation, At all levels, participants were briefed on the study objectives and their consent was received verbally before administering any of the research protocols. In addition, all the participants were informed of their right to withdraw their participation in the study at any stage. The participants were also assured of their anonymity during and after the study (22).

III. Results/Discussions

Profiles Of Respondents

As indicated in Table 1, almost an equal proportion of the respondents live in urban and rural areas since 51% and 49% respectively live in urban and rural area. There were more male (69.5%) than female. Over eighty-two percent of them were married at the time of the survey with dominant age ranges of 31-40 (28.8%), 41-50 (27.2%) and 51-60 (22.5%). Regarding respondents' religion, there were more protestants (37.1%) followed by Pentecostal and catholic adherence with 32.5% and 25.2% respectively. There were more respondents who completed secondary school (31.1%), trailed by those who had no schooling (26.5%) and those who completed primary school (25.2%) respectively. Finally, Table 1 revealed that 29.1%, 23.8%, and 21.2% in decreasing order were farmers, self-employed and into trading regarding their occupation.

Table 1: Respondents' Profile

Variable	No	%
Residence		
Urban	74	51
Rural	77	49
Sex		
Male	105	69.5
Female	46	30.5
Marital Status		
Married	125	82.1
Single	15	9.9
Separated	8	5.3
Divorced	4	2.6
Age (Year)		
20-30	18	11.9
31-40	45	28.8
41-50	41	27.2
51-60	34	22.5
61 and above	13	8.6
Religion		
Catholic	38	25.2
Protestant	56	37.1
Pentecostal	49	32.5
Others	8	5.1
Highest Level of Education		
No schooling	40	26.5
Completed Primary School	38	25.2
Completed Secondary School	47	31.1
Tertiary education and equivalents	26	17.2
Occupation		
Civil Servants	25	16.5
Self Employed	36	23.8
Trading	32	21.2
Artisan	12	7.9
Farming	44	29.1
Others	2	1.3

Source: Authors' Field Survey, 2015

Interviewees And Focus Group Discussant Profiles

Forty persons took part in the in-depth interviews and focus group discussions (10 persons for interviews and 30 persons for FGDs), 6 men and 4 women participated in the in-depth interview with average age of 46 years, all married, 3 with secondary education, 5 with tertiary education and 1 each with primary and no schooling. The FGDs participants included 18 men and 12 women who were also married except 5 who were single and 2 who were separated from their marriages. More of them were from 40-50 years age range with 14 of the participants having post - secondary level of education, 8 of them had secondary education, 5 with primary education and 3 with no schooling.

Awareness of Government Campaigns on Fake Drugs, NAFDAC and NAFDAC's Mobile Authentication Service

Table 2: Table 2: Awareness of the campaign against fake drugs, NAFDAC's mobile authentication services and source of information

Variable	No	%
Knowledgeable of government campaigns on fake drugs?		
Yes	85	56.3
No	66	43.7
Total	151	100
Heard about NAFDAC?		
Yes	95	62.9
No	56	37.1
Total	151	100
Have heard about NAFDAC's Mobile Authentication Service		
Yes	62	41.8
No	89	58.2
Total	151	100
Sources of information of NAFDAC's Mobile Authentication Service		
Friends and Relative	18	29.2
TV	8	12.2
Radio	11	17.2
News Paper	5	8.1
Churches	17	29.1
Patent store/Pharmacies	3	4.1
Total	62	100
Source of Information of government campaigns against fake drugs		
Friends and Relative	24	27.8
TV	12	14.0
Radio	14	16.8
News Paper	7	8.7
Churches	25	29.3
Pharmacies/Medical Stores	3	3.4
Total	85	100

Source: Authors' field survey, 2015

Evidence from Table 2 showed that 56.3% of the respondents were aware of government campaigns on fake drugs and 62.9% being knowledgeable about NAFDAC. The table also revealed that 41.8% have heard about NAFDAC's mobile authentication services with their major sources of information for this services being friends/relatives (29.2%), churches (29.1%), radio (17.2%) and 12.2% from television. As for government campaigns against fake drugs, the respondents got information from churches, friends/relatives, radio and televisions at 29.3%, 27.8%, 16.8% and 14% respectively.

It is important to note from the evidence from the table that a very high proportion of the population in the study locations have relatively low awareness of NAFDAC and the mobile authentication service. The observed figure of 41.8% for MAS is lower than the sixty-one percent earlier on observed by Eronmhonsele (20) in the study of awareness of MAS in Edo State. While sizeable percentages of persons were aware of the government campaigns against fake drugs, heard about NAFDAC, the mobile authentication services, as high as 43.7%, 37.1% and 58.2% have not heard about the government campaigns against fake drugs, heard about NAFDAC and have not heard about NAFDAC's Mobile Authentication Service respectively. Though this study is exploratory, the results here reflect the larger segment of the state and by extension the Nigeria population – thus indicating that a vast proportion of the population are not aware of the existence of fake drugs, thus revealing the assertion by WHO (7) that the business of fake drugs and drugs counterfeiting only come to limelight in the events of deaths. An excerpt from one of the interview brings this home:

“We cannot really say that our people know about the business of drug counterfeiting and the activities of NAFDAC. Most of what go on in the fake drugs is only known when a drug fails to heal as expected and when there are adverse effects and all these things are only in the cities. What happens to our people in the villages?”

Equally, another participant in an FGD has this to say about the low awareness about drugs counterfeiting.

“It is a statement of fact that our people know little about fake drugs .Until NAFDAC started fighting, nothing was really known. In fact, it was Akunyili personal sacrifice that brought some awareness to Nigerians but what can only a few people do? Today, awareness is no longer there as it used to be in her time. Even in her time, it was more for the educated in the cities”

It is clear from the above that awareness of fake drugs and NAFDAC's MAS is low. It was an awareness centred on a personality who had a personal passion to excel rather than an institutional drive. The introduction of the mobile authentication service had not entirely changed the situation due to lack of adequate mobilisation of the populace on the services as data in Table 2 on respondents awareness of the service and another participant view in the extract below indicates:

“The problem with the mobile authentication service is from inadequate publicity and mobilisation of the population to use the service. Yes! the service is an improvement on the attempts by government to fight counterfeit drugs but the people were not educated enough on the service and its benefits. All the radio and television adverts will not solve the problem”

Usage Of Mobile Authentication Service

One of the essences of this study was to find out the level of usage of NAFDAC's mobile authentication service. While studies have linked a higher usage of health services to the knowledge of such services (23, 24, 25, 26, 27), results from some of these studies indicated that this had not always being the case. Therefore, this study was equally interested in the level of usage of the service of MAS by the respondents.

Table 3: Use of NAFDAC's mobile authentication service and reason for non-usage

Variable	No	%
Have you ever used NAFDAC Mobile Authentication Service (MAS)		
Yes	15	23.5
No	47	76.5
Total	62	100
Are you currently using NAFDAC Mobile Authentication Service (MAS)		
Yes	6	38.3
No	9	61.7
Total	15	100

Source: Authors' field survey, 2015

As revealed in Table 3, only 23.5% of respondents have ever used the NAFDAC mobile authentication service and 38.3% are the current users of the services signifying a decline from the proportion of 41.8% of respondents that have heard of MAS in the study. While it is imperative to point out the smallness of the sampled population of persons involved in the study, it however goes to show that there is a disparity between the level of awareness and the rate of usage presenting a view that awareness may not necessary lead to usage as earlier observed by earlier (23, 24, 25, 26, 27). Furthermore, the observation may point to the relatively low awareness as well as low utilisation of MAS in the studied locations and may be an indication of low awareness and use of the service in Delta State and Nigeria – agreeing with Eronmhonsele (20) that awareness and use of MAS is low in the study in Edo State, Nigeria. Some insights from the qualitative data help to bring this home as these extract indicated below:

“I neva use the service bicos I no know about am”
 (I have not used the service because I have no awareness about it)
a portion of an FGD

“This thing is new to Nigerians. I am sure that is why the rate of usage is still low. Government need to do more to educate the people if the usage is to improve”
excerpt from an interview

“How do you expect that people should know and use the service of this telephone that NAFDAC wants us to use, see I have three telephones and three lines here from three providers but I cannot use the thing even if I want to buy drugs as we are talking right now-why? This is because there is no electricity and all these phones have no life in them therefore knowing is not enough. The idea is good but infrastructural limitations are a big headache to the actualisation of the dream of the whole effort of NAFDAC. Therefore the use of the service will always be very low especially in rural communities”
extract from an interview in Warri.

Comparing The Level Of Awareness And Use Of MAS In Urban Settlements To Rural Communities

One of the objectives of the study was to find out if there exist disparities in awareness between urban and rural locations. As indicated in Fig. 1, 2 and 3, it is explicit that there exist differences in term of awareness in urban communities compared to their rural counterparts. In Fig. 1, while 87.8% of the respondents are aware and have heard about NAFDAC in the urban areas, only 39% of the participants are aware of NAFDAC in the

rural communities. Also, in Fig. 2, while 57% of the respondents are aware of MAS in urban settings, it only 24% in rural communities. Thus, it is evident that more persons are aware of MAS in the urban settings than in rural localities. Furthermore, if the revelation that more awareness lead to increase use of service (23, 24, 25, 26, 27) is applied here, the tendency is that there will be more users of the MAS service in the urban locations as pointed out from the extract from the qualitative data as seen below:

“Therefore the use of the service will always be very low especially in rural communities” -----*extract from an interview in Warri.*

Another discussant has this to say about awareness between rural and urban dwellers:

“If most of us the city dwellers who are at least better educated find it difficult using the new service and having challenges, what then will be of rural dwellers with low level of education, poorer facilities and burden of ignorance?”

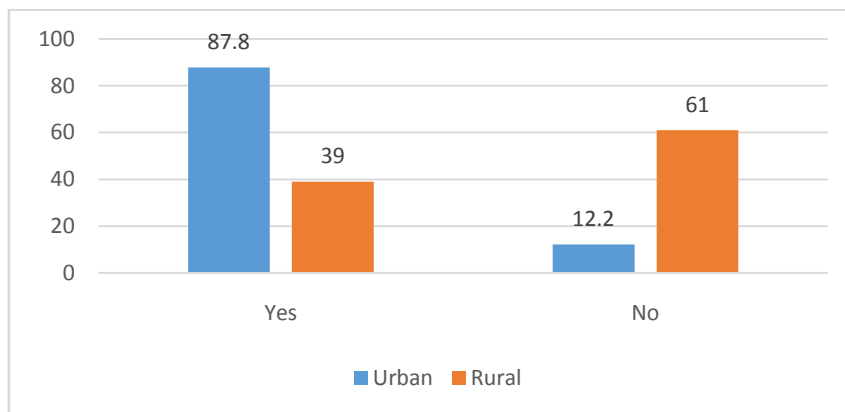


Figure 1: Residence and knowledge of NAFDAC
Source: Authors’ field survey, 2015

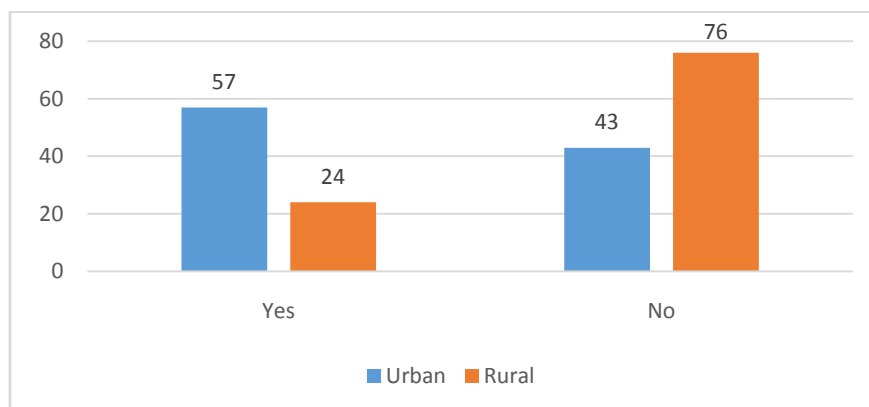


Figure 2: Residence and knowledge of NAFDAC's mobile authentication service
Source: Authors’ field survey, 2015

The situation in term of knowledge between urban and rural settlers of government campaigns about counterfeit drugs also weighed favourably with urban dwellers having the upper hand. Fig3, shows that more persons (68.9%) have heard about government’s campaigns on fake drugs in the urban communities, while the awareness of this campaigns stood at 44.2% among rural people.

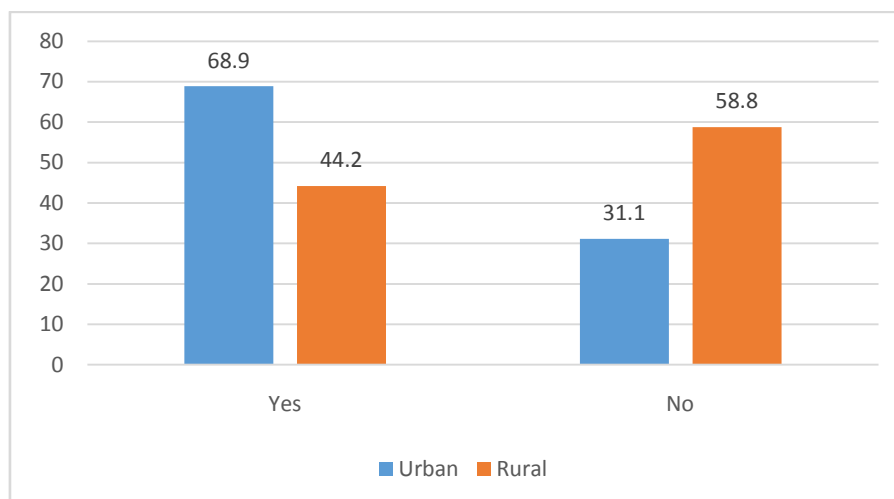


Figure 3: Residence and knowledge of government campaigns against fake drugs
Source: Authors' field survey, 2015

Related to ever usage of MAS in urban and rural areas, Table 4 indicated that while the level of usage of MAS is low in both urban as well as rural dwellings, urban settings recorded a higher proportion of 37% compared to 14% in rural area. Also, the volume of current users of MAS is equally higher (67%) compared to 50% in the rural communities as also shown in Table 4. Thus the findings from this study are in line with earlier studies that there is an association between the level of awareness and the level of service usage (23, 24, 25, 26, 27). In this study, the level of awareness (Figures 1, 2 and 3) as well as that of usage of MAS (Table 4) are higher in urban communities compared to that of rural dwellings.

Table 4: The use of NAFDAC mobile authentication service according to the place of residence

Residence and ever use of NAFDAC Mobile Authentication Service						
Location	Yes		No		Total	
	No	%	No	%	No	%
Urban	10	37.0	17	63.0	27	100
Rural	5	14.0	30	86.0	35	100
Residence and current use of NAFDAC Mobile Authentication Service						
Urban	4	67	2	33	6	100
Rural	2	50	2	50	4	100

Source: Authors' field survey, 2015

The understanding of the disparities in awareness and usage of MAS between the urban areas and rural communities may be better understood when an x-ray of their mode of information on drugs counterfeit campaigns by government and how they access information on MAS is assessed (Table 5). Regarding information on counterfeit drugs, majority of urban dwellers got their information either from churches (25.2%), relatives/friends (20.3%), radio (20.2%), TV (19.3%) and 10.5% compared to 36.5% , 33.3% and 13.4% of them who mostly get their information from friends/relatives, churches and radio in the rural areas. As for sources of information for MAS, urban dwellers also used radio (22.2%) churches (22.1%), friends/relatives (20.1), TV (18.2%) and newspaper (12.1%) compared to rural dwellers sources of information for MAS, more respondents access their information from friends/relatives (38.2%), churches (36.1%) and radio (12.3%)

Table 5: Sources of information for government campaigns and NAFDAC mobile authentication services by residence

Source of information on government campaigns against fake and counterfeit drugs?							
	Friends/relative No (%)	TV No (%)	Radio No (%)	News Paper No (%)	Churches No (%)	Medical Stores No (%)	Total No(%)
Urban	11(20.3)	10 (19.3)	11(20.2)	6 (10.5)	13 (25.2)	2 (4.5)	53(100)
Rural	12(36.5)	2(7.6)	4(13.4)	2(6.9)	11(33.3)	1(2.3)	32 (100)
Source of Information on NAFDAC Mobile Authentication Service							
Urban	9(20.1)	8(18.2)	9(22.2)	5(12.1)	9(22.1)	2(5.3)	42 (100)
Rural	8(38.2)	1(6.1)	2(12.3)	1(4.1)	7(36.1)	1(3.2)	20 (100)

Source: Authors' field survey, 2015

It is imperative to note here that information sources from friends/relatives and churches though rampant may not be consistent and the messages may be distorted compared to well intention government public

announcements on radio and TV. However, it is important that sources such as friends/relatives being major sources of information needed to be leverage upon by governments at all levels by providing training to community members who through their local organisations that will serve to spread government information such as the MAS. Similarly, churches as well as other religion groups needed to be targeted by government agencies and equipped with the right information through training as religious outlets serve the purpose of reaching out to their members either through organised training or through the messages of their clergies. Members of most faith groups have strict followership to such personalities and faith bodies that could help the government to disseminate needed public information for the benefits of the state and her actors.

Why Is The Utilisation Of MAS Low?

Table 6: Reasons for not using MAS

Reason for not using NAFDAC Mobile Authentication Service (MAS)		
No time to use it	1	12.9
The service is not effective	6	71.3
Do not know how to use it	2	15.8
Total	9	100

Source: Authors' field survey, 2015

Table 6 revealed the reason for the low usage of MAS. From the table, it is evident that the respondents consider the use of MAS services as not effective as 71.3% of them indicated this as the most important reason why they are not using the service. Other reasons adduced from Table 6 were lack of knowledge on how to use the services (15.8%) and a good number of them had no time to use the service (12.9%). Attempts were made to explore the reasons for lack of usage of MAS during the interviews and FGDs in view of the limited respondents from the quantitative data by finding out the reasons for low utilisation of MAS. The excerpts below provided the missing links:

“The response time is too slow. You send the text with the numbers but for days you will be lucky if you ever get a reply”
---interview in Ughelli

“Network do not help us to use the service very well. You send message but you do not get reply on time as expected”
.....FDG

“Most of us have no knowledge of the service and certainly we cannot use what we do not know about”
---a rural community FGD

“The scratch panel cannot be found in every drug, hence it usage is limited to the drugs with the panel. Also, some of us are too careless to use the service. Even when we have information, we considered it a waste of time to go through the process. Additionally, you know we buy retailed products in capsules and tablets which are dispensed to us from the pharmacies –especially the medicine stores, in these situation, we are helpless since the service only cover a small fraction of known drugs”.
-----an interview in Warri.

“Our government don try to help us to make sure say na good medicinainm we de swallow through this process but nepa no dey to charge phone for village for here. Even though say light dey, some people no get phone and no sabi even to use the phone”
-----an FGD in the rural area
 (Our government has tried to help us in making sure we get standard drugs through the use of MAS but there is no electricity to charge our phones in the village here. Even if there is power, some people have no phones and did not even know how to use phone)

“From my own point of view, the whole process of awareness creation by NAFDAC is too elitist in nature. I have seen the advert from them in NTA once but I must ask. How many people see the Network News every day? What is the fate of the rural dwellers where a higher proportion of our people reside?”
.....an excerpt from an interview in the rural area.

From the excerpts above, it is obvious, that the lack of usage of MAS has multiple reasons ranging from poor quality of network of phones operators leading to untimely response to text which more or less defeat the purpose of the MAS. Since timeliness is essential in authenticating any drug a buyer wants to buy, any delay may frustrate the purchaser to go ahead and buy without confirmation whether it is genuine or not. This will defeat the aim of MAS and the intentions of NAFDAC to get the society rid of counterfeits and sub-standard

drugs. Another revelation from the excerpts is that, MAS has not been truly national and wide spread as it ought to be. The promotion of the service is mainly in the urban areas where mass media are readily available, which is not a regular source of information to rural dwellers, hence, most rural dwellers are cut off from the knowledge of MAS and by extension usage of the service even when some of them may have desire to use the service.

Close to issue of poor spread of the message of MAS by NAFDAC is poor power supply. Power supply to rural communities and indeed the whole of Nigeria is a massive challenge. Therefore, persons who are able to afford phones used them intermittently between when there is power and keep off the phones after such power is drained due to lack of charging – leading to further reduction in the few rural dwellers who would have used the service.

Another reason for lack of usage of MAS stemmed from the nature of some of the drugs. The scratch off panel is not in all drugs especially retailed drugs in medicine stores. Even if one is knowledgeable about the usage, authenticating such drugs becomes an extremely difficult task. Also, we have attitudinal issue with most consumers who are too much in haste and considered the use of the MAS as useless expenditure of time; therefore the usage is not necessary. Additionally, ignorance on the part of the people is a challenge; some persons especially in the rural communities are not able to operate the service because they are illiterates and lack understanding of its usage. Similarly, poverty is so endemic in the rural communities that even purchasing phones is not an easy venture.

IV. Conclusions And Recommendations

The aim of this study was to determine the reasons for the low usage of NAFDAC's Mobile Authentication Service in Nigeria with the objectives of assessing the awareness and utilisation level of the service. The awareness level of the study population about the NAFDAC's Mobile Authentication Service is still very low especially in the rural communities. This in turn has led to low utilisation of the service both in urban and rural locations even though there was a higher incidence of utilisation in the urban centres than the rural communities. The low awareness as well as low utilisation were caused by delays in authenticating the service by mobile phone operators, elitist nature of government campaigns/awareness which has limited the reach of the service to mostly urban localities with very little effects in rural communities, difficulties in authenticating retailed drugs since the service is only for few drugs, poor infrastructures such as electricity, poverty among the people and general ignorance of the population.

It is recommended that government (NAFDAC) should put programmes in place to create greater awareness using multifaceted media such as the mass media, religion bodies, and communities' outlets such as town hall meetings through the use of traditional institutions. This will enable them to pass the message of the benefits of MAS to them appropriately and correct any myths about the services. Additionally, networks providers are key stakeholders whose efforts or inputs will either make all mar the success of this exercise. NAFDAC should reach them for dialogue on how the service could be improve upon to get timely responses by looking for a fast delivery system in the network. Important here is the need to synchronise the services of all the network providers for the good and effective delivery of MAS. In the area of retailed drugs as well as other drugs excluded from the service, NAFDAC should make it a policy to make sure that the companies should develop strategies to key into MAS. One way of doing this is to reduce the retail contents of drugs sold in tablets which are counted by providing mini packets with MAS. Lastly, government should address the problem of poor infrastructures especially address poor electricity supply.

Limitation /Recommendation For Further Study

Though the use of qualitative data helped to address the challenge of the limited number of respondents used in the study, limited settlements and locations were covered in the study. Extending the study to more local government areas and communities would have produced more representative sample. Also, most of the analyses here were purely descriptive. Further studies to look at the relationship between socio- demographic variables and the use of MAS is required like analysing for the place of education in awareness and use of the service is needed with more representative sample size.

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