LIMITING THE COMMUNITY TRANSMISSION OF COMMUNICABLE DISEASE OUTBREAKS THROUGH LOCAL-EVIDENCE-BASED AWARENESS CREATION

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Abstract

Awareness creation (AC) is an effective strategy for curbing the prevalence of communicable diseases (CD) as the knowledge level and prevailing attitude (IFC) of residents towards an outbreak, epidemic or a pandemic are cogent to its prevalence in any community. While authorities in many countries in Africa invested much in creating proper awareness about CDs/pandemics such as COVID-19, the use of mainly foreign visuals greatly limited their viable effectiveness. Adopting a mixed method of investigation, with the COVID-19 pandemic as a case study, this study examined the difference in the effectiveness of local and foreign visual evidences of confirmed infection cases. In the absence of local visual evidences, foreign visual evidences were localized as an alternative. Materials: a total of 10 images and two animated clips were adopted for the study. Subjects: a sample size of 312 was adopted. Following one hypothesis test conducted using Chi-Square, $X^2 (1, N = 312) = 53.1711, p < 0.00001$, the study revealed that local visual-evidence-based AC contents were more locally effective than foreign visual-evidence-based AC contents. The study therefore concluded that with the adoption of more local or localized visual evidences, the likelihood of health, environmental or social related behavioural adjustments were greater. Therefore, this study recommended that nations, especially African communities, should adopt more of their own locally available evidences of CDs in AC as an effective way to curb their community level prevalence.

Keywords: Awareness Creation (AC), Communicable Diseases (CD), Covid-19, IFC, Public Health, Design.
1.0 Introduction

There is no need to beat about the bush about it, Nigeria, as at the time of this study, as well as most other African nations are still far behind in term of technological advancement relative to nations such as Japan, United States of America or the United Kingdom and the medical sector is not an exception to this assertion. Although, undoubtedly, Nigeria has the medical and technical know-how, it however lacks the facilities necessary for its medical and technological workers and researchers to work with. Therefore, consequently, their capacity to cope with health demands is low. It was no surprise then that the Australian Department of Foreign Affairs and Trade (DFAT) rightly pointed out that availability and accessibility of quality medical services are inadequate in Nigeria, with most Nigerians incapable of affording health care (MedCOI, 2020). According to the same report, demand for public health care considerably exceeds supply (MedCOI, 2020). According to a previous study which reviewed the state of the Nigerian health care system, the public health sector, aside from providing adequate and timely medical care, also tracks, monitors, and controls disease outbreaks such as COVID-19 (Menizibeya, 2011). However, Nigeria falls short in this respect and its difficulty in containing the prevailing COVID-19 pandemic was partly ascribed to the fragility and current unsustainability (as at the time of this study) of its medical sector (Odji, 2020a; Odji, 2020b).

Containing the corona virus pandemic was not only challenging for Nigeria alone, but also for countries like the U.S.A, UK, Italy and so on who were reputed to have better and obviously more competent, functional and sustainable health care systems and technological capacities. The fact that there had been no vaccine yet to combat the prevailing pandemic (as at the time of this study) made the fight against COVID-19 even the more challenging for Nigeria that was already suffering from poor health care availability and accessibility. And to add salt to an already rather painful injury, the discouraging, unconcerned and carefree attitudes of many Nigerians towards the pandemic made it even more difficult for the already handicapped Government, health care workers and other significant actors to contain the prevalence of the pandemic especially at the community level (Odji, 2020b). While the transmission of the disease was only at the inter-community, or preferably inter-state level alone, the federal Government could readily contain or slow down the spread by limiting inter-state migrations which the government effected in the forms of travel restrictions. Unfortunately, due to the porosity of the state borders, some defiant citizens still embarked on inter-state travels successfully thereby increasing the risks of community level transmission of the communicable disease (CD). At the community level of transmission, for a densely populated country like Nigeria, this could lead to significant public health problems. One could only wish that the prevailing CDs such as COVID-19 do not spread to the core rural areas where, judging from the results of previous studies on the prevailing situations in the areas (e.g. Odji, 2020a), it may give rise to major public health problems. For instance, community index cases may quickly gain exponential increases in
prevalence. Most African countries including other developing or less developed countries (LDC) worldwide stand similar risks.

While the government, as assumed, as well as especially the health workers (many of whom remained uninsured as at the time of this study despite the risks involved in the fight against COVID-19 and other CDs) were trying their bests, the laxity in the fight against COVID-19 and other CDs could not be blamed on the poor output of the health care sector or on the handicapped government alone. The Ignorance, False knowledge adoption/proliferation and Carelessness/carefreeness (IFC) of the citizenry had also been identified as major factors promoting the proliferation of COVID-19 and other CDs in Nigeria and this situation was not unique to Nigeria relative to other developing countries or LDCs (Odji, 2020a). These aforementioned challenges including weak surveillance systems, negative citizenry attitude and poor public infrastructure left the government, aside from other possible options, with a key preventive and containment measure: Awareness creation (AC).

Awareness creation has been described in various forms: an approach to bringing a particular issue to the attention of a target group (NYN, 2000) or the promotion of an idea to influence thoughts and/or behaviours (an advocacy) (Ilo, N/A). Perhaps, one of the best descriptions so far would be a deliberate attempt to inform, persuade and provoke to action or adjustment a target group or sub-group of a community using organised communication activities through specific channels, with or without other supportive community activities (Rice & Atkin, 2000). Generally, awareness creation, which may involve a small target group of individuals or a larger population (public campaigns), is the deliberate attempt to impart knowledge or increase the knowledge, consciousness, intentionality and sentience of a target group about a specific subject with the aim of influencing their behaviour or attitude. It is mass persuasion. However, it ceases to be a persuasion attempt when coercion sets in.

In consonance with studies such as Odji (2020b), the government, both at the state and the federal levels, have invested a lot in AC campaigns in the fight against CDs with emphasis on COVID-19. However, the fatalities recorded were not lending credits to their positive efforts except in cases such as the 2014 Ebola outbreak [a success which could have as well been attributed to the fact that the CD did not go beyond Lagos state to community-level transmission in other states or rural areas in Nigeria unlike what happened in other countries like Guinea, Liberia and Sierra Leone. Better still, more credence should be lent to the Nigerian national heroin, Dr. Ameyo Stella Adadevoh, for her role in curbing the possible widespread transmission of the Ebola virus by quarantining the index case, Patrick Sawyer, against all odds(Ogunlesi, 2014)].

For the purpose of greater AC campaign effectiveness, Odji (2020b) recommended the adoption of more local visuals as a means of containing prevailing CD outbreaks. However, a mild
assessment of the AC contents/materials revealed that over 70% of the contents adopted in the study are prior to this study were foreign (e.g. Figures 1 and 2) except for statistics.

**Figure 1**: A frame from a foreign corona virus animated clip widely used in the study area in various AC campaigns.

**Source**: Scientific Animations (2020).

**Figure 2**: Non-Nigerian images like this one were widely used in AC contents in the study area.

**Source**: Ibezim-Ohaeri (2020).

This study is guided by the thesis that, perhaps, the attitude of the populace would be positively different if news coverage, posters, billboard adverts, television jingles, written and visual reports portrayed more of local visual evidences to back up the mere statistics and foreign visuals to which the citizens are exposed. Unfortunately, as already noted by Odji (2020b), foreign visual contents may help inform, educate or increase knowledge about CDs, but may not necessarily influence/inspire needful attitude or behavioural adjustments amongst the locals.
While the cited study (Odji, 2020b) lent credence to the adoption of local visuals CD evidences, instead of the adoption of foreign visuals, it does not, however, indicate beyond doubt whether or not adopting local visual evidences would actually yield more encouraging positive behavioural or attitudinal changes amongst the locals. This is the gap the current study was aimed at filling: to investigate the possible existence of a viable link between local visual adoption and positive attitudinal or behavioural changes. In the unavailability of actual local evidences of the presence of CDs such as COVID-19 in Nigeria, the current study investigated if behavioural adjustments could possibly be inspired amongst selected study area residents (who yet showed no significant positive behavioural adjustments) using localized foreign visuals (graphically manipulated foreign visual evidences made to look like local visuals).

Nigeria might have been ‘lucky’ with the containment of the Ebola outbreak because the community level transmission was prevented/contained before it went out of control. In the same vein, curbing the community level transmission of other CDs such as COVID-19, Laser fever and so on is paramount in the containment of CDs. For example, while it is easier to identify and avoid new members or visitors in a community who might be carriers of a disease pathogen, the instinct and drive to take proper precautions, i.e. avoid or distant oneself from a known close member of the community who might have already been infected (symptomatic or asymptomatic), might be weak. While it is the duty of a government and other concerned organs of any functional society to protect the health of the public against possible threats, the attitude or behavioural disposition of the public or community residents must be favourably adjusted towards achieving this goal. It is difficult or almost impossible to protect a public that are ignorant, false information guided and unwarrantedly careless/carefree (IFC). IFC is a major reason CDs are often more relatively widely prevalent in Africa (Odji, 2020a). However, with the adoption of more effective AC, IFC might be significantly alleviated which will in turn significantly alleviate the proliferation of CDs.

### 1.1 An Effect of AC Effectiveness on Persuasive Designers

AC is persuasive communication. Communication is design. This notion was reflected in a multivariate definition in which design was defined as the ‘planning and creation of a human-made product/object, service, system, space driven by problem-solving in fulfilment of human necessities which include utility, comfort, beauty, emotion and, most importantly, communication and so on (Montana-Hoyos & Lemaitre, 2011; Gülcan, 2015). AC is a type of persuasion, provided there is no use of coercive forces. Contents or materials adopted in AC are the professional outputs of persuasive or graphic designers. Influencers, leaders, brands and leading companies depend on design for success. According to the Design Council (London), design plays very significant roles in the success of several of the leading companies in the world (Design Council, n.d.). When AC contents turn out not as effective as they should, the designer,
aside from other principal actors, takes a huge chunk of the blame. When designs are effective, he/she also takes a chunk of the credits. This may be described as professional responsibility.

Blame has been described as a distinctive moral judgment that is cognitive and social and regulates social behaviour (Malle, Guglielmo, & Monroe, 2014). According to Malle et al. (2014), there are three types of moral judgments namely: setting and affirming norms, evaluating events (outcomes, behaviours) and evaluating agents for their involvement in norm-relevant events, such as judging some-one as morally responsible, blame- or praise-worthy. The last two types are most paramount in the context of the current discuss with designing as an event and the designer as an agent. This means that a designer is rightly worthy of praise or blames as the case may be for the effectiveness of his/her design outcomes. It is safe then to state that if the AC strategies are not effective enough in the combat against CDs, including COVID-19, then the AC content designers should rightly take a share of the blame. The system should always take the blame for its errors or laxities and the designer is a principal part of the creative/production system. Therefore, aside from the need to protect their professional integrity, it behoves the design professionals and researchers to constantly seek for ways to improve of the effectiveness of their outputs or products (objects, designs, services or contents and so on), a goal this study is aimed partly at fulfilling.

2.0 Method

The study was conducted in Ondo state in South Western Nigeria with population estimated at 3,460,877 (NPC, 2019). The Yamane formula, Equ.1, was used to derive the initial sample size of approximately 400 at a 0.05 margin error. The Yamane formula is represented mathematically thus:

\[ n = \frac{N}{1+Ne^2} \]  
Equ. 1

where \( n \) = derived sample size \( \approx 400 \)

\[ N= \text{Population under study} = 3,460,877 \]

\[ e= \text{margin error} = 0.05 \]

Criterion sampling was adopted due to the nature of the research. The criteria were: (a) respondents must be people who do not believe COVID-19 exists despite having been exposed to the currently adopted AC contents (which were predominantly foreign visuals based) and (b) they must be willing to be observed (c) Must be a defiler of the established COVID-19 prevention guidelines as stipulated by the Nigeria Centre for Disease Control (NCDC) such as correct nose-mask wearing, social distancing and so on. Respondents were not informed that they would be observed in their everyday life (with the aid of covert research assistants).
Consequently, due to challenges such as need for privacy, security purposes, current CD containment and social distancing measures and so on, only 312 respondents met the criteria for involvement in the study. The need to have both gender equally represented in the study also affected the sample size. Therefore, only 231 respondents were adopted for the study instead of the 400 derived through the Yamane formula. A total of 10 images and two animated clips were adopted for the study.

2.1 Research Objectives

The study objectives were to:

(a.) Generate localized visual images (to serve as local evidence alternatives) to be used to create COVID-19 awareness.
(b.) Investigate if localized foreign visual evidences produce corresponding behavioural adjustments.

2.2 Research Hypothesis

H₀₁: There is no significant association between the adoption of local visual-evidences and the local effectiveness of AC contents.

Hₐ₁: There is a significant association between the adoption of local visual-evidences and the local effectiveness of AC contents.

The local effectiveness of the adopted AC contents was weighed in terms of behavioural adjustments of study participants.

2.3 Method of Data Collection

Images popularly available online or offline were adopted. Images had to be largely assessable to the public as that contributed to awareness creation. Therefore, publicly available images used in news/reports, jingles, posters and so on were adopted for purely academic research purpose only. Statistical data was collected through direct covert observations, mostly with the aid of research assistants. Subjects were observed for a period of one week each after first day of interaction with the research team.

2.4 Method of Data Analysis

Data collected were represented using descriptive statistics including frequencies and percentages. Chi-square statistics (Equ.2) was adopted for the testing of the study hypothesis as adopted by Odji (2019). The decision rule was to reject H₀ (The null hypothesis) if significance level (p-value) is less than alpha (α=0.01, the predetermined significance level).
\[ X^2 = \sum \left[ \frac{(f_e + f_o)^2}{f_e} \right] \quad \text{Equ. 2} \]

Where,

\( X^2 \) = Chi-square  
\( f_o \) = Observed frequency  
\( f_e \) = Expected frequency

### 3.0 Result, Analysis and Discussion

This section presents the results of the study followed by a brief discussion. In the first part, foreign visual evidences were localized as an alternative to real local evidences of COVID-19 existence and prevalence in the study area. This was due to the fact that there were no publicly available visual evidences confirming the prevalence of COVID-19 in the study area. Respondents were exposed to the localized visual evidences and their behavioural adjustments were observed to weigh the possible impact of the local visual evidences in AC. The impact of foreign visuals was weighed against that of the localized visual evidences.

#### 3.1 Objective One

To achieve objective 1, five publicly available original images were adopted (Figures 2, 3, 4, 5 and 6) and one foreign animated clip (Figure 1). Sources of original images were as cited below each figure. ‘COVID-19’, ‘COVID-19 in Nigeria’ ‘COVID-19 patients’ and ‘COVID-19 patients’ treatment’ were related themes adopted for the image search using the Google search engine.

#### 3.1.1 Original Images and Sources

![Figure 3](image-url): A mock corona virus patient in Kenya

**Source of Original Image:** Zhu (2020).
Figure 4: Intensive Care Unit Medical workers ventilating a COVID-19 patient in severe condition by ‘proning’ or prone patient positioning.


Figure 5: Medical Officials attending to a patient.


1Proning is the positioning of patients with abdomen facing down (i.e. lying on their chest/stomach). The technique is usually used for people suffering from acute respiratory distress syndrome (ARDS).
Figure 6: Medical personnel participating in a drill to test health care system competence against a potential mass influx of corona virus patients in Nairobi, Kenya.


3.1.2 Image Manipulation/Localizing Processes

The adopted images (foreign visual evidences) were manipulated and branded with Ondo state and Nigerian emblems and recognizable celebrity images/photoframes. For instance, the image of the current president of Nigeria and the Ondo state official logo (as at the time of study) were fused into samples to localize them and serve as ‘deceptive clues’ to attract the observers and provide for recognition. The processes adopted, as shown in Figure 8, included:

(a.) **Image selection**: This involved selecting images that reflected the treatment of COVID-19 or other CDs from both African and non-African countries.

(b.) **Logo branding** of key features, props, walls and equipments e.g. branding of face masks, hospital bedssimilar to what was adopted by the government in the study area (as at the time of the study).

(c.) **Skin-shadding** of human figures that were not blacks e.g. Figure 2 to Figure 11.

(d.) **Inclusion of recognizable images of known figures** such as the picture frame of the president of Nigeria (as at the time of the study).

(e.) **Final photo-editing** to blend the changes made, improve photo-realism and hide possible leaks.
Figure 7: Some image localizing processes adopted.

Source: Odji Ebenezer (2020).

3.1.3 Final Images after undergoing the Manipulation/Localizing Processes

The adopted images were processed into Figures 8, 9, 10, 11 and 12. In what were made to seem like regular conversations, Figure 8 was described as one of the COVID-19 patients at the isolation centre in study area. Figure 9 was described as a patient currently undergoing proning at an isolation centre in Lagos state but was originally being treated in the study area. Figure 10 was labelled a patient receiving treatment at the state Infectious Disease Control Centre (IDCC) in the study area. Figure 11 was simply described as a patient undergoing ventilation in the stateIDCC supervised by the NCDC visiting officials. Figure 12 was described as a COVID-19 patient at the Federal Medical Centre, Owo being relocated to an ICU in Lagos state, Nigeria. Generally, image descriptions were adjusted as considered appropriate to convince each participant. Figures 13a and b were snapshots from an animation created by a Nigerian. This animation, produced by Niyi Akinmolayan, was reported to have been adopted as far as Brazil and Turkey in AC (Salaudeen, 2020), yet it hardly featured in the study area as at the time of this study.
Figure 8: Processed image of COVID-19 patient wearing a digitally branded protective face mask as adopted in the study area during the pandemic.

Source: Odji Ebenezer (2020)

Figure 9: Branded hospital gears, bed and wall.

Source: Odji Ebenezer (2020)
Figure 10: Image underwent light and shade adjustment, wall and gear branding.

Source: Odji Ebenezer (2020)

Figure 11: Image underwent skin colour shadding, light and shade adjustment, colour replacement, gears/equipment and wall branding.

Source: Odji Ebenezer (2020)
**Figure 12:** Processed image with recognizable celebrity picture-frame inclusion, colour replacement, gears and wall branding.

*Source: Odji Ebenezer (2020)*

**Figure 13a and b:** Images from a locally available animation produced by a Nigerian.

*Source: Salaudeen (2020).*
Objective Two

In order to achieve the second objective of the study, the total number of respondents was divided into two equal halves and each half placed into two independent groups namely group A and group B as shown in Table 1. Therefore, each group had 156 members each.

Table 1: Demographic distribution of study participants.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Gender</th>
<th>Group A</th>
<th>Group B</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>80</td>
<td>76</td>
<td>156</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>77</td>
<td>79</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>157</td>
<td>155</td>
<td>Grand Total = 312</td>
</tr>
</tbody>
</table>

Source: Odji Ebenezer

Group A participants were exposed to existing AC contents (tagged FEACC i.e. Figures 1, 2, 3, 4, 5 and 6) while group B members were exposed to the localized/processed contents (tagged LEACC i.e. Figures 8, 9,10,11,12 and 13). Subjects were rated as adjusted if they showed at least a positive change in their attitude towards the promoted COVID-19 and other CDs preventive guidelines which they did not initially believe in nor abided by. For example, when a subject who previously was not correctly wearing his/her protective nose/face mask began to wear it (correctly), then he/she was rated as positively adjusted. Images were presented to respondents through mobile devises, on social media platforms (pretending to be images circulating the social media platforms) and in hardcopy printed forms, after which respondents were then monitored. The results were as presented in Tables 2, 3 and 4.

Table 2: Behavioural Adjustments noticeable after exposure

<table>
<thead>
<tr>
<th></th>
<th>Group A</th>
<th></th>
<th>Group B</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adjusted</td>
<td>Not Adjusted</td>
<td>Adjusted</td>
<td>Not Adjusted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>69</td>
<td>39</td>
<td>40</td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>74</td>
<td>33</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>143</td>
<td>72</td>
<td>83</td>
</tr>
</tbody>
</table>

Source: Odji Ebenezer

As shown in Table 2, only 10.39% of females exposed to FEACC showed positive behavioural adjustments. 89.61% showed no positive behavioural adjustment. In a similar vein, only 7.5% of the males in group A showed any sign of behavioural adjustments. The larger 92.5% showed no sign of behavioural adjustment. 49.37% of the female participants in group B showed evidences of behavioural adjustments after exposure to LEACC. However, a larger 50.63% of them showed no evidence of behavioural adjustments. Amongst the male participants in group B, only 43.42% showed evidences of behavioural adjustments. The remaining 56.57% showed no evidence of
positive behavioural adjustments. While the larger percentage of the total population sampled (72.4%) were not persuaded to adjust their behaviour in line with the CD or COVID-19 pandemic containment/prevention guidelines, the results however showed that a higher percentage of respondent were more likely to be persuaded to adjust their behaviours when exposed to local evidence based AC contents than foreign evidence based AC contents. This inference was tested in the study hypothesis.

Also noticeable from Table 2 was that female subjects in the study area were more likely to be persuaded to adjust their behaviour than males. This notion is subject to further intrinsically detailed studies.

3.3 Hypothesis Testing

**H$_{01}$**: There is no significant association between the adoption of local visual-evidences and the local effectiveness of AC contents.

**H$_{A1}$**: There is a significant association between the adoption of local visual-evidences and the local effectiveness of AC contents.

**Table 3**: Contingency table 1 showing the frequency distribution of the adjustment states of respondents after exposure.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Exposure To LEACC</th>
<th>Adjusted</th>
<th>Not Adjusted</th>
<th>Marginal Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exposure To LEACC</td>
<td>72</td>
<td>83</td>
<td>155</td>
</tr>
<tr>
<td>2</td>
<td>Exposure To FEACC</td>
<td>14</td>
<td>143</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td><strong>Margin Column Total</strong></td>
<td><strong>86</strong></td>
<td><strong>226</strong></td>
<td><strong>n= 312</strong></td>
</tr>
</tbody>
</table>

**Source**: Odji Ebenezer

**Table 4**: Contingency table 2 showing the ‘observed cell totals’, (the expected cell totals) and [the chi-square statistic for each cell].

<table>
<thead>
<tr>
<th>S/N</th>
<th>Exposure To LEACC</th>
<th>Adjusted</th>
<th>Not Adjusted</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exposure To LEACC</td>
<td>72 (42.72)</td>
<td>83 (112.28)</td>
<td>155</td>
</tr>
<tr>
<td>2</td>
<td>Exposure To FEACC</td>
<td>14 (43.28)</td>
<td>143 (113.72)</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>86</strong></td>
<td><strong>226</strong></td>
<td><strong>312 (Grand Total)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N</th>
<th>DF</th>
<th>Chi-Square</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>312</td>
<td>1</td>
<td>55.0349</td>
<td>&lt; 0.00001</td>
</tr>
</tbody>
</table>

**Yates Correction Values** 53.1711 < 0.00001 Reject $H_0$

**Source**: Odji Ebenezer
The Chi-Square test of independence was performed to examine the relationship between exposures to local or foreign evidence based AC and the possibility of positive behavioural adjustment favourable to curbing CDs like COVID-19. The relation between these variables was significant, $\chi^2 (1, N = 312) = 55.0349$, $p < 0.00001$ (Table 4). Subjects that were exposed to local evidence based AC contents were more likely to be persuaded to adjust their behaviour (in line with the COVID-19 and other CD prevention guidelines) than subjects exposed to foreign evidence based AC contents. However, to limit the possibilities of error and improve result integrity, Yates correction was performed alongside. The relation, with Yates correction, between these variables was still significant, $\chi^2 (1, N = 312) = 53.1711$, $p < 0.00001$ (Table 4). Therefore, the null hypothesis is rejected strongly and the alternative hypothesis which establishes that people were more likely to be persuaded to adjust their behaviours when exposed to local visuals evidences rather than foreign visuals was adopted. This means that, while foreign visuals may be sufficient in educating the public (i.e. about CD preventive or containment measure, environmental sustainability and so on), they may however be ineffective in persuading the public to adjust their attitude. Perhaps, that was the reason why many people in Nigeria either do not yet believe (as at the time of this study) that such CDs as COVID-19 truly existed despite the volume of investments going into AC/health education.

4.0 Summary of Findings

Bringing an issue to the attention of a target group is more effective with the use of visual evidences to which the target group can relate or identify more with. Familiarity seems to optimise chances of believability. A Nigerian possesses greater likelihood to relate more with Nigerian visual evidences than with a European alternative. As shown in Tables 2, 3 and 4, subjects were more likely to be persuaded to adjust their behaviours when exposed to local visual evidences than when exposed to foreign visual evidences. The study therefore confirms that local visual evidences were more effective in comparison to their foreign counterparts in persuading the local public to adjust their behaviour in line with CD preventive guidelines.

5.0 Recommendations

The following recommendations were proposed based on the results of the study:

1. Judging from the population, as at the time of study, of those with wrong or negative attitude-influencing opinions (such as “COVID-19 does not exist,” “they exist, but not as badly as the government makes it look,” and so on), urgent effective awareness must be created at the grassroots to curb the aggravation of the prevalence of CDs.
2. The ministries or departments of health in countries like Nigeria should emulate other nations like the U.S.A and China who made available to the public visual images/evidences of local laboratory confirmed infection cases (e.g. Figure 14) that may then be used in AC content creation. This should particularly be urgently applied in the
fights against the prevailing pandemic [COVID-19 as at the time of this study] and other existing [e.g. Lassa fever which, as at the time of this study, had a case fatality ratio of 14.8% in Nigeria (WHO, 2020)] or future CD outbreaks.

Figure 14: A Covid-19 patient being attended to by a Moroccan health official.  
Source: Amira (2020).

3. Localized foreign images may be temporarily adopted as an alternative to local evidences, in cases of urgency. However, the designers, design sponsors or the government stand the risk of losing their integrity if their intentions are misinterpreted.

4. Further studies may be conducted to investigate how to further optimize the effectiveness of AC contents.

6.0 Conclusion

Creating effective awareness about a CD is a key strategy for curbing its spread/prevalence in a community. While authorities in many countries in Africa such as Nigeria, Ghana, South Africa, Sudan, Kenya and so on are investing much in creating proper awareness about prevailing CDs/pandemics such as COVID-19, the use of mainly foreign visuals is limiting their viable productivity/effectiveness. However, with the adoption of more local or localized visual evidences, possibilities of positive, health, environmental or social adjustments are greater. Therefore, this study recommended that nations adopt more of their own locally available evidences of CDs as an effective way to curb their community level prevalence. A nation is safer when its constituent communities are safer.
References


Ilo. (N/A). *Prevention and Protection Through Awareness Raising & Advocacy [Prevention Strategies –].* Retrieved June 6, 2020, from ilo.org:


https://explore.openaire.eu/search/publication?articleId=od_______2659::f6bcf4cc7b35ef22b0d47c1c0815487e.


