

## **Influence of Three Communication Intervention Programmes on Attitude and Perception of 'Baby Factory' Phenomenon among In-School Adolescents in Abia State, Nigeria**

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### **Abstract**

The study evaluated the influence of audio-recorded and print media communication intervention messages on attitudes and perceptions of 'baby factory' phenomenon among in-school adolescents in Abia State, Nigeria. The study adopted quasi-experimental design with three intervention groups and a control group. The population comprised 80,695 Senior Secondary School students drawn from 246 public Senior Secondary Schools in Abia State, South-east Nigeria. A sample size of four hundred was selected from four Local Government Areas by a combination of simple random and multi-stage sampling techniques. Results show that the communication intervention messages designed and used to educate the respondents through audio recorded messages, stickers, posters and leaflets had greater influence on the attitude and perception of in-school students on 'baby factory' phenomenon, which indicated that there were changes in their attitude and perception towards 'baby factory' phenomenon and concluded that theory-grounded Media-Communication intervention programmes have the potential of changing the attitudes and perceptions required to equip teenagers to make informed decisions on dangers of involvement in 'baby-factory' activities. It is recommended that media houses, NGO's and the government should come up with intervention programmes on 'baby factory' activities in order to curb this phenomenon.

**Keywords:** Adolescents, Attitude, 'Baby-factory', Media, Communication, Intervention programme, Perception.

### **Introduction**

Communication campaigns are effective tools that can be used to convey behaviour-change messages through the use of television, radio, newspapers, leaflets, booklets, posters and billboards aimed at influencing attitudes and practices of the public. Studies have shown that communication campaigns can be used to promote health and social change (Esere, 2008; Boles, Adams, Gredler and Manhas, 2014). Some of

these media intervention programmes have been effective in changing the behaviour of some members of the public and in raising awareness of some health programmes and other sex-related behaviours while others have not been quite effective (Bessinger, Katende, and Gupta, 2004). The Roll Back Malaria (RBM) campaign programme in Nigeria, which the basic goal was to reduce the malaria burden of citizens, had positive effect on the targeted audience. This programme created awareness of the importance of net usage both treated and untreated that changed the attitude of the targeted audience to net usage and increased the demand for the nets (Babatunde and Suleiman 2015; Ankomah, Adebayo, Arogundade, Anyanti, Nwokolo, Inyang, Ipadeola and Meremiku, 2014).

The United Nations Children's Fund (UNICEF) developed Information, Education, Communication (IEC) materials such as leaflets in different languages and jingles in local languages to all state Radio stations in Nigeria. Comparative analysis of data from National Immunisation Days (NIDs) and Immunisation Plus Days (IPDs) showed that more children have been immunised than before and many children who missed immunisation before were reached (UNICEF, 2006). Communication materials such as leaflets, posters, jingles and others are used to create, raise awareness, increase knowledge and influence attitude about health and social issues in Nigeria.

In 2003, Nigeria adopted the Child Rights Act to domesticate the convention on the rights of the child and established the National Agency for the Prohibition of Trafficking in Persons (NAPTIP) in order to enforce the United Nations Convention on the Rights of the Child (UNCRC) and the Child Rights Act. Although the Child's Right Act was adopted in Nigeria, the issues related to children's right such as child abuse, child labour, child trafficking still occur in Nigeria and some of these issues are becoming rampant. One of these issues is 'baby factory' activities, which is a form of child abuse and sex trafficking. The United Nations Convention on the Rights of the Child which was passed on November 20, 1989 advocates for the right of the child and that the child by reason of his physical and mental immaturity, needs special safeguards and care, including appropriate legal protection, before as well as after birth (United Nation, 1996).

The term 'baby factory' also known as '*Baby Harvesting*' does not have legal definition but it is rather used by Nigerian journalists to describe the criminal activities in parts of the country involving the harbouring of girls with unwanted pregnancies, the forced impregnation of helpless young girls, and the sale of their babies for illegal adoption to individuals and for other illegal practices.

'Baby factory' according to Okosun (2013) is an institution where young girls are deliberately impregnated for the purpose of producing children that will be taken away from them soon after delivery for onward sale to buyers. 'Baby factory' phenomenon is becoming rampant in Nigeria. Teenagers with unwanted pregnancies are also lured to illegal homes, or teenagers who are financially challenged are

impregnated by men in those homes; they are kept in these illegal homes for the duration of their pregnancy and after their babies are born, the babies are taken from them, sold to buyers and they are given small amount of money and thrown out or allowed to go. These teenagers most times are abused, maltreated as they suffer the denial of basic education, healthcare, and rights of children. Some of them suffer malnutrition and do not enjoy the comfort that a home can offer especially in their pregnant condition and they also suffer from the loss of their babies, not knowing what happens to their babies. According to Adelaja (2014, p.1), “the first cases of *'baby harvesting'* in Nigeria were officially reported in 2006 by UNESCO. The United Nations specifically referred to three Nigerian states: Abia, Ebonyi, and Lagos”, as the states where this heinous crime is being practiced.

Communication through broadcast, print media and other forms of media educate, and shape opinions of the public. Communication as a process of disseminating and exchanging information to others can be used to deliver information to the public through the mass media or communication materials. Information through communication materials will educate the society and as education tools facilitate efforts to impart knowledge and promote actions, thereby broadening the perspective of the masses on relevant issues. Information can be transmitted to a wide audience through the electronic media, print media, billboards, Internet and other printed materials. It is expected that the attitudes and behaviours of the audience through the information gotten from broadcast media and printed materials will be influenced. This study, therefore, looked at using communication intervention programmes through audio recorded message, stickers, leaflets and posters to change attitude and perception of *'baby factory'* phenomenon among senior secondary school students in Nigeria.

### **Statement of the Problem**

*'Baby factory'* activities in Nigeria are making the news headlines involving the abuse of the Nigerian Child who is vulnerable and needs protection from any form of exploitation and who should have freedom of expression. According to James (2000), children who are abused sexually are at greater risk of engaging in antisocial and criminal behaviour later in life. They may have low self-esteem; feel humiliated, guilty and sad. They may develop problems with verbal and written communication. Some of these children may live in fear and may have to bear the additional traumas of social stigmatisation, marginalisation and even rejection by their family members and their communities.

Despite the efforts of security agencies, mass media and the National Agency for the Prohibition of Trafficking in Persons (NAPTIP) (which was established to enforce the United Nations Convention on the Rights of the Child (UNCRC) and the Child Rights Act) to curb the practices of trafficking of any form, issues of *'baby*

factory' in many parts of Nigeria continue to exist and is becoming rampant. Also, with international efforts that are going on across all continents to stop trafficking and systematic abuse of the rights of children, high levels of child rights violations still continue. Children still suffer hunger, homelessness, sexual exploitation, and abuse of many types such as, forced labour and other forms of child abuse.

Communication campaign research on trafficking and particularly 'baby factory' is limited. Since this undesirable practice continued and the perpetrators seem unrepentant, it is assumed that educating youths about 'baby factory' activities will help to reduce the involvement of adolescents in 'baby factory' activities. According to Huntley (2013, p. 2) “a lack of information and awareness about “*baby factories*” also make women and children more susceptible to this phenomenon”. Nwaolikpe (2014) in a study on the perception of selected senior secondary school students on media coverage of 'baby factory' activities in Ifo Local Government Area of Ogun State found out that the students do not have in-depth knowledge of 'baby factory' activities in Nigeria which might be the reason why they are easily susceptible to 'baby factory' activities. Also, an earlier study by Nwaolikpe (2017) on communication intervention programmes on knowledge of 'baby factory' phenomenon among in-school adolescents had shown that in-school adolescents can gain knowledge of 'baby factory' activities in Nigeria through communication intervention programmes.

This study will therefore create and design communication intervention messages through audio recorded messages, stickers, posters and leaflets for in-school students to educate them on 'baby factory' activities which might change their attitude and perception towards 'baby factory' activities, thereby reducing the increase of 'baby factory' activities in Nigeria.

### **Objectives of the Study**

The general objective of this study is to determine the extent to which communication interventions involving audio recorded messages, leaflets, stickers and posters persuaded and changed the attitude and perception of in-school adolescents on 'baby factory' activities in South-East Region of Nigeria. The study sought to ascertain the attitudinal dispositions and perception regarding 'baby factory' phenomenon at both pre-and post-intervention among the participants. Specifically, the study would:

1. ascertain the attitudinal dispositions regarding 'baby factory' phenomenon at both pre-and post-intervention among the participants;
2. find out the level of perception regarding 'baby factory' phenomenon at both pre-and post-intervention

### **Theoretical Framework**

The following model guided this study:

#### **The Information Processing Model**

Information Processing Model was propounded by William McGuire in 1967. Information processing model relates to the process by which communications are received, interpreted, stored in memory, and later retrieved for use. In this model, McGuire identified twelve steps in the processing of persuasive communications, a person must be exposed to a message, attend to the message, take enough interest to process the message further, comprehend the message (learning what), acquire taught skills (learning how), yield to the message (attitude change), store the message content and/or the new attitudinal position in memory, retrieve that information at later times, make decisions based on the retrieved information, behave in accordance with that decision, receive positive reinforcement for so behaving, and make the new position a part of self by integrating it into his or her cognitive structures and habit patterns. Reaching any of these twelve steps is necessary for the success of presenting the message and exposing the receiver to the message.

Information about 'baby factory' activities would be exposed to the students; it is expected that they would have adequate attention span that will help them understand and comprehend the information on Baby Factory Activities (BFA) which will help them to have adequate knowledge about BFA; accept the information on BFA and then retain the information given to them. It is also expected that the students would spontaneously speak out, have positive reactions which will bring about attitudinal changes and good decision-making on not to get involved. The information about 'baby factory' phenomenon would be memorised by the students, and it is expected that the students would make commitment not to allow their friends to get involved (helping others to have changed attitude).

It is therefore expected that the intervention programme that would be designed will expose the teenagers to 'baby factory' activities' in Nigeria which would likely increase their knowledge on 'baby factory' activities and change their attitude and perception towards the phenomenon. The teenager's attention might be drawn to the phenomenon, and most of them might comprehend the intervention messages, accept them, retain the message contents in their memories and would later recall those intervention messages which will be seen in their attitude of not getting involved, educating others and reporting 'illegal' homes that pose as 'baby factory' centres.

### **Communicating for Social Change**

Communication is a powerful tool for social change. Communicating for social change involves the use of communication through different channels (old media – broadcast, print media, etc and new media or the combination of both) to address inefficient processes, systems and issues within a community. The community members acquire new knowledge, and skills, experiencing positive changes.

Communication through mix of media channels is used to bring about change in attitudes, behaviour, and knowledge in individuals and communities. Harmful

cultural practices, structural inequalities, social norms are transformed in communities with the use of communication. Communication helps to facilitate advocacy for decision and policy making for an improved environment. Social change in a community or system can be achieved through different communication channels. According to Servas (2008 p. 207) edutainment “combines the attraction of entertainment with educational messages to help educate, inform and encourage behaviour change to achieve development and social progress”, the mass media also use edutainment to create awareness and bring about changes in a nation. Social change for Moemeka (2000, p.10), “is generally a very important vehicle for offsetting or eliminating the dysfunctional effects of modernisation– 'pollution' from industrialisation; 'depopulation of rural communities' as a result of urbanization; ...”. In essence, social change can occur in both developing and developed countries.

Media, used as potent tools for social change inform the public by creating awareness of issues for example the cases of HIV/AIDS and child trafficking in Nigeria. Media-communication intervention campaign programmes are used to educate the public on societal issues, mobilise the public to take positive actions, change behaviours and attitudes. They also create a conducive environment and help to raise the level of participation of the public in development issues even at national level.

Eadie, Mackintosh, MacAskill, and Brown (2009) conducted a study on the development and evaluation of a mass media intervention programme to increase awareness, knowledge and early detection of mouth cancer in the West of Scotland. The mass media campaigns involved two 40 seconds advertisements (40” TVC – Television Commercials), one on television and the other on local radio, supported by wall posters, leaflets and direct mail leaflet drops in key target communities. In addition, there was news coverage in local and national press by broadcast media on the issue. A three-stage cross-sectional tracking survey with control was conducted to monitor campaign reach. A baseline survey was conducted before the launch of the media campaign and the study found out that the post-campaign difference between intervention and control samples remained significant. At the first follow-up, mouth cancer was the only one which differed by intervention status with intervention respondents having higher awareness of 92%. However, the difference was not maintained at the second follow-up, suggesting that the campaign may have had a short-term effect on awareness of the disease.

Shropshire, Brent-Hotchkiss, and Andrews (2013) investigated mass media campaigns impacts of influenza vaccine obtainment of university students. The general objective of the study was to describe the effectiveness of a mass media campaign in increasing the rate of college student's influenza vaccine obtainment. To increase vaccination rates, the campus student health centre set out to perform multifaceted media campaign consisting of power point presentation in classes, flyers, Internet, banner advertisement and social media from September to November

2011. Questionnaire items were developed and administered to 721 students who were vaccinated. The case-study data gathered were intended to gain insight into the students': recall, awareness, and levels of exposure surrounding the various communication elements; engagement with different social mass media channels; evaluate message understanding; and perceptions of the utility and quality of information product. The result showed that majority of responses indicated that the source(s) of information had moderate to strong influence over their decision to get vaccinated. The findings showed that the use of mass media to influence students at the Southern university to perceive, retain and act on the message of obtaining the influenza vaccine did produce a moderate to strong influence on the students' decision to get vaccinated.

Boles, Adams, Gredler and Manhas (2014) in another study on the ability of mass media campaign to influence knowledge, attitudes, and behaviours about sugary drinks and obesity examined the impact of a mass media campaign that was designed to educate residents about the amount of added sugars in soda and other sugary drinks, as well as the health impacts of consuming such drinks. The mass media campaigns were paid and unpaid media on the web, television, billboards and transit. The telephone survey with sample size of 402 in Portland Oregon, measured campaign awareness; attitudes toward obesity, knowledge about health problems of excessive sugar, and behavioural intentions and behaviours around soda and sugary drink consumption. The study found out that nearly 80% of people who were aware of the media campaign became aware of what sugary drinks can do and intended to reduce the amount of soda or sugary drinks they offered to a child as a result of the campaign adverts. 97.3% of those who were aware of the media campaign were more likely to agree that too much sugar causes health problem. The study concludes that media campaigns about sugary drinks and obesity may be effective for raising awareness about added sugars in beverages, increasing knowledge about health problems associated with excessive sugar consumption, and prompting behavioural intentions to reduce soda and sugary drink consumption.

Ankomah *et al* (2014) looked at the effect of mass media campaign on the use of Insecticides-Trusted Bed Nets (ITNs) among pregnant women in Nigeria. The main objective of the study was to create awareness through the mass media on prevention of malaria in pregnancy through the use of Insecticides-Trusted Bed Nets (ITNs) among others. Mass media campaign messages were aired on national radio and television stations in English, Pidgin English, and the three main local languages in Nigeria. Billboards with clear messages about the link between mosquitoes and malaria prevention were placed at strategic locations in major cities in Nigeria. The messages on the billboard were reproduced into posters and handbills that were widely distributed across the country. The study found out that the use of mass media in promoting the use of bed nets is effective. Respondents who know that sleeping under ITN prevents malaria were 3.2 times more likely to sleep under net (95%).

Those who listened to radio are about 1.6 times more likely to use ITN (95%) while respondents who had heard of a specific (monitored) sponsored radio campaign on ITN are 1.5 times more likely to use a bed net. The study concludes that mass media campaign is effective in creating awareness and educating pregnant women on malaria and advocates for the expanded involvement of the mass media in community enlightenment programmes.

Asemah (2015) examined the influence of HIV/AIDS media campaigns on sexual behaviour of Kogi State University students. The study adopted survey research method, administering questionnaire to 204 students of Kogi State. The study revealed that majority of the respondents (97%) were aware of the mass media campaigns on HIV/AIDS, majority of the respondents (36%) got their information from the radio, majority of the respondents 92% were of the opinion that the media campaigns gave them adequate information of the dangers of unprotected sex while majority of the respondents (76%) strongly agreed that mass media campaigns on HIV/AIDS influenced their sexual behaviours positively. Findings showed that the HIV/AIDS mass media campaign created awareness of HIV/AIDS issues on Kogi State students.

Eseré (2008) conducted a study on the effect of sex education programme on at – risk sexual behaviour of school-going adolescents in Ilorin, Nigeria. The objective of the study was to determine whether sex education intervention programme would reduce at-risk sexual behaviours of school-going adolescents, using quasi-experimental design. The study randomly selected 24 co-educational school adolescents ages 13-19 years in Ilorin Metropolis, Nigeria. The study adopted pre-test, post-test control group quasi experimental design using a two (2) by two (2) factorial analysis. The “At-Risk Sexual Behaviour Scale” was administered to the treatment group and the control group. The study found out that when the experiment (intervention) group was compared with the control group in an intention to treat analysis, there were significant differences in at-risk sexual behaviours of the two groups. Those in the intervention group reported less at-risk sexual behaviours than their counterparts in the control group. Lack of behavioural effect on the control group could be linked to differential quality of delivery of intervention messages. The knowledge of sexual health of those in the intervention group improved. There were changes in attitude, increase in sexuality knowledge and a relative decrease in at-risk sexual behaviour compared to the control group.

A similar study was conducted in Nigeria by Aderibigbe and Araoye (2008) who carried out a quasi-experimental study in 6 public secondary schools in Ilorin, Kwara State to determine the effect of health education on risky sexual behaviour of students of public secondary schools in Ilorin. The study was conducted in three stages; the baseline, intervention and post-intervention among two groups of adolescent secondary school students, described as study and control groups. The baseline was conducted with the use of pre-tested semi-structured questionnaire

which was self-administered to 262 adolescent students in the study group and 259 in the control group. A post intervention assessment was carried out between the study and control groups three months after the intervention using the same instrument used at baseline. All respondents were between 10-19 years. The study revealed that, 28.2% of all respondents were sexually active with significantly more males than females being more sexually active. About 24.2% of all respondents have ever received gifts in exchange for sex, while 45% of the respondents have more than one sexual partner. Condom use at first sexual intercourse was reported by 42.3% of all respondents. The study also found out that there was a significant decrease in sexual activity at post-intervention for the study group and a significant increase in condom use and that the intervention generally had significant impact on contraceptive use and on risky sexual practices.

### **Research Methodology**

This study was a quasi-experimental research design involving three intervention groups and a control group. The general goal of quasi-experimental research is to investigate cause and effect relationships, finding out the one trend that is as a result of the intervention. This approach to research is often used to evaluate the effect and benefits of specific intervention programmes. This study determined the effect of three communication intervention programmes on in-school students' attitude and perception towards 'baby factory' activities. The study design involved three treatment (intervention) groups and a control group from four (4) schools in four different Local Governments in Abia State. Two (2) treatment (intervention) programmes were designed - audio-recorded messages for Intervention Group One, print messages (stickers, leaflets and posters) for Intervention Group Two and combination of audio-recorded and print messages for Intervention Group Three to find out if there will be an impact on the group that were educated with the combination of the two intervention programmes and if the combination of print and audio recorded messages will be more effective.

The students were tested prior to the intervention programme, and after the intervention programme with the same material (questionnaire) to find out if changes occurred in their attitude and perception towards 'baby factory' phenomenon. The sample size was calculated bearing in mind the type I and type II error margin which might occur in the study, and these were 1.96 and 0.84 respectively. The variance of proportion (p) which is 50% is also considered in calculating the actual sample size for this study. The minimum sample size calculated was 43.6 which was rounded up to **100** so that there would not be response bias. The sample size for the three treatment (intervention) groups and a control group was 100 each, drawn from four schools making it a total of 400.

Multistage sampling technique was used to select the secondary schools for the study. Abia State in South-East region of Nigeria was purposively selected

because it is the region where issues of 'baby factory' in Nigeria are prevalent according to media reports. Four Local Government areas were selected by simple random sampling through ballot system, from the 17 local government areas in Abia State, which are Aba North, Bende, Isiala-Ngwa South, and Umuahia North; also four schools (Eziama High School, Aba, Igbere Secondary School, St Ephraim's Secondary School, Isiala-Ngwa, and Amakama Community High School, Olokoro, Umuahia) were selected by simple random sampling through ballot system out of 246 senior secondary schools in the four Local Government Area LGA (Aba North, Bende, Isiala-Ngwa South and Umuahia North) where the study was conducted. The four schools selected were categorised accordingly for the intervention programme - three experiment groups and one control group. Senior Secondary School one (S. S. 1) and Senior Secondary School two (S. S. 2) students were selected for this study because they represent students who were more vulnerable to teenage sexual harassment.

Senior Secondary School one (S. S. 1) and Senior Secondary School two (S. S. 2) students were selected for this study because they represent students who were more vulnerable to teenage sexual harassment. One hundred (100) students in each school that volunteered were respondents in this study and pre-intervention questionnaire, intervention programme and post-intervention questionnaire were administered to them. Participants for the groups were approached and those that consented to participate were selected for this study. Addictive and contamination effects with selection of the groups were considered which made the groups to be in different locations and different Local Government Areas. There was no replication of the groups, the settings and the time for the intervention.

Data collection was carried out using the research instrument designed for the study. This was done at two stages during the study. The pre-intervention or baseline questionnaire designed based on, attitude and perception of 'baby factory' activities was administered to the respondents on week one of the programme. The intervention sessions were organised and conducted at each intervention day as group sessions that lasted for thirty minutes (30 minutes). At the end of the six (6) weeks intervention programme, immediate impact evaluation was conducted on the eighth week (8th week) using the same questionnaire used for the intervention or baseline data collection for the post-intervention phase.

## **Results**

### **Participant's Attitude of 'baby factory' Activities at Pre-intervention and Post-intervention for the Four Groups in the Study**

The basic results showing summaries of descriptive statistics of means and standard deviations for control and intervention groups for attitude at baseline are presented below: The attitudinal disposition towards 'baby factory' phenomenon was gathered using Likert-scale with the scoring system of strongly agree = 3, agree = 2, disagree

=1, and strongly disagree = 0. The scores were also reversed for negative statements. It was measured using statements such as, “I am willing to call the police immediately I suspect an illegal maternity home”, “I have sufficient knowledge of bf phenomenon and will inform my friends and others about bf phenomenon”, “I am not really enthusiastic about informing and educating others about 'baby factory' phenomenon”.

**Results for Control at Pre-Intervention**

The result for control group at pre-intervention on attitude shows that the attitude of respondents on 'baby factory' phenomenon was low, which is due to the mean score of 8.15 measured on 18-point scale. This implies that control group at pre-intervention has low attitude on 'baby factory' phenomenon.

**Results for Intervention Group One at Pre-Intervention**

The study also reported for intervention group one at baseline, a mean score of 8.83 measured on 18-point scale for attitudinal dispositions towards 'baby factory' phenomenon.

**Results for Intervention Group Two at Pre-Intervention**

Similarly, the study reported for intervention group two at baseline evaluation that attitudinal dispositions towards 'baby factory' phenomenon measured on 18-point scale recorded a mean score of 11.36 for intervention group two.

**Results for Intervention Three Group at Pre-Intervention**

Furthermore, the study reported for intervention three group at baseline evaluation, a mean score of 11.15 measured on 18-point scale for attitudinal dispositions towards 'baby factory' phenomenon among the respondents. Baseline results revealed that attitude of respondents towards 'baby factory' activities in Abia State, Nigeria are not so weak because of the difference between the mean scores and the point scales.

**Table 1.0: Attitude of Respondents at Baseline for the Four Groups**

Experiments		N=300							
Variables	Max point on scale	Control	1		2		3		
		N= 100	N=100	N=100	N=100	N=100	N=100		
		(SE)	±S D	(SE)	±SD	(SE)	±SD	(SE)	±SD
Attitude	18	8.15(0.15)	1.52	8.83(0.39)	3.86	11.36(0.26)	2.62	11.15(0.39)	3.89

**Endline Results on Attitude towards ‘baby factory’ Phenomenon for the Four Groups in this Study**

The basic results showing summaries of descriptive statistics of means and standard deviations for control and intervention groups for attitude at end line are thus presented.

### **Results for Control Group at Post-Intervention**

The result for control group at post-intervention on attitude shows that the attitude of respondents on 'baby factory' phenomenon was still low. Attitudinal dispositions towards 'baby factory' phenomenon measured on 18-point scale recorded a mean score of 8.24 for control group. The difference between the mean score at pre-intervention and post-intervention for the control group is nothing (8.15 and 8.24) which implies that there is no effect on the attitude of the students on 'baby factory' phenomenon since they did not receive the communication intervention programmes.

### **Results for Intervention Group One at Post-Intervention**

The study also reported for intervention group one at post-intervention, a mean score of 10.30 measured on 18-point scale for attitudinal dispositions towards 'baby factory' phenomenon. This result implies that there is effect on the attitude of the students on 'baby factory' phenomenon after receiving the communication intervention programmes (audio recorded messages).

### **Results for Intervention Group Two at Post-Intervention**

Similarly, the study reported for intervention group two at post-intervention evaluation that attitudinal dispositions towards 'baby factory' phenomenon measured on 18-point scale recorded a mean score of 14.19 for intervention group two. This implies that intervention group two that received only print messages (stickers, posters and leaflets) had more effect on their attitude towards 'baby factory' phenomenon than intervention group one that received only audio recorded messages.

### **Results for Intervention Three Group at Post-Intervention**

Furthermore, the study reported for intervention three groups at post-intervention evaluation, a mean score of 17.51 measured on 18-point scale for attitudinal dispositions towards 'baby factory' phenomenon among the respondents. Post-intervention results revealed that attitude of respondents towards 'baby factory' activities in Abia State, Nigeria changed because of the difference seen between the mean scores and the point scales. This implies that intervention group three that received the combination of audio recorded messages and print messages (stickers, posters and leaflets) had more effect on their attitude towards 'baby factory' phenomenon than intervention group one and intervention group two that received only audio recorded messages and print messages.

This result showed that the students had a change in attitude towards 'baby

factory' phenomenon after the intervention. The proportion of those with change in attitude rose from 8.83 to 10.30 for intervention one, for intervention group two from 11.36 to 14.19 and for intervention group three 11.15 to 17.51 measured on 18-point scale. This indicated that the communication intervention messages designed and used to educate the respondents through audio recorded messages, stickers, posters and leaflets had effect on the attitude of the respondents towards 'baby factory' phenomenon. Also, the students in intervention group three that received combination of audio recorded message and print messages had more change in attitude than those in intervention group one and group two that received only audio recorded message and print messages respectively.

Variables	Max point on scale	Experiments						
		Control N= 100		1 N=97		2 N=96		3 N=95
		(SE)	±SD	(SE)	±SD	(SE)	±SD	(SE)
Attitude	18	8.24(0.16)	1.56	10.30(0.30)	2.95	14.19(0.45)	4.51	17.51(0.17)

### **Participant's Perception of 'baby factory' Activities at Pre-intervention and Post-intervention for the Four Groups in the Study**

The basic results showing summaries of descriptive statistics of means and standard deviations for control and intervention groups for perception at baseline: Perception of the respondents on 'baby factory' phenomenon was studied using a Likert-scale and the correct responses were analysed. The scoring system used was: strongly agree = 3, agree = 2, disagree = 1, and strongly disagree = 0. The scores were also reversed for negative statements. Students were asked series of questions on their perceptions on the seriousness of 'baby factory' phenomenon, their perceived susceptibility to 'baby factory' phenomenon, perceived benefits/constraints, and perceived self-efficacy to 'baby factory' phenomenon.

It is important to note that the closer/farther respondents mean score is to the point scale depicts the strength/weakness of respondent's perception to the phenomenon under study. This is paramount in understanding the interpretation of the results in the Table above.

### **Results for Control Group at Pre-Intervention**

The result for control group at baseline shows that the perception of respondents on 'baby factory' phenomenon was low, the mean score for perception measured on 57-point scale was 13.08, for perceived seriousness of 'baby factory' phenomenon measured on 18-point scale, the mean score was 7.92, for perceived susceptibility to 'baby factory' phenomenon, the mean score measured on a 12-point scale was 4.56,

mean scores recorded for respondents for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale was 6.89, and perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale was 3.35.

### **Results for Intervention Group One at Pre-Intervention**

At pre-intervention, the mean score for perception measured on 57-point scale was 19.58, perceived seriousness of 'baby factory' phenomenon measured on 18-point scale was a mean score of 7.92, a mean score for perceived susceptibility to 'baby factory' phenomenon measured on a 12-point scale was 5.96, mean scores recorded for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale was 6.15 and perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale for intervention one group was 2.23.

### **Results for Intervention Group Two at Pre-Intervention**

Similarly, the mean score for intervention group two at baseline evaluation for perception, measured on 57-point scale, was 27.96, the mean score for perceived seriousness of 'baby factory' phenomenon measured on 18-point scale was 9.24, for perceived susceptibility to 'baby factory' phenomenon, the mean score measured on a 12-point scale was 6.09, mean scores recorded for respondents for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale was 6.98, and perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale was 5.98 for intervention two group.

### **Results for Intervention Group Three at Pre-Intervention**

Furthermore, the mean score for intervention group three at baseline evaluation for perception, measured on 57-point scale, was 28.21, the mean score for perceived seriousness of 'baby factory' phenomenon measured on 18-point scale was 8.99, for perceived susceptibility to 'baby factory' phenomenon, the mean score measured on a 12-point scale was 5.8, mean scores recorded for respondents for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale was 6.38, and perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale was 6.36 for intervention 3 group.

This implies that there is not much variation in the perception of students on 'baby factory' phenomenon among the four groups - control group and three intervention groups. Baseline results revealed that the perception that respondents have on 'baby factory' activities in Abia State, Nigeria is weak because of the difference between the mean scores and the point scale.

**Table3.0: Perception of Respondents at Baseline for the Four Groups**

Variables	Max point on scale	Experiments N=300							
		Control N= 100 (SE)	±SD	1 N=100 (SE)	±SD	2 N=100 (SE)	±SD	3 N=100 (SE)	±SD
<b>Perception</b>	57	13.08(0.70)	6.97	19.58(0.88)	8.82	27.96(0.67)	6.73	28.21(0.69)	6.88
Serious	18	7.92(0.18)	1.79	7.92(0.50)	5.00	9.24(0.27)	2.72	8.99(0.35)	3.45
Susceptibility	12	4.56(0.21)	2.06	5.96(0.35)	3.53	6.09(0.28)	2.81	5.80(0.25)	2.56
Benefits/ Constraints	15	6.89(0.22)	2.17	6.15(0.44)	4.43	6.98(0.25)	2.47	6.38(0.22)	2.15
Self-efficacy	12	3.35(0.39)	3.96	2.33(0.24)	2.36	5.98(0.36)	3.58	6.36(0.40)	4.03

**Endline Results of Perception of 'baby factory' Phenomenon for the Four Groups in this Study**

The basic results showing summaries of descriptive statistics of means and standard deviations for control and intervention groups for perception at endline. Table 4.0 shows the result of the groups based on perception of respondents on 'baby factory' phenomenon at post-intervention.

**Results for Control Group at Post-Intervention**

The mean score for perception measured on 57-point scale was 13.51, for perceived seriousness of 'baby factory' phenomenon measured on 18-point scale, the mean score was 8.02, for perceived susceptibility to 'baby factory' phenomenon, the mean score measured on a 12-point scale was 4.58, mean scores recorded for respondents for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale was 6.96, and perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale was 3.46. There is not much difference between the mean scores for the control group at pre-intervention and post-intervention which implies that there is no effect on the student's perception towards 'baby factory' phenomenon since they did not receive any intervention programme.

**Results for Intervention Group One at Post-Intervention**

The mean score for perception measured on 57-point scale was 23.44, perceived seriousness of 'baby factory' phenomenon measured on 18-point scale was a mean score of 10.5, a mean score for perceived susceptibility to 'baby factory' phenomenon measured on a 12-point scale was 8.29, mean score recorded for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale was

8.02 and perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale for intervention one group was 3.54. This implies that intervention group one that received audio recorded messages on 'baby factory' phenomenon had effect on their perception towards 'baby factory' phenomenon.

### **Results for Intervention Group Two at Post-Intervention**

Similarly, the mean score for perception, measured on 57-point scale, was 31.41, the mean score for perceived seriousness of 'baby factory' phenomenon measured on 18-point scale was 12.39, for perceived susceptibility to 'baby factory' phenomenon, the mean score measured on a 12-point scale was 7.76, mean score recorded for respondents for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale was 9.35, and perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale was 10.96 for intervention two group. This implies that intervention group two that received only print messages (stickers, posters and leaflets) had effect on their perception towards 'baby factory' phenomenon and the effect is greater than the effect on intervention group one that received only audio recorded messages.

### **Results for Intervention Group Three at Post-Intervention**

Furthermore, the mean score of perception measured on 57-point scale, was 50.74, the mean score for perceived seriousness of 'baby factory' phenomenon measured on 18-point scale was 17.65, for perceived susceptibility to 'baby factory' phenomenon, the mean score measured on a 12-point scale was 11.96, mean scores recorded for respondents for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale was 12.91, and perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale was 11.96 for intervention 3 group. This implies that intervention group three that received the combination of audio recorded messages and print messages (stickers, posters and leaflets) had effect on their perception towards 'baby factory' phenomenon and the effect is greater than the effect on intervention group one that received only audio recorded messages and intervention group two that received print messages (stickers, posters and leaflets).

The difference between the mean score for perceived susceptibility to 'baby factory' phenomenon at 12-point scale for intervention two is low (1.67%) which indicates that majority of the students may not have really believed that anybody can fall victim of 'baby factory' phenomenon. Similarly, the mean scores recorded for respondents in intervention group one for perceived benefits/constraints of 'baby factory' phenomenon measured on 15-point scale are low. The increase was 1.87% at

6.15 and 8.02 which indicates that the students can decide to sell their babies if found in such situations to avoid community stigmatisation. Furthermore, difference of the mean scores recorded for students in intervention group one for perceived self-efficacy to 'baby factory' phenomenon measured on a 12-point scale is 1.21, which is low. This showed that, majority of the students in this group that received audio recorded messages may not have paid attention to the message and are not confident to recognise an illegal home, report the case and resist being lured.

These results indicate that there is variation in the perception of the respondents on 'baby factory' phenomenon among the four groups – one control group and three intervention groups. Endline results revealed that perception of respondents on 'baby factory' activities in intervention group three is high because of the difference between the mean scores and the point scale which is 50.74% at 57 point scale. This indicates that the communication intervention programmes designed and used to educate the students through audio-recorded messages and print messages (stickers, posters and leaflets) had effect on their perception towards 'baby factory' phenomenon and more effect on those that received the combination of audio recorded message and print messages.

**Table 4.0: Perception of Respondents at Endline for the Four Groups**

Variables	Max point on scale	Experiments N=300							
		Control N= 100		1 N=97		2 N=96		3 N=95	
		(SE)	±SD	(SE)	±SD	(SE)	±SD	(SE)	±SD
<b>Perception</b>	57	13.51(0.69)	6.93	23.44(0.71)	7.12	31.41(1.30)	13.00	50.74(0.21)	2.04
Serious	18	8.02(0.19)	1.91	10.5(0.54)	5.41	12.39(0.42)	4.17	17.65(0.15)	1.50
Susceptibility	12	4.58(0.21)	2.05	8.29(0.30)	3.00	7.76(0.34)	3.42	11.96(0.03)	0.24
Benefits/ Constraints	15	6.96(0.22)	2.23	8.02(0.39)	3.90	9.35(0.43)	4.28	12.91(0.37)	3.69
Self-efficacy	12	3.46(0.39)	3.95	3.54(0.33)	3.31	10.96(0.44)	4.39	11.96(0.03)	0.29

## **Discussion**

Discussion of findings in this study was done based on analysed data and interview conducted to ascertain the desired results which are in line with the objectives of the research work. Using McGuire's Information Processing Model, the study aimed to investigate the effect of three communication intervention programme (audio recorded messages, print messages and a combination of audio recorded messages and print messages) on knowledge, attitude and perception of 'baby factory' phenomenon among in-school students in Abia State, Nigeria, using a quasi-experimental design. Information Processing Model highlights the process by which communications are received, interpreted, stored in memory, and later retrieved by the public. The teenagers' attention was drawn to the phenomenon, and they comprehended the intervention messages, accepted them, retained the message content in their memories and later recalled those intervention messages, which was seen in their responses at post intervention.

This study found out that the attitudinal disposition of the in-school students on 'baby factory' activities after the communication intervention programme was statistically significant with p-value of ( $p < 0.000$ ) for the three intervention groups and ( $p < 0.680$ ) for the control group. Before the communication intervention programme, the in-school students' attitude towards 'baby factory' phenomenon was negative. Some of them responded to seeking help and informing others about the phenomenon during the FGD that, "I will tell my close friend and will not want to talk about it to others. You know, you do not know who is who". Also, that they do not know what the Ministry of Women Affairs does concerning this 'baby factory' phenomenon.

The in-school students showed greater willingness to call the police when they suspect an illegal maternity home, inform and educate others about 'baby factory' phenomenon, are more bothered about 'baby factory' phenomenon and are also willing to seek for help and call the Ministry of Women Affairs immediately they suspect an illegal maternity home. The finding on attitudinal disposition of the students on 'baby factory' phenomenon after the intervention is consistent with the findings from Jha, Bajracharya, and Shankar (2013) on knowledge, attitude and practice towards medicines among school teachers in Lalitpur district, Nepal before and after an educational intervention using a combination of methods like presentations, brainstorming sessions, interactive discussions using posters and leaflets. The study concluded that the intervention was effective in improving knowledge and attitude of the teachers.

In a similar study on the effect of mass media intervention programmes, Keating, Meekers and Adewuyi (2006) assessed effects of a media campaign on

HIV/AIDS awareness and prevention in Nigeria, and found out that individuals exposed to mass media campaign on HIV/AIDS were more likely to discuss HIV/AIDS issues with a partner and more likely to know that condom use reduces the risk of HIV transmission than persons not exposed. The findings indicated that the attitude of the individuals exposed to the mass media campaign on HIV/AIDS improved and they are more willing to inform and educate others about HIV/AIDS. Rigotti, and Wakefield (2012) study on mass media campaigns for public education on smoking by the Centres for Disease Control and Prevention (CDC) which featured real-life American former smokers who shared their stories and experiences on smoking is also consistent with the result that showed that communication intervention programmes have great positive effect on the attitude of students on 'baby factory' phenomenon. The mass media campaigns were 30 second television and radio spots in print media, and on billboards. The findings of the study showed that smokers were ready to quit smoking, while non-smokers decided not to smoke and also will encourage friends and family members to quit smoking, this showed a change in attitude towards smoking which was made possible after the 12 weeks mass media intervention programme.

Furthermore, this study was consistent with Nwodu (2008) study which was aimed at ascertaining the effectiveness of the "Zip Up" billboard campaign on the sexual behaviour of Nigerian students of institutions of higher learning using survey research method and revealed that the tertiary institution students at the end of the campaign were willing to share message of the campaign programme with friends, their attitudes towards HIV changed positively. This study also finds out that according to media dependency theory the effect of media messages could be cognitive, behavioural or affective to the audience. The student's dependency on media information on 'baby factory' phenomenon helped to alter their beliefs, attitude, and feelings towards it. They now understood that those babies born in the illegal homes are sold and that anybody can be lured to those illegal homes.

### **What is the level of perception among the respondents on 'baby factory' phenomenon at pre-and post-intervention in South-East Nigeria?**

Findings from the study revealed that the perception of 'baby factory' phenomenon by in-school students was influenced more positively. After the communication intervention programme, 'baby factory' phenomenon was perceived as a serious issue with so many disadvantages by the students. They also, perceived 'baby factory' phenomenon as a crime which can endanger the lives of adolescents and also that teenagers who become victims of 'baby factory' phenomenon could have traumas of social stigmatisation and even be rejected by their families and communities.

Findings from this study also indicated that the student's perception that everyone can be susceptible to 'baby factory' phenomenon at the end of the intervention increased, majority of the students now believe that any teenager regardless of her/his socio-economic status is at risk of becoming a victim of 'baby factory' phenomenon and at risk of being lured to illegal maternity homes. This study also found out that the in-school student's perception of the benefits of not getting lured into 'baby factory' phenomenon is great. The in-school students at the end of the intervention's perceived self-efficacy of 'baby factory' phenomenon was statistically significant, they were more confident to recognise when someone wants to talk them into working in an illegal maternity home, are more confident that they can resist being lured to an illegal maternity home if they mistakenly get pregnant and can recognise an illegal home that disguises as a hospital, maternity home or NGO, also very confident that they can resist giving out their babies to be sold if they mistakenly get pregnant, though the response on being very confident to resist giving out their babies for sell was not highly substantial which could be because of the stigma attached to having a baby before marriage in the Abia State region of Nigeria.

The study of Heckman, Dykstra and Collins (2011) on substance-related attitudes and behaviours among college students across an academic semester using a pre-post quasi experimental survey design is in line with the findings on perception of in-school students on 'baby factory' phenomenon because at post intervention, the student's perception on prevalence of alcohol use was more accurate and became increasingly accurate among drugs and behaviour on students. The study is also consistent with Banerjee, Anderson, Warvadekar and Pearson (2013) who studied the effectiveness of a behaviour change communication intervention to improve knowledge and perceptions of women about abortion in Bihar and Jharkhand, India using a quasi-experimental study. The findings of the study found out that there was increase in women's perception of greater social support for abortion within their families and an increase in perceived self-efficacy with respect to family planning and abortion between baseline and follow-up was greater in the intervention districts than in the districts with no intervention.

### **Conclusion and Recommendation**

This study aimed to investigate the effect of three communication intervention programme on 'baby factory' phenomenon among in-school students in Abia State, Nigeria. This study has shown that communication intervention messages are effective in changing the attitudes and perceptions of in-school students on 'baby factory' phenomenon. The study has also shown that the combination of audio recorded message and print messages produced greater effect in changing attitude

and perception of 'baby factory' phenomenon among the students. Communication intervention programmes to change attitude and perception are effective programmes to educate adolescents about the implications of 'baby factory' phenomenon, set agenda for discussion, change attitudes and beliefs on 'baby factory' phenomenon, thereby ensuring sustainable development. Consistent exposure to these messages is needed overtime with reference towards the consequences of 'baby factory' phenomenon.

Based on the findings, the following recommendations are presented:

1. Since the study found out that the use of communication intervention programme can and change attitude and perception of students on 'baby factory' phenomenon, it is therefore necessary that media houses, NGO's and the government should come up with intervention programmes on 'baby factory' activities like they did on Ebola, HIV/AIDS to increase the knowledge of students on 'baby factory' phenomenon, which will help positively change their attitude and perception towards 'baby factory' phenomenon.
2. Abia State government through the Ministry of Women Affairs should have a combination of audio-recorded and print media intervention messages on 'baby-factory' phenomenon in secondary schools.
3. There should be massive awareness creation campaigns on the effects of 'baby factory' activities on the teenagers with a view to facilitating preventive actions as well as encouraging reporting of the issue to the appropriate authority by the victims.
4. Given the increase in 'baby factory' phenomenon in Nigeria, the government should come up with policy on child adoption and make child adoption process less strenuous for the masses so as to curb the incidences of 'baby factory' and illegal adoptions
5. There should be immediate implementation of the domesticated Child Rights Act by Abia State government to provide and protect the rights of Abia State child to survival and protection; to parental care, protection and maintenance; right of the unborn child to protection against harmful social and cultural practices, and right to protection against abuse and torture.
6. Since most of the people that are victims of 'baby factory' phenomenon are adolescents who are most vulnerable to the situation, the curriculum of secondary schools in Nigeria should include sex education in health related subjects and in Civic Education subjects

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