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Effects of family planning counselling and media messages on contraceptives use by Nigerian men: Evidence from the Nigeria demographic and health survey

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Abstract

Generally, man plays a more significant role in population health in developing countries like Nigeria, as most of them show no interest in contraceptive use. Hence, to achieve the desired population control in a developing country like Nigeria, men must step up the modern use of contraceptives. The objective of the study was to examine the effect of family planning counselling and media messages about reproductive health on men's acceptance of contraceptives. Precisely, the study sought to determine if the use of counselling and radio messages on family planning could enhance the acceptance of contraceptive usage among men in developing countries like Nigeria. The researchers sourced the data for the study from the Nigerian Demographic and Health Survey conducted in 2018 and used the Logit regression method for the data analysis. Results from the analysis showed that counselling at health facilities and radio messages on modern contraceptive use have positive and significant effects on men's acceptance of contraceptives. Based on the findings, the study recommended that the best way to increase contraceptive use among men in Nigeria and some other developing countries is to compel pregnant women attending antenatal care services to come with their husbands to the health facility once a month, during which the men could be counselled on the importance of modern contraceptives usage. (*Afr J Reprod Health* 2024; 28 [5]: 67-77).

Keywords: Family planning, counseling, media messages, use of contraceptive

Résumé

De manière générale, l'homme joue un rôle plus important dans la santé de la population dans les pays en développement comme le Nigéria, car la plupart d'entre eux ne manifestent aucun intérêt pour l'utilisation de contraceptifs. Par conséquent, pour parvenir au contrôle démographique souhaité dans un pays en développement comme le Nigéria, les hommes doivent intensifier l'utilisation moderne des contraceptifs. L'objectif de l'étude était d'examiner l'effet des conseils en matière de planification familiale et des messages médiatiques sur la santé reproductive sur l'acceptation des contraceptifs par les hommes. Plus précisément, l'étude cherchait à déterminer si le recours aux conseils et aux messages radio sur la planification familiale pouvait améliorer l'acceptation de l'utilisation de la contraception chez les hommes dans les pays en développement comme le Nigeria. Les chercheurs ont extrait les données de l'étude de l'Enquête démographique et de santé nigériane menée en 2018 et ont utilisé la méthode de régression Logit pour l'analyse des données. Les résultats de l'analyse ont montré que les conseils dispensés dans les établissements de santé et les messages radio sur l'utilisation des contraceptifs modernes ont des effets positifs et significatifs sur l'acceptation des contraceptifs par les hommes. Sur la base des résultats, l'étude recommande que la meilleure façon d'augmenter l'utilisation des contraceptifs chez les hommes au Nigeria et dans certains autres pays en développement est d'obliger les femmes enceintes qui fréquentent les services de soins prénatals à venir avec leur mari à l'établissement de santé une fois par mois, pendant lequel les hommes pourraient être conseillés sur l'importance de l'utilisation des contraceptifs modernes. (*Afr J Reprod Health* 2024; 28 [5]: 67-77).

Mots-clés: Planification familiale, conseil, messages médiatiques, utilisation de contraceptifs

Introduction

In Nigeria, men do not only have negative attitudes towards contraceptive use but pose severe barriers to its usage by women¹. In Africa, women are

always the sufferers of every reproductive health problem². However, if unintended pregnancy occurs, men look at the women as the cause, and when pregnancy fails to come, the women receive the blame equally. Also, a compound reproductive

health problem in a country like Nigeria is the widely held belief that a woman must not refuse sexual advances from her husband. Even if at the risk of unintended pregnancy, an average Nigerian woman normally accepts sexual requests from her husband for peace to reign. With such sexual behaviour, it will be difficult for Nigeria to achieve a population growth rate of 2%, as targeted in the National Policy on Population for Sustainable Development.

The National Policy on Population for Sustainable Development was signed in Nigeria in 2004 in response to the country's rapid population growth and its effect on the socioeconomic life of the people. The policy aimed to reduce the country's population growth rate to 2 percent or lower by 2015, improve the country's reproductive health system, and increase the prevalence of modern contraceptives to balance population growth and available resources. In order to realise the above policy intentions, reproductive health counselling was intensified in all the government health facilities. At the same time, the radio and television were used to enlighten and educate the public on family planning imperatives, especially on the use of modern contraceptives to checkmate unintended pregnancy.

Family planning education in Nigeria, therefore, increased from 2004 as men who received counselling and enlightenment on modern contraceptives at health facilities rose from 5.61% in 2013 to 38.70% in 2018. Similarly, the number of women who received counselling and enlightenment at health facilities rose from 12.44% in 2013 to 24.48% in 2018³⁻⁴. A survey conducted in Nigeria in 2003 showed that modern contraceptive use was 14.53% among women and 20.40% among men³. However, in 2018, the prevalence of contraceptive use among women rose to 18.62%, while among men, it fell to 16.72%⁴. Hence, while contraceptive use was increasing among women in Nigeria, it was falling among men. The survey is consistent with earlier findings showing that contraceptive use among men in Nigeria was low⁵.

Also, some scholars examined the reason for the low utilisation of modern contraceptives in Nigeria and some other developing countries. Religion and culture are some of the factors discovered to militate against the utilisation of modern contraceptives in Nigeria and Pakistan⁶⁻⁷.

In Nigeria, for instance, large family sizes are highly valued in many communities and among low-income groups. For instance, in rural communities of Nigeria, open discussion about family planning is difficult because they see children as gifts and assets from God. Also, in modern times, large family sizes have some socioeconomic consequences. Much evidence has shown that high levels of poverty incidence in some developing countries are associated with large family size⁸. Similarly, rapid population growth reduces the prospect of successful poverty reduction and contributes to a household being persistently poor⁹.

Nigeria is the most populous country in Africa, with a land area of 923,769 square kilometres, consisting of 98.50% dry land and 1.50% water. By nature, Nigeria is a dry land area and shares borders with the desert of North Africa. From the last population census in 2006, the country had a population of 143,431,790 people¹⁰. Sex characteristics showed that the males were in a simple majority, accounting for 50.80% of the population. Age distribution showed that Nigeria's population was young, as people below 30 were up to 70% of the population. Due to the young composition of Nigeria's population, the country's population was projected to grow very fast. With a fertility rate of 6.08 in 2007¹¹, her population rose to 213,401,323 in 2021, showing a population increase of 48.5678% between 2006 and 2021¹².

Generally, many young men become sexually active at an early age, as adolescents, yet lack fundamentally important knowledge and skills about sexual reproduction, particularly in developing countries. Recognising the possibility of this knowledge gap among young men and women in Nigeria, the government has made family planning education an essential part of its responsibility for over two decades. Since 1990, the use of health awareness and counselling to educate every mature man and woman about the reproductive health system is a known matter. In various health facilities, men and women receive sex education and counselling, while the radio and television channels allot and devote some hours every week in their programme schedules to educate and enlighten people on reproductive health needs⁴. Health professionals often use the radio and television media to present and promote the benefits of contraceptives and how these

contraceptives could be applied safely to reduce the risk of unintended pregnancies and sexually transmitted infections (STIs).

Though the Nigerian government has often allocated and spent considerable resources in trying to get sexually active men and women informed about the benefits of modern contraceptive use, it seems the effort and target hardly yield the desired result, most especially on the part of the menfolk. Previous studies revealed the exposure of only 38.69% of sexually active men to reproductive health education and enlightenment campaign messages on modern contraceptives through the radio. However, the influence and practical reflection were on less than 17% of them only⁴. This result aligns with the findings of a previous study in Nigeria, which discovered that contraceptive use among men in urban areas is still abysmally low¹³. There was an argument that low acceptance and adoption of modern contraceptives by men in developing economies like Nigeria is compounding reproductive health problems in the country⁶.

Furthermore, a school of thought is strong in its argument that men's negative attitudes towards contraceptive use were responsible for all cases of unintended pregnancies across the globe¹⁴ and that addressing problems of unintended pregnancies successfully is possible only when men learn how to adopt and use modern contraceptives or start controlling their sexual desires¹⁵. Men are critical stakeholders and partners in population health programmes in every country. Therefore, examining and interrogating factors that influence men's use of modern contraceptives in Nigeria is critical to positioning health workers towards a better reproductive health policy and management in the country. The aim of this study, therefore, was to examine the factors that could lead to an increase in men's voluntary acceptance and adoption of modern contraceptives in Nigeria. This study's results will go a long way in minimising the often regrettable unintended pregnancies and associated problems. Precisely, the study examined how reproductive health counselling and enlightenment in health facilities and the application of media education on the use of modern contraceptives influenced contraceptive use among men in Nigeria.

Conceptual review

Before now, the thinking of most people in developing countries like Nigeria is that reproductive and sex life is the prerogative of every individual who holds the right to decide on how to live it. Moreover, the individual who holds the right in the family is the man. Similarly, in Africa, where people see children as gifts of nature, and as such, there should be no restriction to procreation, there is a general perception of sex education on pregnancy prevention or choice of family size as a taboo. As such, a woman is free to have as many children as possible as people place a high value on large family size. However, with time, two critical factors changed the view about large family size. Firstly, the harsh economic downturn has affected people's well-being negatively. Secondly, the emergence of a modern economy that emphasised the quality of life focused on quality instead of number. Both factors altered people's perception of large family sizes. The development of society from a primitive to a modern economy, as well as in science and technology, reveals that people could live a healthier reproductive life through a well-planned and executed reproductive health education campaign. Not only could health education help a couple have a smaller family size without compromising sexual satisfaction, but it can also minimise the risk of contracting some sexually transmitted infections (STI) people encounter in life. For example, reproductive health education campaigns increase the awareness and knowledge people have about safe conception, the use of devices to minimise pregnancy risk, and how to avoid sexually transmitted diseases. This understanding is against the backdrop that awareness creation through some Behavior Change Communication (BCC) has always been a solid communication strategy for sensitising and adjusting people to new and better lifestyles.

Attitudes towards large family sizes in developing countries started changing about four decades ago when people saw that health education could bring a happier married life when a couple adopts to discuss every sex-related matter freely together. As couples began to attend reproductive health counselling programmes voluntarily, the awareness of the use of modern contraceptives for

pregnancy prevention grew. Many scholars in both developed and developing countries agree that health education has positively impacted the reproductive health behaviour of people¹⁶⁻¹⁸. Kabagenyi *et al.* maintain that consistent health education can increase contraceptive use in developing countries¹⁹. According to Kabagenyi *et al.*, a health education campaign in Uganda had a positive effect on contraceptive use among men, which is consistent with the assertions that media messages on family planning and health awareness campaigns have increased contraceptive use in many countries²⁰⁻²². If everything else remains the same, children born in households with smaller family sizes are generally more likely to eat better food, attend better schools, and receive better care. Awareness is growing in developing countries that reproductive health education is as good for the man as it is for women.

Theoretical foundation

The Health Belief and Behavior Change Communication theories form the theoretical basis for this study because they highlight the link between contraceptive use and individual health behaviour change. Whereas the Health Belief Theory is the foremost reproductive health theory to explain why an individual may take a particular health behaviour in his lifetime, the Behavior Change Communication Theory is an interactive process of any intervention with either individuals, groups or communities to develop communication strategies to promote positive health behaviours. According to Rosenstock, who propounded the Health Belief Theory, two crucial factors influence an individual's health behaviour. One is when there is a threat to his life, and the other is the evaluation of the benefit over the cost of the behaviour. Under the threat factor, an individual foresees a threat when there is a risk attached to his behaviour, and the action he will take depends on how he will avoid the risk. Applying this concept to reproductive health implies that the risk is unintended pregnancy, which may occur from unprotected sex. As long as the individual wants to prevent the pregnancy from occurring, he is bound to do what people tell him to do in order to prevent its occurrence. The risk of pregnancy is very high for him and makes him have no other option but to do what people tell him to do to prevent it, and that means going for contraceptives.

On the other hand, Rosenstock asserts that the other factor which strongly influences an individual's health behaviour is the benefits he will get from the action he is about to take or the cost he will likely incur from such action. In everything an individual is about to do, there are gains and losses; the only rational thing to do is weigh the gains against the loss. If the gain is more than the loss, then one takes such action, and if the loss is more than the gains, one will not take the action. Thus, whether it is better to accept contraceptive use or not depends on what gains and losses an individual will get from such reproductive health behaviour. The standpoint of the theory is in rational behaviour, and as long as health is the most valuable asset of an individual, any irrational health behaviour will always be costly. Similarly, the Behavior Change Communication Theory is a behaviour change intervention programme that aids the prevention of both communicable and non-communicable health issues through conscious health education campaign programmes.

Empirical review

There are studies on the effect of family planning counselling and media messages on contraceptive use in both developed and developing countries. However, the majority of the studies were on contraceptive use by women. For instance, research evidence showed that the use of multi-media campaign messages to disseminate family planning information led to an increase in modern contraceptive use and adoption by women in Tanzania²³. The study in Tanzania showed that 50% of the women who use modern contraceptives recall having listened to reproductive health promotion messages from the radio and television or read them in the newspaper. Some other studies also discovered that reproductive health education and awareness campaigns have a positive influence on attitudes towards modern contraceptive use²⁴⁻²⁵. One of the studies done in post-Soviet Central Asia showed that exposure of women to media messages on reproductive health significantly increased modern contraceptive use and adoption in Kyrgyzstan and Tajikistan²⁵. The finding is consistent with the ones done in Uganda and Indonesia²⁶⁻²⁷. In Indonesia, for instance, the use of radio and television to disseminate family planning information significantly increased modern contraceptive use among women²⁷. In a similar

vein, reproductive health education through the media led to a significant change in the levels of contraceptive use among women in Northern Nigeria²⁸.

Apart from media messages and awareness campaigns, other factors found to have influenced contraceptive use in many other countries are country of birth, husband or sex partner's approval, number of children, and cultural consideration^{29-31,7}. From the study in America, people born in America use contraceptives more than those born in Mexico²⁹, while in Pakistan, culture is the primary factor which influences contraceptive use⁷. From a study done in Angola, a woman can only use a contraceptive if her husband or sex partner approves of it³⁰. In contrast, in South Africa, contraceptive use is influenced by the ease of getting a condom and the age at which a person had the first sexual experience³². From all the above studies, findings suggest that different factors influence contraceptive use in different countries.

Exposure to media messages on contraceptive use among men is low in Nigeria. Based on the Demographic and Health Survey conducted in Nigeria in 2018, only 38.69% of the sexually active men in Nigeria have listened to family planning messages through the radio. The indication is that 61.31% of the sexually active men in the country have not heard about family planning messages through the radio. A further breakdown shows that for the television media, only 21.4% of the men have viewed or watched family planning education programmes on television, showing that more than 70% of Nigerian men are out of touch with family planning education via television⁴. The percentage distribution of men exposed to media messages in Nigeria is evidence of the underutilisation of media campaign services. The policy implication of this low utilisation of media messages in Nigeria is that important information disseminated through the media will only reach a very insignificant number of the target group.

All the studies on media messages and contraceptive use in Nigeria focused only on women^{33-35,28}. In a study using 819 sexually active women in Northern Nigeria, contraceptive ideation had a more significant effect on women's decision to use contraceptives than health campaigns³⁴. The result showed that it is only contraceptive ideation that is robust as a factor which influences contraceptive use among women. Another study

showed that media messages had no influence on contraceptive use by women in three cities in Nigeria (Zaria, Benin and Abuja). However, radio and television messages had an influence on contraceptive use in two cities (Kaduna and Ilorin), while only radio messages influenced contraceptive use in Ibadan³⁶.

As none of the studies done in Nigeria and other African countries focused on men, the present study was undertaken to fill this gap in reproductive health literature. Reproductive health policy focused only on women is not good enough for effective population control since sex decisions are usually not exclusive affairs of women. Therefore, to make a health policy that will lead to effective control of the fast-increasing population in Nigeria and some other developing countries, there must be a study on factors that influence contraceptive use by men as it takes two to tango. So, the current study shifted research attention to the factors that influence the use of modern contraceptives by men in Nigeria, using information from the National Demographic and Health Survey conducted in the country in 2018.

Methods

We used the regression approach in the study because of its high level of precision in empirical research. In particular, the logit and probit models are top-rated in analysing survey data when the dependent variable is a binary response. As data for the analysis were from the Nigerian Demographic and Health Survey conducted in 2018, we used the logit analysis regression method. The Nigerian Demographic and Health Survey of 2018 covered the six geo-political zones in the country and the Federal Capital Territory, Abuja, with samples drawn in a representative manner. About 42,000 households were covered in the survey, which included 13,311 sexually active men.

The model

Starting from a linear model, $Y = f(X, Z)$
..... 1,

where y = dependent variable (contraceptive use among men), x is the effect - independent variables (counselling at health facility by reproductive health workers, contraceptive use campaign aired on radio, contraceptive use campaign through the television), z is control - independent variables

(education, number of living children, age, wealth, and region).

$$Econometrically, CT_i = \alpha + \beta_1 RD_i + \beta_2 TV_i + \beta_3 HC_i + \beta_4 ED_i + \beta_5 LC_i + \beta_6 AG_i + \beta_7 WT_i + \beta_8 RG_i + \varepsilon_i \dots \dots \dots 3,$$

where CT = modern contraceptive use by men (not using = 0, using = 1), RD = radio message (does not listen at all = 0, listen less than once a week = 1, listen at least once a week = 2), TV = television message (does not listen at all = 0, listen less than once a week = 1, listen at least once a week = 2), HC = reproductive health counselling at health facility (not at all = 0, yes = 1), ED = education level of a man (no education = 0, primary = 1, secondary = 2, higher education = 3), and LC = number of living children in a household, AG = age of a man, WT = wealth that defines economic status (poorest = 1, poorer = 2, middle = 3, richer = 4, richest = 5), RG = region, α = intercept, μ = error term, i = individual specific characteristics, β_1 - β_8 are the coefficients, and ε = error.

Since the dependent variable is a binary response with a probability of occurring or not occurring, estimating equation 2 with ordinary least squares is inappropriate. The option is to turn to a logit or probit probability model. Thus, presenting equation 2 as a logit model, $E[y|x] = F(\alpha'x) \dots \dots \dots (3)$, where y is a choice variable (that is the dependent variable, in this regard, contraceptive use by men in Nigeria (1 for use, 0 otherwise), x is a vector of effect and control explanatory variables (contraceptive use counselling at health facility by reproductive health workers, contraceptive use campaign aired in radio, contraceptive use campaign through the television, education, number of living children, age, wealth, and region), α represents a vector of parameter estimates in the model, and F is an assumed cumulative distribution function.

If we assume that F is the logistic distribution (λ), which produces the logit model given as $\lambda(\alpha'x) = \frac{\exp(\alpha'x)}{1+\exp(\alpha'x)} \dots \dots \dots (4)$.

The differential and or marginal effect, which is the marginal changes in expected probability, $\partial E[y|x]$, is therefore given as $\partial E[y|x] \partial x = f(\alpha'x)\alpha \dots \dots \dots (5)$,

where f represents the corresponding probability density function.

Results

The average percentage distribution shows the percentage of men who received family planning education from all sources (from health workers at health facilities and through the television and the radio). The percentage of men who received family planning education fell in 2018 from its level in 2013 by 2.2%, as shown in Table 1. The radio media proved to be the most critical medium for reaching a greater percentage of men in 2013 and 2018, respectively. Only 5.61% and 12.33% of the men received family planning counselling directly from health workers at health facilities. Though the percentage is small, the remarkable thing about counselling in health facilities is that the percentage of men who received it from health workers at health facilities increased by 6.72% between 2013 and 2018. On the other hand, the percentage of men who received family planning education through the radio and television declined by 9.91% and 4.92% between 2013 and 2018.

Table 1: Descriptive statistics of family planning awareness due to counselling and radio and television education

Item	2013(%)	2018 (%)	Change (%)
Television Message	26.36	21.44	-4.92
Radio Message	48.67	38.76	-9.91
Counselling in Health Institutions	5.61	12.33	+6.72
Average	26.38	24.18	-2.2

Source: Computation with data from Nigeria's Demographic and Health Survey, 2013 and 2018

Table 2: Percentage distribution of men using modern contraceptives in Nigeria

Year	Usage (%)
2013	20.40
2018	16.72
Change	-3.68

Source: Computation based on data from Nigeria's Demographic and Health Survey, 2013 and 2018

The statistical analysis in Table 2 shows that the percentage of men using modern contraceptives in Nigeria fell by 3.68% between 2013 and 2018. This result is consistent with the statistical analysis in

Table 3: Regression result with core variable only (Dependent variable - Contraceptive use)

Variable	Coefficient	Std error	'z'	Pro>t
Radio message (RD)	.5734624	.2627869	2.18	0.029 **
Television message (TV)	.0359072	.2557914	0.14	0.888
Counselling (HC)	1.368386	.2437341	5.61	0.000 ***
Cons	-5.343795	.1905755	28.04	0.000 ***

Source: Regression result based on data from Nigeria Demographic and Health Survey, 2018

NB: **= significant at 5% level

***= significant at 1% level

Table 4: Regression result with the addition of control variables (Dependent variable - contraceptive use)

Variable	Coefficient	Std error	't'	Pro>t
Radio message (RD)	.5007838	.2660637	1.88	0.060*
Television message (TV)	-.1002419	.2736356	-0.37	0.714
Counselling (HC)	1.172694	.2485936	4.72	0.000***
Education (ED)	.3490072	.1391388	2.51	0.012**
Living children (LC)	.0231918	.0386374	0.60	0.548
Age (AG)	.0270738	.0131361	2.06	0.039**
Wealth (WT)	-.0320561	.107132	-0.30	0.765
Region (RG)	-.0362688	.0683588	-0.53	0.596
Cont.	-6.708487	.5372785	-12.49	0.000***

Source: Regression result based on 2018 Nigeria Demographic and Health Survey data

NB:

*= significant at 10% level

**= significant at 5% level

***= significant at 1% level

Table 1, which shows that men's access to contraceptive education fell by 2.2% between 2013 and 2018. Analyses in Tables 1 and 2 suggest that as the percentage of men exposed to contraceptive use education falls, the percentage of utilisation equally falls.

Table 3 is the regression result of the effect variables only. The result shows how reproductive health counselling in the health facility and the media messages influenced men to use modern contraceptives in Nigeria. All the variables appeared to have a positive sign. Similarly, all the variables are significant except television messages. Radio messages are significant at 5%, and from the coefficient, an increase in radio messages by a point will increase modern contraceptive use among men by 0.57 points. Hospital counselling is significant at a 1% level, and from its coefficient, it has the highest influence on men's use of contraceptives. For instance, when health workers increase reproductive health counselling for men by a point, the use of modern

contraceptives among men will increase by 1.37 points.

The signs of the core/effect variables (variables of interest) in the result presented in Table 4 are consistent with their signs in the result presented in Table 3, except for the television message. The sign of the television message changed to negative when control variables were added to the model. However, it remained insignificant. On the other hand, counselling in the hospital remained significant at the same 1% level in the results presented in Table 3.

Of the five control variables added as shown in equation 3, that is, education, number of living children, age, wealth and region, only 2 of them (education and age) were significant. The positive coefficient of education suggests that the more educated men are, the more likely they will use modern contraceptives than the less educated ones. In a similar vein, the positive coefficient of age suggests that as the age of a man increases, the possibility of his use of contraceptives increases.

The older men are, the more likely they will use modern contraceptives than the younger ones. From the value of the coefficient of age, when a man adds one more year in age, the likelihood of using modern contraceptives increases by 0.0002 points. It is an expected outcome because older men are likely to be more conscious of unintended pregnancy than younger ones for the singular reason that they are expected to have larger family sizes and may be very careful to avoid more pregnancies. A similar result occurred in Uganda²⁶.

Discussion

Nigeria has an estimated 213,401,323 million people in 2021, with a projected population growth rate of 2.59% per annum¹². Consequently, her population is growing faster than her economy's growth, which grew by 1.9% and 2%, respectively, in 2018 and 2019³⁷. Modern contraceptive use by men is needed to achieve a healthier population in developing countries. Nigerian men are not freely accepting modern contraceptives to minimise pregnancy risk (Wang, 2019)⁵. Though this attitude is not peculiar to Nigeria, the case of Nigeria is pathetic because of the high poverty rate in the country. Under the present economic circumstance in which natural disasters, wars and disease are ravaging the world economy, governments have no better option than to step up health education campaigns on modern contraceptive use.

From the results presented in Tables 3 and 4, this study examined how reproductive health counselling at the different health facilities and media messages on reproductive health have influenced men's use of modern contraceptives in Nigeria. First and foremost, reproductive health counselling at health facilities indicated having a significant influence on men towards utilising modern contraceptives in Nigeria. The variable remained highly significant when the "effect variables" were analysed using model 2 and after 'controlled variables' were added using model 3 above. This action is consistent with previous related studies in extant literature. Therefore, to make good progress in population control in Nigeria, one of the factors the government should invest more resources in is the counselling services in the health facilities. The government can compel

women attending antenatal care services to come with their husbands once a month.

Secondly, the education level of a man has a great influence on his acceptance or adoption of modern contraceptives. In essence, being educated increases the likelihood of a man using modern contraceptives to minimise pregnancy and some health risks. The same result was discovered in Nigeria, showing that education is the main factor contributing to men's participation in family planning³⁸. The finding is significant in population health policy in Nigeria because it implies that if Nigeria is to achieve immediate success in population control, there is the need to pay more attention to counselling of men in Nigeria, especially in the Northern region, due to the general education backwardness of the people of the region. With the poor level of education among the people, the concentration of effort should be on counselling at the health facilities in that region so that the health workers can use the local language to communicate with and enlighten the men. In addition to hospital counselling, the mobilisation of health workers is necessary for house-to-house campaigns. In a long-term strategy, the government should make it compulsory for all men to attain a minimum education level of at least secondary school before getting married to enhance understanding of the assimilation of health education programmes.

On media messages, radio programmes are one major media strategy that, undoubtedly, are significant in influencing men to use modern contraceptives. It is fantastic to find from the study that radio media messages are more influential than television media awareness programmes. This medium has been a legendary pattern, which has remained despite changes in the media landscape. The frequency of media messages and audience access to such continue to account for the overwhelming influence of the radio media over that of television. Similarly, Nigeria's current high poverty rate among her citizens could be a limiting factor to owning and accessing television media messages as compared to the radio facility, which is much cheaper and affordable to the listening audience and, as such, offers greater access for audience engagement and participation. Radio, thus, commands a more penetrative influence on target audiences over other media tools because of

radio's limitless boundaries and cheapness. By that, radio media have amassed and sustained much influence and power in all communication behaviour change campaigns.

Age is another control variable which had a significant influence on modern contraceptive use by men in Nigeria. The finding is equally vital in population policy planning because it will help identify the population segment most amenable to health education campaign programmes. From the result in Table 4, younger men need more counselling and radio media messages than older men. The reason is apparent and is equally consonant with current literature on millennial reproductive health and media.

Conclusion and recommendation

The love of large family size is constantly contributing to rapid population growth in Nigeria, even though research has shown that the effect of population growth on per capita income can be positive or negative³⁹⁻⁴⁰.

When the population is growing above the means of subsistence, households need help to meet the basic needs of their members⁴¹. There is also an argument that countries with large and growing populations suffer from low per capita income and often use scarce resources to care for younger people. In contrast, controlling population growth will improve education and health outcomes⁹. Men have a greater role to play in population health in a developing country like Nigeria because they show more resistance to contraceptive use and also influence contraceptive use by women^{14,7}.

Reports are showing that the increase in unintended pregnancy and abortion in many countries is due to failure to use modern contraceptives⁴²⁻⁴³. The study examined factors that influence contraceptive use by men in Nigeria, and regression results suggest that reproductive health counselling at the health facilities, radio messages on contraceptive use, education, and age are the significant factors which have influenced men's use of modern contraceptives in the country.

Nigeria can achieve good population health by investing more resources in reproductive health counselling in health facilities and radio awareness campaigns. This effort is consistent with research evidence and argument that media

information on health-related issues can increase readership and empower citizens with the information they need to get adequate care and seek redress when such is denied⁴⁴. The policy is replicable in other sub-Saharan African countries. The contribution of the present study to population health literature is the move away from women to men to make studies on reproductive health complete.

Ethical consideration

There was no human experiment in the study. The study made use of secondary data which are available to the public in the study.

Conflict of interest

The authors have no conflict of interest

Contribution of authors

Charles E. Obeta did the theoretical foundation, participated in the literature review, and helped in shaping the paper. Joseph I. Amuka structured the topic, wrote the abstract, participated in the writing of the introduction, designed the methodology, and participated in the analysis and discussion of result. Mrs Beatrice C. Eneje participated in writing the introduction and literature review. Ambrose N. Omeje participated in the design of the methodology, analysis, and interpretation of the result. Mrs Tochukwu Onyechi proofread the manuscript, participated in the interpretation and discussion of the result, and formatted the references. Chinasa Urama participated in writing of the introduction, review of literature and interpretation of the result. Fredrick O. Asogwa participated in work analysis and discussion of result.

References

1. Olaide A, Oluwagbemiga A, Bolajoko A, and Kolawole O. Men's Involvement in Contraceptives Use and Wellbeing of Women in Nigeria: Implications for FP2020. *SAGE Open* 2022; 1-15 DOI: 10.1177/21582440221117141 journals.sagepub.com/home/sgo
2. Inhorn M and van Balen F. *Infertility around the Globe: New Thinking on Childlessness, Gender, and Reproductive Technologies*. University of California Press; Berkeley: 2002

3. Demographic and Health Survey (DHS) National Population Commission (NPC) [Nigeria] and ICF International. Nigeria Demographic and Health Survey. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF International 2014
4. Demographic and Health Survey (DHS) Nigeria's Health Survey National Population Commission Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF 2018
5. Wang C and Cao H. Persisting Regional Disparities in Modern Contraceptive Use and Unmet Need for Contraception among Nigerian Women. *HindawiBioMed Research International* 2019; <https://doi.org/10.1155/2019/910392>
6. Sedgh G, Bankole A, Oye-Adeniran B, Adewole I, Singh S and Hussain R. Unwanted Pregnancy and Associated Factors Among Nigerian Women. *International Family Planning Perspectives* 2006; 32(4):175–184
7. Casterline JB, Sathar Z and Haque MU. Obstacles to Contraceptive Use in Pakistan: A Study in Punjab. *Studies in Family Planning* 2001; 32(2) 96-110
8. Meyer DF and Nishimwe-Niyimbanira R. The Impact of Household Size on Poverty: An analysis of various low-income Townships in Northern Free State Region, South Africa *Population Studies* 2016; 30(2) p2282-2295
9. Klasen S and Lawson D. The impact of population growth on economic growth and poverty reduction in Uganda. *Diskussionsbeiträge* 2007; .(133), Georg-August-Universität Göttingen, Volkswirtschaftliches Seminar, Göttingen. <http://hdl.handle.net/10419/31966>
10. National Bureau of Statistics of Nigeria. Area and Climate. National Bureau of Statistics of Nigeria 2007; Plot 762, Independence Avenue, Central District, Abuja-Nigeria www.nigerianstat.gov.ng
11. World Bank. Fertility rate, total (births per woman) World Bank, Washington DC 2020.
12. World Bank. Population, total World Bank, Washington DC 2022.
13. Okigbo CC, Speizer IS, Corroon M and Gueye A. Exposure to Family Planning Messages and Modern Contraceptive Use among Men in Urban Kenya, Nigeria, and Senegal: A Cross Sectional Study. *Reproductive Health* 2015; 12:63 DOI 10.1186/s12978-015-0056-1
14. Blair G. Men Causes 100% of Unwanted Pregnancies. Human Parts 2018 <https://humanparts.medium.com/men-cause-100-of-unwanted-pregnancies>
15. Kallner HK and Danielsson KG. Prevention of unintended pregnancy and use of contraception—important factors for preconception care. *Upsala Journal of Medical Sciences* 2016; 121(4) 252–255 <http://dx.doi.org/10.1080/03009734.2016.1208310>
16. Ejembi CL, Tukur D and Aliyu AA. Contextual Factors Influencing Modern Contraceptive Use in Nigeria. DHS Working Papers 2015; No. 120. Rockville, Maryland, USA: ICF International
17. Odimegwu CO. Family Planning Attitudes and Use in Nigeria: A Factor Analysis. *International Perspectives on Sexual and Reproductive Health* 1999; 25(2) 86-91
18. Lindberg LD, Ku L and Sonenstien F. Adolescents' Reports of Reproductive Health Education, 1988 and 1995. *Family Planning Perspectives* 2000; 32(5) 220–226
19. Kabagenyi A, Jennings L, Reid A, Nalwadda G, Ntozi J and Atuyambe L. Barriers to Male Involvement in Contraceptive Uptake and Reproductive Health Services: A Qualitative Study of Men and Women's Perceptions in two Rural Districts in Uganda. *Reproductive Health*, 2014; 11(21) <http://www.reproductive-health-journal.com/content/11/1/21>
20. Bandura A. Social Cognitive Theory of Mass Communication, Media. *Psychology* 2001; 3:3, 265-299, DOI: 10.1207/S1532785XMEP0303_03
21. Ugboaja JO, Oguejiofor CB, Oranu EO and Igwegbe AO. Assessing the Influence of Mass Media on Contraceptive use in Nigeria: A Secondary Analysis of 2013 Nigerian National Demographic and Health Survey. *The Nigerian Journal of General Practice* 2018; 16(2) 39-44
22. Tay J, Vertes A, Haque SB, Kan K, Burt E and Sibbald S. Birth control campaigns for youths and young adults: From the perspectives of different organizations. *Cogent Medicine* 2017.
23. Jato MN, Simbakalia C, Tarasevich JM, Awasum DN., Kihinga CNB and Ngirwamungu E. The Impact of Multimedia Family Planning Promotion on the Contraceptive Behavior of Women in Tanzania. *International Family Planning Perspectives* 1999; 25(2)60-67
24. Benson A, Calhoun L, Corroon M, Gueye A, Guilkey D, Kebede E, Lance P, O'Hara R, Speizer IS, Stewart J and Winsto J. The Senegal Urban Reproductive Health Initiative: A Longitudinal program Impact Evaluation. *Contraception* 97 2018; 439–444
25. Habibov N and Zainiddinov H. Effect of TV and radio family Planning Messages on the Probability of Modern Contraception Utilization in Post-Soviet Central Asia 2017.
26. Katende C, Gupta N and Bessinger R. The Impact of a Reproductive Health Project Interventions on Contraceptive Use in Uganda. Measure Evaluation 2002 Working Paper NO.02/49
27. Ardiansyah B. Effect of Mass Media on Family Planning Choices in Indonesia. MPA/MPP Capstone Projects 2016; 243. https://uknowledge.uky.edu/mpamp_etds/243
28. Babalola S and Oyenubi O. Factors explaining the North–South differentials in contraceptive use in Nigeria: A Nonlinear Decomposition Analysis. *Demographic Research* 2018; 38(12) 287-308 DOI: 10.4054/DemRes.2018.38.12
29. Kessler K, Goldenberg SM. and Quezada L. Contraceptive Use, Unmet Need for Contraception, and Unintended Pregnancy in a Context of Mexico-U.S. Migration. *The journal of Field Actions* 2010 Special Issue 2 | 2010 Migration and Health
30. Prata N, Bell S, Fraser A, Carvalho A, Neves I and Nieto-Andrade B. Partner Support for Family Planning and

- Modern Contraceptive Use in Luanda, Angola. *African Journal of Reproductive Health* 2017;21 (2) 35-48
31. Xu SF, Wu JQ, Li YY, Yu CN, Zhao R, Zhou Y, Li YR., Zhang JG and Jin MH. Association between Factors Related to Family Planning/Sexual and Reproductive Health and Contraceptive use as well as Consistent Condom use among Internal Migrant Population of Reproductive ages in three Cities in China, Based on Heck Probit Selection Models. *BMJ Open* 2018; 8:e020351. doi:10.1136/bmjopen-2017-020351
 32. Seutlwadi L, Peltzer K, Mchunu G and Tutshana BO. Contraceptive use and Associated Factors among South African Youth (18 - 24 years): A Population-based Survey. *South African Journal of Obstetrics and Gynaecology* 2012 ; 18(2)<http://www.sajog.org.za/index.php/SAJOG/article/view/504/280>
 33. Babalola S. Changes in Ideational Profiles of Women of Reproductive Age in Urban Nigeria: The role of health Communication. *Health Education and Behavior* 2017; 44(6): 907–917. doi:10.1177/1090198117699510
 34. Babalola S, Folda L and Babayaro H. The Effects of a Communication Program on Contraceptive Ideation and Use Among Young Women in Northern Nigeria. *Studies in Family Planning* 2008; 39 (3) 211-220 <https://doi.org/10.1111/j.1728-4465.2008.168.x>
 35. Speizer IS, Guilkey DK, Escamilla V, Lance, VM, Calhoun, LM and Ojogun OT. On the Sustainability of a Family Planning Program in Nigeria when Funding Ends. *PLoS ONE*. 2019; 14 (9): e0222790. <https://doi.org/10.1371/journal.pone.0222790>
 36. Bajoga A, Atagame KL and Okigbo CC . Media Influence on Sexual Activity and Contraceptive Use: A Cross Sectional Survey among Young Women in Urban Nigeria. *African Journal of Reproductive Health* September 2015; 19 (3): 100-110
 37. World Bank. The World Bank in Nigeria: Overview. World Bank; Washington D.C, United State <https://www.worldbank.org/en/country/nigeria/overview>
 38. Oyefabi A, Dambo H, Nwankwo B, Waje C, Kure S and Akabe J Determinants of Male Involvement in Family Planning Decision making in a Rural Community in Northern Nigeria *Journal of Community Medicine and Primary Health Care*.2002; 34 (3) 69-81
 39. Sethy SK and Sahoo H. Investigating the Relationship between Population and Economic Growth: An Analytical Study of India. *Indian Journal of Economics and Business* 2015; 14, p.269-288.
 40. Banerjee R. Population Growth and Endogenous Technological Change: Australian Economic Growth in the Long Run. *Economic Record* 2012; 88, p.214-228.
 41. Orbeta AC. Poverty, Vulnerability and Family Size: Evidence from the Philippines. Asian Development Bank Institute (ADBI) Research Paper Series 2005;No. 68, Tokyo
 42. World Health Organization High Rates of Unintended Pregnancies Linked to Gaps in Family Planning Services: New WHO study. Geneva 2019.
 43. Jones RK, Darroch JE and Henshaw SK. Contraceptive use among U.S. Women Having Abortions in 2000–2001, *Perspectives on Sexual and Reproductive Health* 2002, 34(6):294–303, and
 44. Adeniran R, Tijani-Adenle G and Oso, L Eewo!: Cultural Issues Mediating the Coverage of Maternal and Childcare Experiences in the Nigerian Press in *SAGE Public Relations Inquiry* Journal, 2022; 11(1), 57 - 77.