

PREFERRED DIGITAL HEALTH TOOLS AND INFORMED CONTRACEPTIVE CHOICES AMONG WOMEN OF REPRODUCTIVE AGE IN SELECTED LOCAL GOVERNMENT AREAS IN OYO STATE, NIGERIA

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ABSTRACT

This study evaluated the preferences for digital health tools (DHT) and informed choices regarding contraceptive methods among women of reproductive age in selected local government areas (LGAs) in Oyo State, Nigeria. Employing a descriptive survey research design, the study targeted women aged 15–49 who were not using modern contraceptives. The research was conducted in Iseyin, Ona-Ara, and Ibadan-North East LGAs, chosen for their low contraceptive prevalence rates (CPR). A sample of 356 participants was determined using the Leslie Kish method and a multi-stage sampling procedure was used for the selection of the 356 from the total population. Data were collected using a modified DHT questionnaire, assessing informed decision-making and preferences for DHT in contraceptive information dissemination. The demographic characteristics of participants showed that majority are within the ages of 26–30 years (53.8%), married (94.9%), with secondary school education (58.1%) and 1–2 wards (64.1%). Lastly, majority of the participants are not on any method (77.8%). The findings revealed that the level of informed choices is high (96.6%). This study observed that the overall level of preference of DHT among the women of reproductive age in the selected LGAs was high (83.6%). The study concluded that DHT significantly influences contraceptive decision-making and is preferred by women in the selected LGAs, highlighting its potential in improving contraceptive uptake and informed choices in similar settings. 98.6% of participants understood modern contraceptive methods after exposure to DHT, with a significant majority indicating it made informed choices easier. Additionally, 94.9% of respondents preferred DHT over physical visits for contraceptive information, citing convenience, time-saving, and increased confidence in discussing personal issues with providers.

Keywords: Preferences; Digital Health Tools
Informed Choice; Contraceptive Methods;
Women

INTRODUCTION

A digital health tool (DHT) in Sexual and Reproductive Health (SRH) is a technological solution or application that uses digital platforms, such as mobile applications, websites, or telecommunication systems, to offer information, support, and services concerning reproductive health and family planning. The World Health Organisation (2020) provides a definition for Digital Health Tool (DHT) as the use of mobile telecommunications and multimedia technologies in sexual and reproductive health (SRH) and public health systems. Distributed Hash Tables (DHTs) refer to portable electronic devices like smartphones, patient monitoring devices, personal digital assistants, and other wireless mobile devices, as stated by Kay (2020) in the context of mHealth technologies. These devices have demonstrated positive effects on various contraceptive behaviours in sexual and reproductive health (SRH), even in settings with limited resources, as highlighted by Smith et al. (2020).

DHTs have gained significant traction in the healthcare industry, offering novel approaches to enhance the availability and standard of healthcare services. They play a crucial role in effectively evaluating Sexual and Reproductive Health (SRH) and family planning information. Understanding and using DHTs can effectively overcome the

limitations faced by Women of Reproductive Age (WRA) in terms of traditional, economic, geographic, and literacy barriers. The COVID-19 worldwide pandemic has demonstrated the substantial impact of technology, namely mHealth, in terms of information and services (Ye, 2020). The research conducted by Chukwu et al. (2021) shown a growing trend of mobile applications (apps) being used to provide services, namely in promoting the adoption of modern contraception to decrease the rates of illness and death among mothers and children. These findings indicate that there is a growing trend of using technologies other than mHealth for the provision of health and social services (Chukwu et al., 2021).

On a global scale, the use of DHT, specifically Interactive Voice Response (IVR), to encourage the adoption of contemporary contraceptives, demonstrates a positive trend. Global studies (Ampt et al., 2020) highlight the crucial function of DHT in teaching women about different contemporary contraceptive options. The worldwide Contraceptive Prevalence Rate (CPR) for contemporary methods stands at 58.7% among married or in-union women, according to the World Health Organisation (WHO) in 2023. Additionally, the global proportion of Women of Reproductive Age (WRA) who have their family planning needs covered using modern methods, as shown by SDG indicator 3.7.1, is 77.5% in 2022, as reported by WHO in 2023. This is demonstrated by the worldwide Total Fertility Rate (TFR), which is now recorded at 2.4 children per woman, as indicated by the World Bank's 2023 statistics. This statistic signifies a substantial decline from previous levels, however it still suggests that, on average, each woman has a somewhat higher than two children during her lifetime. The worldwide conversation emphasises the significance of DHT in closing knowledge gaps, therefore enabling women to make informed choices regarding their reproductive health requirements (Ampt et al., 2020).

In the African setting, the use of DHT such as phone calls to encourage the adoption of

contemporary contraception has become increasingly popular. The current contraceptives prevalence rate (CPR) rate in African countries is 13%, according to the World Health Organisation (WHO) in 2020. The fertility rate in Africa is around 4.6 births per woman, which is more than double the world average (Africa Fertility Rate, 2023). The high fertility rate and low contraceptive prevalence rate (CPR) can be ascribed to causes such as restricted availability of contemporary contraception methods, preference for bigger families, cultural norms about childbearing, and socio-economic conditions (Adedini et al., 2023). Research conducted in Kenya and Tanzania demonstrates the beneficial effects of DHT systems in providing specific reproductive health information and addressing obstacles connected to the availability and acceptance of modern contraception (Njeru et al., 2020). The function of DHT in promoting informed choice is in line with the wider initiatives to enhance the adoption of modern contraceptives in varied socio-cultural settings in Africa.

Nigeria, with its extensive and varied population, has had significant progress in using DHT for the promotion of reproductive health. In recent years, mobile penetration in Nigeria and many regions of sub-Saharan Africa has reached a level where even the most isolated and impoverished villages have access to strong cellular telephone connections. In 2019, Nigeria ranked sixth globally in terms of mobile phone subscribers, with a total of 172 million (Oluma et al., 2020). Sub-Saharan Africa has the highest Total Fertility Rate (TFR) in the world, with an average of 4.6 (Africa Fertility Rate, 2023). Nigeria is distinguished as one of the nations with a significantly high fertility rate, with a Total Fertility Rate (TFR) of 5.4 children per woman. The only country with a higher fertility rate in Africa is Niger Republic, with a TFR of 6.1 children per woman (Africa Fertility Rate, 2023). The contemporary contraceptive prevalence rate (CPR) among Nigerian women who were married or in a relationship was 16%

in 2023, according to Statista. Factors such as insufficient awareness, restricted healthcare availability, cultural and religious convictions, and socioeconomic standing hinder the adoption of contemporary contraception methods, resulting in low levels of contraceptive usage (Aneesha et al., 2023). These problems emphasise the necessity of employing creative methods, such as utilising the DHT platform, to improve the use of contemporary contraceptives, including the utilisation of prerecorded calls. Preventing unwanted births among all women of reproductive age (WRA) is of utmost importance, as they should have unrestricted access to contraceptive services as mandated by the legislation (WHO, 2023).

Oyo State, situated in the southwestern region of Nigeria, has a similar pattern to the rest of the country, with a high fertility rate of 5.1 births per woman (Ahinkorah, 2023). The elevated fertility rate in Oyo State is a result of interrelated problems including limited understanding, insufficiently informed decision-making, limited availability, and low acceptance of contemporary contraceptive technologies (Ahinkorah, 2023). The persistence of these obstacles is fuelled by cultural taboos and insufficient sexual education, resulting in misunderstandings and false beliefs that impede women of reproductive age from obtaining or using contemporary contraceptive methods. It is essential to identify and overcome obstacles to the use of modern contraceptives in order to implement effective intervention strategies. The World Health Organization's High Impact Services (HIPs) recognises the use of modern contraceptive methods as a vital aspect of global reproductive health and family planning programs. Utilising DHT for educational calls regarding contemporary contraceptives is an innovative strategy that respects patients' privacy. This method may be used through taped telephone calls, allowing for a wider reach to potential customers (Zinke-Allmang et al., 2022).

The decision-making process regarding contraception involves personal values and preferences, which can vary greatly among individuals. Factors such as lifestyle, future plans, and the desired level of control over fertility play crucial roles in shaping these decisions (Johnson et al., 2020). People evaluate digital contraception options based on their unique needs and preferences, considering elements like user experience, privacy, and data security (Anderson et al., 2023). After assessing the advantages and disadvantages, individuals choose and implement their preferred method, with confidence and empowerment being critical for a successful decision (Lee et al., 2021).

Interpersonal communication between sexual partners is integral to effective contraception use. This communication is influenced by various factors including policy, attitudes, cultural norms, and social conventions. Healthy communication between partners can lead to better reproductive health outcomes and increased use of modern contraception. The principle of gender equality in family planning supports the notion that inclusive and supportive communication can enhance contraceptive use and foster equitable power dynamics in relationships (Principles underpinning HIPs for family planning, 2021). Michau et al. (2021) highlight the importance of supporting couples in developing skills for better intimacy and communication regarding sexual decision-making.

Research indicates that open dialogue between couples positively influences contraceptive use. For instance, a study by Speizer and Calhoun (2021) found that young couples who discussed contraception were more likely to use it. This finding was supported by a survey showing that couples who talked about contraception openly were more likely to use it compared to those who did not (Rosen et al., 2022). Additionally, stringent data security measures are essential in digital health tools to protect user privacy. Customization based on user feedback can improve family planning programs by offering tailored suggestions and

reminders, thereby enhancing the effectiveness of these tools (Speizer & Calhoun, 2021).

In low-income communities, mobile phones are commonly used for health-related research, though their use for accessing sexual and reproductive health resources is limited. Abrejo et al. (2022) found that mobile health (mHealth) interventions could address knowledge gaps and reduce transportation costs for family planning services. Women expressed greater comfort in discussing family planning with their partners after learning about Health options. This aligns with the broader goal of improving access to information and services, which ultimately enhances decision-making and reproductive health outcomes (Speizer & Calhoun, 2021).

User experiences with digital health tools for contraception can vary based on factors such as the type of tool and individual expectations. Bailey et al. (2021) conducted a systematic review revealing that users generally have positive attitudes towards these tools, appreciating their accessibility and personalized features. However, challenges such as technical issues and privacy concerns were also noted. The design and functionality of digital health tools, including websites, apps, and chatbots, play a significant role in user satisfaction and effectiveness (Bailey et al., 2021; Abimbola et al., 2021).

Recent studies underscore the effectiveness of digital health tools in enhancing family planning. Zinke-Allmang et al. (2022) found that digital media, particularly mobile apps, effectively disseminated family planning information. Similarly, research by Smith et al. (2020) and Senbekov et al. (2020) demonstrated that mobile phone-based interventions and broader digital technologies significantly improved contraceptive use and reproductive health outcomes. Collectively, these studies highlight the positive impact of digital health tools on informed decision-making and the effectiveness of family planning interventions (Yousef et al., 2021; Vanestanagh et al., 2021). Based on the

foregoing, this study evaluate the level of preferences of digital health tools and informed choice regarding contraceptive methods among women of reproductive age in selected LGAs in Oyo State, Nigeria.

OBJECTIVES

The objective of the study was viz:

- i. To determine the level of informed choice *contained in the DHT*.
- ii. To examine the level of preferences of digital health tools and informed choice regarding contraceptive methods among women of reproductive age

METHODOLOGY

Design: Quasi- experimental design, all the participants were exposed the intervention.

Setting: Selected three Local Government Areas, in Oyo State. Research focused on women in Iseyin LGA since it had the lowest contraceptive prevalence rate (CPR) of any rural LGA in the state (6.1% of 17,547 women were taking modern contraception). Examining how digital health tools (DHT) affected the usage of contraception in this group was the primary goal of the study. Included in the research were women from Ona-Ara LGA (with a CPR of 11.2%) and Ibadan-North East LGA (with a CPR of 15%), to guarantee a representative sample.

Target Population: Focusing on women of reproductive age (15–49) in three chosen LGAs of Oyo State, Nigeria, who were not utilizing any modern methods of contraception.

Sample Size Determination: After factoring in a 10% attrition rate, the Leslie Kish method was used to establish the study's sample size, which ultimately came to 356 participants.

Sampling Technique: Purposive Sampling technique was used to select the three LGA's in Oyo State. The 33 LGAs of Oyo State were first stratified according to CPR, and then the three LGAs with the lowest CPR were chosen on purpose. To guarantee a diversified

representation across urban, suburban, and rural regions, particular wards were selected using random sampling within these LGAs.

Instrument: A three-part questionnaire was used. Section A collected demographic data. Section B elicits responses on the Informed choice about the method of contraception by the respondents. They were measured on a 5 continuum scale ranging from 1 to 5 (Strongly Disagree to Strongly Agree). The higher the score, the higher the informed choice about the method of contraception. A higher mean score (21-30) signifies good informed choice while a lower score (1-10) signifies poor informed choice about the method of contraception by the participants. Section C Sought participants' opinions on the preference for DHT. The items were evaluated using a 5-point continuum, with 1 being strongly disagree and 5 being strongly agree. A higher score indicates that the technique. In terms of the technique of contraception, preference as a variable was measured as good (score between 31-45), moderate (score between 16-30), or poor (score between 1-15).

Construct validity measures, such as the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity, were utilized in the study to guarantee the validity of the research instrument. These tests revealed that the constructs were appropriately structured.

Reliability: High internal consistency of the instrument's was shown by the use of Cronbach's alpha which gives the values of 0.901 for section C and 0.818 for section B, demonstrating great composite dependability.

Data Collection:

Pre-intervention: Visits were made to the three LGAs where the training programs were held before the commencement of data collection. Approval was sought from the authorities of the local government. Market women and women leaders helped in the mobilization of the participants. Places of worship were also visited for the mobilization

of participants. The period of recruitment was four weeks. During this phase of the work, an introductory meeting was arranged with the would-be participants to familiarize them with the objectives and mission of the researcher and the derivable benefits for the individual participants and the community at large. They were assured of confidentiality that all information provided will be used only for academic purposes and that they were free to withdraw at any stage of the research without having any negative implication on them. The procedure for data collection were in the two phases; pre-intervention and intervention at four weeks (P1). Phone numbers of participants were collected during recruitment after gaining their consent for the procedure. Participants were duly informed to use same phone number throughout the period of data collection for the DHT. Time and days of the week to receive the pre-recorded calls were ascertained.

The Intervention: The participants were exposed to the use of the tool. Pre-recorded calls were sent to the participants three times per week to be followed by the fourth calls which served as a quiz to evaluate the variables that were communicated during the first three calls. The respondents received three weekly calls (prerecorded calls) through respondents registered mobile numbers collected for the purpose containing information about modern contraceptives and a quiz call to evaluate informed choice about methods of contraceptives, preferences of the tool as a means of disseminating information by the women of reproductive age.

Session one: Pre-recorded calls were sent to the participants on informed choice of methods of contraception. The objective of this session was to ensure that participants understand modern contraceptives methods, managements of side effects, being able to separate facts from myths and misconception about modern contraceptives. The participants pressed the numeric keypads to objectively respond to the Likert scale prompting. Quiz attempts by participants on informed choice was recorded.

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Session two: Pre-recorded calls were sent to the respondents on preferences of the tool. The objective of this session was to ascertain the respondent's preference of the tool as means of accessing contraceptive information, their confidentiality to speak to a modern contraceptive provider on the phone, accessing modern contraceptives information online as compared to a physical visit to the clinic. The participants pressed the numeric keypads to objectively respond to the Likert scale prompting. Scores of quiz attempt by participants on preference were recorded.

Data Analysis

The investigator conducted data screening by checking all questionnaires for completeness and the completed questionnaires were collated. The questionnaires were manually coded and entered into the computer for analysis. IBM Statistical Package for Service Solution (IBM SPSSTM) version 27 was used for data analysis. The data was cleaned by running frequency analysis on each item and checking responses to ensure that the values were accurately coded. Missing data were recorded and treated as missing values in the software. Data entered into the computer was subjected to descriptive and inferential statistical analysis at $p=0.05$. The information obtained was summarized and presented in a table. Means and standard deviations were

computed for items within groups. The socio-demographic variables were tested for randomization. Hypotheses were tested using inferential statistics such as paired T-test.

RESULTS

The study involved a total of 351 respondents, with the majority falling within the age range of 26 to 35 years. Specifically, 53.8% of the respondents were aged 26-30 years, and 30.8% were aged 31-35 years, making these two groups the most represented in the sample. The mean age of the participants was 33.7 years, with a standard deviation of 8.29, indicating some variation in age among the respondents, though the majority were relatively young adults.

Marital status data revealed that a significant portion of the respondents, 94.9%, were married. Only a small fraction were single (4.0%) or separated (1.1%), with no participants reporting as divorced. This distribution suggests that the study primarily engaged a married population, which could influence the findings, particularly those related to family planning and contraceptive use. Ethnically, the sample was predominantly Yoruba, with 88.9% of the respondents identifying as such. The remaining respondents were of Igbo (5.7%), Hausa (1.7%), or other ethnicities (3.7%). This ethnic breakdown suggests that the study was conducted in a region with a strong Yoruba presence, which might reflect the cultural practices and beliefs of this group in the findings.

Regarding educational background, most respondents had attained at least secondary education, with 58.1% having completed secondary school and 36.8% having tertiary education. A small percentage of the respondents reported having no formal education (2.8%) or only primary education (2.3%), indicating a generally well-educated sample. In terms of parity, the data showed that 64.1% of the respondents had 1-2 children, while 33.1% had 3-4 children. Only 2.8% of the participants had five or more children, and none reported having no children. This suggests that the study's participants are mostly

parents with a relatively small number of children, reflecting typical family sizes within the community. The result of the socio – demographic characteristics shows that majority of the respondents are within the ages

of 26 – 30years (53.8%), married (94.9%), of Yoruba ethnicity (88.9%), with Para 1-2 (64.1%) and not on any method of contraception (77.8%).

Table 1: Socio-demographic characteristics Data of the participants

		N = 351	
Variable		Frequency	Percent (%)
Age	15-19years	2	0.6
	20-25 years	3	0.8
	26-30 years	189	53.8
	31-35yrs	108	30.8
	36-40yrs	33	9.4
	41-49years	16	4.6
		Mean age = 33.7, SD = 8.29	
Marital Status	Single	14	4.0
	Married	333	94.9
	Separated	4	1.1
	Divorced	-	-
Ethnicity	Yoruba	312	88.9
	Hausa	6	1.7
	Igbo	20	5.7
	Others	13	3.7
Educational Background	No formal education	10	2.8
	Primary	8	2.3
	Secondary	204	58.1
	Tertiary	129	36.8
Parity	Nil	-	-
	1-2	225	64.1
	3-4	116	33.1
	5 and above	10	2.8
Contraceptive types	Breastfeeding	42	12.0
	Withdrawal	3	0.9
	Periodic Abstinence	16	4.6
	Cycle beads	2	0.6
	Concoctions	5	1.4
	Finger rings	7	2.0
	Salt and water	3	0.9
	Not on any method	273	77.8

Contraceptive use among the respondents was notably low, with 77.8% of the participants reporting that they were not using any method of contraception. Among those who did use contraception, breastfeeding was the most common method, employed by 12.0% of respondents. Other methods, such as periodic abstinence (4.6%), withdrawal (0.9%), and traditional practices like concoctions (1.4%), finger rings (2.0%), and salt and water (0.9%), were used by a small minority. This indicates limited adoption of contraceptive methods among the respondents, with a preference for natural or traditional methods among those who do use contraception. Overall, the demographic profile of the study population reveals a predominantly young, married, and Yoruba group with a relatively high level of education. The respondents are mostly parents with a modest number of children and demonstrate limited use of contraceptive methods. The demographic characteristics of participants revealed that majority are within the ages of 26 - 30 years (53.8%), married (94.9%), with secondary school education (58.1%) and 1-2

wards (64.1%). Lastly, majority of the participants are not on any method (77.8%).

The outcome of the research question measuring the level of informed choice contained in the DHT (IVR) among the reproductive women in the selected LGAs revealed that almost all the participants clearly understood all contraceptive methods after listening to the comprehensive IVR (98.6%); management of contraceptives side effects (96.3%), and changing contraceptive methods with undesirable side effects for the one with less disturbing side effects (100%). Additionally, 334 (95.2%) agreed that some negative beliefs about contraceptives are merely myths; 346 (98.6%) said it is much easier for them now to make an informed choice concerning contraceptive methods; and 316 (90.0%) believed it is important to talk about their feelings and concerns. This study reveals that the level of informed choices is high (96.6%)

Table 2 *Level of informed choice contained in the DHT*

SN		N = 351				
		Strongly Disagree	Disagree	I do not know	Agree	Strongly Agree
1	I clearly understand all modern contraceptive methods after listening to this comprehensive IVR	-	-	5 1.4%	123 35.0%	223 63.5%
2	Modern contraceptives' side effects could be managed	9 (2.6%)	4 (1.1%)	-	81 23.1%	257 73.2%
3	Modern contraceptive methods with undesirable side effects could be changed for the one with a less disturbing side effects	-	-	-	188 53.6%	163 46.4%
4	Some negative beliefs about modern contraceptives are merely myths	6 1.7%	11 3.1%	7 2.0%	61 17.4%	266 75.8%
5	It is much easier for me now to make an informed choice concerning modern contraceptive methods.	-	-	5 1.4%	111 31.6%	235 67.0%
6	Do you think it is important to talk about your feelings and concerns about modern contraceptives?	-	33 9.4%	2 0.6%	197 56.1%	119 33.9%
		Weighted mean score = 4.829 (96.6%)				

Weighted mean score = 4.829 (96.6%) The outcome of the research question measuring the level of preferences of DHT among the women of reproductive age in the selected LGAs revealed that almost all the participants (333; 94.9%) consented that DHT means of disseminating contraceptive information was preferred to a physical visit to the facility; everyone agreed that it made them feel more confident to speak to the provider about some personal and private issues; and 349 (98.3%) said it saves time that is lost during waiting hours to see a provider for contraceptive information purposes. Additionally, all agreed it's convenient to use, and 280 (79.8%) said it was easier to use. On the preference between listening to the drama

series and the chats, all consented to the drama series as a means of disseminating contraceptive information compared to the chat's method (86%). More than two-thirds (90.3%) of the participants rated the personal stories segments as 10/10 on a scale of 1-10, and 310 (88.3%) said questions by the host are preferred by them because the questions allow them to be assertive about the contraceptive information received. On a total mean score of 5, this study observed that the overall level of preference of DHT among the women of reproductive age in the selected LGAs was 4.180 (83.6%) which signifies that the women of reproductive age have a high level of preference for digital health tools (83.6%).

Table 3 Level of preferences of digital health tool by women of reproductive age

SN	Items	Preference				
		Strongly Disagree	Disagree	I do not know	Agree	Strongly Agree
1	This means of disseminating contraceptive information is preferred to a physical visit to the facility	-	-	18 (5.1%)	107(30.5%)	226 (64.4%)
2	It makes one feel more confident to speak to the provider about some personal and private issues	-	-	-	49(14.0%)	302 (86.0%)
3	It saves time that is lost during waiting hours to see a provider for contraceptive information purposes	-	-	6 (1.7%)	120(34.25%)	225 (64.1%)
4	It is more convenient				100(28.5%)	251 (71.5%)
5	It is easier to use	23(6.6%)	10 (2.4%)	38(10.8%)	96 (27.4%)	184 (52.4%)
6	I prefer the drama series as a means of disseminating contraceptive information				79 (22.5%)	272 (77.5%)
7	The chats are my preferred method of assessing contraceptive information	10 (2.4%)	17(4.8%)	22 (6.3%)	101(28.8%)	201 (57.3%)
8	I will rate personal stories segments as 10/10 on a scale of 1-10	-	26(7.4%)	8 (2.3%)	117(33.3%)	200(57.0%)
9	Questions by the host are preferred by me because they allow me to be assertive about the modern contraceptive information received	-	-	41(11.7%)	88 (25.1%)	222 (63.2%)
Weighted mean score = 4.180 (83.6%)						

DISCUSSION

This study determines the level of preferences of digital health tools and informed choice regarding contraceptive methods among women of reproductive age in selected LGAs in Oyo State, Nigeria. The demographic characteristics of participants revealed that majority are within the ages of 26 -30years, married, with secondary school education and 1-2 wards. Lastly, majority of the participants are not on any method.

This study reveals that the level of informed choice contained in the Digital Health Tool (DHT) among women of reproductive age in the selected LGAs is high. This study aligns with Aung et al. (2020) who conducted a systematic review to assess the impact of mHealth interventions on contraceptive use in low- and middle-income countries and concluded that these interventions positively influenced contraceptive use, contributing to informed decision-making regarding family planning methods. This study resonates with Chukwu et al. (2021), who demonstrated that the role of mobile phones in family planning positively impacts contraceptive behaviour, showcasing its effectiveness in promoting informed choices about family planning. This study also agrees with Babalola et al. (2019) who indicated the positive impact of DHT on dispelling myths and promoting informed choice. This study is consistent with Zinke-Allmang et al. (2022) whose findings revealed that digital media serves as a valuable source of information, enabling women and their social networks to make informed decisions about family planning in peri-urban Nairobi. This study aligns with Diedhiou et al. (2020) who observed that participants in Senegal agree that it is much easier for them now to make an informed choice concerning contraceptive methods.

This study observed that the overall level of preference for DHT among the women of reproductive age in the selected LGAs was very high. This study aligns with Zinke-Allmang et al. (2022) who noted the efficacy of digital tools in imparting crucial information among respondents in peri-urban Nairobi, Kenya. This study supports Yousef et al. (2021) whose respondents expressed positive preference for DHT and emphasized the importance of user-friendly and accessible digital tools in family

planning interventions. This study is consistent with Vanestanagh et al. (2021) who indicates significant improvement in knowledge and self-care practices related to reproductive health observed in their study which suggests that smartphone-based education can effectively enhance reproductive health outcomes. This study agrees with Senbekov et al. (2020) who provided a broader context by reviewing the recent progress and applications of digital technologies in healthcare and identified preference for various applications of digital technologies in healthcare, providing support for the potential effectiveness of these tools in reproductive health interventions. This study supports Yousef et al. (2021) who investigated perceptions toward the use of digital technology in enhancing family planning services and findings indicate positive attitudes toward the integration of digital technology. The preference for DHT observed in the current study is consistent with the positive impact identified by Smith et al. (2020), emphasizing the effectiveness of digital health tools in enhancing knowledge and adherence among women of reproductive age. This study is similar to Vanestanagh et al. (2021) who assessed the effect of smartphone-based education on knowledge and self-care of reproductive health in married students and concluded that there is a positive inclination toward digital tools for disseminating contraceptive information.

CONCLUSION

The study's findings demonstrate a significant impact of Digital Health Tools (DHT), particularly Interactive Voice Response (IVR), on enhancing informed contraceptive choices among women of reproductive age in the selected Local Government Areas (LGAs). The majority of participants demonstrated a clear understanding of various contraceptive methods, effective management of side effects, and the ability to switch to less disruptive methods when necessary. This high level of comprehension suggests that DHT is a potent medium for delivering comprehensive contraceptive information, effectively addressing knowledge gaps and dispelling myths associated with contraceptives. Moreover, the study indicates a strong preference for DHT over traditional methods of accessing

contraceptive information. The convenience, time-saving benefits, and increased confidence in discussing personal issues with healthcare providers highlight the advantages of DHT. Participants overwhelmingly favored the drama series as a more engaging and effective means of disseminating contraceptive information, with personal stories and interactive questions enhancing their assertiveness and understanding.

The study concludes that DHT, particularly through IVR, is highly effective and preferred among women of reproductive age in the selected LGAs. This tool not only facilitates informed decision-making regarding contraceptive use but also offers a more accessible, engaging, and time-efficient alternative to traditional healthcare visits. The high level of preference and satisfaction with DHT underscores its potential as a critical component of reproductive health education and service delivery in the community.

RECOMMENDATIONS

Health ministries and agencies, such as the Ministry of Health and the National Population Commission, should expand the deployment of DHT, specifically Interactive Voice Response (IVR) systems, across more communities. This would ensure that a larger number of women, especially in rural and underserved areas, have access to accurate and comprehensive contraceptive information. Expanding this initiative could help bridge the gap in reproductive health education and empower more women to make informed choices regarding their contraceptive options.

Also, healthcare providers and reproductive health organizations should integrate DHT into routine contraceptive counselling and services. Clinics and health facilities should offer IVR as an option for women who may find it difficult to visit healthcare providers in person due to time constraints or personal preferences. By making DHT a standard component of reproductive health services, healthcare providers can cater to the preferences of women who value the convenience and privacy that these tools offer.

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