African Journal of Health, Nursing and Midwifery
ISSN: 2689-9418
Volume 9, Issue 2, 2026 (pp. 94-107)
www.abjournals.org

KNOWLEDGE AND ATTITUDE TOWARD PREMARITAL GENOTYPE SCREENING AMONG STUDENTS OF FEDERAL POLYTECHNIC, ILARO

Efuniyi Maria Aderemi* **and Bello Feranmi Dorcas**

School of Nursing Ilaro, Ogun State College of Nursing Sciences, Nigeria.

*Corresponding Author's Email: adebayomaria251@gmail.com

Cite this article:

Efuniyi, M. A., Bello, F. D. (2026), Knowledge and Attitude Toward Premarital Genotype Screening among Students of Federal Polytechnic, Ilaro. African Journal of Health, Nursing and Midwifery 9(2), 94-107. DOI: 10.52589/AJHNM-IAJ7DPQR

Manuscript History

Received: 11 Nov 2025

Accepted: 15 Dec 2025

Published: 3 Jun 2026

ABSTRACT: *Genetic diseases such as sickle cell disease are more prevalent in developing countries like Nigeria. Premarital genotype screening represents a crucial preventive health measure against sickle cell disease, yet its uptake remains influenced by multiple factors among young adult populations in affected countries. This study assessed the knowledge and attitude toward premarital genotype screening among students of Federal Polytechnic, Ilaro. A descriptive cross-sectional design was adopted in this study. A sample size of 266 students was selected using a multi-stage sampling technique. Data were collected using validated questionnaires. Data were analyzed using Statistical Package for Social Sciences version 20, and the results were presented in cross tabulation, frequency and percentage. The study revealed that 91.4% of students were aware of premarital genotype screening, though significant knowledge gaps existed, as only 82.7% knew their own genotype, with 8.6% having misconceptions about screening purposes. While attitudes were largely positive (82.3% supported screening, 92.5% would encourage others), a noticeable attitude-behavior gap emerged as only 60.9% would end a relationship based on incompatible results. Key promoting factors included media campaigns (75.9%), personal exposure to genetic disorders (84.2%), and educational awareness (90.6%). Major barriers included cost (71.1%), lack of access to facilities (40.6%), fear of negative results (63.5%), and cultural influences (57.1%). The study concluded that students demonstrated moderate knowledge and positive attitudes toward genotype screening, but substantial barriers related to cost, access, and psychological concerns hinder practical implementation. The study recommends comprehensive education programs, affordable on-campus testing facilities, counseling services, and policy interventions to improve screening uptake and reduce genetic disorder risks among the student population.*

KEYWORDS: Premarital, Genotype screening, Sickle cell, Knowledge, Attitude, Students.

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

African Journal of Health, Nursing and Midwifery
ISSN: 2689-9418
Volume 9, Issue 2, 2026 (pp. 94-107)

www.abjournals.org

INTRODUCTION

Premarital genotype screening has emerged as a crucial component of modern preventive healthcare, particularly in regions where genetic disorders such as sickle cell disease (SCD) remain highly prevalent. The practice involves testing couples before marriage to determine their genetic compatibility and assess the potential risk of giving birth to children with inherited blood disorders (Al-Shafai et al., 2022). This simple yet life-altering diagnostic procedure equips individuals with essential information needed to make informed marital and reproductive decisions, particularly in nations like Nigeria, where SCD continues to pose a significant threat to public health and socioeconomic development (Yalma & Awodiji, 2021). The relevance of premarital genotype screening has grown rapidly in recent decades as global and national health sectors increasingly prioritize preventive strategies over curative interventions, especially for lifelong medical conditions for which treatment remains expensive, inaccessible, or ineffective for much of the population (Fareed & Safdar, 2023; Vennela et al., 2024).

In Nigeria, where sickle cell disease (SCD) is highly endemic, premarital genotype screening is especially significant. Sickle cell disease (SCD) is the most widespread single-gene disorder globally and affects millions of people, disproportionately impacting populations in sub-Saharan Africa (Walufu et al., 2022). In Nigeria alone, an estimated 150,000 newborns are diagnosed with SCD each year, and approximately 2–3% of the population lives with the disease (Ojewunmi et al., 2021). Even more concerning is the estimate that around 50 million Nigerians are carriers of the sickle cell trait, making them potential transmitters of the abnormal hemoglobin gene to their offspring (Ojewunmi et al., 2021).

Despite improvements in awareness campaigns about SCD, diagnostic tools, and counselling programs, the national prevalence remains alarmingly high, with nearly half of affected children dying before the age of five and survivors often experiencing significantly shortened life expectancy, averaging only 21 years compared to approximately 54 years in high-income countries (Nnodu et al., 2021; Ibemere, 2023).

Premarital genotype screening, therefore, functions not merely as a medical test but as a vital public health instrument. Its capacity to identify genetic risk among potential couples offers an opportunity to prevent the transmission of debilitating hereditary diseases and make reproductive decisions aligned with both personal values and informed health considerations. However, despite its significance, uptake of premarital genotype screening is inconsistent among young people. While certain groups, such as university students in urban areas, exhibit relatively high levels of awareness and positive attitudes toward screening, others remain hindered by inadequate knowledge, cultural misconceptions, socioeconomic barriers, and emotional factors that impede rational decision-making (Oluwole et al., 2022; Umeora et al., 2023).

Understanding these disparities is especially crucial in tertiary institutions, where most students fall within the reproductive age group. Many are actively entering relationships, considering long-term commitments, or even beginning families while still in school (Adesina et al., 2022). This makes young adults in higher education a critical demographic for interventions aimed at increasing awareness and uptake of premarital screening.

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

Understanding the factors that promote premarital genotype screening is equally important. Research indicates that increased awareness and education significantly contribute to improved knowledge and more positive attitudes toward testing (Al Eissa et al., 2024). Cultural and religious leaders also play essential roles in shaping community behavior, particularly when they support screening through sermons, religious advisories, or compulsory requirements for marriage ceremonies (Al-Shafai et al., 2022).

Given these complexities, it becomes imperative to conduct localized assessments that capture the specific knowledge base, attitudes, and behaviors of targeted populations. Students of Federal Polytechnic, Ilaro, present such a group. Thus, this study assessed knowledge and attitudes toward premarital genotype screening among students of Federal Polytechnic, Ilaro.

Furthermore, by exploring the interplay of knowledge, attitudes, cultural norms, psychological factors, socioeconomic influences, and existing health promotion strategies, this research aims to provide a comprehensive understanding of the factors influencing genetic screening behaviors. Ultimately, the study seeks to equip policymakers, healthcare providers, and educational institutions with evidence-based insights to strengthen interventions that promote informed decision-making and prevent the continued transmission of SCD across generations.

METHODOLOGY

Research Design

This study adopted a descriptive cross-sectional design to determine the knowledge and attitude of students toward premarital genotype screening.

Research Setting

This study was conducted at the Federal Polytechnic, Ilaro.

Study Population

The target population for this study was students of Federal Polytechnic Ilaro. The study population for this study was students of selected departments in Federal Polytechnic, Ilaro. The total sample population for this study was seven hundred and eighty-eight (788) students.

Sample Size

The sample size for this study was determined using Slovin's formula

$$n = \frac{N}{1+N(e)2}$$

Where n = sample size

N = total population (788)

E = margin of error (0.05)

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

The sample size of two hundred and sixty-six (266) students was calculated using the formula.

Sampling Technique

This study employed a multistage sampling technique, combining both probability and non-probability sampling methods across three stages.

Stage 1: Selection of Schools

Simple random sampling was used to select two schools from the academic schools within Federal Polytechnic, Ilaro. The balloting method was adopted: each school was written on identical pieces of paper, folded, and placed in a container. Two papers were randomly drawn without replacement. The two schools selected through this process were the School of Pure and Applied Sciences and School of Engineering

Stage 2: Selection of Departments

From the selected schools, convenience sampling was used to select departments. Only departments whose Heads of Department (HODs) were available at the time of data collection and gave consent for the research were included.

Stage 3: Selection of Participants

A stratified random sampling technique was employed to select participants. Each department represented a distinct stratum, and the proportionate sample sizes were calculated to determine the number of participants to be selected from each stratum.

A structured Google Form was developed and distributed via the official WhatsApp platforms of each selected department. Within each department, students were encouraged to respond until the required sample size for that stratum was reached. Once the target number of responses for a department was achieved, the head of class (HOC) was notified, and further responses from that department were temporarily placed on hold to maintain balance and prevent over-representation.

Instrument for Data Collection

The instrument of data collection was a self-constructed questionnaire in the form of a Google Forms survey. The questionnaire consists of five sections: A, B, C, D & E.

Section A: Sociodemographic data of the respondents.

Section B: To determine the knowledge toward premarital genotype screening among students.

Section C: To determine attitude toward premarital genotype screening among students.

Section D: To determine the factors that promote premarital genotype screening among students.

Section E: To determine the factors that inhibit premarital genotype screening among students.

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

African Journal of Health, Nursing and Midwifery
ISSN: 2689-9418
Volume 9, Issue 2, 2026 (pp. 94-107)

www.abjournals.org

Validity and Reliability of Instrument

To ensure the validity of the instrument, an extensive literature review was conducted to develop the questionnaire. Reliability was assessed through a pilot study in which 27 questionnaires were administered to students of two other departments. Internal consistency testing was done using Cronbach's alpha, and an average reliability coefficient value of 0.75 was obtained, and it proved a good measure.

Method of Data Collection and Analysis

Data were collected via well-structured questionnaires in Google Forms, which were sent to respondents to access via an official WhatsApp group solely created for the purpose of this study. Each participant from selected departments was added to the group by their Head of Class (HOC) after gaining their individual consent. Completed forms were checked for completeness before collation.

The collected data were analyzed using the Statistical Package for Social Science (SPSS). Descriptive statistics (frequency and percentage) summarized variables, while a frequency distribution table was used to present results.

Ethical Consideration

Ethical approval to conduct this research was obtained from the Research and Development Centre of Federal Polytechnic, Ilaro. A letter of permission to collect data was delivered to the school authorities, and approval was given. Respondents were informed about the purpose, aims and objectives of the study. Respondents were also assured of complete confidentiality and anonymity. Consent of each participant was obtained before distribution of questionnaires.

RESULTS

Socio-Demographic Characteristics of Respondents

Table 1: Distribution of Respondents Based on Their Socio-Demographic Variables

Variable	Response	Frequency (n)	Percentage
Age in years	Below 20	12	4.5
	20-25 yrs	200	75.2
	26-30 yrs	49	18.4
	31-45 yrs	4	1.5
Sex	Male	117	44.0
	Female	149	56.0
Department	Computer Engineering	32	12.03
	Civil Engineering	25	9.40
	Electrical Engineering	33	12.41
	Computer Science	47	17.67
	Nutrition and Dietetics	39	14.66

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

	Science Laboratory Technology	90	33.83
Marital status	Single	229	86.1
	Engaged	28	10.5
	Married	9	3.4
	Divorced	0	0

The table above shows the socio-demographic characteristics of respondents in the study. The majority (75.2%) are within 20-25 years. Male participants are 44.0%, and females are 56.0%. The research was carried out across six (6) departments in the school: 12.03% are from Computer Engineering, 9.40% from Civil Engineering, 12.41% from Electrical Engineering, 17.67% from Computer Science, 14.66% from Nutrition and Dietetics, and 33.83% from Science Laboratory Technology.

Knowledge of Premarital Genotype Screening

Table 2: Knowledge of Respondents on Premarital Genotype Screening (N=266)

S/N	Variable	Response	Frequency (N)	Percentage
1	Have you heard about premarital genotype screening?	Yes	243	91.4
		No	23	8.6
2	If yes, through what means?	Media	85	32.0
		Lecture/School	97	36.5
		Internet	173	65.0
		Family/friends	80	30.1
		Health personnel	81	30.5
		Others	23	8.6
3	Do you think premarital genotype screening is a test done to determine blood sugar levels?	Yes	23	8.6
		No	243	91.4
4	Do you think premarital genotype screening is a test done to rule out sickle cell disorder?	Yes	202	75.9
		No	64	24.1
5	Do you know your genotype?	Yes	220	82.7
		No	46	17.3
6	Do you think premarital genotype screening should be done before marriage or during courtship?	Yes	218	82.0
		No	48	18.0
7	Which of the following genotypes can result in sickle cell disease in children if two partners marry?	AS + AS	207	77.8
		AS + AC	68	25.6

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

		AA + SS	11	4.1
		AA + AS	2	0.8
		SC+SS	185	69.5
		AC+SS	88	33.1
		AA+AA	0	0
		I don't know	3	1.1
8	Do you think the benefit of premarital screening helps to prevent having a child with sickle cell disease?	Yes	231	86.8
		No	35	13.2

Table 2 above shows the knowledge of respondents on premarital genotype screening. The majority (91.4%) had knowledge of premarital screening, and the knowledge was gathered via different means (32.0% from the media, 36.5% from school/lecture, 65.0% from the internet, 30.1% from family and friends, 30.5% from health personnel, and 8.6% from others).

Notably, while 75.9% understood that genotype screening plays a crucial role in detecting sickle cell disorder, 8.6% think premarital genotype screening is a test done to rule out level of blood sugar. Importantly, 86.8% believed that genotype screening can help reduce the risk of having children with sickle cell disease, of which 77.8% correctly identified the AS + AS genotype combination as high-risk.

Table 3: Summary of Knowledge of Respondents on Premarital Genotype Screening (N=266)

Knowledge	Frequency	Percentage
High Knowledge	214	80.45
Low Knowledge	52	19.55
Total	266	100.0

Attitude Toward Premarital Genotype Screening

The findings show that 82.3% of respondents support genotype screening, and 92.5% would encourage others to undergo the screening as well. Additionally, 88.0% believe genotype screening remains important even when couples are already emotionally committed. However, only 60.9% indicated they would consider genotype compatibility when choosing a partner, and just 39.1% are not willing to end a relationship if both partners are genotype incompatible (e.g., AS + AS).

Moreover, 70.3% supported making genotype screening compulsory, yet only 58.3% favored legal restrictions on AS + AS marriages. While 57.1% disagreed with the notion that genotype screening reduces one's chances of marriage; 42.9% expressed concerns about potential discrimination associated with such screening.

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

African Journal of Health, Nursing and Midwifery
ISSN: 2689-9418
Volume 9, Issue 2, 2026 (pp. 94-107)

www.abjournals.org

Table 3: Attitude of Respondents Toward Premarital Genotype Screening

S/N	Variables	Responses	Frequency (N)	Percentage
1	Do you support the idea of premarital genotype screening?	Yes	219	82.3
		No	47	17.7
2	Would you consider genotype compatibility before choosing a marriage partner?	Yes	198	74.4
		No	68	25.6
3	If you and your partner were found to be genetically incompatible (e.g., both AS), would you call off the relationship?	Yes	162	60.9
		No	104	39.1
4	Do you think premarital genotype screening should be made compulsory before marriage?	Yes	187	70.3
		No	79	29.7
5	Do you think premarital genotype screening is necessary and valuable once the couple have agreed to marry?	Yes	234	88.0
		No	32	12.0
6	Do you think there should be legislation against marriage between two sickle cell trait carriers?	Yes	155	58.3
		No	111	41.7
7	Do you think premarital genotype screening increases the chance of one not getting married?	Yes	114	42.9
		No	152	57.1
8	Would you encourage others to undergo premarital genotype screening?	Yes	246	92.5
		No	20	7.5

Factors Influencing Premarital Genotype Screening

Table 4: Factors That Influence Premarital Genotype Screening

S/N	Variables	Responses	Frequency (N)	Percentage
1	Does lack of knowledge about sickle cell disease and its consequences influence uptake of premarital genotype screening	Yes	182	68.4
		No	84	31.6

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

2	Does cultural practices influence uptake of premarital genotype screening	Yes	152	57.1
		No	114	42.9
3	Do religious practices influence uptake of premarital genotype screening	Yes	132	49.6
		No	134	50.4
4	Does price of screening influence uptake of premarital genotype screening	Yes	189	71.1
		No	77	28.9
5	Does fear of negative result influence uptake of premarital genotype screening	Yes	169	63.5
		No	97	36.5
6	Does fear of losing one's spouse influence uptake of premarital genotype screening	Yes	156	58.6
		No	110	41.4
7	Does lack of awareness influence uptake of premarital genotype screening	Yes	215	80.8
		No	51	19.2
8	Does age and level of education influence uptake of premarital genotype screening	Yes	203	76.3
		No	63	23.7
9	Does the attitude of healthcare providers influence uptake of premarital genotype screening?	Yes	150	56.4
		No	116	43.6
10	Do you think illness of family member or friend with genetic disease can enable a person to partake in premarital genotype screening	Yes	224	84.2
		No	42	15.8
11	Do you think awareness from the media and campaigns can enable a person to partake in premarital genotype screening?	Yes	202	75.9
		No	64	24.1
12	Do you think not adhering to premarital genotype screening can put one's child at risk of genetic disorder?	Yes	234	88.0
		No	32	12.0
13	Is premarital genotype screening legal in your area for couples before marriage?	Yes	132	49.6
		No	134	50.4
14	Do you have access to screening facilities in your area?	Yes	158	59.4
		No	108	40.6

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

15	Is premarital genotype screening compulsory for your culture/religion?	Yes	179	67.3
		No	87	32.7
16	Is knowledge and awareness of premarital genotype screening necessary before partaking in the screening?	Yes	241	90.6
		No	25	9.4
17	Is premarital genotype screening accessible and affordable in your area?	Yes	136	51.1
		No	130	48.9

Table 4 gives insight into the factors that influence premarital genotype screening. Findings show that factors such as lack of knowledge of sickle cell disease and its consequences (68.4%), cultural practices (57.1%), religion (49.6%), and financial constraints (71.1%) might inhibit premarital genotype screening. Lack of awareness emerged as the most critical barrier to genotype screening, cited by 80.8% of respondents, while 76.3% are of the opinion that their age and level of education can disallow them from going for the screening.

Additionally, 50.4% noted that there is no legal requirement for genotype screening, while 88% agreed that not adhering to the genotype could put one's child at risk of sickle cell disorder. 84.2% think the illness of a family member or friend with a genetic disease can enable a person to partake in premarital genotype screening.

DISCUSSION

Most of the respondents (75.2%) were in the range of 20-25 years. This age range was expected, as they were still undergraduates.

A significant proportion (66.9%) of respondents were aware of premarital genotype screening, with the internet (62.9%) and media (53.4%) being the main sources of information. Notably, 15.8% of participants in this study incorrectly associated genotype screening with blood sugar testing, and 21.8% were unable to identify high-risk genotype combinations like AS+AS or AS+SS. These findings suggest that while basic awareness exists, comprehensive understanding of genotype screening remains incomplete among the student population. This view aligns with findings by Adesina et al. (2022), who observed high awareness levels among undergraduates in South-West Nigeria but also highlighted gaps in comprehension, reinforcing the need for clearer, more focused health education interventions, while in contrast, lower levels of awareness of genotype have been reported from studies among youths in selected areas in Lagos.

Despite these misconceptions, 75.6% of respondents correctly understood that genotype screening helps detect sickle cell disorder (SCD), and 86.8% recognized its role in preventing the birth of children with the disease. These findings echo those of Oluwole et al. (2022), who emphasized that better knowledge enhances risk perception and promotes preventive action. Still, only 59.8% of respondents knew their genotype, reflecting underutilization of screening

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

services despite high awareness; this is similar to the knowledge-utilization gap reported by Agofure and Danzaria (2020).

Overall, attitudes toward premarital genotype screening were positive. A large majority (83.1%) supported screening, and 92.9% indicated they would encourage others to participate. Furthermore, 88.3% agreed that screening is essential even in committed relationships. These results are consistent with findings by Onyeonoro et al. (2022) and Shebani et al. (2024), who documented strong pro-screening attitudes among university students in Nigeria and Libya, respectively.

However, only 74.4% of respondents considered genotype status when selecting a partner, and just 34.6% would be willing to end a relationship due to genetic incompatibility (e.g., AS + AS). This demonstrates the powerful influence of emotional attachments over medical advice, corroborating results by Ojewunmi et al. (2019) and Adeniyi et al. (2024), who highlighted how emotional and social considerations can outweigh genetic risks in relationship decisions. While 76.3% disagreed that screening reduces one's marriage prospects, 23.7% expressed fears about discrimination, echoing ethical concerns raised in Adrina et al. (2021) and Adigwe et al. (2023).

Barriers to screening were multifactorial. Lack of awareness was identified as the most critical barrier (81.2%), followed by cost (72.2%) and age/education level (76.7%). This mirrors the findings of Adekunle et al. (2021), who identified misinformation and financial limitations as major obstacles to genotype screening uptake.

Psychosocial factors such as fear were also significant. Approximately 63.9% of respondents avoided screening due to fear of an unfavorable diagnosis, and 58.6% worried about its impact on their relationships. These emotional barriers were similarly reported by Faremi and Olawatosin (2020), who stressed the role of fear in deterring health-seeking behavior among youth.

Cultural and institutional influences were also relevant; 57.1% of participants reported cultural practices influenced their decisions, compared to 49.6% for religion. Healthcare provider attitudes were influential for 54.9% of respondents. These findings reinforce those by Alkalbani et al. (2022), who found that provider behavior and cultural norms significantly affect screening behavior in Middle Eastern and African contexts.

Only 59.4% of respondents had access to genotype screening facilities, and just 51.1% considered the service affordable. These access and affordability gaps are consistent with national challenges highlighted by Walufu et al. (2022) and Nnodu et al. (2021), who documented poor infrastructure and health financing as barriers to genetic services in Nigeria.

Furthermore, 53.4% of respondents reported the absence of any legal requirement for genotype screening, and 67.3% said their culture or religion did not mandate it. Despite this, 90.6% emphasized that knowledge is a necessary precursor to screening. This reflects findings by Gosadi et al. (2021) and Miyoshi and Watanabe (2023), who concluded that genomic literacy is essential for uptake and correct utilization of screening services.

Positive external influences were noted. About 76.3% of respondents were motivated by the experiences of others with genetic disorders, and 84.6% acknowledged the effectiveness of

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

media campaigns. Moreover, 88% understood the risks of not screening, particularly concerning the health of future offspring. This finding is similar to that of World Health Organization (2021) in that it is of the view that premarital genotype testing should be performed to enable those who are carriers of the traits or have the sickle cell disease make informed decisions about their future with their partners. These results also support the use of community engagement and peer education strategies, as advocated by Alyafei and Easton-Carr (2024).

IMPLICATION TO RESEARCH AND PRACTICE

The study's findings have significant implications for nursing practice and research. In nursing practice, the identified gaps in knowledge and attitudes toward premarital genotype screening highlight the need for nurses to intensify community education on sickle cell disease and the importance of screening. By leading public health campaigns and disseminating accurate information, nurses can promote primary prevention and reduce the prevalence and burden of managing sickle cell disease. Nurses also play a crucial advocacy role by contributing to policy formulation and implementation that supports widespread genotype screening.

Regarding nursing research, the study provides valuable reference material for future investigations. Replicating similar studies in other tertiary institutions with diverse cultural backgrounds would strengthen evidence and broaden understanding of factors influencing premarital genotype screening.

CONCLUSION

This study revealed that while students demonstrate generally favorable attitudes toward premarital genotype screening, a significant gap exists between knowledge and action. Emotional ties, misinformation, economic constraints, and sociocultural factors all play major roles in the decisions made by young people regarding screening. There is a critical need for strategies that combine health education with emotional and psychosocial support, improved access, and community-level advocacy.

The study recommends comprehensive education programs, affordable on-campus testing facilities, counseling services, and policy interventions to improve screening uptake and reduce genetic disorder risks among the student population.

FUTURE RESEARCH

The researcher suggests that longitudinal studies should be conducted to assess changes in behavior following educational interventions, exploration of parents' and religious leaders' influence on young adults' genotype screening, and investigation of the ethical implications of enforcing genotype-based marriage laws in Nigeria.

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

REFERENCES

Adekunle, M. O., Ojewunmi, O., Animasahun, A. B., Lawani, F. O., & Ubuane, P. O. (2021). Prevalence, determinants and impact of hemoglobin phenotype misdiagnosis among parents of children living with sickle cell disease in Nigeria. *Journal of Pediatric Research*, *8*(3), 239–245. https://doi.org/10.4274/jpr.galenos.2020.54366

Adeniyi, A., Akoki, D., Lawal, J., Oyedokun, A., Babawale, A., & Agboola, O. (2024). *Sickle cell disease in Nigeria: Why we must focus on advocacy*. Duke Center for Policy Impact in Global Health and the University of Ibadan Medical Students' Association. https://centerforpolicyimpact.org/2024/09/

Adesina, O. A., Ogamba, C. F., & Oshibogun, A. (2022). Premarital genotype screening for sickle cell disease: knowledge gaps, perception and determinants of uptake among final-year undergraduates of a tertiary institution in southwest Nigeria. *Nigerian Medical Journal*, *63*(1), 50–58. https://doi.org/10.60787/nmj.v63i1.94

Adigwe, O. P., Onoja, S. O., & Onavbavba, G. A. (2023). Critical review of sickle cell disease burden and challenges in Sub-Saharan Africa. *Journal of Blood Medicine*, *14*, 367–376. https://doi.org/10.2147/JBM.S406196

Adrina Zhong, Benedict Darren, Bethina Loiseau, Li Qun Betty He, Trillium Chang, Jessica Hill, & Helen Dimaras. (2021). Ethical, social, and cultural issues related to clinical genetic testing and counseling in low- and middle-income countries: a systematic review*, Genetics in Medicine, Volume* 23, Issue 12, 2021, Pages 2270-2280, ISSN 1098-3600, https://doi.org/10.1038/s41436-018-0090-9.

Agofure, O., & Danzaria, M. A. (2020). Knowledge and attitude towards premarital genotype screening among women of child-bearing age in Kumo Akko Local Government Area of Gombe State. *Open Journal of Medical Research*, *1*(1), 10–19. https://doi.org/10.52417/ojmr.v1i1.73

Al Eissa, M. M., Almsned, F., Alkharji, R. R., Aldossary, Y. M., AlQurashi, R., Hawsa, E. A., AlDosari, S. M., Alqahtani, A. S., Alotibi, R. S., Farzan, R., Alduaiji, R., Sulimani, S. M., Alomary, S. A., & Assiri, A. M. (2024). The perception of genetic diseases and premarital screening tests in the central region of Saudi Arabia. *BMC Public Health*, *24*(1), Article 1556. https://doi.org/10.1186/s12889-024-19029-0

Alkalbani, A., Alharrasi, M., Achura, S., Al Badi, A., Al Rumhi, A., Alqassabi, K., Almamari, R., & Alomari, O. (2022). Factors affecting the willingness to undertake premarital screening test among prospective marital individuals. *SAGE Open Nursing*, *8*. https://doi.org/10.1177/23779608221078156

Al-Shafai, M., Al-Romaihi, A., Al-Hajri, N., Islam, N., & Adawi, K. (2022). Knowledge and perception of and attitude toward a premarital screening program in Qatar: A cross sectional study. *International Journal of Environmental Research and Public Health*, *19*(7), Article 4418. https://doi.org/10.3390/ijerph19074418

Alyafei, A., & Easton-Carr, R. (2024). The health belief model of behavior change. In *StatPearls*. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK606120/

Fareed, G., & Hussain, S. (2023). The importance of public health: Preventing disease and promoting wellness. *Open Journal of Medical Research*, *1*(1), 10–19.

Faremi, F. A., & Olawatosin, O. A. (2020). Quality of life of adolescents living with sickle cell anaemia in Ondo State, Nigeria. *Pan African Medical Journal*, *35*, Article 124. https://doi.org/10.11604/pamj.2020.35.124.19082

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR

Gosadi, I. M., Gohal, G. A., Dalak, A. E., Alnami, A. A., Aljabri, N. A., & Zurayyir, A. J. (2021). Assessment of factors associated with the effectiveness of premarital screening for hemoglobinopathies in the South of Saudi Arabia. *International Journal of General Medicine*, *14*, 3079–3086. https://doi.org/10.2147/IJGM.S321046

Ibemere, S. (2023). *Sickle cell disease management practices across Nigeria: A cross-sectional analysis* [Abstract]. The American Society of Hematology Annual Meeting and Exposition. *Blood, 142*(Supplement 1), 1143. https://doi.org/10.1182/blood-2023176882

Miyoshi, T., & Watanabe, M. (2023). Impact of genomic literacy components on genetic testing decision-making in the general Japanese population in the 20s and 30s. *PLoS ONE*, *18*(3), e0283432. https://doi.org/10.1371/journal.pone.0283432

Nnodu, O. E., Oron, A. P., Sopekan, A., Akaba, G. O., Piel, F. B., & Chao, D. L. (2021). Child mortality from sickle cell disease in Nigeria: A model-estimated, population-level analysis of data from the 2018 Demographic and Health Survey. *The Lancet Haematology*, *8*(10), e723–e731. https://doi.org/10.1016/S2352-3026(21)00213-3

Ojewunmi, O. O., Adeyemo, T. A., Ayinde, O. C., Iwalokun, B., & Adekile, A. (2019). Current perspectives of sickle cell disease in Nigeria: Changing the narratives. *Expert Review of Hematology*, *12*(8), 609–620. https://doi.org/10.1080/17474086.2019.1627993

Oluwole E. O., Okoye, C. D., Ogunyemi, A. O., Olowoselu, O. F., & Oyedeji, O. A. (2022). Knowledge, attitude and premarital screening practices for sickle cell disease among young unmarried adults in an urban community in Lagos, Nigeria. *Pan African Medical Journal*, *42*, Article 8. https://doi.org/10.11604/pamj.2022.42.8.27705

Onyeonoro, U. U., Chikwendu, C. I., & Uchegbu, E. O. (2022). Knowledge, attitude and uptake of premarital genotype screening among youth in a tertiary institution in southeastern Nigeria. *African Health Sciences*, *22*(2), 324–332. https://doi.org/10.4314/ahs.v22i2.7

Ramsey Msheliza Yalma, & Mary Mayowa Awodiji. (2021). Knowledge, attitude and practice of genotype screening among undergraduate students of the University of Abuja, Nigeria. *European Journal of Preventive Medicine*, *9*(2), 63–70. https://doi.org/10.11648/j.ejpm.20210902.16

Shebani, A., Mustafa, A. M., Elshwekh, H., Hammier, A., & Alhudiri, I. M. (2024). Knowledge and attitudes toward premarital screening programs among students at the University of Tripoli, Libya. *Cureus*, *16*(7), e64274. https://doi.org/10.7759/cureus.64274

Umeora, O. U. J., Onuh, S. O., & Egwuatu, V. E. (2023). Awareness and attitude toward premarital genotype screening among Nigerian undergraduates: A cross-sectional study. *Nigerian Journal of Medicine*, *32*(1), 44–50.

Vennela, D., Ausvi, S. M., Munjamkar, P., Boothpur, J. R., & Bhanarkar, U. (2024). Systematic review article: The role of genetic testing in preventive health care. *International Journal of Tropical Medicine*, *19*, 167–171.

Walufu, I. E., Nakalema, G., Waibi, W. M., Turyasiima, M., Amuje, E., Kiconco, G., Odoch, S., Kumbakulu, P. K., Abdirashid, S., & Asiimwe, D. (2022). Sickle cell disease in children and adolescents: A review of the historical, clinical, and public health perspective of Sub-Saharan Africa and beyond. *International Journal of Pediatrics*, *2022*, Article 3885979. https://doi.org/10.1155/2022/3885979

World Health Organization. (2021). *Sickle-cell disease*. Retrieved from https://www.who.int/news-room/fact-sheets/detail/sickle-cell-disease

Article DOI: 10.52589/AJHNM-IAJ7DPQR
DOI URL: https://doi.org/10.52589/AJHNM-IAJ7DPQR