

KNOWLEDGE, ATTITUDE, AND PRACTICES TOWARDS THE UTILIZATION OF ORA-QUICK HIVST AMONG PREGNANT MOTHERS ATTENDING ANC AT ERRH, A CROSS SECTIONAL STUDY

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ABSTRACT

Background

Ora-Quick HIV self-testing (HIVST) is where a person collects his or her specimen (oral fluid), performs an HIV test, and interprets the result either alone or with someone he or she trusts. The study was to assess Knowledge, Attitude, and Practices towards the utilization of Ora-Quick HIVST among pregnant mothers attending ANC at ERRH.

Methodology

A quantitative descriptive cross-sectional study design was used to select 40 mothers using a simple random sampling method, collecting data using a structured questionnaire. Data was analyzed using SPSS.

Results

Most 21 of the respondents (52.5%) were aged 18-24 years, while only 1 (2.5%) was aged 35 and above. Half 20 (50%) were Baganda tribe. The study indicated that 97.5% of respondents reported having heard of Ora-Quick HIV ST. 51.3% heard it from friends and family. 67% did not know that Ora-Quick is available in pharmacies. All the respondents knew that Ora-Quick HIVST is an acceptable idea, 40% disagreed that HIVST has the potential to reach hard-to-reach areas and 28% said they would not seek help and follow up an HIV positive result on Ora-Quick, 62.5% of the participants had never used an Ora-Quick HIVST, 64% did not know the correct time to read the results and 50% considered positive results to be the final.

Conclusion

Therefore, the study revealed insufficient knowledge as well as poor attitudes and practices towards Ora-Quick HIVST, which is believed to be related to inadequate community sensitization. The government, through the Ministry of Health, should launch national campaigns to promote HIV self-testing among pregnant mothers, emphasizing its role in early detection and prevention of mother-to-child transmission.

Recommendation

The government, through the Ministry of Health, should launch national campaigns to promote HIV self-testing among pregnant mothers, emphasizing its role in early detection and prevention of mother-to-child transmission.

Keywords: HIV self-testing, Ora-Quick, Entebbe Regional Referral Hospital

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BACKGROUND OF THE STUDY

Human immunodeficiency virus (HIV) is a virus that attacks the body's immune system, which, when not treated, causes acquired immune deficiency syndrome (AIDS) (Theron et al., 2017). However, Ora-Quick HIV self-testing (HIVST) is where a person collects their specimen (oral fluid), performs an HIV test, and interprets the result either alone or with someone he or she trusts (Ogello et al., 2024). In 2016, WHO published the first guidelines on HIVST, in which it was endorsed as an additional approach to HIV testing services, and currently, there are two rapid diagnostic tests for HIVST; the finger prick test and the Ora-Quick test

(Ingold et al., 2019) and the Ora-Quick rapid HIV 1/2 antibody test is the first WHO prequalified HIVST kit (Watson et al., 2019). It is a lateral-flow, immunochromatographic second-generation oral-fluid assay that detects antibodies to HIV-1 and HIV-2 (Njau et al., 2019). Ora-Quick HIVST was introduced as an innovative tool with the potential of reaching high-risk and hard-to-reach populations with HIV testing (McGuire et al., 2021). Ora-Quick does not provide a definitive diagnosis but enables potential users to know their Sero status. However, those with reactive Ora-Quick HIVST results need further confirmatory HIV testing at a health facility (Shapiro et al.,

2020). Here, an oral swab collected using the flat pad of the test device from the upper and lower gums is placed into a pre-filled tube of reagent for 20 minutes before reading the results (Simwinga et al., 2019). HIV/AIDS remains a significant global public health issue, with approximately 38 million people living with HIV worldwide as of 2020 (Govender et al., 2021). Among these, pregnant women represent a particularly vulnerable group due to the risk of mother-to-child transmission (MTCT) of the virus. This risk is heightened in low- and middle-income countries, where access to comprehensive healthcare services, including HIV testing and antiretroviral therapy (ART), may be limited (Yah & Tambo, 2019). One emerging strategy to overcome some of these HIV testing challenges is the introduction of HIVST, which allows individuals, including pregnant women, to test themselves privately and conveniently. These Ora-quick tests have the potential to increase the uptake of HIV testing, particularly among those who may not otherwise seek testing due to fear of stigma or other barriers (Mekonnen et al., 2024).

Sub-Saharan Africa bears the highest burden of HIV among pregnant women, accounting for approximately 90% of the global cases of MTCT, posing a substantial challenge to public health systems (Farhiya, 2019). Therefore, the efforts to achieve the global target of 95–95–95 by 2030 will require increased uptake of HIV testing (Frescura et al., 2022). Hence, the Ora-Quick HIVST kits could increase the number of people who get tested and know their status (King et al., 2022). In Uganda, the Ora-Quick self-test Kits were launched in 2019 with an accuracy of 99.6% (Rujumba et al., 2021). The device was first introduced in health facilities in 79 districts across Uganda, with intentions of availing them to other local governments later (Kwesiga et al., 2018). Ora-Quick HIVST offers a potentially transformative approach to HIV testing by empowering individuals to test themselves in the privacy of their homes (Devillé & Tempelman, 2019). This innovation can significantly enhance early detection rates among pregnant women, especially those who may face barriers to accessing conventional testing services at health facilities. However, the successful adoption and use of Ora-Quick self-test kits hinge on the KAP of the target population (Chauke, 2024). Understanding these factors is crucial for the development of effective public health strategies that promote the use of self-testing as part of comprehensive antenatal care (ANC) services.

METHODOLOGY

Study Design and Rationale

A quantitative descriptive study design was used to assess the Knowledge attitude and practices towards Ora-Quick HIV self-test among the pregnant mothers attending ANC at Entebbe Hospital. This design was selected because it enables the researcher to have detailed information from the respondents in the shortest time possible.

Study Setting and Rationale

The study was conducted at ANC Entebbe Hospital in the Wakiso district in the Central region of Uganda. The hospital is a public facility, which was initially constructed by the British in the 20th century as Entebbe Grade B hospital and later re-constructed in 2014 and re-opened in 2017 as Entebbe Hospital sheltering both Grade B and Grade A (private Wing) services.

Study Population

The study population is composed of all pregnant mothers at ANC who will have consented to participate in the study.

Sample Size Determination

The study employed 40 pregnant mothers to provide better information about the study. According to Kish and Leslie (survey sampling, 1965) statistical formulae for surveys

Sampling Procedure

A simple random sampling method was used to identify the participants' information for this study. This was done by using 80 folded papers with numbers 1-80, then given to a neutral person to issue to the respondents, and whoever picked a paper with an even number was included in the study. On each visit, the researcher sampled 10 respondents for 4 days to reach a sample size of 40 to participate in the study.

Inclusion Criteria

All the pregnant mothers at ANC Entebbe Hospital who had consented to participate in the study were Ugandans.

Exclusion criteria

All those who were very sick

Definition of Variables

Variables refer to the characteristics that can exist in different values or amounts. These included:

Dependent Variable;

Ora-Quick HIV self-test use. Is where the person collects his or her specimen (oral fluid) and then performs an HIV test and interprets the results, often in a private setting either alone or with someone who he or she trusts.

Independent Variables;

Knowledge regarding HIVST kits. Refers to facts, information, and skills on an Ora-Quick acquired through experience or education.

Attitude towards the use of HIVST kits. Refers to a settled way of thinking about an Ora-Quick.

Practices towards HIVST kit use. Refers to actual application or use of ideas, belief on an Ora-Quick as opposed to theories relating to it

Research Instruments

The study employed a semi-structured, researcher-administered questionnaire with both open and close-ended questions. The questionnaire contained 4 sections: Section A consisted of the demographic data of the respondents, Section B consisted of the Knowledge regarding Ora-Quick HIVST, Section C consisted of the Attitude towards the use of Ora-Quick HIVST, and Section D consisted of the Practices towards Ora-Quick HIVST use. The questionnaire was also first pre-tested on 40 pregnant mothers from Kisubi Hospital to measure its strength.

Data Collection Procedure

The researcher was introduced to the pregnant mothers, who then thoroughly explained to them the purpose of the study and the possible risks that would be involved. Consent was sought from the respondents, and then a questionnaire was issued to the participants. The time to answer the questionnaire was 15-20 minutes to avoid losing the respondents' concentration. Filled questionnaires were checked and edited before being considered for final use. Further, the researcher ensured that the respondents who were unable to read English were helped to translate the questionnaire into the local language.

Data Management

Data from the study was thoroughly checked and validated for completeness and then stored in a database established using Microsoft Excel. A password was used to prevent unauthorized access to the database. The data was also backed up on a flash and hard disk before and after analysis. Data on the questionnaire was kept under lock and key while electronically stored data was password protected.

Data Analysis

The data was first cleaned, organized, and checked for any gaps, after which it was then changed into codes and later transferred to Microsoft Excel 2017 and SPSS computer programs for the presentation of tables and figures. Responses for open-ended questions were summarized, key

points noted, and thereafter given themes to avoid having many responses before tallying them for analysis.

Ethical Considerations

After the approval of the proposal by the school research committee, an introductory letter was given to the researcher, introducing her to be allowed to carry out the study. An introductory letter was taken to the director of Entebbe Regional Referral Hospital to seek permission. The researcher introduced himself to the respondents, explaining the purpose of the study as well as the objectives. Consent was obtained from the respondents; however, their contact identity was kept anonymous throughout the study to ensure that the researcher used codes to identify the respondents, not their names. Furthermore, no one else except the researcher had access to the completed research instruments for confidentiality.

Ethical approval

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Informed consent

The purpose and objectives of the study were explained to the participants, and they understood and voluntarily consented to participate in the study.

RESULTS

Demographic Data of the Respondents.

Table 1: shows the demographic characteristics of the respondents n=40

VARIABLES	RESPONSE	FREQUENCY (f)	PERCENTAGE (100%)
Age group	18-24 years	21	52.5
	25-29 years	12	30
	30-34 Years	06	15
	35 and above	01	2.5
Tribe	Muganda	20	50
	Munyankole	10	25
	Mutooro	05	12.5
	Musoga	04	10
	Gishu	01	2.5
	Secondary	23	57.5

Level of education	Tertiary	10	25
	Primary	07	17.5
Marital status	Married	16	40
	Cohabiting	15	37.5
	Divorced	06	15
	Single	03	7.5
Occupation	Self employed	21	52.5
	Un employed	16	40
	Employed	03	7.5
	Total	40	100%

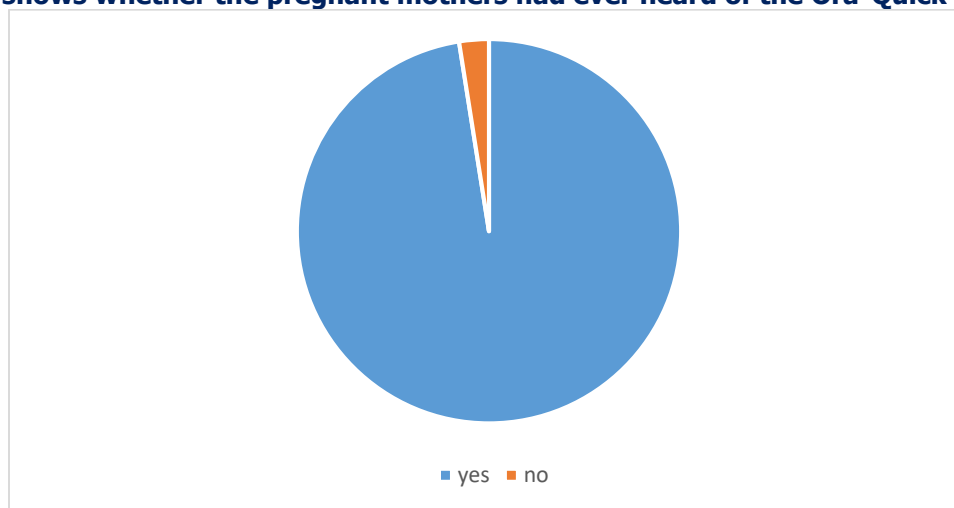
N= 40 Source: Primary data (2024)

Table 1 indicates that 21(52.5%) of the respondents were aged 18-24 years, while only 1(2.5%) was aged 35 and above. Half 20(50%) were Baganda tribe and only 1(2.5%) was Gishu tribe. Concerning the level of education, most 23(57.5%) of the respondents had completed Secondary

education, with the least 7(17.5%) having only Primary education. In terms of marital status, 16 (40%) were married while the least 3(7.5%) were single. Concerning Occupation, most 21(52.5%) were Self-employed and only 3(7.5%) employed, with only 3(7.5%) respondents.

Knowledge of Pregnant Mothers Regarding Ora-Quick HIVST Kit

Figure 1 shows whether the pregnant mothers had ever heard of the Ora-Quick HIVST Kit.



N= 40 Source: Primary data (2024)

Almost all 39(97.5%) of the respondents had heard of Ora-Quick HIVST, while only 1(2.5%) of them had never heard of it as indicated in figure 1.

Table 2 shows whether respondents know how to use Ora-Quick n=40

Response	Frequency (f)	Percentage (%)
Yes	20	50
No	20	50
Total	40	100

N= 40 Source: Primary data (2024)

Table 2 showed that half of the 20(50%) did not know how to use an Ora-Quick while the other half of the 20(50%) knew.

Attitude of Pregnant Mothers towards Utilizing Ora-Quick

Table 3 shows the response to whether an Ora-Quick provides an opportunity to test for HIV n=40

Response	Frequency (f)	Percentage (%)
Strongly Agree	19	47.5
Agree	11	27.5
Disagree	10	25
Total	40	100

N= 40 Source: Primary data (2024)

Most 19(47.5%) of the respondents strongly agreed that an Ora-Quick provides an opportunity to test for HIV while the least 10(25%) disagreed as indicated in table 3.

Table 4 shows the response whether an Ora-Quick has a potential to reach hard to reach areas n=40

Response	Frequency (f)	Percentage (%)
Strongly Agree	19	47.5
Disagree	16	40
Strongly Disagree	5	12.5
Total	40	100

N= 40 Source: Primary data (2024)

Table 4 indicated that most 19(47.5%) of the respondents strongly agreed that an Ora-Quick has a potential to reach hard to reach areas while the least 5(12.5%) of them strongly disagreed.

Practices of Pregnant Mothers towards Utilizing Ora-Quick

Table 5 shows responses whether the respondents have used an Ora-Quick before n=40

Response	Frequency (f)	Percentage (%)
No	25	62.5
Yes	15	37.5
Total	40	100

N= 40 Source: Primary data (2024)

Table 5 indicated that most 20(62.5%) of the respondents had never used an Ora-Quick before while the rest 12(37.5%) had.

Table 6 shows responses on how an Ora-Quick is used n=40

Response	Frequency (f)	Percentage (%)
Swabbed upper and lower gums	20	50
Swabbing the tongue	15	37.5
Dipping the swab into the mouth	5	12.5
Total	40	100

N= 40 Source: Primary data (2024)

Half 20(50%) of the respondents said an Ora-Quick is used by swabbing both the upper and lower gums while the least 5(12.5%) said by dipping the swab into the mouth as indicated in Table 6.

DISCUSSION

Demographic Data of the Respondents.

This study indicated that 21(52.5%) of the respondents were aged 18-24 years, which could be because the majority of the population in Uganda is young adults. Half 20(50%) were Baganda tribe, which highlights the need to consider cultural factors when discussing HIV testing and prevention as cultural beliefs and practices can significantly influence health-seeking behavior and perceptions of HIVST. Concerning the level of education, 23(57.5%) of the respondents had completed Secondary education, which suggests a foundational level of literacy and comprehension that can facilitate understanding of health information. In terms of marital status, most 16, 40%) were married. Concerning Occupation, most 21(52.5%) were Self-employed, which could be attributed to the fact that marriage is the legal way of having a sexual relationship in Uganda.

Knowledge of Pregnant Mothers Regarding HIV Self-Testing

This study revealed significant findings regarding knowledge of HIV self-testing among pregnant mothers, particularly concerning the use of Ora-Quick HIV self-test kits. Almost all respondents, 39(97.5%), had heard of Ora-Quick HIVST, indicating a high level of awareness in this population. This aligns with findings from Gumede and Sibiyi (2018), who reported that 56% of respondents in South Africa were aware of Ora-Quick, although the current study found a considerably higher awareness rate.

Family and friends were identified as the primary sources of information for most 20/39 (51.3%) of the respondents. This social network-based dissemination of information highlights the importance of interpersonal communication in spreading knowledge about HIV self-testing. Similar trends were revealed in a study by Gumede & Sibiyi (2018), with self-reading also being a common means of acquiring information about Ora-Quick in South Africa. Regarding access to Ora-Quick kits, 26(66.7%) of respondents knew that the kits were available in pharmacies. This is consistent with the study by Witzel et al. (2016) in the UK, where 41% of respondents were aware of the availability of Ora-Quick in private pharmacies. However, the level of knowledge in the current study is higher, suggesting improved dissemination of information in the Wakiso district.

Only half of the respondents, 20(50%), knew how to use Ora-Quick, revealing a gap in knowledge despite high awareness. This finding echoes similar results from Mokgatle and Madiba (2017), who found that a significant portion of their respondents did not know the exact process of HIV self-testing using Ora-Quick. Among those who knew how to use Ora-Quick, 19/20(95%) correctly identified saliva as the sample required for testing, which is consistent with a study done by Njau et al. (2019) where most of the respondents knew how to use it. However,

misperceptions regarding sample collection persist in other regions, as evidenced by Marlin et al. (2014), who found that many participants in America believed the test required blood. Furthermore, 14/20 (70%) of respondents knew that results should be read after 20-40 minutes, aligning with findings from Mokgatle and Madiba (2017), who also highlighted that not all respondents were aware of the correct waiting time for results. This indicates ongoing gaps in detailed knowledge about the test process.

The study also found that 28(70%) of respondents recognized the need for re-testing after receiving negative results, which is crucial for detecting infections during the window period. This is consistent with findings from Vrana-Diaz et al. (2019), who reported that 71.9% of respondents in Uganda knew that re-testing was necessary. However, only 13/28(46.4%) of respondents in this study knew that the re-test should be done after three months, which indicates a need for further emphasis in educational campaigns concerning HIV testing.

The Attitude of Pregnant Mothers Towards Utilizing Ora-Quick

The findings of this study indicated that 28(70%) strongly agreed that Ora-Quick is an acceptable method. This aligns with previous studies that have highlighted the acceptability of Ora-Quick. For instance, Sharma et al. (2018) reported that 91.2% of respondents in India liked the Ora-Quick kit, with many appreciating its easy procedure and non-invasive method. The acceptability is further supported by findings from a Sub-Saharan African study where most respondents accepted the kit for its incubation period and ease of use (Harichund & Moshabela, 2018). The majority, 29(72%), of respondents in this study indicated they would seek help and follow up after receiving a positive HIV result from Ora-Quick. This is consistent with Marley et al. (2014), who found that most respondents emphasized the importance of post-test counseling, particularly following a positive result. This highlights the need for strong linkage to care systems to support individuals who self-test.

Furthermore, 19(47.5%) of respondents strongly agreed that Ora-Quick provides an opportunity to test for HIV, which is consistent with the findings of Prestage et al. (2015), where 80.8% of participants recognized the opportunity HIVST offers for accessible testing. The idea in this current study that Ora-Quick can reach hard-to-reach areas is supported by 19(47.5%) of the respondents, which is in line with Makusha et al. (2015), who found that HIVST has the potential to reach remote populations who may not otherwise access healthcare services. This demonstrates Ora-Quick's potential as a tool to expand HIV testing coverage, particularly in rural or underserved areas. The study also revealed that 28(70%) of respondents liked Ora-Quick, with 21/28(75%) appreciating its quick results. This is consistent with research in Malawi, where respondents agreed that testing at home or in a private setting reduced

the need to travel to health facilities, saving time and enhancing convenience (Sande, 2023). Quick result turnaround times were a key motivator for Ora-Quick's acceptability, which supports a study done by Trabwongwitaya et al. (2022), where participants preferred faster tests due to the perceived immediacy of the results.

The findings of this study showed that most 25 respondents (62.5%) recommended sensitizing the community about the availability of Ora-Quick in pharmacies to improve its utilization. Similar to the findings of Witzel (2020), who also advocated for greater availability and distribution of HIVST kits, particularly in key populations, to maximize their accessibility and impact.

Practices towards Utilizing Ora-Quick

Despite the generally positive attitudes, 20(62.5%) of respondents in this study had never used Ora-Quick before, indicating a gap between knowledge, acceptance, and actual utilization. This finding is consistent with the results from South Africa, where only 18.8% of participants had used Ora-Quick, although many had heard about it (Gumede & Sibiyi, 2018). This gap highlights the need for more educational and outreach efforts to convert awareness into practice. Among those who had used Ora-Quick, the majority

20/25(80%) had obtained the kit from health facilities. This suggests that health facilities play a crucial role in distributing the kits, though a study by Mugo et al. (2017) in Kenya indicated that some respondents expressed mistrust of healthcare workers, which could affect utilization rates. Encouraging greater access through community pharmacies, as recommended by many respondents, may probably improve utilization.

Concerning test accuracy and procedure, 10/25(40%) of respondents in this study reported reading the results in under 20 minutes, which is earlier than the recommended time for reliable results. This finding highlights the importance of providing clear instructions on the correct use of HIVST kits. In contrast, a study by Lee et al. (2015) in Korea found that most respondents took the appropriate 20-40 minutes before reading their results, emphasizing the need for proper guidance during distribution. Additionally, half of the respondents (20, 50%) incorrectly considered positive results from Ora-Quick as final, which could be difficult given that positive results from HIVST kits require confirmatory testing at a healthcare facility (Valinetz & Cangelosi, 2021). This underscores the importance of educating users about the need for follow-up testing after a positive result.

The study also revealed that half (20/50%) of the respondents correctly identified the method of using Ora-Quick, which involves swabbing both the upper and lower gums. This aligns with the standard procedure for Ora-Quick, though it indicates that a significant portion of respondents may still lack adequate knowledge of how to properly use the test,

similar to findings from studies in other regions (Marley et al., 2014). Providing detailed instructions could help improve the accuracy and reliability of self-testing results.

Conclusion.

This study revealed sufficient knowledge among the majority of the respondents, however, negative attitudes and poor practices towards Ora-Quick utilization were revealed among many pregnant mothers attending ANC at ERRH, which indicates a need for urgent intervention.

Recommendations

To the Ministry of Health

The government, through the Ministry of Health, should launch national campaigns to promote HIV self-testing among pregnant mothers, emphasizing its role in early detection and prevention of mother-to-child transmission. This can include collaboration with community leaders and organizations to reach diverse populations.

The government, through the MoH, should establish robust systems for ensuring that individuals who test positive through HIVST are linked to appropriate healthcare services. This should include partnerships with local health facilities and community-based organizations to facilitate access to counseling and treatment.

To Entebbe Regional Referral Hospital

The hospital should implement a monitoring system to track the uptake and effectiveness of HIVST in the hospital. Collect data on the number of kits distributed, user feedback, and follow-up testing rates to evaluate the program's impact and make necessary adjustments.

The hospital should organize community outreach programs to raise awareness about the availability and benefits of Ora-Quick HIVST kits.

The hospital should establish a support system for individuals who test positive using the Ora-Quick kit, including counseling services and referral pathways to ensure timely linkage to care and treatment.

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LIST OF ABBREVIATIONS

ANC	:	Antenatal Clinic
ART	:	Antiretroviral Viral Therapy
ERRH	:	Entebbe Regional Referral Hospital
HIV	:	Human Immunodeficiency Virus

HIVST : Human Immunodeficiency Virus Self-Test
MTCT : Mother-to-Child Transmission
WHO : World Health Organization
UNAIDS : Joint United Nations Program on HIV/AIDS
AIDS : Acquired Immune Deficiency Syndrome

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Conflict of interest

No conflict of interest declared

Author contributions

JFK designed the study, conducted data collection, and cleaned and analyzed data. HN supervised all stages of the research.

Data availability

Data available upon request

Author Biography

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