Familiarity of Teachers with Hearing Impairment on Kenya Revenue Authority Services in Kakamega County, Kenya

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ABSTRACT

This study assessed the familiarity of teachers with hearing impairment on services offered by the Kenya Revenue Authority (KRA) in Kakamega County, Kenya. Specifically, the study examined familiarity with the iTax platform, social media support, phone call services, physical KRA services, tax exemption services, Electronic Tax Invoice Management System (eTIMS) services, and tax refund services. A descriptive mixed-methods research design was adopted. Data were collected from 13 teachers with hearing impairment who were selected through purposive and snowball sampling. Structured questionnaires were used to collect quantitative data, while interviews provided qualitative information. Quantitative data were analyzed using frequencies and percentages in SPSS Version 27, while qualitative responses were analyzed thematically. The findings revealed considerable variation in familiarity across the KRA services. Physical KRA services and tax exemption services recorded the highest levels of familiarity, with 77% of respondents reporting that they were aware or very aware of each service. Familiarity with tax refund services was also relatively high, with 76.9% reporting that they were aware or very aware of refund eligibility, application procedures, required documents, and processing duration. In contrast, familiarity with the I tax platform was relatively low, with only 38.4% reporting that they were aware or very aware, while 61.6% were slightly aware or not aware. Social media support recorded the lowest level of familiarity, with 69.3% reporting that they were slightly aware or not aware. Phone call services showed moderate familiarity, with 53.8% being aware or very aware. Familiarity with eTIMS services was generally low, particularly eTIMS Online, eTIMS e-Client, and third-party integrators, for which 76.9% of respondents were not aware. The study concludes that teachers with hearing impairment had uneven familiarity with KRA services, with significant gaps in digital and communication-based services. The study recommends disability-inclusive communication strategies, including captioned tutorials, pictorial guides, sign-language content, accessible digital platforms, and targeted taxpayer education.

Keywords: hearing impairment; Kenya Revenue Authority; KRA services; iTax; accessibility

INTRODUCTION

Access to public services requires communication systems and information formats that respond to the needs of persons with disabilities. The study on teachers with hearing impairment in Kakamega County was concerned with how effectively Kenya Revenue Authority services reached this group. The main study examined awareness of individual tax obligations, familiarity with KRA services and experiences in accessing those services. This manuscript extracts and presents only the material relevant to the second objective: assessing the familiarity of teachers with hearing impairment with services offered by KRA.

The literature reviewed in the main study indicated that digitalization of tax administration has increased the importance of accessible online services. Ndungu and Waweru (2023) reported that many online government platforms in Kenya lacked disability-inclusive features such as captioned tutorials, visual aids and sign-language support. Hendayana et al. (2021) similarly reported difficulties among persons with hearing impairment in understanding taxation systems because of communication barriers and limited access to tailored information.

The main study also identified a technological gap concerning how teachers with hearing impairment use digital tax systems and access virtual support services.

The problem is particularly relevant to teachers with hearing impairment because deafness affects information exchange and therefore requires communication approaches different from those used for other forms of disability. Existing literature had largely considered persons with disabilities generally rather than focusing specifically on teachers with hearing impairment. The main study therefore addressed a population and contextual gap by examining familiarity with KRA services among teachers with hearing impairment in Kakamega County.

Problem Statement

Despite efforts to promote inclusive government services, the extent to which teachers with hearing impairment were familiar with and could access Kenya Revenue Authority services remained unclear. Limited accessible information and communication support, including sign language, captioned content and simplified visual guides, may hinder their awareness and use of KRA services. However, no research has examined this issue among teachers with hearing impairment in Kakamega County. This study therefore sought to assess their familiarity with KRA services and identify gaps affecting accessibility

Objective of the Study

To assess the familiarity of teachers with hearing impairment on services offered by the Kenya Revenue Authority.

LITARATURE REVIEW

Familiarity with KRA Services

Studies show that familiarity with revenue services is important for effective use of tax systems. However, persons with hearing impairment often experience communication and information-access barriers. Huyck et al. (2021) emphasized the importance of inclusive communication, including sign-language interpretation and captioned online services. Similarly, the United Nations Development Programme (2022) and African Disability Forum (2021) stressed the need for accessible information and disability-friendly public services. Research has also identified challenges in accessing digital tax services. Okello (2014) noted that limited guidance and digital literacy can make online tax systems difficult to understand, while Ndungu and Waweru (2023) found that Kenyan government digital platforms often lacked features such as captioned tutorials, visual aids and sign-language support. Muriithi (2020) further found that limited taxpayer education and complicated procedures affected persons with disabilities' knowledge of tax benefits and services.

Other studies, including Musimenta (2020) and Fjeldstad and Heggstad (2012), showed that simplified communication, taxpayer education and knowledge of available services can improve taxpayers' ability to interact with revenue authorities. The World Health Organization (2022) and International Labour Organization (2021) similarly highlighted communication barriers as an important challenge in accessing public services among persons with disabilities. Despite these findings, limited research has specifically examined teachers with hearing impairment and their familiarity with KRA services in Kenya. Most previous studies focused on persons with disabilities generally or on taxpayers in other populations and countries. Therefore, there was a contextual, population and empirical gap regarding the familiarity of teachers with hearing impairment with services such as I tax, phone services, social media support, physical customer care services, ETIMS, tax refunds and tax exemption services. This study sought to address this gap among teachers with hearing impairment in Kakamega County.

METHODOLOGY

The study adopted a descriptive design and used mixed methods to obtain quantitative and qualitative information concerning teachers with hearing impairment and their interaction with KRA services. For objective

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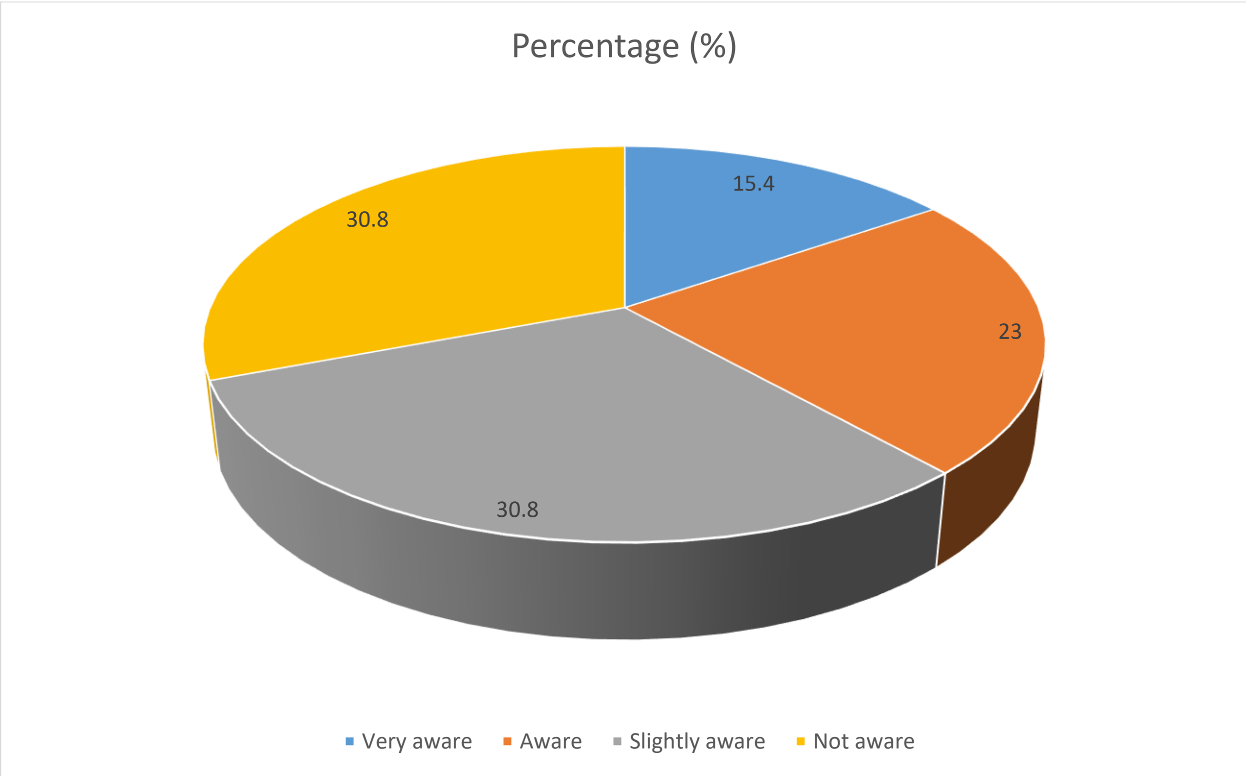
two, the study assessed familiarity with selected KRA services through structured questionnaire items rated on a four-point scale ranging from Not Aware to Very Aware. Interviews were also used to enrich the interpretation of the findings.

The study population comprised teachers with hearing impairment in Kakamega County. Purposive and snowball sampling techniques were used, and the final number of respondents represented in the objective-specific tables was 13. Questionnaires were distributed for self-completion, while interviews were conducted in person using sign language with assistance from a sign-language expert. Quantitative data were coded, cleaned and analyzed using SPSS Version 27. Frequencies and percentages were used to summarize familiarity with the selected KRA services, while qualitative responses were reviewed thematically.

Objective Two covered the iTax platform, social media support, phone call services, physical KRA services, tax exemption services, eTIMS solutions and tax refund services. The questionnaire specifically assessed awareness of the iTax platform, social media support, phone call services and physical services; familiarity with tax exemption services; familiarity with eTIMS solutions; and familiarity with refund services.

RESULTS

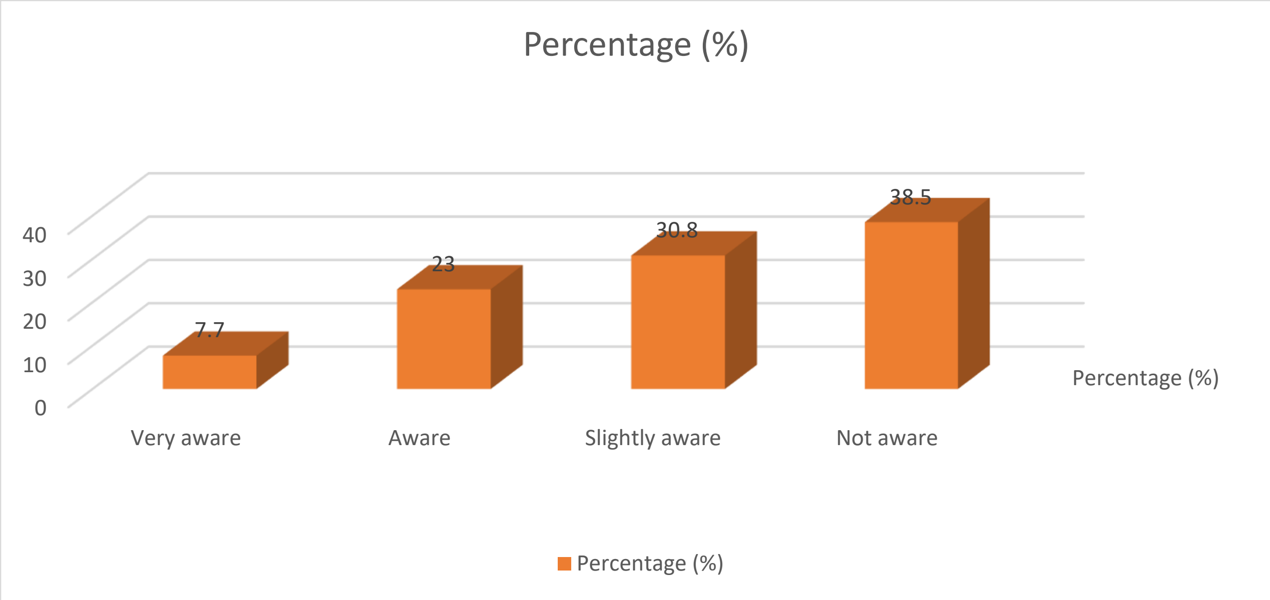
Figure 1: Familiarity with the iTax Platform



Familiarity with the iTax platform was relatively low. Only 15.4% of respondents were very aware and 23.0% were aware, whereas 30.8% were slightly aware and another 30.8% were not aware. Thus, 61.6% of respondents were either slightly aware or not aware of the platform. The main study associated this limited familiarity with the technical complexity of the platform and the absence of inclusive communication support such as sign-language interpretation and simplified visual guides.

The finding agrees with Hendayana et al. (2021), who reported difficulties in understanding taxation systems among persons with hearing impairment because of communication barriers and limited tailored information. It also agrees with Ndungu and Waweru (2023), who found that many Kenyan online government platforms lacked disability-inclusive features such as captioned tutorials and sign-language support. The finding differs from Adhikari (2020), who reported improved taxpayer knowledge and comprehension where continuous education programmes were provided. The contrast suggests that the potential of digital tax systems to improve access depends partly on whether the information and user support are accessible to persons with hearing impairment.

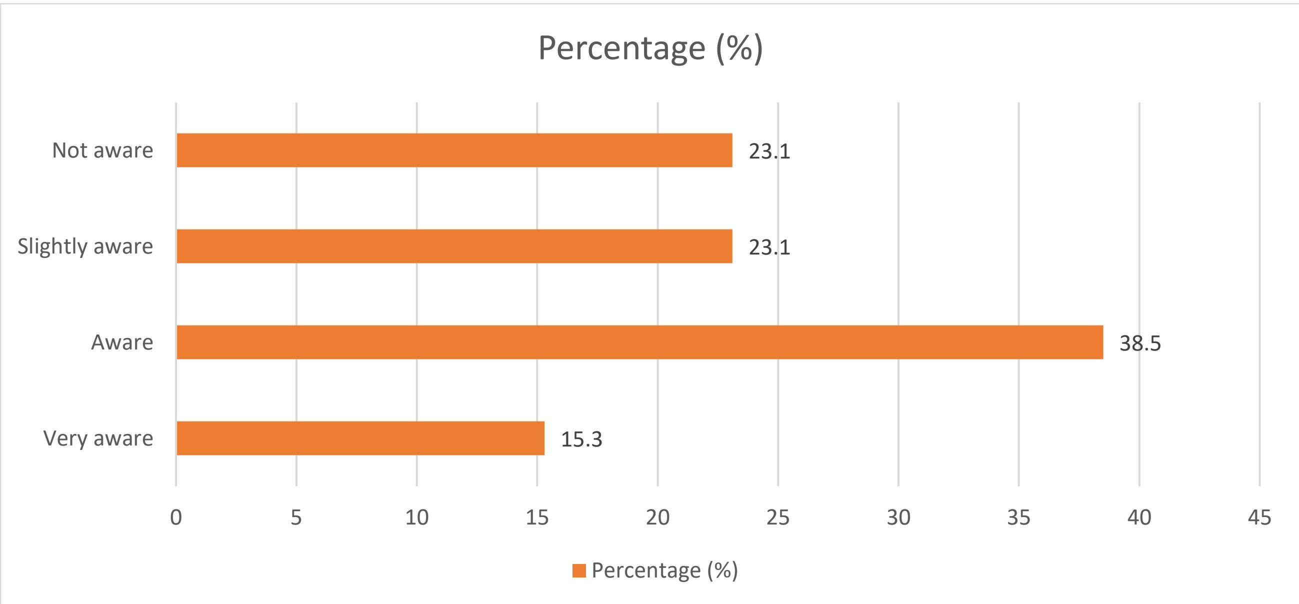
Figure 2: Familiarity with Social Media Support



Social media support recorded the lowest familiarity among the services assessed. Only 7.7% were very aware and 23.0% were aware, while 30.8% were slightly aware and 38.5% were not aware. Consequently, 69.3% were either slightly aware or not aware of KRA social media support. The main study suggested that KRA social media communication channels were not effectively reaching teachers with hearing impairment, with the lack of accessible formats such as captioned videos or sign-language content identified as a possible explanation.

This finding is consistent with the concerns raised by the World Health Organization (WHO, 2022) and International Labour Organization (ILO, 2021) regarding communication barriers affecting persons with disabilities. It also corresponds with Ndungu and Waweru (2023), who reported limited disability-inclusive features on Kenyan government platforms. The result contrasts with Adhikari (2020), whose findings indicated that simplified communication could improve compliance.

Figure 3: Familiarity with Phone Call Services



Familiarity with phone call services was mixed. A total of 53.8% were aware or very aware, while 46.2% were slightly aware or not aware. The main study interpreted the distribution as reflecting communication barriers associated with phone-based services because conventional phone calls are mainly auditory. These barriers may reduce confidence in using phone-based KRA support among teachers with hearing impairment.

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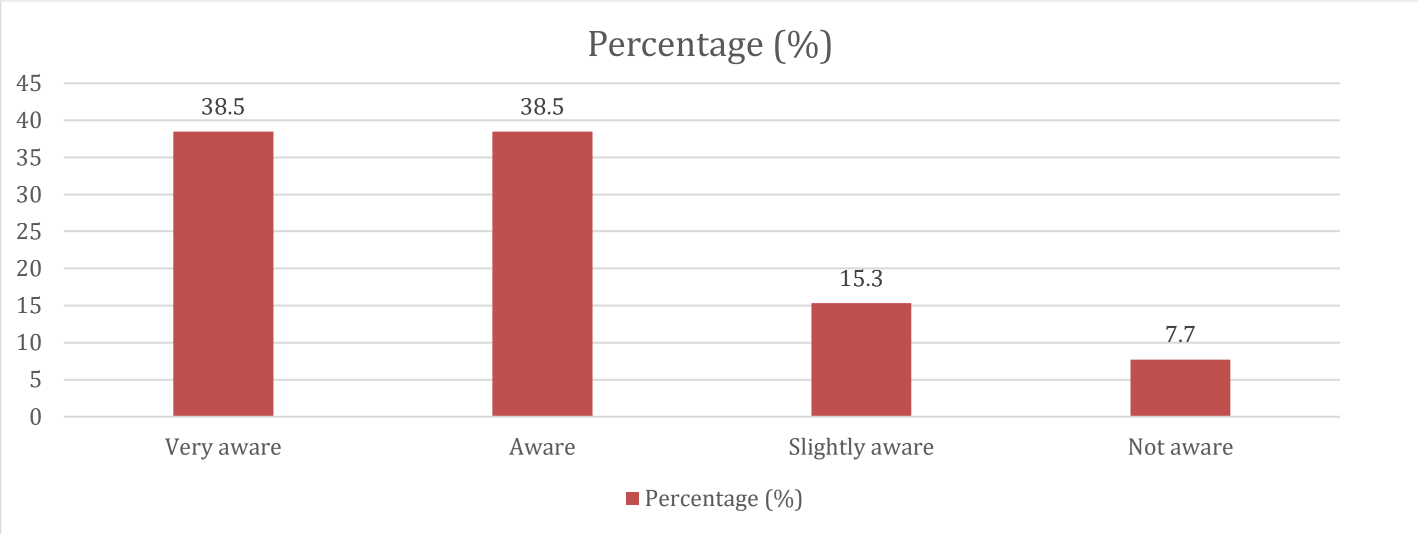
The finding is consistent with Huyck et al. (2021), who emphasized the importance of inclusive communication methods, including captioned services and sign-language interpretation. It also supports the main study's observation that inadequate dissemination of information can reduce awareness of available services. The finding differs from OECD (2021), which associated simple communication approaches such as phone services with improved compliance. In the present context, the auditory nature of conventional phone calls may limit their usefulness for people with hearing impairment.

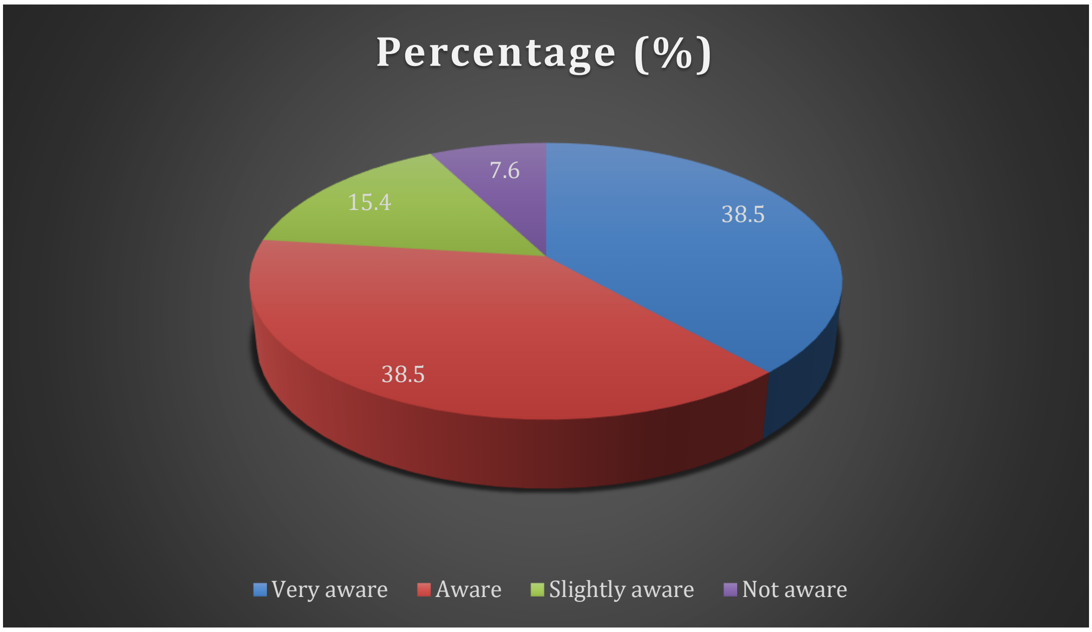
Figure 4: Familiarity with Physical KRA Services



Physical KRA services had the highest level of familiarity among the services assessed. Seventy-seven percent of respondents were either aware or very aware, while 15.3% were slightly aware and 7.7% were not aware. The main study suggested that teachers with hearing impairment may interact with KRA through physical visits because face-to-face interaction can make it easier to obtain assistance.

However, familiarity did not necessarily mean that physical services were fully accessible. The study reported communication problems within KRA offices, particularly because sign-language interpreters were not consistently available. The finding is consistent with WHO (2022), which highlighted barriers created by the absence of disability-friendly communication systems, and Masuku et al. (2021), who reported exclusion and marginalization of people with hearing impairment in public institutions.

Figure 5: Familiarity with Tax Exemption Services



Tax exemption services were also relatively well known. Seventy-seven percent of respondents were aware or very aware, 15.4% were slightly aware and 7.6% were not aware. The main study attributed the comparatively high familiarity partly to the direct relevance of tax exemption services to persons with disabilities and the financial benefits associated with them.

The finding concurs with the National Taxpayers Association (2025), which reported that many persons with disabilities knew about tax exemption procedures but lacked financial knowledge about how to use the information. It also agrees with United Nations (2022), which emphasized access to public information as a condition for equal participation in economic activities. The finding contrasts with Muriithi (2020), who reported limited knowledge of tax exemptions among persons with disabilities because of complicated administrative processes.

Table 1: Familiarity with eTIMS Services

eTIMS service	Very aware	Aware	Slightly aware	Not aware
Knowledge of eTIMS services	1 (7.7%)	1 (7.7%)	3 (23.1%)	8 (61.5%)
eCitizen solution	1 (7.7%)	1 (7.7%)	3 (23.1%)	8 (61.5%)
eTIMS Online	0 (0%)	1 (7.7%)	2 (15.4%)	10 (76.9%)
eTIMS E-Client	0 (0%)	1 (7.7%)	2 (15.4%)	10 (76.9%)
eTIMS USSD (*222#)	0 (0%)	1 (7.7%)	3 (23.1%)	9 (69.2%)
Third-party integrators	0 (0%)	1 (7.7%)	2 (15.4%)	10 (76.9%)

Familiarity with eTIMS services was limited. For general knowledge of eTIMS services, 61.5% were not aware, 23.1% were slightly aware, 7.7% were aware and 7.7% were very aware. The eCitizen solution showed the same distribution. For eTIMS Online, eTIMS e-Client and third-party integrators, 76.9% were not aware. For eTIMS USSD (*222#), 69.2% were not aware. These findings indicate that more than half of the respondents had limited exposure to digital tax administration systems.

The main study interpreted the results as evidence of digital tax literacy and accessibility challenges among teachers with hearing impairment. The finding contrasts with Hendayana et al. (2021), who reported that adoption of electronic tax systems could enhance taxpayer awareness and understanding. In this study, however, the existence of digital services did not translate into high familiarity, suggesting that the accessibility and dissemination of information about the services remained important.

Table 2: Familiarity with Tax Refund Services

Refund service aspect	Very aware	Aware	Slightly aware	Not aware
Conditions for refund qualification	2 (15.4%)	8 (61.5%)	2 (15.4%)	1 (7.7%)
Refund application process	2 (15.4%)	8 (61.5%)	2 (15.4%)	1 (7.7%)
Documents required for refund	2 (15.4%)	8 (61.5%)	2 (15.4%)	1 (7.7%)
Duration of refund processing	2 (15.4%)	8 (61.5%)	2 (15.4%)	1 (7.7%)

Most respondents were familiar with tax refund services. For each of the four refund aspects assessed, 61.5% were aware and 15.4% were very aware, giving a combined 76.9% who were aware or very aware. Nevertheless, 15.4% were slightly aware and 7.7% were not aware. The findings therefore indicate reasonable understanding of refund-related services, although a minority remained insufficiently informed about eligibility, application procedures, required documents and processing duration.

The finding is consistent with Muriithi (2020), who reported that persons with disabilities may fail to utilize available tax benefits because of inadequate information and limited taxpayer education. The main study therefore emphasized the need for targeted awareness activities to ensure that teachers with hearing impairment can make effective use of refund services.

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DISCUSSION

The findings demonstrate substantial variation in familiarity with KRA services among teachers with hearing impairment. Familiarity was strongest for physical KRA services and tax exemption services, each with 77% of respondents reporting that they were aware or very aware. Tax refund services also recorded a relatively high level of familiarity, with 76.9% aware or very aware. In contrast, familiarity was much lower for digital and communication-based services. Only 38.4% were aware or very aware of the iTax platform, 30.7% were aware or very aware of social media support, and eTIMS services were generally unfamiliar.

The pattern suggests that familiarity is influenced by both direct relevance and communication accessibility. Services with visible or direct relevance to respondents, particularly physical services and tax exemptions, were better known. Digital services requiring navigation of online systems or access to information through communication channels had lower familiarity. This pattern is consistent with the technological and population gaps identified in the main study and with the literature concerning disability-inclusive communication.

The overall conclusion from Objective Two is that familiarity with KRA services among teachers with hearing impairment was still low, despite the range of services and communication technologies available. Some respondents knew about services such as iTax, physical services, tax exemptions and refunds, but communication barriers and inadequate information limited familiarity with several services. The main study concluded that KRA services were not sufficiently tailored to meet the communication needs of persons with hearing impairment.

CONCLUSION

The study concludes that teachers with hearing impairment in Kakamega County had uneven familiarity with KRA services. They were most familiar with physical KRA services and tax exemption services, while social media support, iTax and eTIMS services recorded substantial levels of unfamiliarity. Phone services showed moderate familiarity, but their auditory nature presented an inherent communication limitation. Although tax refund services were comparatively well understood, some respondents still lacked sufficient information about refund requirements and procedures. Overall, the findings indicate that availability of a service does not necessarily ensure familiarity when communication and accessibility needs are not adequately addressed.

RECOMMENDATIONS

Based specifically on Objective two, KRA should enhance the accessibility and visibility of its services by upgrading communication systems and digital platforms to be more disability-friendly. The iTax portal and other web-based services should incorporate captioned tutorials, pictorial guides, sign-language-based content and highly comprehensible interfaces. KRA should also increase dissemination of information about tax exemption services, online support systems and taxpayer education programmes through communication channels tailored to teachers with hearing impairment.

Ethical Considerations

Ethical approval was obtained from the relevant institutional ethics review committee before commencement of the study. Permission to conduct the study was also obtained from the relevant authorities in Kakamega County. Informed consent was obtained from all participants before data collection. Participants were informed about the purpose of the study, their voluntary participation, confidentiality, and their right to withdraw from the study at any stage without penalty.

Conflict of Interest

The authors declare that they have no conflict of interest in relation to the publication of this manuscript.

Data Availability

The data generated and analyzed during this study are not publicly available because they contain information

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collected from a small and specifically identifiable group of teachers with hearing impairment. However, the data may be made available by the corresponding author upon reasonable request, subject to applicable ethical, confidentiality, and institutional requirements.

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