



Effect of Individual Health Care Workers Related Factors on Uptake of M Health at Chuka County Referral Hospital in Kenya

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ABSTRACT

Many developing countries are investing more in mobile health infrastructure. Despite this, mHealth has not seen widespread adoption by healthcare workers in the developing Nations. In Kenya, mHealth is becoming an increasingly vital part of the healthcare landscape, However challenges such as poor internet connectivity, limited digital literacy, and individual related factors among the Health Care Workers hinder mHealth uptake, connectivity, limited digital literacy, and traditional beliefs hinder mHealth uptake in these regions. There is need for clear understanding of how individual characteristics (age, education, and prior exposure to digital tools) affect the willingness to adopt and utilize mHealth in hospitals to reduce the risk of investing in systems that remain underutilized to achieve the intended improvements in healthcare efficiency and patient safety. This study aimed at establishing the effect of health workers' individual related factors that influence the uptake of m Health at Chuka County referral hospital in Tharaka Nithi County in Kenya. The study adopted a descriptive cross-sectional survey design with a mixed methods approach. A total of 190 Health Care Workers (HCWs) were selected using stratified random sampling technique. Another four Key informants who included the medical superintendent, Hospital administrator, information and communication technology officer, and information communication technology maintenance officer (ICT) were also purposively selected. Data for the study was collected using researcher administered questionnaires and in-depth interviews. The data collection instruments were pretested at Embu level five hospital. Quantitative data collected was analyzed by descriptive statistics. Chi-square tests were used to establish associations between the key variables. The qualitative data was analyzed thematically using the N-Vivo 14 software. The results of the study show that there was low uptake of mHealth by the HCWs. The results showed that that the difference in utilization of m Health among the HCWs by age was significant ($P=0.008$), the age of the HCWs was significantly associated with uptake of digital Health Technologies ($P=0.077$, youthful HCWs had a higher ability to trouble shoot than the elderly HCWs($P=0.001$) and the ability to use security features of the mHealth devices ($P=0.001$).The qualitative data revealed that the older HCWs had a negative attitude towards uptake of m Health. The study concluded that the individual factors associated with uptake of mHealth were mainly formal education, level of education, age and technical Knowledge on use of digital health technologies. The study recommended that Healthcare workers at Chuka County referral Hospital should continuously be trained to efficiently use mHealth. This can be done through regular seminars and workshops to improve on the use of mHealth.

Keywords: m Health, individual related factors, Age; health care workers.

INTRODUCTION

The integration of mobile health (mHealth) technologies into clinical practice and workflows is a transformative opportunity for healthcare systems in developing nations. Health care workers (HCWs) leverage on mobile devices for data collection, patient monitoring, and communication (Mugo et al, 2022; Olowabi et al,2023). This innovation in hospitals can bridge the gap between resource-constrained environments and the demand for efficient service delivery. However, the successful adoption of these technologies is not only a technical challenge but a human-centric one (Pokhrel et al, 2021). Understanding how individual-related factors influence the uptake of mHealth is critical for the health system sustainability.

Many developing economies are investing more in mobile telecommunication infrastructure than in road transport and electric power generation (WHO, 2023). Despite this, mHealth has not seen widespread adoption by healthcare workers in the developing world. In Kenya, mHealth is becoming an increasingly vital part of the healthcare landscape, particularly in urban areas like Nairobi, where smartphone penetration and digital infrastructure are relatively advanced. Key areas of focus of mHealth in Kenya have included the use of apps for health in maternal and child health, disease prevention, and improving access to healthcare services through mobile platforms (Sowon, 2022). For example, apps like the M-TIBA allow users to save and pay for healthcare services, while others provide health education and telemedicine support. In rural areas, such as Tharaka Nithi County, targeted initiative programs on mHealth aim to improve health education and access to essential services through mobile applications tailored to local needs. These programs often address specific issues, such as maternal health, immunization tracking, and community health worker support. However, challenges such as poor internet connectivity, limited digital literacy, and traditional beliefs hinder mHealth uptake in these regions. Women and marginalized groups often face additional barriers, such as lack of access to smartphones and financial constraints, further limiting equitable access to mHealth services (Asak, 2024).

One Kenyan study involving AFYACHAT program, which utilized mHealth tools for cardiovascular screening in rural areas, demonstrated positive outcomes in terms of user acceptability and efficiency compared to traditional methods (MOH, 2019). However, while the study provides insights into specific program effectiveness and user experiences, it failed to address the broader prevalence of mHealth usage among the general population and the factors that influence the use of mHealth applications by the HCWs. Digital literacy campaigns, especially in underserved areas, can empower users to effectively engage with mHealth solutions. Additionally, advancements in artificial intelligence (AI) and machine learning are poised to revolutionize mHealth by enabling predictive analytics, personalized health recommendations, and improved disease management tools.

In Tharaka Nithi County, targeted initiative programs on mHealth by the County government aim to improve health education and access to essential services through mobile applications tailored to local needs. These programs often address specific issues, such as maternal health, immunization tracking, and community health worker support. However, challenges such as poor internet connectivity, limited digital literacy, and traditional beliefs hinder mHealth uptake in these regions. Without a clear understanding of how individual characteristics (age, education, and prior exposure to digital tools) affect the willingness to adopt and utilize mHealth, hospitals risk investing in systems that remain underutilized, thereby failing to achieve the intended improvements in healthcare efficiency and patient safety. This study therefore sought to establish the effect of health workers' individual related factors that influence the uptake of mHealth at Chuka County referral hospital in Tharaka Nithi County in Kenya.

METHODOLOGY

The study was conducted at Chuka County Referral hospital. Chuka County Referral Hospital is located in Tharaka Nithi county in the eastern part of Kenya. The hospital is approximately 140 km North eastern of Nairobi along Nairobi- Chuka- Meru highway. The GPS coordinates are latitudes $0^{\circ} 15' 0''$ and longitudes $3^{\circ} 1' 45''$. The hospital has 321 healthcare Workers including Physicians, Surgeons, Clinical Officers, Public Health Officers, Nurses, Health Records and Information Officer and Nutritionists (Chuka County Referral hospital Records office, 2025). The hospital attends to more than 300,000 patients from Tharaka Nithi County and the surrounding counties of Embu and Meru. Therefore, mHealth can help provide efficient services. The study adopted a descriptive cross sectional research design with a mixed methods approach. This design was suitable for the study because it enabled the researcher to collect data and describe the situation of m- health uptake at particular points in time. The design helped to provide data on the prevalence of uptake of mHealth without manipulation of any variables. A sample size of 190 HCWs was determined using the Cochran formula. The 190 HCWs were selected by stratified random sampling proportionately from each stratum. The four Key informants who included the medical superintendent, Hospital administrator, information and communication technology officer, and information communication technology maintenance officer (ICT) were also purposively selected. Data was collected using questionnaires and Key informant interview guides. The data Collection tools were pretested in the neighboring Embu Level Five Hospital and the instruments attained a reliability coefficient of 0.782.



Quantitative data collected was analyzed using descriptive statistics and Chi-square tests with the aid of the Statistical Package for Social Sciences (SPSS) computer software program Version 30. The qualitative data collected was analyzed using the N-Vivo version 14 computer software. The results of the study are presented in narratives, tables and figures. This research study was approved by the Department of Nursing of Chuka University. The Medical Superintendent Chuka County Referral Hospital gave authority to conduct the study. The study also obtained a research permit from the National Commission of Science, Technology and Innovation (NACOSTI- License No: 511929).

RESULTS AND DISCUSSION

Social-demographic Characteristics

The social-demographic factors of the HCWs are presented in table 1.

Table 1: Socio-demographic Characteristics of the Health Care Workers

Variable	Count	Percentage
Highest level of Education attained		
Secondary	0	0.0%
Certificate/diploma	52	27.37%
Bachelors	131	68.95%
Masters/higher	7	3.68%
Age Category		
21-25	16	8.42%
26-30	52	27.37%
31-35	56	29.47%
36-40	37	19.47%
41-45	18	9.47%
46-50	8	4.21%
>50 YRS	3	1.58%
Experience in current position		
<5 yrs	142	74.74%
5-10 yrs	35	18.42%
11-15 yrs	10	5.26%
16-20 yrs	2	1.05%
21-25 yrs	1	0.53%

It was observed that majority (68.95%) of the HCWs had the qualification of the Bachelors level. Most (29.47%) of the HCWs were in the age range of 31-35 years. Majority (74.74%) of the HCWs had an experience of less than five years. Only 11 (5.89%) of the Health Care Workers were elderly (>46 years).

Uptake of mHealth by Health Care Workers

The study sought to determine the level of uptake of mobile Health Care Work at Chuka County Referral Hospital (CCRH). The HCWs were asked several of questions related to mHealth uptake.

The frequency of utilization of mHealth by the HCW is presented in figure 1.

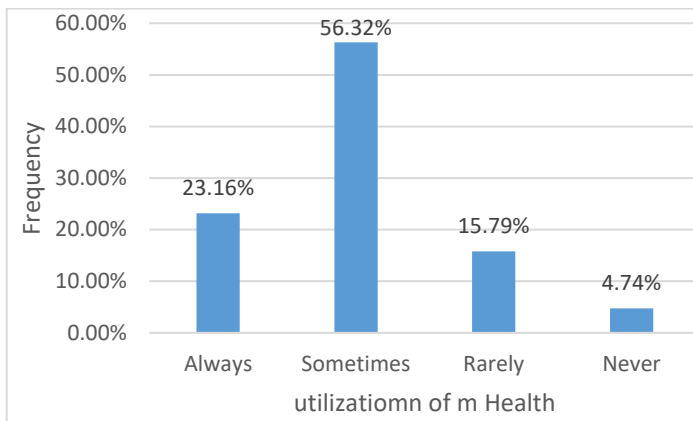


Figure 1: Frequency of Utilization of mHealth

From figure 1, it was observed that only a few 23.16% (44) of the healthcare workers always use mHealth. This means that the uptake of mHealth is still low since more than half of the HCWs use the mHealth sometimes. Almost all the older HCWs (aged above aged 45 years and above (10 out of 11 representing 90.9%) rarely used m health applications. The key informants confirmed that some HCWs always use the mHealth applications during their normal duties. However, they pointed out that the level of utilization of mHealth was still low due to many other factors. The younger HCWs were using m Health applications more than the older HCWs. One Key informant had this to say: ‘Although the mHealth is important and the HCWs have been sensitized, only a few of the HCWs regularly use the mHealth applications— (Medical Superintendent,2025).

Another Key informant confirmed that the uptake of mHealth was still low. She had this to say ‘Many of the older HCWs still believe in paper work. Some find it difficult to manipulate the mHealth applications. They still need training for some of these mHealth applications’ -Nurse in Charge, 2025).

Ease of Utilization of mHealth

The healthcare workers were asked the ease of utilization of mHealth. The responses are summarized in Table 2.

Table 2: Health care workers responses on ease of Utilization of mHealth

Utilization of mHealth is easy	YES	NO
Frequency	93.68%	6.32%

From Table 2, it was observed that a majority of healthcare workers (93.68%) reported that mHealth is easy to use, while only a small proportion (6.32%) indicated difficulties in utilizing the platform. Despite this high level of ease reported, the health care workers reported that there were barriers that hinder full utilization of mHealth. Differences in the ease of utilization of m Health among the Health care workers was significant (Table 3)

Table 3: Differences in the ease of Utilization of mHealth among Health care workers			
Ease of Utilization of mHealth	X ² Value	df	P-value
Pearson Chi-Square	8.606 ^a	3	.035
Likelihood Ratio	7.337	3	.062
N of Valid Cases	190		

The results on ease of utilization of mHealth by the HCWs was significant (P=0.035)

Confidence in Utilization of mHealth Application

The HCWs were asked how confident they were in utilization of mHealth. The results are presented in figure 2.

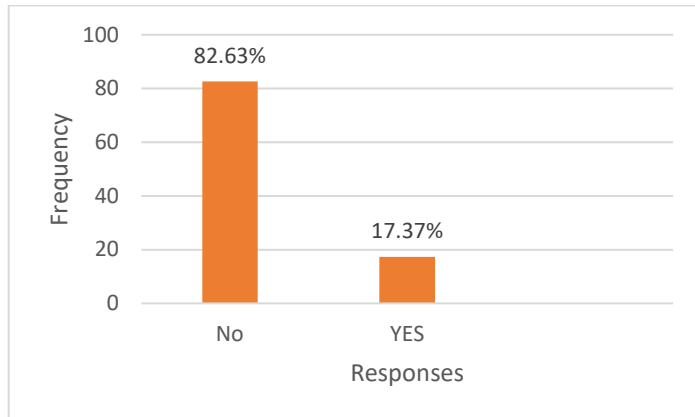


Figure 2: Confidence of Health Care Workers in utilization of mHealth application

It was observed from Fig 2 that majority (82.63%) of the Healthcare workers felt confident with utilization of mHealth. From the study findings illustrated in Figure 2, it was observed that the majority of healthcare workers (82.63%) expressed confidence in utilizing mHealth applications. Despite this overall confidence, the health care workers also explained that barriers to full utilization of m health persist, notably the inability to troubleshoot technical issues (42.11%) and difficulties in evaluating health information from mHealth platforms (37.9%). The Key informants confirmed that many healthcare workers, particularly those over 50 years old, face challenges in interpreting and evaluating digital health information.

One key informant remarked on this generational divide, saying:

“We are trying our best to train the older HCWs to catch up with these new applications. The younger HCWs are different. They appear to have few problems. When the younger HCWs face any problem with the interpretation of any information, they easily check with Artificial Intelligence, something which is not easily comprehended by the older HCWs.” (Medical Superintendent, 2025)

Differences in Confidence in Utilization of mHealth Application among Health care

The differences in confidence in utilization of m Health applications among Health Care workers was established using Chi-Square.

Table 4: Differences in Confidence in Utilization of mHealth Application among Health care workers

Confidence in utilization of mHealth application	X ² Value	df	p-value
Pearson Chi-Square	8.354 ^a	4	.079
Likelihood Ratio	8.121	4	.087
N of Valid Cases	190		

The result shows that the difference in confidence in utilization of m Health applications among the HCWs was not significant. Poor confidence can affect the uptake of mHealth. This finding is similar to a study finding by Mohd et al. (2025). The study by Mohd et al. (2025) justifies confidence in the use of mHealth by highlighting how confidence in the User-Centered Design enhances healthcare accessibility and user experience. It emphasizes that mHealth apps offer easy, convenient access to healthcare information and services through mobile devices, only after the HCWs have been trained and which supports positive behavior change. The mHealth ensures that apps are intuitive and tailored to users' needs, increasing adoption and sustained use. It also addresses cultural, social, and economic factors, making healthcare more equitable and accessible by improving usability and inclusivity, mHealth reduces healthcare disparities and promotes universal health coverage.

Satisfaction with the Use of mHealth

The health care workers were asked if they were satisfied with the use of mHealth applications in health care. The results are presented in Fig. 3

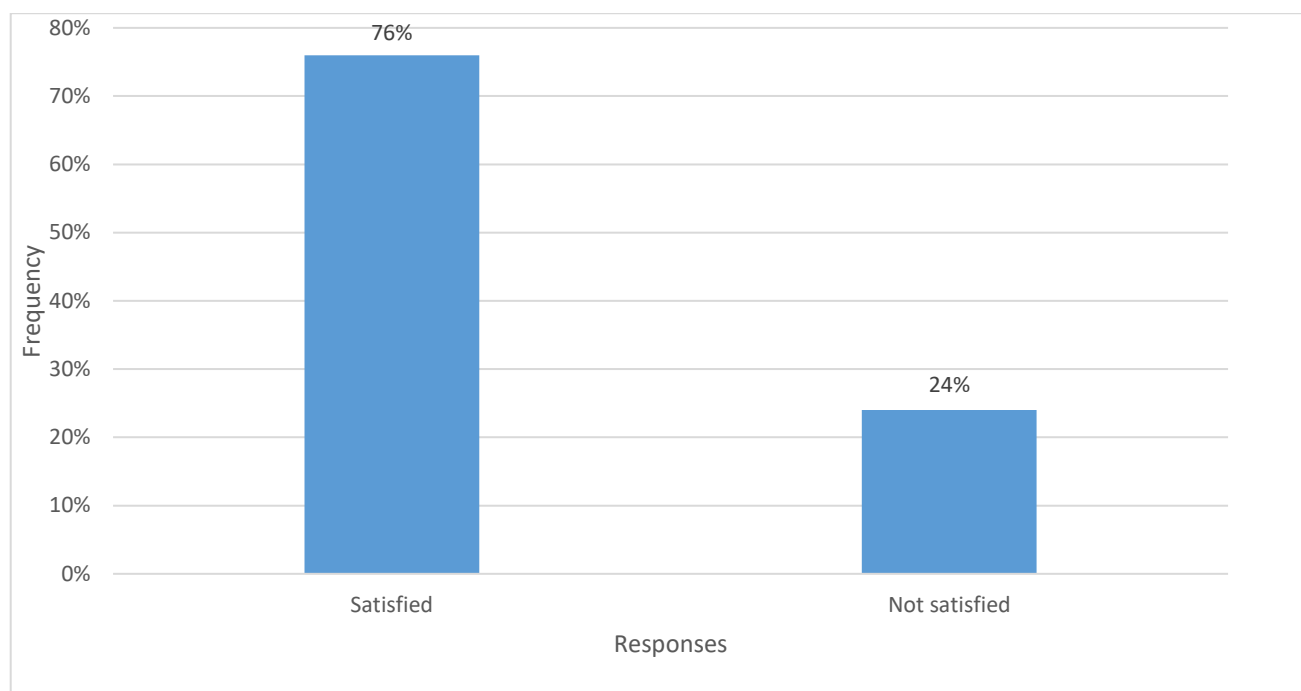


Figure 3: Satisfaction with the Use of mHealth

It was observed from fig. 3 that only 24% of HCWs were dissatisfied with utilization of mHealth application. The Key informants confirmed that some HCWs use mHealth regularly. The HCWs at the Comprehensive Care Clinic (CCC), at the Mother Child Health (MCH) and the Health Records Department always use the mHealth applications. The CCC at the health facility caters for patients with HIV/AIDS, patients with Tuberculosis (TB), patients with Diabetes and patients with hypertension. One of the Key informants had this to say:

The patients are normally reminded of their dates of review through the Short Message Service (SMS)- (Nurse in Charge,2025).

Another Key informant said that the hospital is working towards moving away from paperwork to electronic activities including mHealth. The key informant had this to say:

We are keen to have every activity on healthcare controlled by electronic applications. The electronic applications particularly in-patient management have proven to be efficient. Most of the Health care workers are now encouraged to adopt electronic applications. It is much easier to monitor patient movement, treatment, adherence by electronic applications- (Medical Suppirtendent,2025).

Table4: Differences in level of Satisfaction with the use of mHealth among Health Care workers

Satisfaction with the use of mHealth	X ² Value	df	p-value
Pearson Chi-Square	10.112 ^a	4	.039
Likelihood Ratio	10.052	4	.040
N of Valid Cases	190		

The results show that HCWs level of satisfaction with use of mHealth was significantly different ($P=0.039$). However, the uptake of m Health was said to be increasing among the Health workers including the older Health care workers.



The Health Records and information officer in charge confirmed that the uptake of mHealth by the HCWs has increased over the past five years.

The speed at which mHealth is picking up in the hospital is good. Only a few older members among the health care workers still have problems with the electronic applications- Health Records and information officer in charge,2025)

In general, the Key informants confirmed that the HCWs were adopting the mHealth applications and were ready to learn the use of the new applications. These study findings are similar to study findings by Alshammari et al, (2025) in which it was concluded that many HCWs have satisfaction with mHealth applications because the applications make their work easier.

Education on Digital Health Technologies

The Healthcare workers were asked if their formal education had included any training on digital health technologies. The results are presented in table 5.

Table 1: Formal Education of Digital Health Technologies

Formal education had digital health technologies	Number of Healthcare workers	Percentage (%)
Yes	142	74.74%
No	48	25.26%
Total	190	100%

From table, majority 142 (74.74%) of HCWs said there is formal education had included digital health technologies training. This result means that majority of the HCWs had some basic information on use of mHealth applications. Most of the HCWs who said that their formal education had information on digital technologies were those of younger age(<45 Years).

The Key informants confirmed this result. They agreed that most of the HCWs were young and were educated to bachelor's degree level. These young HCWs had interacted with computers and smart phones and could easily apply that knowledge in mHealth applications.

One Key informant had this to say:

‘The young HCWs easily adapt to new digital health technologies. Some of them appear even more knowledgeable than the ICT technicians’— (ICT technician,2025)

The study sought to establish if formal education had an effect on uptake of digital health technologies. The results are presented in Table 6

Table 2: Effect of Formal Education on Digital Health Technologies			
Formal education had digital health technologies	X ² Value	df	p-value
Pearson Chi-Square	5.127 ^a	2	.077
Likelihood Ratio	5.034	2	.081
N of Valid Cases	190		

The result of the Chi-square tests show that formal education with digital health had a positive effect on uptake of m Health (P=0.077). This finding is similar to findings of a study by Durmus (2024) in which it was established that digital literacy on mHealth applications usability significantly enhanced uptake of mHealth use among HCWs.

Additional Training in MHealth Applications.

The Healthcare workers were asked if they had received any additional training on mHealth applications.

The results are presented in figure 4.

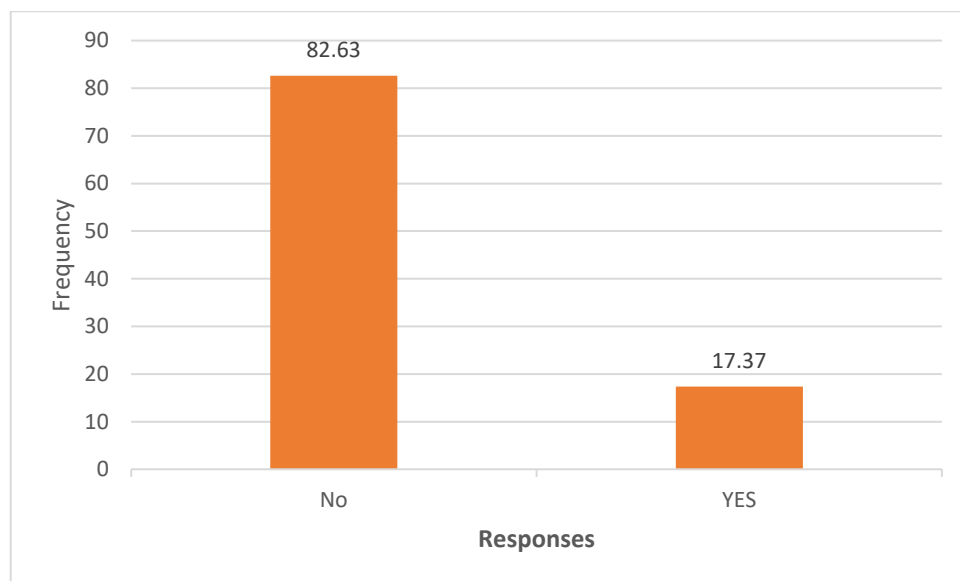


Figure 4: Additional Training in mHealth Applications by HCWs

Only 17.37% (33) had ever received additional satisfaction training on mHealth

Barriers to Uptake of mHealth by Health Care Workers

The HCWs were asked to identify some of the barriers they individually faced in the uptake of mHealth. The results are presented in Table 7

Table 7: Barriers to Uptake of mHealth by Health Care Workers

Which of the following do you consider a barrier to your use of mHealth?	Count	Percentage
Age	53	27.89%
Use of different Interfaces of mHealth apps	27	14.21%
Difficulty in troubleshooting basic mHealth apps errors	64	33.68%
Inability to navigate interfaces	59	31.05%
Ability to evaluate Health information from digital platforms	72	37.9%
Inability to trouble shoot technical issues mHealth platforms	80	42.11%
Interpreting app generated health data	59	31.05%
Proficiency in using security features	60	31.58%

From Table 7, it was observed that the HCWs still had barriers to fully adopt and use mHealth. The most significant barriers noted were the inability to trouble shoot technical issues mHealth platforms (42.11%) and inability to evaluate Health information from health platforms (37.9%). The Key informants confirmed that many HCWs particularly those who were aged above 50 years had difficulty in interpretation and evaluation of health information from health platforms. The Medical superintendent had this to say:

We are trying our best to train the older HCWs to catch up with these new applications. The younger HCWs are different. They appear to have few problems. When the younger HCWs face any problem with the interpretation

of any information, they easily check with Artificial Intelligence, something which is not easily comprehended by the older HCWs- (Medical superintendent, 2025).

Table 7 highlight other barriers, notably the inability to troubleshoot technical issues by 42.11% of the HCWs and difficulty in evaluating health information from mHealth platforms by 37.9% of the HCWs. Key informants confirmed that many healthcare workers, especially those aged above 50 years, face challenges in interpreting and evaluating the health information obtained from these platforms. One Key informant noted this disparity between younger and older healthcare Workers, stating: “We are trying our best to train the older HCWs to catch up with these new applications. The younger HCWs are different. They appear to have few problems. When the younger HCWs face any problem with the interpretation of any information, they easily check with Artificial Intelligence, something which is not easily comprehended by the older HCWs.” (Medical officer, 2025)

Level of Education attained and uptake of m Health.

The study sought to establish the effect of level of education attained on the uptake of m Health. Majority of the older Health Care workers had attained a Diploma level of education. The results are presented in Table 8

Table 8: Effect Level of Education on Uptake of mHealth by the Health Care Workers

Effect on uptake of mHealth by the health care workers	X ² Value	df	p-values
Pearson Chi-Square	5.497 ^a	1	.019
Continuity Correction ^b	4.661	1	.031
Likelihood Ratio	5.899	1	.015
Fisher's Exact Test			
N of Valid Cases	190		

The results of the Chi-Square test show that age had a significant effect on uptake of mHealth by the HCWs (P= 0.019).

Ability to Evaluate Health Information Digital Platforms by Health care workers

The study sought to establish if the HCWs had the ability to evaluate Health information digital platforms data. The results showed that almost one third of the HCWs were not able to interpret data given on digital Health platforms. Majority of those who could no interpret were the older HCWs. The difference in ability to evaluate the Health information digital platforms data was significant (Table 9).

Table 9: Ability to Evaluate Health Information Digital Platforms

Ability to evaluate Health information from digital platforms	X ² Value	df	p-value
Pearson Chi-Square	12.487 ^a	3	.006
Likelihood Ratio	11.947	3	.008
N of Valid Cases	190		

The results on ability to evaluate health information from the digital platforms was strongly significant (P=0.006). This means many HCWs found it a problem to evaluate health information from the digital platforms

Ability to Troubleshoot m Health Applications in Case of a Problem

The study sought to establish the ability of Health Care workers to trouble shoot m Health applications in case of a problem. The study established that only 90 (47%) of the HCWs were able to trouble shoot if there was a problem. The difference in the ability to trouble shoot among the HCWs was significant (Table 10).

Table 10: Ability to Troubleshoot m Health Applications in Case of a Problem

Ability to trouble shoot m Health applications in case of a problem	X ² Value	df	p-value
Pearson Chi-Square	10.895 ^a	1	.001
Continuity Correction ^b	9.738	1	.002
Likelihood Ratio	10.818	1	.001
Fisher's Exact Test			
N of Valid Cases	190		

The results of the Chi-Square test show that majority of the HCWs had the ability to trouble shoot the mHealth devices in case of any problem. The difference in this ability among the HCWs was significant (P=0.001). The youthful HCWs reported ability to trouble shoot more that the elderly HCWs.

Ability of HCWs to Use Security Features of m Health applications

The study sought to establish the ability of HCWs to use security features of m Health applications. The results showed that only 84 (44%) of the HCWs had the ability to use the security features of m Health applications. The difference in the ability to use security features in m Health applications was significant among the HCWs (Table 11)

Table 11: Ability to Use Security Features

Ability to use security features	X ² Value	df	p-value
Pearson Chi-Square	10.264 ^a	1	.001
Continuity Correction ^b	9.074	1	.003
Likelihood Ratio	9.720	1	.002
Fisher's Exact Test			
N of Valid Cases	190		

The results of the table 11 show that the differences in ability to use security features of the mHealth devices was significant (P=0.001). The youthful HCWs were more proficient in use of security features This study finding corroborates with other past study findings. One study by He et al, (2024) found that younger professionals often exhibit higher confidence in navigating digital platforms and troubleshooting technical issues. In contrast, older healthcare workers may experience anxiety or apprehension when faced with new technologies (He et al, 2024). This technological anxiety can hinder their willingness to engage with mHealth solutions effectively. These findings also confirm the earlier finding of a study by Shaojing (2024) in which it has been found that younger people tend to have higher digital literacy which positively impacts mHealth uptake while the older users face challenges in navigating application interfaces.

DISCUSSION

The study found that majority 142 (74.74%) of HCWs had formal education included digital health technologies training and found it easier to use mHealth applications ($\chi^2=5.497$;P= 0.019). Higher levels of education typically correlate with better technological literacy, critical thinking skills, and adaptability to new tools (Durmus,2024). In the context of mHealth, Health Care Workers with higher education levels often have a more extensive knowledge base regarding medical practices and technologies. In one systematic review, HCWs with postgraduate training were found to be 1.7 times more likely to use mHealth tools for clinical decision-making compared to those with only basic qualifications (He et al, 2024) Another study conducted among nursing students indicated that those with higher educational backgrounds were more likely to use multiple mHealth

applications compared to their less educated counterparts (Ravi et al,2024). This suggests that education enhances familiarity with technology.

Majority 142 (74.74%) of HCWs said there is formal education had included digital health technologies training (digital Literacy). Low digital literacy has been shown to lead to challenges such as difficulty understanding app functionalities, reluctance to adopt new technologies, and increased workload perceptions (Fitzpatrick et al, 2023). A 2024 study by Durmus et al on the influence of digital literacy on mHealth app usability found that digital literacy significantly enhanced mHealth usability by improving HCWs' confidence in navigating app interfaces and interpreting health data. However, despite advancements in digital health tools, many countries lack structured training programs to enhance HCWs' digital literacy. The problem of low digital literacy is not only found among the HCWs in the developing countries. A WHO study in 2023 revealed that only half of European countries have implemented policies to strengthen digital skills among healthcare professionals (WHO, 2023).

The main barriers to uptake of mHealth were the inability to trouble shoot technical issues mHealth platforms by 42.11% of the HCWs ($\chi^2 = 10.895$; $P=0.001$) and inability to evaluate Health information from Health platforms by 37.9% of the HCWs ($\chi^2=12.487$; $P=0.006$). These inability were prevalent in older HCWs. These inability can be blamed on lack of technical support and limited training. This finding was confirmed by the Key informants. A study by Ike et al. (2022) concluded that it is important to invest in the ongoing technical support through training to enhance healthcare workers' usage of mHealth applications. The researchers found that regions with structured technical support systems reported higher uptake rates compared to those without. This finding was corroborated with the qualitative data from the Key informants. The key informants confirmed that the HCWs, particularly the older members require training to understand and adopt features of mHealth applications.

There was a strong association between age and uptake of mHealth. Younger HCWs had a higher uptake of mHealth. The uptake of mobile health (mHealth) applications among healthcare workers is significantly influenced by age. Research indicates that younger healthcare professionals are more likely to adopt and utilize mHealth technologies compared to their older counterparts In one study, Shaojing et al ,(2024) concluded that younger individuals tend to have higher digital literacy, which positively impacts mHealth app adoption, while older users may face challenges in navigating app interfaces. This trend can be attributed to several factors, including familiarity with technology, comfort levels with digital tools, and perceived usefulness of mHealth applications. Younger healthcare workers generally have greater exposure to technology from an early age, making them more adept at using various digital tools, including mHealth applications.

According to a report by the World Health Organization (WHO, 2023), mHealth applications require constant technical support to enhance healthcare delivery. Studies indicate that adequate technical support is vital for the successful adoption and integration of mHealth solutions among healthcare workers Laukka et al,(2020). Some of the technical support services required in mHealth include provision of comprehensive training on how to use mHealth applications effectively; continual education sessions to refresh skills and update knowledge on new features or updates; provision of clear, accessible manuals or video tutorials that explain functionalities and troubleshooting methods; having resources for trouble shooting that address common issues users might encounter; a dedicated helpdesk or support line that users can contact for immediate assistance with technical issues; ability to provide remote troubleshooting through screen sharing or remote desktop applications; ensuring that the mHealth application is regularly updated to fix bugs, improve functionality, and add new features through software updates and regular checks and maintenance of the software and hardware components used in mHealth services.

CONCLUSION

The study concluded that the individual factors associated with uptake of mHealth were mainly formal education, level of education, age and technical Knowledge on use of digital health technologies.

RECOMMENDATION

Healthcare workers at Chuka County referral Hospital should continuously be trained to efficiently use mHealth. This can be done through regular seminars and workshops to improve on the use of mHealth.

LIMITATION OF STUDY

The number of the aged was low. Manipulations of data with powerful statistics was therefore not possible. The study therefore relied on Chi-Square tests to establish associations.

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