



RESEARCH ARTICLE

REVIS **Utilisation of ChatGPT and other Artificial Intelligence tools among medical faculty in Uganda: a cross-sectional study**

[version 3; peer review: 1 approved, 2 approved with reservations]

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Abstract

Background

ChatGPT is a large language model that uses deep learning techniques to generate human-like texts. ChatGPT has the potential to revolutionize medical education as it acts as an interactive virtual tutor and personalized learning assistant. We assessed the use of ChatGPT and other Artificial Intelligence (AI) tools among medical faculty in Uganda.

Methods

We conducted a descriptive cross-sectional study among medical faculty at four public universities in Uganda from November to

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December 2023. Participants were recruited consecutively. We used a semi-structured questionnaire to collect data on participants' socio-demographics and the use of AI tools such as ChatGPT. Our outcome variable was the use of ChatGPT and other AI tools. Data were analyzed in Stata version 17.0.

Results

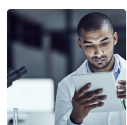
We recruited 224 medical faculty, majority [75% (167/224)] were male. The median age (interquartile range) was 41 years (34–50). Almost all medical faculty [90% (202/224)] had ever heard of AI tools such as ChatGPT. Over 63% (120/224) of faculty had ever used AI tools. The most commonly used AI tools were ChatGPT (56.3%) and Quill Bot (7.1%). Fifty-six faculty use AI tools for research writing, 37 for summarizing information, 28 for proofreading work, and 28 for setting exams or assignments. Forty faculty use AI tools for non-academic purposes like recreation and learning new skills. Faculty older than 50 years were 40% less likely to use AI tools compared to those aged 24 to 35 years (Adjusted Prevalence Ratio (aPR):0.60; 95% Confidence Interval (CI): [0.45, 0.80]).

Conclusion

The use of ChatGPT and other AI tools was high among medical faculty in Uganda. Older faculty (>50 years) were less likely to use AI tools compared to younger faculty. Training on AI use in education, formal policies, and guidelines are needed to adequately prepare medical faculty for the integration of AI in medical education.

Keywords

ChatGPT, medical faculty, Bing, Bard, Uganda, generative AI, medical education



This article is included in the [Technology-Enhanced Learning in Medical Education](#) collection.

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REVISED Amendments from Version 2

This version extends the discussion section to compare the use of AI among medical faculty and students. It also includes new citations of recent articles on this topic.

Any further responses from the reviewers can be found at the end of the article

Introduction

ChatGPT is a large language model that uses deep learning techniques to generate human-like texts to user prompts¹. Over 500 million people all over the world actively use ChatGPT in various fields including medical education². ChatGPT and other Artificial Intelligence tools such as; - Bard/Gemini, Bing, Desktop, Write Sonic, Klap, Jasper, and Quilt Bot AI have the potential to revolutionize medical education as they act as interactive virtual tutors and personalized learning assistants³⁻⁵. In developing countries, faculty face several challenges such as limited time to manage multiple tasks like lesson planning, and grading⁶. There are also few faculty as compared to the available students⁶. These challenges can potentially lead to stress and burnout, which can ultimately affect the quality of teaching⁷. In addition, institutions face the challenge of limited resources such as textbooks, technology, and classroom materials, to provide students with the best possible learning experience⁶. ChatGPT and other AI tools can be powerful tools to help educators and institutions overcome these challenges. These AI tools can generate teaching content (questions and answers, quizzes, and assignments) for educators and assist them in grading students⁸. This can save time and effort of educators to focus on other areas of teaching⁸. Despite the great potential of AI tools such as ChatGPT, there are various concerns regarding their use in medical education including plagiarism, incorrect or fabricated responses, copy-right and privacy infringements and security concerns⁹⁻¹². Thus, educators need to learn not only how to use AI tools but also how to use them responsibly. There is a need to establish whether educators are using AI tools. This is will inform policymakers to develop guidelines to promote responsible use of AI tools in medical education. However, there is limited information about the use of ChatGPT among medical faculty in low- and middle-income countries. We conducted our study to find out the prevalence of use of artificial intelligence tools among medical faculty, the different AI tools used by medical faculty, and factors associated with the use of AI tools among medical faculty in four public universities in Uganda.

Methods

Study design

This was a descriptive cross-sectional study aimed at assessing the use of ChatGPT and other Artificial Intelligence (AI) tools among medical faculty in Uganda.

Study setting

The study was conducted at four public universities in Uganda. These included Busitema University, Makerere University,

Mbarara University of Science and Technology, and Gulu University. These Universities were selected because they are the largest and oldest public universities that offer medical degrees in Uganda.

Busitema University Medical School was established in 2013 and is located in Mbale city, eastern Uganda. The school has 54 faculty, 13 departments, and provides medical education to about 550 students at undergraduate and postgraduate levels.

Makerere University Medical School was founded in 1924 and is located on Mulago Hill in north-east Kampala, Uganda's capital and largest city. The school has 86 faculty, 14 departments, and provides medical education to about 1310 students at undergraduate, and postgraduate levels.

Mbarara University of Science and Technology was founded in 1989 and is located on the premises of Mbarara Regional Referral Hospital, in the city of Mbarara, Western Uganda. The school of medicine has 100 faculty, 25 departments and provides medical education to about 1400 students at undergraduate, and postgraduate students.

Gulu University Medical School was founded in 2004 and is located Gulu city, the largest urban center in Northern Uganda, approximately 345 kilometers (214 mi), by road, north of Kampala, Uganda's capital and largest city. The school has 64 faculty, 13 departments, and provides medical education to 490 students at undergraduate, and postgraduate levels.

Study population

Medical faculty involved in teaching students both clinical and non-clinical disciplines. These included teaching assistants, lecturers, senior lecturers, professors, and deans of faculty.

Eligibility criteria

We included medical faculty at the selected universities who consented to participate in the study between November 2023 and December 2023. Medical faculty not available during the data collection period were excluded.

Study variables

Our outcome variable was use of AI tools such as ChatGPT among medical faculty. Participants were asked if they have ever used AI tools such as ChatGPT, this was recorded as Yes (denoted as 1) or No (denoted as 0). The independent variables included; socio-demographic characteristics (age, sex, religion, marital status, university, department, work experience) and being aware of AI tools.

Data collection tool and procedures

A semi-structured questionnaire was developed including participant demographics, and a list of AI tools. The AI tool list in this study was based on a qualitative study– unpublished – exploring the AI tools used by medical faculty and students in Uganda, all AI tools mentioned in that study were included in the questionnaire.

Data were collected by eight trained research assistants using a semi-structured standardized questionnaire. During the study

period, research assistants scheduled in-person appointments with individual faculty. Informed written consent was obtained, a hard copy questionnaire was provided by the research assistant and filled by the faculty at a convenient time within 3 weeks. The faculty contacted the research assistant to pick up the answered questionnaires. Data entry was done by research assistants using an electronic data collection form designed in Kobo Toolbox (Cambridge, Massachusetts, USA). Kobo Toolbox is an open-source software developed by the Harvard Humanitarian Initiative with support from United Nations Agencies, CISCO, and partners to support data management by researchers and humanitarian organizations (<https://www.kobotoolbox.org/>).

Sample size estimation and sampling technique

We aimed to recruit at least 80% (243) of the 304 faculty at the 4 colleges of health sciences of the selected universities. We were able to reach 224 faculty, (19) were unreachable during the time of the study. Due to the limited study population, we used consecutive sampling.

Data analysis

Data were cleaned and analyzed in Stata version 17.0. We summarized categorical data using frequencies and percentages, and numerical data as mean (standard deviation) and median (interquartile range) as appropriate. Bar graphs and pie charts were used for data visualization. We conducted a generalized

linear regression for the Poisson family with a log link to estimate prevalence ratios between use of AI tools and various exposures. We used robust cluster variance estimation to adjust for clustering at the University level.

Ethical consideration

Ethics approval to conduct the study was granted by the Busitema University Research Ethics Committee (approval number: BUFHS-2023-79) on 23/09/2023. Written informed consent was obtained from the participants before recruitment into the study.

Results

Participant characteristics

We recruited 224 faculty with majority [75% (167/224)] being male. The median age (interquartile range) was 41(34–50). More than a third 38% (84/224) were Catholics and the least (4%) were Seventh-day Adventists. Regarding departments Internal medicine; and microbiology and immunology had the highest (13% and 12% respectively) number of participants while radiology and nursing had the lowest (2% and 1% respectively). Majority [82% (183/224)] of the participants were married. Almost all [90% (202/224)] had ever heard of AI tools such as ChatGPT. Most [44.1% (89/202)] got to know AI tools such as ChatGPT from social media, 42.1% (85/202) from friends, 15.8% (32/224) fellow lecturer, and 23.3% (47/202) cited other sources including students, and family. Details of participant characteristics are in Table 1.

Table 1. Characteristics of medical faculty in Uganda who participated in a survey assessing use of AI tools.

Characteristic	Ever used AI tools such as ChatGPT		
	No (n=82)	Yes (n=142)	Total (n=224)
	n (%)	n (%)	n (%)
Age			
24–35	19 (23)	54 (38)	73 (33)
36–50	37 (45)	62 (44)	99 (44)
>51	26 (32)	26 (18)	52 (23)
Sex			
Female	19 (23)	38 (27)	57 (25)
Male	63 (77)	104 (73)	167 (75)
Religion			
Anglican/Protestant	21 (26)	39 (28)	60 (27)
Pentecostal/Born again	18 (22)	35 (25)	53 (24)
Catholic	35 (43)	49 (35)	84 (38)
Muslim	6 (7)	12 (9)	18 (8)

Characteristic	Ever used AI tools such as ChatGPT		
	No (n=82)	Yes (n=142)	Total (n=224)
	n (%)	n (%)	n (%)
Seventh-Day Adventist	2 (2)	7 (5)	9 (4)
University			
Gulu University	21 (26)	40 (28)	61 (27)
Busitema University	16 (20)	36 (25)	52 (23)
Makerere University	23 (28)	27 (19)	50 (22)
Mbarara University of Science and Technology	22 (27)	39 (28)	61 (27)
Department			
Community and Public Health	2 (2)	8 (6)	10 (4)
Biochemistry	8 (10)	9 (6)	17(8)
Obstetrics and Gynecology	7 (9)	7 (5)	14(6)
Nursing	1(1)	2 (1)	3(1)
Internal Medicine	11(13)	19(13)	30 (13)
Microbiology and Immunology	7(9)	19 (13)	26(12)
Anatomy	6(7)	10 (7)	16(7)
Physiology	6(7)	7(5)	13(6)
Pathology	5(6)	15(11)	20(9)
Surgery	12(15)	14(10)	26(12)
Pharmacology and therapeutics	2(2)	10(7)	12(5)
Pediatrics and child health	5(6)	12(8)	17(8)
Family medicine	4(5)	2(2)	6(3)
Radiology	2 (2)	2 (1)	4(2)
Others	4 (5)	6 (4)	10 (4)
Marital status			
Single	8 (10)	33 (23)	41 (18)
Married	74 (90)	109 (77)	183 (82)
Ever heard of AI tools like ChatGPT			
Yes	60 (73)	142 (100)	202 (90)
No	22 (27)	0 (0)	22 (10)
Ever recommended AI tool to student(s)			
Yes	71 (86.6)	58 (40.9)	129 (57.6)
No	11 (13.4)	84 (59.1)	95 (42.4)

Use of ChatGPT and other AI tools among medical faculty

A total of 142 out of 224 participants (63.4%) had ever used AI tools. The majority 56.3% had ever used ChatGPT, 7.1% Quill Bot, 6.3% Desktop AI and 4.9% Bing AI. Other AI tools used by medical faculty are in Figure 1.

Regarding AI tools use, 56 faculty used AI tools for research writing, 37 used AI tools for summarizing information, 28 used AI tools for proofreading work and 28 used them for setting exams or assignments. 40 faculty used AI tools for non-academic uses. Other uses of AI tools are in Figure 2.

Non-academic uses included the use of AI tools as a personal assistant (19), learning new skills (14), art and design (8), recreation (6), and counseling (6). Other non-academic uses are in Figure 3.

Factors associated with the use of ChatGPT and other AI tools among medical faculty in Uganda

Medical faculty aged greater than 50 years were 40% times less likely to use AI tools such as ChatGPT as compared to those aged 24 to 35 years (aPR:0.60; 95% CI: [0.45, 0.80]).

Medical faculty in Makerere University were 32% times less likely to use AI tools as compared to those in Gulu University (aPR: 0.68 95% CI: [0.60, 0.78]). Details are in Table 2.

Discussion

In this study, we found that the use of AI tools among medical faculty was high (63.4%). The high use of AI tools among medical faculty in our study could be attributed to the increased awareness about AI tools among medical faculty. Almost all faculty in our study (90%) had ever heard about AI tools such as ChatGPT. Contrary to our findings, a study among medical faculty in Nigeria showed that only 32% of the faculty had ever used ChatGPT³. This could be attributed to the fact that the study in Nigeria was conducted in May 2023³ yet our study was done in November 2023, AI tool visits showed an increasing rate per month in 2023¹³.

A study among medical students in Uganda showed a higher (75.7%) AI use among students compared to 63.4% among faculty¹⁴. This is consistent the study in Nigeria¹⁵. However, a study in Pakistan showed no differences in use of AI among faculty and students, this is possibly due to younger faculty in Pakistan compared to older faculty in Uganda¹⁶. Training faculty on using AI increases their interest and may increase use¹⁵.

Our study showed a very low user rate of other AI tools as compared to ChatGPT. Similarly, a study in Nigeria showed that use of other AI tools such as Bing, Quill bot and Bard was very low compared to ChatGPT³. This could imply low awareness about other AI tools among medical faculty. Our

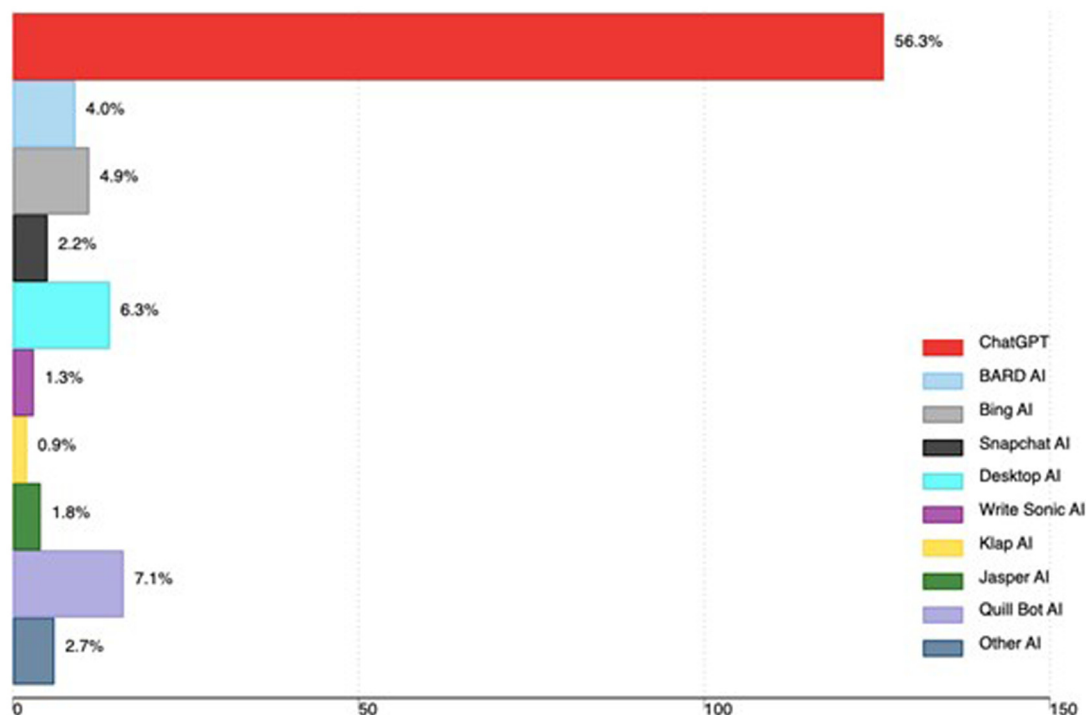


Figure 1. AI tools used by medical faculty in Uganda (the x-axis shows the total number of faculty using AI, and the percentage is based on all participants in the study).

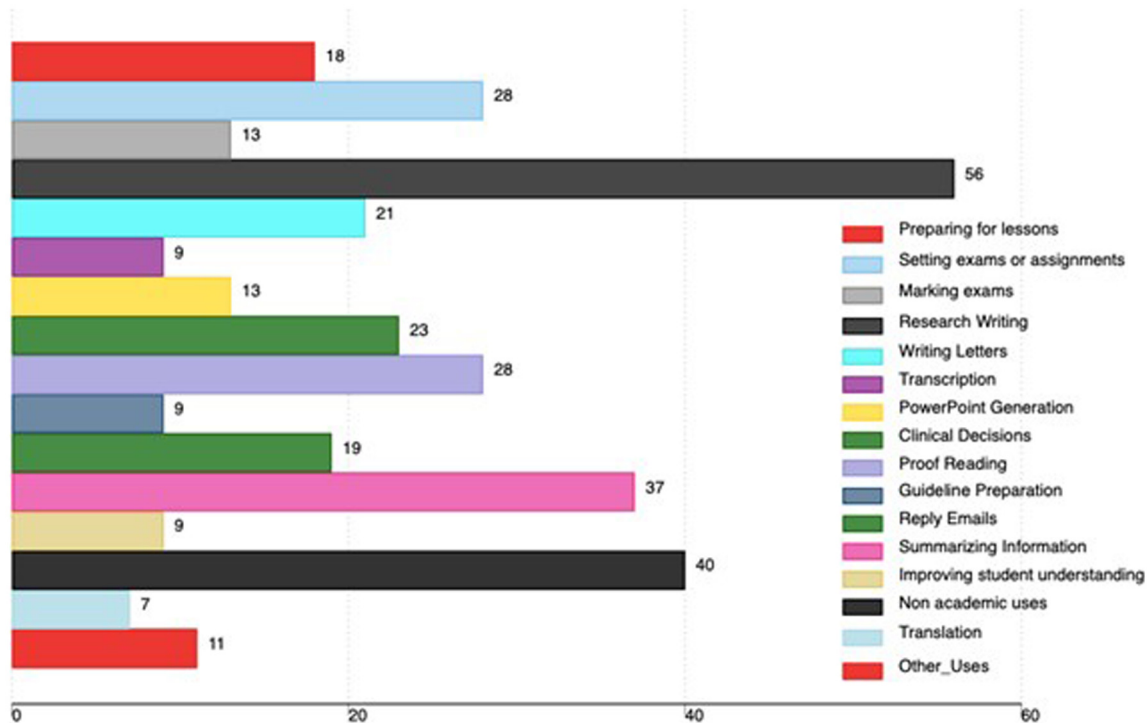


Figure 2. Academic uses of AI tools among medical faculty in Uganda (the x-axis shows the total number of faculty using AI, and the percentage is based on all participants in the study).

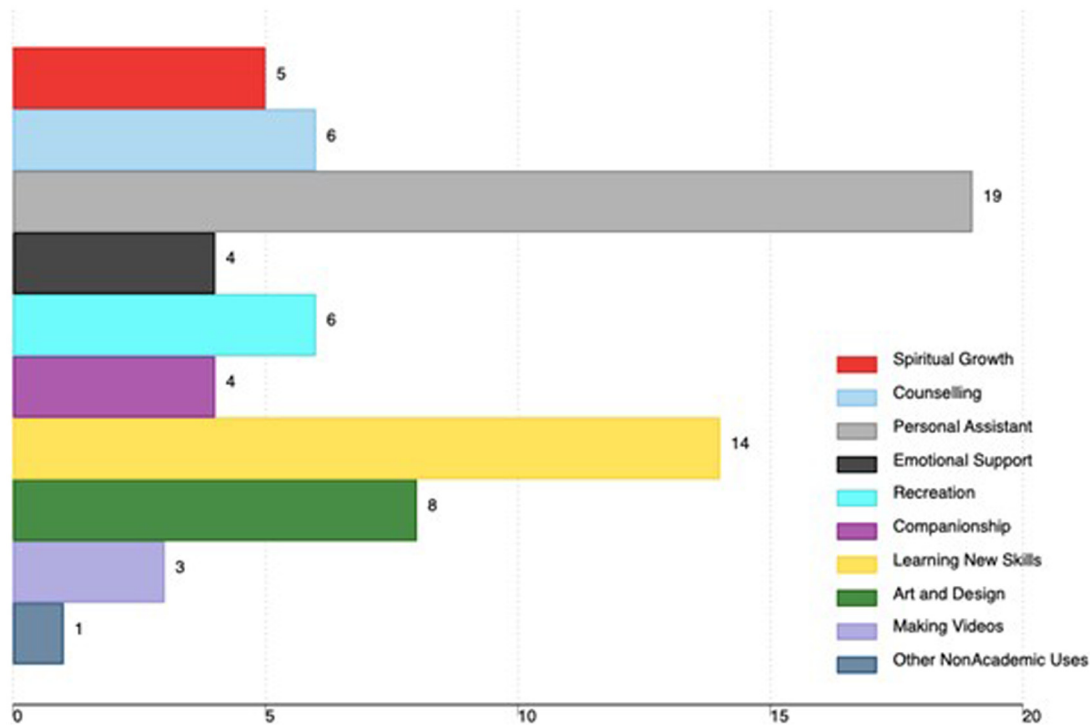


Figure 3. Non-academic uses of AI tools among medical faculty in Uganda (the x-axis shows the total number of faculty using AI, and the percentage is based on all participants in the study).

Table 2. Factors associated with the use of ChatGPT and other AI tools among medical faculty in Uganda.

Variable	cPR [95% CI]	P-value	aPR [95% CI]	P-value
Age in years				
24–35	1		1	
36–50	0.85 [0.59, 1.22]	0.371	0.80 [0.55, 1.15]	0.23
>51	0.68 [0.58, 0.79]	<0.001	0.60 [0.45, 0.80]	0.001
Gender				
Female	1		1	
Male	0.93 [0.67, 1.31]	0.693	0.92 [0.67, 1.27]	0.619
Religion				
Anglican	1		1	
Pentecostal/Born again	1.02 [0.70, 1.48]	0.935	1.01 [0.72, 1.40]	0.976
Catholic	0.90 [0.66, 1.21]	0.484	0.89 [0.70, 1.14]	0.374
Muslim	1.03 [0.82, 1.29]	0.827	1.01 [0.80, 1.27]	0.937
Seventh Day Adventist	1.20 [0.94, 1.53]	0.154	1.18 [0.94, 1.48]	0.145
University				
Gulu University	1		1	
Busitema University	1.06 [1.06, 1.06]	<0.001	0.86 [0.72, 1.01]	0.066
Makerere University	0.82 [0.82, 0.82]	<0.001	0.68 [0.60, 0.78]	<0.001
Mbarara University of Science and Technology	0.98 [0.97, 0.98]	<0.001	0.80 [0.69, 0.92]	0.003

findings are consistent with a survey of AI tools that showed that ChatGPT took over 60% of the total traffic of the 50 most visited AI tools in 2023¹³.

The most prevalent use of ChatGPT among medical faculty was research writing. A study in USA showed text generation and the most common use of generative AI among medical educators though this study didn't specify use the AI generated text¹⁷. Another study among doctoral students in China showed a high intention to use ChatGPT in writing¹⁸. Similarly, a study in Saudi Arabia also showed that health-care workers mostly used AI tools for medical research (69.5%)¹⁹. This highlights the great potential of AI tools in academic writing. The high use of AI in research writing could be attributed to the fact that most faculty find research writing very difficult. However, in December 2023, the European Research Council issued a warning against use of generative chatbots in research writing and emphasized that researchers have full responsibility for any plagiarism or fabrication by the chatbots²⁰.

Medical faculty in our study also reported the use of AI tools for summarizing information, proofreading work, and setting

exams or assignments. Similar uses have been reported in studies conducted elsewhere^{3,8,19}.

Notably, faculty use chatbots for non-academic purposes such as recreation and learning new skills. This is a neglected discussion overshadowed by the academic implications. More studies may be required to understand the impact of AI tools on mental and social life.

Medical faculty aged greater than 50 years were 40% less likely to use AI tools such as ChatGPT as compared to the younger faculty. Similar results have been showed in previous studies³. Younger people are more exposed to AI through social media and other digital platforms thus could be more likely to use AI tools as compared to those older^{3,19}. Further, older people are often pessimistic and slow to adopt new technology^{21–23}.

Bigger medical schools like Makerere and Mbarara were less likely to use AI compared to smaller medical schools like Gulu. Generative AI is universally available and no university in Uganda has publicly prohibited or discouraged use of AI, these differences remain unexplained.

Strengths and limitations

Findings from this study can inform stakeholders about extent of use of AI in medical education by faculty. To the best of our knowledge, this is one of the few studies that have been done to assess use of AI tools such as ChatGPT among medical faculty in low-resource settings. Additionally, we included four universities, one from each region of the country thus our findings can be generalizable to all medical students in the country. Our study also had limitations; sampling was uneven across departments and we didn't assess for prior training on use of AI tools. Other large language models like Llama, Claude and command R were not included in the questionnaire.

Conclusion

The use of ChatGPT and other AI tools was high among medical faculty in Uganda. Older faculty (>50 years) were less likely to use AI tools compared to younger faculty. Training on AI use in education, formal policies, and guidelines are needed to adequately prepare medical faculty for integration of AI in medical education.

Declarations

Ethics and consent

Ethics approval to conduct the study was granted by the Busitema University Research Ethics committee (Committee (approval number: BUFHS-2023-79).) on 23/09/2023. Written informed consent was obtained from the participants before recruitment into the study. All the study procedures were performed in accordance with the Declaration of Helsinki.

Consent for publication

Not applicable

Data availability

Underlying data

Figshare: Gen AI data.

<https://doi.org/10.6084/m9.figshare.26489884.v2>²⁴.

The project contains the following underlying data:

AI data set.xls.

Extended data

Figshare: Gen AI data.

<https://doi.org/10.6084/m9.figshare.26489884.v2>²⁴.

This project contains the following extended data:

QUESTIONNAIRE FACULTY.pdf

Data are available under the terms of the Creative Commons Attribution 4.0 International license (CC-BY 4.0)

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Open Peer Review

Current Peer Review Status:   

Version 2

Reviewer Report 04 February 2025

<https://doi.org/10.21956/mep.22377.r40983>

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The rapid growth of AI and GenAI has changed how country and continent are using the GenAI in their higher education. This one county study provide some basic understanding of usage and perception from Uganda. AI has existed before generative AI platforms such as GPTs, so authors should be careful in using the term "AI tools" when referring to GPTs.

Data is from 2023, and during 2024 much has occurred in this field across the world. Learners and faculty are acquainted with GPTs, specially in universities and medical schools. Even certain GPTs names listed in the Introduction do not exist or modified by commercial entities . So in terms of bibliography, this manuscript need to update few important review papers and original studies which have addressed this very same question in African continent.(1) This is a crucial aspect to be able to contrast their findings in the Discussion beyond Ref#3. For example, older faculty being less likely to use AI tools is something that has not been observed in the United States . The Discussion is comparing their findings with studies done on doctoral studies and healthcare workers can have different outcome and not easy to convince the reader.

As many variables are compared, the inclusion of Table 2 in the Results is worth noticing. The authors can elaborate on the finding that the smaller medical schools (Busitema and Gulu) which have fewer students and faculty had not seen difference in ChatGPT usage. They only mention Makerere to have less usage in the Results when Table 2 is showing the same situation in Mbarara. The difference may be related to local sociocultural or access to GPT may require some more reflection in the discussion section. The responsible AI in Africa was published in 2022

getting into the challenges and opportunities of AI in African continent (2)

This study may need more updated information and new data from other part of Africa to see if there is any significant changes that has occurred in the last few years since the study was conducted.

1. Owoyemi A, Owoyemi J, Osiyemi A and Boyd A (2020) Artificial Intelligence for Healthcare in Africa. *Front. Digit. Health* 2:6. doi: 10.3389/fdgth.2020.00006
2. Okolo, Chinasa & Aruleba, Kehinde & Obaido, George. (2023). Responsible AI in Africa—Challenges and Opportunities. 10.1007/978-3-031-08215-3_3.

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1. 1. Owoyemi A, Owoyemi J, Osiyemi A and Boyd A (2020) Artificial Intelligence for Healthcare in Africa. *Front. Digit. Health* 2:6. doi: 10.3389/fdgth.2020.00006.
2. 2. Okolo, Chinasa & Aruleba, Kehinde & Obaido, George. (2023). Responsible AI in Africa—Challenges and Opportunities. 10.1007/978-3-031-08215-3_3.

Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Partly

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Have any limitations of the research been acknowledged?

Partly

Are all the source data underlying the results available to ensure full reproducibility?

Partly

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Medical Education, Ethics, Artificial Intelligence

We confirm that we have read this submission and believe that we have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however we have significant reservations, as outlined above.

Author Response 19 Apr 2025

Frank Kayemba

I appreciate your expertise on this topic. I have read and understood your suggestions and made modifications accordingly.

1. The study generally looks at generative AI. We use ChatGPT in the text to provide direction to the reader.
2. Many third-party applications are using GenAI, and this article focuses on the end-user applications, not the language model they use. For example, most of the applications listed use GPTs. (the list was generated from a qualitative study among medical faculty—unpublished data.)
3. The discussion section has been updated to cater to new findings in more recent studies.
4. Though there are differences in AI use among the universities, GenAI is accessed independent of the university; disparities in access are not expected. No university has publicly prohibited or discouraged the use of AI. There are no known sociocultural limitations to justify this finding.

Competing Interests: No competing interests were disclosed.

Reviewer Report 27 January 2025

<https://doi.org/10.21956/mep.22377.r40968>

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Yavuz Selim Kiyak 

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The authors' amendments led to significant improvements in the paper. The new version of the manuscript barely reached a level that can be approved.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Have any limitations of the research been acknowledged?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Medical education, automatic item (question) generation using AI

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 08 December 2024

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Li-Chun Chang

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This study adopts a straightforward cross-sectional design, with a few points that need further clarification:

Study Setting

Four public universities were selected, but the author should provide details on the number of faculty members, departments, and student faculty ratios at these universities. The use of ChatGPT may vary across different universities, yet this aspect has not been discussed by the author.

Study Population

The author needs to clarify whether the study population is "university staff" or "medical faculty." Are these two groups the same in this Information Classification: General study? How were the questionnaires distributed, and how much time was allowed for completion? What data were collected on work experience? Is it related to teaching experience? Some variables, such as department, were not included in the regression analysis. The author should explain the reasons for this omission.

Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Partly

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Have any limitations of the research been acknowledged?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Partly

Are the conclusions drawn adequately supported by the results?

Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Nursing education, use of ChatGPT

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 20 Jan 2025

Frank Kayemba

Study setting

- The number of faculty, departments, and students per university has been included in the revised version. Notably, the description of "diploma" has been removed from the group of students because, much as it is a proper description of the university, the diploma school is independent. We only recruited faculty who teach undergraduate and postgraduate students.

- There were differences in the use of AI tools among the universities as listed in Table 2. However, we don't have reasons to justify these differences.

Study population.

- The study population was medical faculty. Other university staff other than medical faculty were not included.
- No data were collected about the teaching experience.
- The questionnaires were distributed physically and filled out within three weeks.
- The variable "departments" was not included in the regression because of the uneven distribution of faculty among the departments.

Thank you.

Competing Interests: I have no competing interest.

Reviewer Report 19 November 2024

<https://doi.org/10.21956/mep.21999.r39957>

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This is a cross-sectional study on the use of ChatGPT and some other AI tools among faculty members in four medical schools in a Global South country.

Introduction:

- "ChatGPT is an open-source large language model ..." ChatGPT is a proprietary model.
- The authors should cite this BEME Review as it provides a comprehensive look on the topic: Gordon, M., Daniel, M., Ajiboye, A., Uraiby, H., Xu, N. Y., Bartlett, R., ... & Thammasitboon, S. (2024). A scoping review of artificial intelligence in medical education: BEME Guide No. 84. *Medical Teacher*, 46(4), 446-470.
- The first two sentences in the last paragraph implies that the authors will not only report data on the use of AI tools but also report on using responsibly and will fill the gap the need for guidelines. However, the authors report only the use of AI tools. Therefore, the irrelevant content needs to be removed. The authors should only mention the gap that they try to fill: Data about the use of AI tools.

- This excellent brief source could guide the authors to revise the introduction section: Lingard, L. (2015). Joining a conversation: the problem/gap/hook heuristic. *Perspectives on Medical education*, 4, 252-253.

Methods:

- What was the total number of medical faculty members in each university?
- The authors should describe the development process of the data collection tool.
- Other models than ChatGPT and Gemini are not directly based on their AI models, they mostly are very specialized tools based on the existing AI models. For example, I could not understand why Snapchat AI is among the list considering the focus is medical education. The rationale behind presenting them in the survey rather than prominent AI models like Claude, Llama, Command R+, etc. should be provided. The omission of these prominent models should be added as a limitation.
- There is a very little information about the development process of the data collection tool. Please describe it in detail.
- The methods section should provide sufficient information that allows other researchers to replicate this study. An appropriate checklist among the reporting guidelines would be helpful for revising the section: <https://www.equator-network.org/reporting-guidelines/>

Results:

- "We interviewed ..." surveyed would be a better description as they filled a survey form.
- "28 used A tools for proofreading work" typo
- In figures, it is not clear if it shows only the frequencies or it shows percentages as well. Please make it clear.
- "Factors associated ..." The authors reported age and university factors. Were there other significant factors? No matter there are or not, please state.

Discussion:

- Implications of the findings to medical education can be discussed in a brief paragraph.
- Limitations of the study should be expanded (e.g. the limitations in validity and comprehensiveness of the data collection tool, limited selection of AI tools, etc.).

References

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2. Lingard L: Joining a conversation: the problem/gap/hook heuristic. *Perspect Med Educ*. 2015; **4** (5): 252-253 [PubMed Abstract](#) | [Publisher Full Text](#)

3. Enhancing the QUALity and Transparency Of health Research. [Reference Source](#)

Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

No

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Have any limitations of the research been acknowledged?

Partly

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Medical education, automatic item (question) generation using AI

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 20 Jan 2025

Frank Kayemba

Thank you for the resources you shared and the comments. We have revised the article to include the recommended information. Introduction

- ChatGPT is not open source; that has been corrected.
- The article only answers the gap of AI tools used by medical faculty, not policy. Writing about policy is only a justification of the need to know the former. I have paraphrased in that section to make this clear.

Methods

- The information about the number of faculty, students, and departments has been included in the revised version.
- Details on questionnaire development have been included as well. The list of AI tools

listed in the questionnaire was based on a qualitative study—unpublished—exploring the AI tools used by medical faculty and students in Uganda; all AI tools mentioned in that study were included in the questionnaire. This also explains why other prominent models were not included. However, the question was multiple choice, and participants had the option to add more AI tools other than those listed. Even then, these models were not reported. I have added this to the limitations.

Results

- The use of the term "interviewed" was not proper; participants filled out a survey. This has been corrected.
- The figures have both frequencies (on the x-axis) and percentages (at each bar.)
- The factors for which regression was done are reported in Table 2. Other independent variables were left out on grounds of collinearity.

Discussion

- As reported above, the questionnaire was not exhaustive of all the major AI tools and hence limited content validity, I have included this among the limitations.

Competing Interests: I have no competing interests