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Original Research Article

Challenges faced by students in conducting research project at Kenya Medical Training College

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ABSTRACT

Background: Kenya Medical Training College (KMTC) is a public middle-level college that trains and develops multidisciplinary health professionals mainly at the diploma level. To ensure graduates provide evidence-based services, diploma students conduct research projects during their training. The researchers aimed to determine the main challenges students face while conducting research projects. The specific objectives were to explore student and lecturer behaviour towards research projects, find out student perceptions, establish institutional infrastructure supporting research work, and assess the quality of students' research projects.
Methods: The study population included KMTC students enrolled in basic diploma courses, targeting third-year students conducting research projects and their supervisors. A cross-sectional research design was used, with structured and semi-structured questionnaires administered to students and lecturers. Seven campuses were sampled randomly, with a sample size of 384 respondents used. Data was analyzed using SPSS and presented in graphs, figures, tables, and percentages.
Results: The main challenges identified were difficulties in holding timely meetings with supervisors (42.6% strongly agreeing, 29.9% agreeing). There was a shortage of supervisors, delaying the marking of research work (41.3% strongly agreed, 30.2% agreed). Availability of laptops, accessibility to journals, and internet connectivity were major challenges. Over 50% of respondents had difficulties in the research process.
Conclusions: The most agreed problem by most KMTC students was lack of time to conduct research, financial constraints and lack of enabling environment.

Keywords: KMTC, Research, Students, Supervision

INTRODUCTION

Quality of health care is determined by the type of practices that are evidence based in the twenty first century. This can only result from professionals who have a research mindset that is developed through their years of training. A culture of practice must be developed in which all clinicians from every discipline are expected to justify their practices from the best evidence. It is important for undergraduate educational institutions to structure and coordinate scientific research in the curriculum but also support the independent study process and encourage the students to undertake apprenticeship in research.[1] Research component is important in every professional undergraduate curriculum across the united states and cited the benefits of research as increased level of confidence, improved communication skills and development of a scientific mind-set for the undergraduate student.[2] However, the future of the nation of China is dependent on research ability and hence the need for educational institutions ensuring that undergraduate students acquire scientific research ability which is on the decrease as opposed to other subjects.[3]

Students require to be exposed to the research process in order to become an effective workforce in the future.[4]

However, researchers argues that students seem to be intimidated by the research process and suggests that the responsibility of developing evidence based practices rest wholly on the training institutions, researchers and professional bodies.[5] A study conducted in New Zealand among postgraduate students revealed that the role of a supervisor is key to the students' performance in research and suggested that an ideal supervisor requires to be supportive, available, interested in supervision, an expert in area of supervision, a good communicator, friendly, able to give feedback and one who possesses a wealth of experience.[6] Another study done among Malaysian and United Kingdom students suggested that there is a disparity of expectations from supervisors by the students. Students from United Kingdom emphasized on supervisors with expertise while those in Malaysia look for a motivator and confidence builder qualities.[7]

The broad objective of the study was to determine challenges students face in conducting research project during their training. The specific objectives were to explore the students and lecturers' behaviour towards research project, to find out student's perception on conducting research project, to establish institutional infrastructure available to support research work, and to assess the quality of the students' research projects.

METHODS

Kenya Medical Training College (KMTC) is a middle level state corporate with the mandate of training multidisciplinary health professional/workers for public health facilities as well as for the market globally. It has trained health workers since 1927 at certificate, diploma and higher diploma levels. The college headquarters is situated in Nairobi County along Ngong road in old Mbagathi road behind Kenyatta National hospital. There are over forty constituent campuses spread country wide in over forty counties with a population of four thousand students (4000) and over one thousand staff.

The study population were KMTC students enrolled in various basic diploma programs. Target population third year students who have been enrolled for basic diploma courses in seven KMTC campuses.

The study was conducted from May 2016 to August 2016. The study design was descriptive cross-sectional survey in seven (7) KMTC campuses chosen randomly in 7 Kenyan regions. Retrospective analysis was carried out to look for quality of completed research projects. Quantitative and qualitative research was carried out among students and staff who were chosen randomly.

The target population was approximately 4000 students in all campuses but the exact number of those in their 3rd year of study was not known. Therefore, a total of 384 students formed the sample population which was determined using the Fischer's formula,

$$n=\frac{Z^2 p\,(1-P)}{d^2},$$

where,

n=minimum sample size of the study subject,

z=standard normal distribution curve /value for the 95% confidence interval (1.96),

p=proportion of population (50%),

d=the margin of error taken (0.05),

the calculation resulted in 384.

Kenya is divided into 8 regions namely Nairobi region, central, rift valley, western, Nyanza, coast, eastern and north eastern region. North eastern was excluded because it has one campus that mainly offer certificate program. The seven campuses were chosen through simple random sampling where all names of campuses in every region was written down in a piece of paper, put in a container and one paper was picked randomly by the researcher. The name of the campus picked in every region was written down and qualified to be among the seven campuses targeted. Third year students in every department who were found in each campus were included in the study. Systematic random sampling was employed to choose the nth student in every class to a total of eleven (11) students in every department in a campus.

Structured questionnaires with open ended and closed questions were used to collect data from the respondents. Structured interview schedule was used to get information from key informants (KII) who were student representatives and also from focused group discussion (FGD) from students and lecturers

The pre-testing of the questionnaire was done in Mathare KMTC campus by the researcher. This was done to ensure that the questions are well understood. Any question with errors and any ambiguous question noted were corrected immediately.

Data was analyzed by using SPSS version 14 and presented in graphs, pie charts and frequency tables.

RESULTS

During the current survey data were collected from 346 students and 51 teaching faculty (including 34 supervisors and 17 key informants) from seven KMTC campuses across the country. This section presents characteristics of the participants and their responses on level of preparation in research based on teaching conducted within KMTC in three sections: (1) students' responses (2) supervisors' responses (3) key informants.

Students' characteristics and responses

There were 158 (46%) female students recruited in the survey and 186 (54%) male students yielding a female-to-male ratio of approximately 9:10 (Figure 1).

Course of study

Most students came from the nursing department and they comprised 99 out of the 346 (31.8%) students who participated in the survey. Conversely, the orthopedic department had the least number of students contributing only one student. There were a similar number of 66 students in the clinical medicine (21.2%) and medical lab science (21.2%) departments (Figure 2).

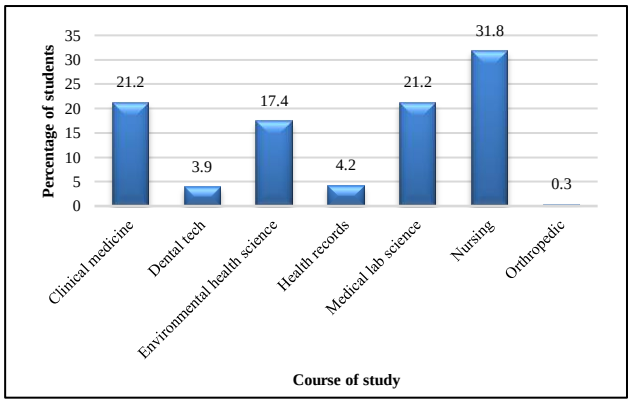

Figure 1: Course of study of KMTC students participating in survey on research training.

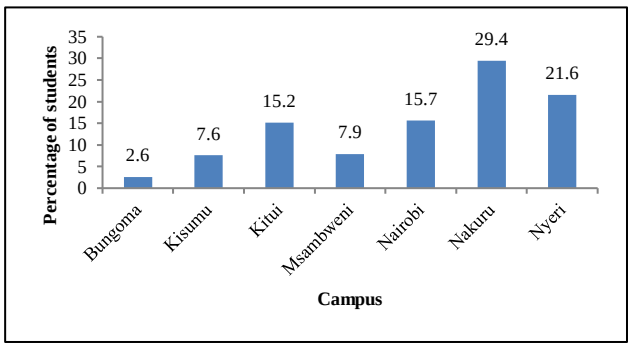

Figure 2: Proportion of students recruited according to participating KMTC campuses.

KMTC campuses

Nakuru campus had the highest number of student participants in the survey with 101 students (29.4%), while Bungoma campus recorded the least number of students 9 (2.6%).

Nyeri campus was the second leading campus having 74 (21.6%) students. Nairobi campus and Kitui campus had almost similar number of students who participated in the survey with 54 (15.7%) and 52 (15.2%) students respectively (Figure 3).

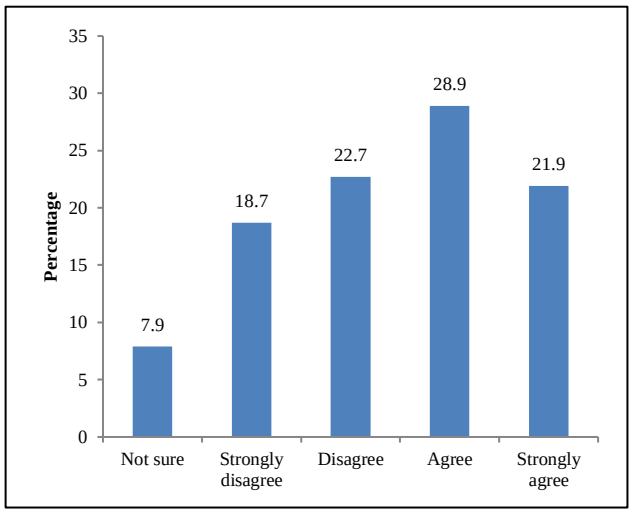

Figure 3: Levels of computer literacy among KMTC students.

Students' view on lectures performance

Most students disagreed (39%) or strongly disagreed (25.2%) that lecturers were not confident in research process and methodology. The students also commonly disagreed (45.3%) or strongly disagreed (24.7%) that supervisors lack knowledge of research methodology. There were however, concerns among students evidenced by agreement (29.8%) or strong agreement (27.4%) that harmonized research guidelines lacked and that few lecturers were competent in these guidelines and supervision (agree 36.7% and strongly agree 26.5%) (Table 1).

Table 1: Students' view on lectures performance in teaching research.

	Not sure	Strongly disagree	Disagree	Agree	Strongly agree
Lack of harmonized research guidelines	13 (3.9)	36 (10.8)	93 (28.0)	99 (29.8)	91 (27.4)
Supervisor lacks basic knowledge of research methodology	25 (7.3)	85 (24.7)	156 (45.3)	53 (15.4)	25 (7.3)
Few lecturers are competent in research guidelines and supervision	17 (5.0)	37 (10.8)	72 (21.0)	126 (36.7)	91 (26.5)
Lecturers not confident in research process and methodology	31 (9.1)	86 (25.2)	133 (39.0)	59 (17.3)	32 (9.4)

Table 2: Student-related challenges in conducting research.

	Not sure	Strongly disagree	Disagree	Agree	Strongly agree
Lack of confidence by students to take up research project	26 (7.5)	42 (12.2)	51 (14.8)	113 (32.8)	113 (32.8)
Financial constraints	11 (3.2)	13 (3.8)	18 (5.3)	68 (20.0)	230 (67.6)
Inadequate time to conduct research	9 (2.7)	23 (6.8)	45 (13.4)	99 (29.4)	161 (47.8)
Lack of permission to collect data	18 (5.3)	93 (27.2)	116 (33.9)	60 (17.5)	54 (15.8)
Difficulty in using email/internet	16 (4.8)	43 (12.9)	76 (22.8)	94 (28.2)	104 (31.2)
No time is allocated for data collection	18 (5.4)	96 (29.0)	98 (29.6)	46 (13.9)	73 (22.1)

Student-related challenges in conducting research

The leading student-related challenges to conducting research within KMTC were financial and time constraints. Approximately two-thirds (67.6%) of students strongly agreed that financial constraints were a hindrance to conducting research while 161 (47.8%) and 99 (29.4%) respectively, strongly agreed and agreed that the time to conduct research was inadequate. Students also reported that they lacked confidence to take up research projects (agreed 32.8% and strongly agree 32.8%). There were reports of strong agreement (31.2%) and agreement (28.2%) that students encountered difficulty in using email/internet. Permission and time to collect data were not major challenges as most students disagreed or strongly disagreed that they lacked permission to collect data or had not time allocation for data collection (Table 2).

Student reported challenges with research supervision

Students reported that there were difficulties in holding timely meetings with supervisors with 42.6% strongly agreeing and 29.9% agreeing that they had experienced such difficulties. Most students also strongly agreed 41.3% or agreed 30.2% that there was a shortage of supervisors and that delays occurred during marking (strongly agree 29.4% and agree 21.8%). Physical appearance to see the supervisor, movements to seeing the supervisor and also supervisors avoiding students were not major challenges (Table 3).

Table 3: Student reported challenges with research supervision in KMTC.

	Not sure	Strongly disagree	Disagree	Agree	Strongly agree
Delay in marking	42 (12.4)	47 (13.8)	76 (22.4)	74 (21.8)	100 (29.4)
Shortage of supervisors	8 (2.4)	32 (9.6)	55 (16.5)	101 (30.2)	138 (41.3)
Difficulty in meeting the supervisor at appointed time	11 (3.2)	24 (7.0)	60 (17.4)	103 (29.9)	147 (42.6)
Physical appearance to see supervisor	29 (8.6)	63 (18.8)	76 (22.6)	84 (25.0)	84 (25.0)
Costly movement to see supervisor	27 (7.9)	87 (25.6)	126 (37.1)	45 (13.2)	55 (16.2)
Supervisors avoiding students	33 (9.7)	92 (27.1)	103 (30.4)	47 (13.9)	64 (18.9)

Table 4: Reported resource constraints encountered during research projects in KMTC.

	Not sure	Strongly disagree	Disagree	Agree	Strongly agree
Journals	10 (2.9)	25 (7.4)	63 (18.5)	104 (30.6)	138 (40.6)
Internet connectivity	9 (2.6)	34 (9.9)	73 (21.3)	83 (24.2)	144 (42.0)
Computer lab	11 (3.2)	41 (12.0)	96 (28.1)	60 (17.5)	134 (39.2)
Laptops	3 (0.9)	18 (5.2)	34 (9.9)	79 (23.0)	209 (60.9)
Electricity	12 (3.5)	80 (23.5)	124 (36.5)	55 (16.2)	69 (20.3)

Table 5: Student self-reported difficulty in understanding and applying research process.

	Not sure	Strongly disagree	Disagree	Agree	Strongly agree	Agree or strongly agree
Identification of gaps	11 (3.3)	25 (7.4)	57 (16.9)	144 (42.7)	100 (29.7)	72.4
Selection of the topic	3 (0.9)	34 (10.0)	71 (20.9)	131 (38.5)	101 (29.7)	68.2
Formulation of objectives	5 (1.5)	30 (8.9)	89 (26.3)	121 (35.8)	93 (27.5)	63.3

Continued.

	Not sure	Strongly disagree	Disagree	Agree	Strongly agree	Agree or strongly agree
Problem statement	1 (0.3)	37 (10.9)	97 (28.5)	128 (37.6)	77 (22.6)	60.2
Justification	6 (1.8)	45 (13.4)	100 (29.7)	121 (35.9)	65 (19.3)	55.2
Literature review	11 (3.2)	26 (7.6)	81 (23.8)	136 (40.0)	86 (25.3)	65.3
Research design	10 (3.0)	41 (12.2)	92 (27.4)	113 (33.6)	80 (23.8)	57.4
Sampling techniques	6 (1.8)	46 (13.5)	92 (26.9)	115 (33.6)	83 (24.3)	57.9
Sample size determination	6 (1.8)	39 (11.9)	84 (25.5)	120 (36.5)	80 (24.3)	60.8
Data analysis techniques and presentation	11 (3.2)	44 (13.0)	88 (26.0)	124 (36.6)	72 (21.2)	57.8
Discussion	10 (3.0)	48 (14.3)	112 (33.3)	111 (33.0)	55 (16.4)	49.4
Recommendations	4 (1.2)	56 (16.6)	127 (37.6)	90 (26.6)	61 (18.0)	44.6
Writing an abstract	13 (3.9)	45 (13.4)	88 (26.2)	113 (33.6)	77 (22.9)	56.5

Table 6: Assessment of application of research methodology in KMTC research projects.

	Strongly disagree	Disagree	Agree	Strongly Agree
Appropriate research design	0 (0.0)	6 (19.4)	21 (67.7)	4 (12.9)
Sample size determination	1 (3.2)	5 (16.1)	23 (74.2)	2 (6.5)
Sample Technique	1 (3.3)	6 (20.0)	21 (70.0)	2 (6.7)
Sample size is representative of the population	3 (9.7)	8 (25.8)	19 (61.3)	1 (3.2)
Data collection tool is based on specific objectives	1 (3.1)	1 (3.1)	26 (81.3)	4 (12.5)
Data analysis methods are appropriate	1 (3.2)	6 (19.4)	19 (61.3)	5 (16.1)
Data is well analyzed	0 (0.0)	6 (19.4)	23 (74.2)	2 (6.5)
Data is well presented	0 (0.0)	5 (16.1)	24 (77.4)	2 (6.5)
Discussions is well referenced and cited	0 (0.0)	7 (22.6)	23 (74.2)	1 (3.2)
Discussion is based on specific Objectives	3 (8.8)	4 (11.8)	24 (70.6)	3 (8.8)
Recommendation are appropriate and realistic	2 (6.1)	9 (27.3)	20 (60.6)	2 (6.1)
conclusion is based on findings	3 (9.1)	5 (15.2)	23 (69.7)	2 (6.1)
Reference and bibliography are well stated	1 (3.2)	11 (35.5)	17 (54.8)	2 (6.5)

Resource constraints

From the survey, availability of laptops to the students was a major challenge as 209 (60.9%) students strongly agreed with the statement that access to laptops affected them while conducting the research. Most students also strongly agreed or agreed that access to journals and internet connectivity were major challenges in conducting research. Electricity was not a major challenge faced by the students as 124 (36.5%) students disagreed and 80 (23.5%) strongly disagreed with the statement (Table 4).

Reported level of supervisory assistance

The students did not have a challenge while getting assistance from the supervisor as they gave right guidelines, the problem arose when the supervisors took time in giving feedback to the students as 111 (32.7%) students strongly agreed that the supervisors will take long before giving them feedback on how to continue with the research process (Table 5).

Library access and utilization

Most students disagreed (40.6%) or strongly disagreed (19.1%) that the library environment was not enabling (Table 6). The students commonly agreed (33.3%) or strongly agreed (27.9%) that they had access to appropriate literature within the KMTC library (Table 6)

Difficulty in understanding and applying research process

Student self-reported difficulty in understanding and applying research process. Out of the fourteen areas of the research process that were explored, at least one-half of all participants agreed or strongly agreed that they had difficulties in twelve of these areas. Identification of the gaps or the problem that research is supposed to unearth was the leading challenge among students with 72.4% either agreeing or strongly agreeing that they had difficulties in this area (42.7% and 29.7%, respectively). The other leading areas in which at least 60% students reported encountering difficulties (implied by agreement or strongly agreement) were: topic selection (68.2%), literature review (65.3%), objective formulation (63.3%), sample size determination (60.8%) and problem statement (60.2%).

Computer literacy

Few students had challenges in computer literacy while most students were familiar with computing skills. Most

students agreed (28.9%) or strongly agreed (21.9%) that they their level of computer competence were adequate to enable them carry out research (Figure 4).

Delays in introduction to research components

Most students who were interviewed reported perceived delays in introduction to research during their training. Approximately one-third (32.9%) and 23.3% of students strongly agreed and agreed that introduction to research components was conducted late. Most students 95% stated that time for conducting research was inadequate and expensive. They suggested that research should be introduced early, resource center should be availed with subsided cost of printing. 98% suggested that research supervisors should be added to have few students to supervise. Some 50% students suggested research supervisors should be 2 for every student while they should be friendly to them.

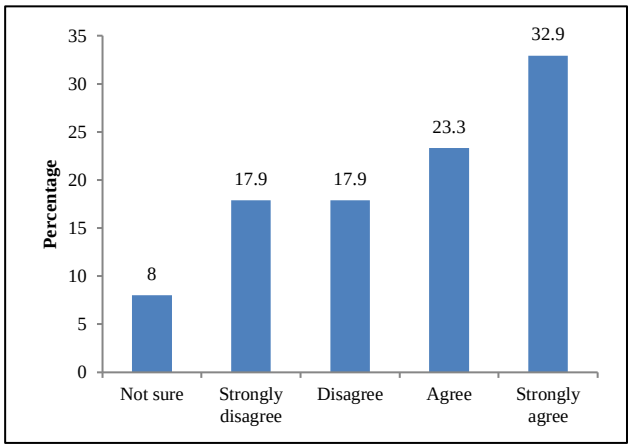

Figure 4: Perceived delays in introduction to research components among KMTC students.

Supervisors' responses

Thirty-four supervisors from five KMTC campuses participated in the section of the survey involving research supervisors. Thirty-eight percent of the supervisors were from Nyeri MTC, followed by Nakuru MTC (35.3%), Kitui MTC (11.8%), Kisumu (11.8%) and Msambweini MTC (2.9%).

Departmental affiliation of research supervisors in KMTC

From the survey, it was established that the nursing department had the greatest number of research supervisors, a number of 10 (30.3%), followed by medical laboratory science 7 (21.2%), pharmacy 5 (15.2%), environmental health and clinical medicine each with 4 (12.1%) research supervisors, nutrition 2 (6.1%) and the least number of research supervisors from the physiotherapy department as it only had 1 (3%) supervisor.

Gender distribution of research supervisors in KMTC participating in survey

From the survey that was carried among the research supervisors in KMTC, male supervisors were slightly more than the female supervisors as male were 59% of the total while the females were 41% of the total.

Age of supervisors in KMTC campuses participating in survey

It was found that most research supervisors were aged 46-55 years (44.1%). Age group 56-65 has the least number of research supervisors, 3 (8.8%). From the survey it was also noted 7 (20.6%) research supervisors were below the age 35 and 9 (26.5%) research supervisors were in the age group 35-45 years.

Highest level of education among research supervisors in KMTC recruited in survey

The survey revealed that most of the research supervisors in KMTC have their highest level of education as undergraduate (44.1%). Research supervisors with master degree were 20.6% while those with higher diploma and diploma were 26.5% and 5.9% respectively. The rest of the research supervisors that had other qualifications were 2.9% of the total.

Number of years supervised research projects for students

It was found that majority of supervisors had an experience of 1-2 years supervising research projects for their students (36.4%), followed closely by supervisors with more than 10 years' supervision experience (27.3%).

Quality of research

The supervisors indicated that the research topics were relevant to the program, researchable, specific and that the preliminaries were done well with researchers either agreeing or strongly agreeing with each criterion. Agreement with these items was high with scores of 60% and above which illustrate that the research topics were well established in the view of the research supervisors.

Supervisors' assessment of SMART research objectives

From the results of the survey carried among the research supervisors on the objectives of the research, most supervisors agreed that the objectives were specific (70%), measurable, (64.5), achievable (64.5%), realistic (80%) and time bound (67.9%). There were responses indicating disagreement with the criteria for assessing objectives in terms of whether they were achievable and measurable, 22.6% and 25% respectively. There were no supervisors reporting strong disagreement with the specificity, measurability, achievability, and how realistic and time bound the research objectives.

Clarity of problem statement in research projects in KMTC

It was evident from the survey that the problem statement was clearly stated as 75% of the research supervisors agreed on that and only 25% disagreed.

Literature review

According to the survey undertaken by the research supervisors on the literature review, it was found that it was relevant to the program, based on objectives, and that current references and citation were used. This is so because the research supervisors agreed on the same with percentages of 75%, 87.1% and 70% respectively.

Research methodology

For all items considered under research methodology, most supervisors agreed or strongly agreed that these aspects of research methodology were adequately covered within research projects. The areas that had highest ratings were: alignment of data collection tools with specific objectives, appropriate research design, sample size calculation, data presentation and analysis. Conversely, the following areas had relatively lower ratings: referencing and bibliography, appropriate and realistic recommendations, and population representativeness of study sample size.

DISCUSSION

Most students indicated that time management and finances was a constraint which concurs with most study findings.[8] Students said that they find it hard to choose between school work and research especially around tests. The researchers stated that there is a lot of literature review with technical words hard to understand. This concurs with KMTC students who said research is not easy. Most students 60% said selecting a research topic and identifying gaps for research is difficult while another researcher said more problems are encountered during data collection.[8,9] Notably, there is lack of peer review journal in most Universities and lack of an enabling environment.[10] This concurs with KMTC who said the college does not support them with resources to conduct research. From the study results, most of the student dis not really know how research contributed to healthcare. This is line with what other researchers have identified. For instance, most of the medical students are not aware of why research is crucial to health care. Lack of student conferences and research workshops on how to write and organize research papers is among the reasons for such negative attitudes.[11] However, even if research experience as a student does not lead to a career in academic medicine, the experience can help improve a student's skills in searching and critically appraising the medical literature and independent learning. Such exposure to research as a student can also help identify future careers and also establish important contacts.[12]

The leading student-related challenges to conducting research within KMTC were financial and time constraints. Most students, 95%, stated that the time for conducting research was inadequate and expensive. This is similar to the findings of a study done by Zimbabwe Open University that found that some of the significant challenges students faced were money, time, and family problems. The researchers concluded that these challenges have a substantial impact on the quality of the research projects.[13] In another study done among Nigerian postgraduate students in Nigeria, one of the critical challenges identified was lack of funding (61%) and poor access to research materials in the library at 56% which is also similar to the finding of our study. 14 Most students disagreed (40.6%) or strongly disagreed (19.1%) that the library environment was not enabling. Similarly, a study on undergraduate students at Zimbabwe Open University found that additional problems include internet facilities, research-related courses, and library resources. Notably, these challenges greatly impacted the extent of student involvement in the research projects.[13] Some other challenges identified in a study conducted in Ghana include scarcity of time, family commitments, low commitment, and inadequate finances.[15]

The survey showed that the availability of laptops to the students was a significant challenge, as 209 (60.9%) students strongly agreed with the statement that access to laptops affected them while conducting the research. These findings align with a study's aims to identify the digital gap among youths in Kenya. The study found that most youths need access to laptops, and most national, regional, and county libraries need more computers. In cases where there are computers, there is not enough internet coverage. This gave the youth average skills and competencies in using computers, which can affect the quality of their research.[16] From the survey, results show that few students had challenges in computer literacy while most students were familiar with computing skills.

Identifying the gaps or the problems that research is supposed to unearth was the leading challenge among students, with 72.4% agreeing or strongly agreeing that they had difficulties in this area. The leading other regions in which at least 60% of students reported encountering difficulties (implied by agreement or strong agreement) were topic selection (68.2%), literature review (65.3%), objective formulation (63.3%), sample size determination (60.8%) and problem statement (60.2%). A study done to identify the role of students in healthcare research found that students demonstrated good knowledge of research, but their attitude toward the field was lacking. The curriculum needs to place more emphasis on these aspects to enhance student interest in health research.[17] Additionally, a study conducted among undergraduate distance learning students in Ghana found that the most notable challenge was the lack of motivation to conduct research and knowledge of the research area and the major challenges were related to topic selection and conducting literature review.[15]

Most students who were interviewed reported perceived delays in introduction to research during their training. Approximately one-third (32.9%) and 23.3% of students strongly agreed that introducing research components was conducted late. It was evident from the survey that the problem statement was clearly stated, as 75% of the research supervisors agreed with that, and only 25% disagreed. Similarly, a study done among postgraduate students to determine enablers and barriers to research showed that scientific writing, time, and training on other research components are essential in improving the efficiency of students in understanding research. Time constraints between the supervisors and students played a significant role in students the research process.[18]

According to the survey undertaken by the research supervisors on the literature review, it was found to be relevant to the program, based on objectives, and current references and citations were used. However, this differs from a study on postgraduate students, which found that most doctoral students had problems synthesizing, critiquing, or explaining literature. Additionally, the researchers found that most of the students only knew how to summarize and interpret the findings of other researchers.[19]

For all items considered under research methodology, most supervisors agreed or strongly agreed that these aspects of research methodology were not understood and adequately covered, as well as referencing and bibliography, appropriate and realistic recommendations, and population representativeness of study sample size. A study done in Uganda determined that the areas students picked to be challenged are the research process and manuscript writing. This was mainly contributed to by a lack of understanding of research and its importance.[20] Furthermore, a study done among undergraduate medical students stated that it is noteworthy that some of our students still hold a traditional view of research, seeing it as disconnected from the patient population and people. It is concerning that students do not fully grasp the concepts or processes involved in medical translational research. Additionally, students who were optimistic about a career involving research believed it would allow them to make advances and improvements in the medical field. Other groups of students felt that research is essential for career progression and satisfaction and is a fundamental aspect of being a medical practitioner.[21]

Most students disagreed (39%) or strongly disagreed (25.2%) that lecturers were not confident in the research process and methodology. The students also said that the supervisors or lecturers had a significant impact on the quality of the research with students reporting that supervisor took long to respond or give feedback. A study conducted to determine the postgraduate research students and their supervisors' attitudes toward supervision found that students and supervisors agree on the attributes of adequate supervision. Both groups consider that a supervisor should take an interest in the student's research, provide timely and constructive feedback, and assist the student in managing time effectively. Additionally, they believe that a supervisor should help students identify and address limitations and learning needs. Students think supervisors should encourage independent work and provide opportunities for students to present their work.[22] From our results, the supervisors indicated that the research topics were relevant to the program, researchable, and specific. The preliminaries were done well, with researchers either agreeing or strongly agreeing with each criterion. Additionally, in the results of the survey carried out among the research supervisors on the objectives of the research, most supervisors agreed that the goals were specific (70%), measurable (64.5), achievable (64.5%), realistic (80%) and time-bound (67.9%).

One of the major study limitations was travelling from one campus to another that took a lot of time. Additionally, there was difficulty in obtaining accurate and honest responses from students and lecturers due to fear of judgment or repercussions.

CONCLUSION

The most agreed problem by most KMTC students was lack of time to conduct research, financial constraints and lack of enabling environment.

Recommendations

Teaching and supervision capacity- there is need for additional supervisors to provide adequate guidance, and additional lecturers to cover the relevant areas of training. Research funding- existing capacity for research funding was very limited and this impacted on ability to conduct quality research. The office of the director to consider sourcing for external research funding or seeking internal mechanisms of research funding including reallocation of funds and prioritization of research. Scheduling- there was a general feeling that introduction to research should be introduced earlier on during the training and that more time should be allocated both to classroom teaching of research and fieldwork. Resources- the KMTC libraries should be equipped with up-to-date research material and identified subscription to online journals, to facilitate access to online materials. Internet accessibility and computing capacity within the campuses should be expanded.

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