



Tracer study to assess the employability of graduates and quality of a nursing program: A descriptive cross-sectional survey

Veronica M. Dzomeku^a, Abigail Kusi Amponsah^{a,b}, Edward A. Boateng^a, John Antwi^c, Philemon Adoliwine Amooba^a, Puoza Deo Gracious^{a,d}, Jerry Armah^{a,*}, Victoria Bam^a

^a Department of Nursing, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

^b Department of Nursing Science, University of Turku, Turku, Finland

^c Internal Medicine Directorate, Komfo Anokye Teaching Hospital, Kumasi, Ghana

^d Holy Family Nursing & Midwifery Training College, Kenten, Techiman, Ghana

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ABSTRACT

Background: Contribution of nursing is crucial for Universal Health Coverage and achieving Sustainable Development Goal 3. Tracer studies help evaluate accountability and demonstrate the impact of nursing educational institutions in a highly competitive job market. The study aimed at assessing the employability of nursing graduates, and perceived quality of the nursing program they pursued in a public tertiary institution in Ghana. **Method:** The study employed a descriptive cross-sectional survey. One hundred and ten (110) nursing graduates responded to a web-based survey. The data were gathered using a customized questionnaire based on the Tarlac State University Graduates Tracer Questionnaire. Data were collected via google forms, and analyzed using descriptive and inferential statistics.

Results: Majority of the participants were females ($n = 64, 58.2\%$). Most of the participants had completed a Bachelor's degree at the tertiary institution ($n = 101, 91.8\%$). A significant proportion of the participants were gainfully employed during the study period ($n = 102, 92.7\%$) with majority of them working in the public sector ($n = 81, 79.4\%$). The quality of the diploma or degree program obtained was rated good in most of the areas by over 50% of the participants. There was no statistically significant association between the highest educational qualification of participants and their perceptions on the quality of the nursing program.

Conclusion: There is the need to conduct this kind of tracer study on a regular basis to keep track of graduate's progress and obtain feedback on the quality of programs being offered so as to meet the ever-changing needs of society.

1. Introduction

Education is a critical tool for empowerment in terms of socioeconomic, political, and technical growth (Van, 2020). On a yearly basis, higher educational institutions produce fresh graduates who are ready for the job market (Almejas, Marasigan, Morante, Lim, & Catuday, 2017). As a measure of accountability and demonstration of impact, these educational institutions must show forth their graduates' employability profile, as well as the impact these institutions have in the graduates' personal and professional development (Dewi et al., 2021; Hazaymeh & Dela Peña, 2017). Professional development is defined as the process by which an individual gains or improves the skills, information, and/or attitudes necessary for better practice (Mitchell, 2013).

According to Ramirez, Cruz, and Alcantara (2014), a nation's economy runs on the knowledge and skills of its people. This indicates that personal and professional development of the workforce in the country is critical to nation building. Undeniably, employability can be best measured by a program's alumni as they are considered the finest proof of the program's performance (Aquino et al., 2015).

Nurses and midwives can use personal development to investigate and clarify their own values, allowing them to be more real with their clients (O'Leary & Sheedy, 2021). Being a professional entails lifelong learning and professional development. A freshly qualified nurse or midwife is certified for professional practice after completing higher education. Knowledge gained in higher education is frequently contextualized and recontextualized in the health sector (Billett, Harteis, &

* Corresponding author.

E-mail address: armahjerry2@gmail.com (J. Armah).

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Gruber, 2014). It can then be said that higher education contributes significantly to the personal and professional development of graduates. In the twenty-first century, aside from technical knowledge, well developed personal and professional skills, are very important traits to have in order to compete for and keep a job in the global industrial market (Ismail & Mohammed, 2015). Nurses and midwives form the largest category of the healthcare workforce worldwide, rendering about 80 % of the health service in our healthcare settings (Maaitah & AbuAlRub, 2017; Schweitzer, Zoboli, & Vieira, 2016; World Health Organization, 2022). Thus, the contribution of nursing and midwifery is critical in achieving Universal Health Coverage (UHC) and the Sustainable Development Goal 3 of promoting good health and well-being (Asamani, Amertil, & Chebere, 2015; Hone, Macinko, & Millett, 2018; Schweitzer et al., 2016). However, the growing challenge of unemployment among health professionals in Sub-Saharan Africa is becoming a cause for concern. Studies conducted over different periods by Nair and Webster (2012), Baldry (2016) and Hlayisi (2022) have reported the escalating nature of this issue. The broad reaching nature of this issue is evident in the recent graduate unemployability in Ghana (Jumpah, Ampadu-Ameyaw, & Owusu-Arthur, 2020) with nurses and midwives being no exception. This is due to the mass production of various cadres of nurses and midwives by government and private educational institutions, which exceeds employers' budgetary demands for recruitment (Asamani et al., 2015).

The benefits of a tracer study cannot be overemphasized. Apart from providing feedback on the usefulness of the curricula and training to their current jobs (Verona, 2011), a tracer study is critical for nation-building as it determines graduates' contribution to the workforce of the country. In the context of quality assurance, information from a tracer study could be used to help the institution grow, through assessment of curricula relevance and provision of empirical evidence that can be used to influence activities to improve the quality of these educational institutions' programs (Sanchez & Diamante, 2017).

The Department of Nursing at the Kwame Nkrumah University of Science and Technology (KNUST) admitted the first batch of nursing students in the year 2003. The department started with Diploma in Emergency Nursing program and later introduced the Bachelor of Science (BSc.) Emergency Nursing Program in 2010 and BSc Midwifery Program in 2012. The Master of Science (MSc) in Clinical Nursing and Master of Philosophy (MPhil) in Nursing programs were also started in 2017 to contribute towards the advanced training of nurses and midwives in Ghana. In lieu of the benefits of a tracer study amid the fact that the department has not embarked on such an activity since its establishment, the current tracer study was considered necessary. The study therefore aimed at assessing the employability of graduates of the Department of Nursing, KNUST, and the quality of nursing program from the perspective of the graduates. This is to serve as a foundation for curricular development, enhancement of the "on-the-job training" program, and to raise the institution's educational standards.

2. Materials and methods

2.1. Study design

A descriptive cross-sectional survey design was used to establish the study's framework. This design was geared towards capturing a snapshot of the current employability status of the graduates and their perceptions on the quality of the nursing program. It provided the methodological structure for the study including data collection with questionnaires, sampling, data analysis with statistical methods, reporting and discussion of findings. This design was deemed appropriate as the researchers sought to assess graduates' employability and their perceived quality of the nursing program at a single point in time (Setia, 2016).

2.2. Setting and population

The study was conducted in a virtual environment, utilizing a web-based survey method for data collection. This approach leveraged digital platforms such as social media for the dissemination and completion of the survey. The researchers contacted graduates of the Department of Nursing, KNUST working in Ghana or outside the country. The population involved in the study comprised graduates of the Department of Nursing, KNUST who had graduated between 2007 and 2018; a total number of 1052 graduates were trained during this period.

2.3. Data collection approach

The survey questionnaire was created on google form and the link was sent through email and social media platforms (such as WhatsApp, Facebook) to all graduates who met the inclusion criteria. Thus, participants were sampled through convenience and snowball sampling as they were encouraged to share it among their networks who qualified for inclusion in the study. Bi-weekly reminders were sent on the platforms to encourage graduates to complete the web-based survey. Although personal information was required such as one's email address, participants' responses were kept confidential. The personal information ensured that no participant responded more than once. Data collection commenced in October 2020 and ended in April 2021.

2.4. Instrumentation

The data was obtained with google forms using a modified questionnaire which was adopted from the Graduates of Tarlac State University (GTSU) tracer questionnaire (Madriaga, Toledano, & Sicangco, xxxx). The researchers reviewed and amended the content of the GTSU tracer questionnaires to suit their research objectives. Afterwards, the instrument's face and content validities were ascertained by seven alumni who did not participate in the main survey. These alumni had characteristics similar to that of the study participants. They were of both genders, completed within the year range as stated in the inclusion criteria, some were working, and some were unemployed as well.

Using thirty (30) participants in a pretest, the Cronbach's alpha reliability coefficient for 14 items under the "quality of the program" section was 0.82, indicating a good internal reliability of the instrument. The customized GTSU tracer questionnaire was divided into four (4) sections namely: A, B, C and D.4: Section A focused on personal information such as age, marital status, and gender.; Section B centered on participants' employment status during study period, and after graduation; Section C focused on participants' current employment information such as employer's details if any, monthly income range and reasons for any case of unemployment; Section D focused on graduates' rating of the quality of the nursing programs on areas such as encouragement of critical thinking, problem solving, extracurricular activities among others. Sections A to C required participants to provide brief responses to open-ended questions or selection one of options from the multiple-choice questions. Section D required participants to rate their perceived quality of the nursing program using a three-point Likert scale options ranging from "good", "neither good nor bad" to "bad". In the context of our study, "good" referred to situations/conditions where the participants perceived the program to have met the standards that adequately prepared them for their nursing career. "Bad", on the other hand, referred to the reverse of the definition for "good" quality, i.e., below standard for quality education. "Neither good nor bad" referred to a neutral position between "good" and "bad".

2.5. Data analysis

Following the closure of the web-based survey, participants' responses on a Google spreadsheet were downloaded in a Microsoft Excel format, cleaned, and exported into SPSS version 25 software for

descriptive statistical analysis. The collected data were thus presented using frequencies, percentages, means, medians, standard deviations, and ranges (minimum – maximum). A chi-square test of independence was conducted between participants' highest level of educational qualification and their perception on the quality of nursing program. This test of association was conducted to ascertain how educational levels may have influenced participants' decisions in rating the quality of the nursing/midwifery programs.

2.6. Ethical consideration

Ethical approval with reference number CHRPE/AP/184/20 was obtained from the Committee on Human Research, Publications and Ethics (CHRPE), School of Medical Sciences, KNUST-Kumasi, Ghana before commencing data collection. All identifying data collected from participants were anonymized and information collected was kept confidential. A brief detail of the study was presented to participants at the beginning of the questionnaire, and they were allowed to opt out of the study at any point if they wished to do so. All participants involved in the study did so voluntarily without any form of coercion. An electronic consent was obtained from participants through acceptance, completion, and submission of the web-based survey questionnaire.

3. Results

3.1. Demographic characteristics of participants

The mean (SD) age of participants was 31 (5) years and their ages ranged from 22 to 43 years. As indicated in Table 1, three-fifths of the participants were aged 22–32 years. Majority of the participants were females (n = 64, 58.2%), a little above half were married (n = 60, 54.5%) and about 84% were living within Ghana during the period of the study (n = 92, 83.8%).

3.2. Highest educational Qualifications obtained from department.

The highest academic qualification for a significant proportion of the participating alumni was a Bachelor of Science degree whilst a few of them had acquired a Master of Science in Clinical Nursing at the department (refer to Table 2).

3.3. Employment profile

As indicated in Table 3, a little over a quarter of the participants were already working whilst schooling at the institution (n = 29, 27.3%). For those who were not employed whilst schooling (n = 81, 72.7%), it took up to a year for half of them to get a job (n = 41, 50.6%). Over 40% of the participants provided no reason for the time gap in getting a job (n = 37, 45.7%) whilst almost 30% of them attributed this to their mandatory national service (rotation) (n = 24, 29.6%).

Table 1
Distribution of Demographic Characteristics of Participants (n = 110).

Variable	Frequency (%)
<i>Age (years)</i>	
22–32	68 (61.8)
33–43	42 (38.2)
<i>Gender</i>	
Female	64 (58.2)
Male	46 (41.8)
<i>Marital status</i>	
Married	60(54.5)
Unmarried	50(45.4)
<i>Present address</i>	
Within Ghana	92 (83.8)
Outside Ghana	18 (16.2)

Table 2

Highest Educational Qualifications obtained from KNUST (n = 110).

Educational Qualification	Frequency (%)
Bachelor of Science	101 (91.8)
Master of Philosophy in Nursing	5 (4.6)
Diploma	2 (1.8)
Master of Science in Clinical Nursing	2 (1.8)

The majority of the participants were employed (n = 102, 92.7%), with a little above 85% having a permanent status job (n = 89, 87.3%). Majority had worked between 1 and 5 years (n = 59, 57.8%). Almost 45% earned a monthly wage between 2000 and 2999 Ghana cedis, equivalent to \$345 –\$517 during the time of study (n = 45, 44.1%), followed by 17.7% (n = 18) who did not want to disclose their monthly income range.

Most of the participants worked in the public sector (n = 81, 79.4%) and almost 90% indicated that they were in jobs that were related to the certificate(s) obtained from the department (n = 90, 88.2%). A little above 95% (n = 98) found the knowledge they obtained from KNUST useful (has practical value) to their jobs with almost 73% satisfied with their jobs (n = 74, 72.5%). About 60% responded that they intend to stay in the same profession (n = 60, 58.8%), whilst a little above one-fifth intended not to stay in the same profession (n = 23, 22.5%). For those that were unemployed, half of them attributed it to lack of employment vacancies (n = 4, 50.0%).

3.4. Participants' perception on the quality of the nursing program

The quality of the diploma or degree program obtained was rated good in most of the areas by more than 50% of the participants. A little above 90% (n = 101, 91.8%) rated the courses offered and lecturer's knowledge of the subject area as good. Almost 90% responded that quality of instructions, as well as the teaching and learning environment was good. Moderately high number of respondents (n = 53, 48.2%) reported problems with premium given to research and majority rated areas such as exposure to international community (n = 56, 50.9%) and extracurricular activities (n = 59, 53.7%) as not good (refer to Table 4).

3.5. Association between highest educational qualification and participants' perception on the quality of the nursing program

A chi-square test conducted revealed that there was no statistically significant association between the highest educational qualification of participants and their perceptions on the quality of the nursing/midwifery program (refer to Table 5).

4. Discussion

Tracer studies are very significant for institutions in measuring the impact they have on their graduates in the outside world. For higher education institutions (HEIs), graduate employability is one of the critical indicators of success (Albina & Sumagaysay, 2020; Du, 2019; Gonzales, 2019; Malahay & Saing, 2018). HEIs can therefore measure the success of their programs by appraising the employability and experiences of their graduates from the field of work (Chandra, Ruhama, & Sarjono, 2013). In lieu of this, the current study sought to assess the employability of nursing graduates, and quality of the nursing program in a public tertiary institution in Ghana.

In the present study, most of the participants were within the age range of 22–32 years (60%). This may suggest that most of the participants were recent graduates. In as much as this range formed the majority, there was a significant proportion (40%) who were within 33–43 years. In Ghana, the average age for a child to enroll in the university is 18 years (Akwei, 2017). However, there may be instances where some may enroll at a younger age or older age. This may account for having

Table 3
Employment Profile of Participants.

Variable	Frequency (%)
Were you working while studying at KNUST? (n = 110)	
Yes	29 (27.3)
No	81 (72.7)
If yes, what work were you engaged in? (n = 29)	
Clinical nursing	27 (93.1)
Nurse Educator	2 (6.9)
If no, how long did it take you to find a job after obtaining your degree from KNUST? (n = 81)	
1 month – 6 months	23 (28.4)
7 months – 1 year	18 (22.2)
2 years – 7 years	25 (30.9)
Do not want to disclose	7 (8.6)
Not yet/still searching	8 (9.9)
Reasons for any time gap in seeking employment after graduating from KNUST (n = 81)	
None	37 (45.7)
National Service/Rotation	24 (29.6)
Delayed Government Posting and PIN	16 (19.8)
Disruption by Covid-19 Pandemic	2 (2.5)
Licensing examination resit	1 (1.2)
Further studies	1 (1.2)
Which of the following best describes your current position with regards to paid work? (n = 110)	
Employed	102 (92.7)
Unemployed	8 (7.3)
Participant job status (n = 102)	
Permanent	89 (87.3)
Contractual	12 (11.8)
Self-employed	1 (0.9)
The number of years and or months in your current job (n = 102)	
1–5 yrs.	59 (57.8)
6–10 yrs.	31 (30.4)
10–17 yrs.	12 (11.8)
Monthly income range (in GH¢ or GH¢ equivalent) (n = 102)	
>7,000	5 (4.9)
6,000 – 6999	4 (3.9)
5000–5999	3 (2.9)
4000–4999	6 (5.9)
3000–3999	11 (10.8)
2000–2999	45 (44.1)
1,000–1,999	5 (4.9)
Below 1,000	5 (4.9)
Don't want to disclose	18 (17.7)
Which sector are you working under? (n = 102)	
Public or government	81 (79.4)
Private	12 (11.8)
Quasi-governmental	9 (8.8)
Is your current job related to the diploma/degree earned from KNUST? (n = 102)	
Yes	90 (88.2)
No	10 (9.8)
Not sure	2 (2.0)
How useful to your job are the knowledge and skills obtained from KNUST? (n = 102)	
Useful	98 (96.1)
Not useful	4 (3.9)
How satisfied are you with your current job? (n = 102)	
Satisfied	74 (72.5)
Dissatisfied	10 (9.8)
Unable to judge	18 (17.7)
Do you intend to stay in the same job/profession? (n = 102)	
Yes	60 (58.8)
No	23 (22.5)
Not sure	19 (18.7)
If “no” or “unsure” what is your immediate plan? (n = 42)	
Further my education	27 (64.3)
Do not want to disclose	11 (26.1)
Get government posting	2 (4.8)
Travel Abroad	2 (4.8)
In the case of unemployed, state the reasons (n = 8)	
Lack of vacancies	4 (50.0)
Don't have license to practice	3 (37.5)
No reason	1 (12.5)

Table 4
Participants' Perception on the Quality of the Nursing Program.

Variable	Frequency (%)		
	Good (G)	Neither good nor Bad (N)	Bad (B)
Quality of program in terms of the following?			
Courses or subjects offered	101 (91.8)	7(6.4)	2(1.8)
Lecturers' knowledge of the subject area	101 (91.8)	7(6.4)	2(1.8)
Quality of instructions	97 (88.2)	10(9.1)	3(2.7)
Teaching and learning environment	96 (87.3)	12(10.9)	2(1.8)
Class size	90 (81.8)	12(10.9)	8(7.3)
Lecturer(s)-student(s) relationship	80 (72.7)	23(20.9)	7(6.4)
Encouragement of critical thinking	79 (71.8)	23(20.9)	8(7.3)
Enhancement of problem-solving skills	78 (70.9)	25(22.7)	7(6.4)
Interdisciplinary learning	76 (69.1)	30(27.3)	4(3.6)
Library resources	70 (63.6)	24(21.8)	16 (14.5)
Laboratory resources	62 (56.4)	32(29.1)	16 (14.5)
Premium given to research	57 (51.8)	40(36.4)	13 (11.8)
Exposure to international community within nursing and/or midwifery	54 (49.1)	33(30.0)	23 (20.9)
Extracurricular activities	51 (46.4)	41(37.3)	18 (16.4)

Table 5
Test of association between highest educational qualification and participants' perception on the quality of the nursing program.

Quality of program in terms of the following	Chi-square value (X ²)	p-value
Courses or subjects offered	2.028	0.917
Lecturers' knowledge of the subject area	2.028	0.917
Quality of instructions	1.390	0.966
Teaching and learning environment	1.098	0.982
Class size	2.690	0.847
Lecturer(s)-student(s) relationship	7.719	0.259
Encouragement of critical thinking	9.983	0.125
Enhancement of problem-solving skills	2.175	0.903
Interdisciplinary learning	4.347	0.630
Library resources	8.141	0.228
Laboratory resources	5.163	0.523
Premium given to research	3.805	0.703
Exposure to international community within nursing and/or midwifery	12.106	0.060
Extracurricular activities	12.378	0.054

participants who formed significant proportions of both age ranges. The study found a high rate of employment among the nursing and midwifery graduates with a majority of them working in the public sector. This is consistent with studies by [Du \(2019\)](#), [Hipona, Cuevas, and Martin \(2021\)](#) and [Sanchez and Diamante \(2017\)](#), who also found a high rate of employability among nursing graduates. This is an indicator that the demand for nursing workforce is high. According to [Asamani et al. \(2015\)](#), nurses are the group of health professionals perceived to have the highest workload at hospitals. A higher workload indicates that a higher workforce is needed. Therefore, the Government of Ghana, through the Ministry of Health, has implemented measures aimed at including graduate nurses in their job placement such as opportunities to apply for governmental postings after completing the mandatory national service ([Bell, Rominski, Bam, Donkor, & Lori, 2013](#)). This could be responsible for the majority of participants residing within Ghana,

and also working in the public sector. These implemented measures have improved the country's nurses and midwives ratio per 1000 population to 2.711 as at 2019 from a little below 1 in 2004 (Trading Economics, 2019).

The study revealed that graduates are more likely to seek employment than being entrepreneurs. Studies by Hipona et al. (2021) and Sanchez and Diamante (2017) also reported very low levels of self-employment among graduates. This trend could be as a result of inadequate exposure of nursing and midwifery students to entrepreneurship. Youth unemployment is becoming a national issue in Ghana (Jumpah et al., 2020), where nurses and midwives are of no exception. This indicates that having the skills of an entrepreneur is important to thrive in the competitive job market. The mass production of nurses and midwives by various institutions has its own implications in the job market. This is evident in the report by Duodu (2019), where the Ministry of Health indicated that Ghana is overproducing nurses and midwives. That is to say, aside increasing employers' budgetary demands for recruitment (Asamani et al., 2015), there is an increase in competition in the job market. Further research must be conducted to explore why entrepreneurship career is very low among graduates. Entrepreneurship should actively be integrated into the nursing curriculum, where the department could focus on training nurse and midwife entrepreneurs. Coffey, Farivar, and Cameron (2021) emphasized the need to investigate graduates' job-seeking experiences. Graduates and career counselors may find these experiences of graduates to be beneficial because it may aid in the identification of the challenges graduates face in the job market. Identification of these challenges, such as lack of vacancies reported by participants will drive institutions to further develop strategies, like the need to encourage entrepreneurship in training their graduates to overcome them.

It was revealed in the study that there were more female participants than males. This is consistent with studies by Du (2019) and Sanchez and Diamante (2017) who found that female participants were more than males. According to Smith (2008), females are more likely to respond to online surveys than males. Moreover, nursing has long been thought of as a female-dominated field. The study reveals that this trend has not changed albeit there is an increase in the number of males entering the nursing profession (MacWilliams, Schmidt, & Bleich, 2013). Both males and females have equal opportunities in the profession currently, yet female nurses still hold a larger share of nursing job positions (Du, 2019).

We discovered in this study that majority of the graduates gained the desired competencies from their educational training, allowing them to gain employment, secure permanent job positions and excel at their current jobs. Competencies comprise knowledge, attitudes, values, skills and abilities (Shinnaranantana, Dimmitt, & Siengthai, 2013). These competencies were self-assessed because participants reported that the knowledge and skills obtained from the program were useful to their jobs. This finding is consistent with tracer studies by Domingo (2013), Sanchez and Diamante (2017) and Hipona et al. (2021) who reported that competent skills gained by graduates are also responsible for graduates' professional development and career advancement.

The ability of graduates to use their skills can be used to judge the quality of a university education (Chandra et al., 2013). The study found that the quality of the diploma or degree, as well as their usefulness, was rated very high by the participating alumni. This finding is consistent with studies on the quality and usefulness of the diploma or degree obtained from the university among nursing graduates (Hipona et al., 2021; Maderazo, 2016; Meñez, 2014). The study also found that interdisciplinary learning, teaching, and learning environment, the quality of instructions provided in the program, lecturer's knowledge of the subject area and lecturer-student relationship were rated very high. This finding is consistent with study conducted by Du (2019). This indicates that the school is constantly striving to deliver high-quality education so that its alumni have the necessary skills to meet the demands of their chosen profession.

According to the study, nursing and midwifery education encouraged critical thinking and enhanced problem-solving skills in most of the graduates. This is consistent with tracer studies by Cañizares (2015), Dotong et al. (2016) and Ramirez et al. (2014). However, this finding was contrary to the finding by Albina and Sumagaysay (2020) where critical thinking and problem-solving skills were ranked low. This finding means that the school can help students develop their skills so that they can advance in their personal and professional lives. They did, however, report some challenges in the areas of premium given to research, exposure to the international community and extracurricular activities, all of which have significant ramifications for nursing graduates. This finding is consistent with tracer studies carried out by Siraye, Abebe, Melese, and Wale (2018). With all these challenges reported by students, the premium given to nursing research is critical to the growth and development of the nursing profession in Ghana. A study by Bell et al. (2013) found the proportion of nurses with masters or doctoral degrees in both faculty and clinical practice to be less. This low score may have contributed to Ghana's low score for nursing publication and communication in both faculty and clinical practice in the past.

5. Strengths and Limitations

One of the strengths of the current study was the use of social media in getting the participants to respond to the web-based survey irrespective of their location within and outside Ghana. In spite of this, we did not achieve the required sample size of 319 despite the many constant reminders that was sent on the various social media platforms. This is not surprising as online surveys have been known to be associated with low patronage (Aerny-Perreten, Domínguez-Berjón, Esteban-Vasallo, & García-Riolobos, 2015). The insufficient sample size coupled with the non-probability (convenience and snowball) sampling techniques, therefore, limits our ability to generalize the study findings to all graduates of the Nursing department.

6. Conclusion and recommendations

Majority of nursing graduates from a public tertiary institution were gainfully employed and perceived the quality of their program to be good. There is the need to conduct this kind of tracer study on a regular basis to keep track of graduate's progress and obtain feedback on the quality of programs being offered so as to meet the ever-changing needs of society.

Also, it is important to establish robust career guidance services in the department to educate graduates on the numerous opportunities in the nursing professions including entrepreneurship. This can be addressed by actively integrating entrepreneurship into the nursing curriculum and creating opportunities for an engagement with nursing entrepreneurs during studies to motivate nursing students into such ventures.

Despite the reported excellent preparation, the graduates indicated some difficulties in the areas of research priority, international exposure, and extracurricular activities. These areas of interest are very critical in professional development because they form key components of what entails a successful professional career. The findings of the study suggest that efforts should be made to ensure that nursing and midwifery programs continue to provide quality education to their students. Additionally, future studies could explore the factors that influence perceptions of the quality of nursing and midwifery programs, such as the teaching methods used.

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CRedit authorship contribution statement

Veronica M. Dzomeku: Conceptualization, Formal analysis, Methodology, Project administration, Supervision. **Abigail Kusi Ampsonah:** Conceptualization, Formal analysis, Methodology, Writing – original draft. **Edward A. Boateng:** Conceptualization, Data curation, Methodology, Writing – review & editing. **John Antwi:** Conceptualization, Investigation, Methodology, Writing – review & editing. **Philemon Adoliwine Amooba:** Conceptualization, Investigation, Methodology, Project administration, Writing – review & editing. **Puoza Deo Gracious:** Formal analysis, Investigation, Methodology, Writing – original draft. **Jerry Armah:** Formal analysis, Methodology, Writing – original draft. **Victoria Bam:** Data curation, Formal analysis, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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