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Keywords: occupational therapy, upgrade programs, competencies, diploma, curriculum, higher education.

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ABSTRACT

Occupational therapy (OT) education and training in Kenya has been in existence for over 50 years but stagnated at diploma level qualifications until 2012 when two (2) Kenyan universities established the diploma to degree upgrade programs. This study intended to assess the need, demand, and uptake for OT upgrade programs offered in Kenya. Quantitative exploratory design was utilized. The target population comprised of practicing OTs with diploma qualifications who have not registered for upgrade degree programs (Group 1 – G1); and OTs who have either graduated from or enrolled in an upgrade degree program in Kenyan University (Group 2 – G2). The national research licensing and Institutional Research Boards (IRB) approved the study. Simple random sampling was conducted on a population of 259 members of a Kenya Occupational Therapy Association (KOTA) online forum to select G1. Census sampling was conducted on 108 ongoing and graduated occupational therapists from two universities to select G2. Two separate structured online questionnaires were administered to G1 and G2. Only 108 of approximately 2000 diploma holders trained in Kenya have registered for upgrade degree programs (0.054%). The study findings revealed a significant difference between the G1 and G2 groups t (23) = -2.769, p = .008 at p < .05 in the knowledge and competency levels. The greatest demand for upgrade programs was in the 21 to 30 years' age group at 52% (G1, n=78). This study provides baseline data to inform further development and strengthening of existing and future OT education curricula in Kenya.

Keywords: occupational therapy, upgrade programs, competencies, diploma, curriculum, higher education.

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I. BACKGROUND / LITERATURE REVIEW

There are justifications (Merriman, 1998) for diploma graduates to transition to degree programs through upgrade or conversion programs. These include the rapidly changing healthcare landscape which requires healthcare professionals, occupational therapists (OTs) included, to possess on-time knowledge and evidence-based practice skills. OT education also needs to meet the WFOT (World Federation of Occupational Therapy) mandated minimum standards of a bachelor's degree to remain relevant and globally competitive. The development of OT programs in the African countries have depended on support from international partnerships with universities or organisations in the global North. For example, South Africa has long-term partnerships with British occupational therapists and Rwanda with the Belgian partners (Taff et al., 2020). Globally, the professional character of OT is influenced by culture, beliefs, people, and systems (Carey et al., 2019) and Africa is no exception. Like many African countries, OT in Kenya has equally been influenced by such factors. Societal systems and

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cultural practices which influence occupations are rarely addressed in the training. Culture is dynamic and the societal fabric is always changing (van Vuuren et al., 2020; Kou, 2021). Yet, the education curricula are still heavily reliant on the Western cultures and theories. For example, client-centred models of practice have different outcomes in Africa compared to the West due to variances in the fabrics of the society, health-care systems, health insurance systems and cultural practices (Mahoney & Kiraly-Alvarez, 2019).

Apart from addressing the education agenda, OT in Africa also needs to develop capacity in research and documentation of its practices. There are empirical gaps in OT research in Africa with regards to education, training, and evidence-based practice (van Vuuren et al., 2020; Kou, 2021). Upskilling OTs in research and evidence-based practices will strengthen alternatives approaches and training content in designing and developing new curricula. In addition, international protocols and global education standards require graduates who can adaptively use 21st Century skills in working spaces beyond graduate qualifications (Hong & Ma, 2020). Workers are frequently required to cross-step into multidisciplinary teams. This has blurred boundaries for scope of practice for professions in certain situations (Brown et al., 2015). OT schools need to train holistic skills to students because skills are rarely used in isolation (Thomas et al., 2021). Evidence-based practice skills, for example, is one of the numerous professional skills in addition to soft skills required of new graduates (Alshehri et al., 2019; Garcia et al., 2021). Attitude and confidence building skills (Thomas et al., 2021) should be cascaded in all skills training including problem solving, decision making, and clinical reasoning. Because of changing socio-cultural occupations, such skills will increasingly be required in all frontiers of practice beyond the 21stC.

OT education in Kenya was established in 1968 with its first school instituted at the Medical Training Centre (MTC) attached to the Kenyatta National Hospital (KNH) – known in the 1960's as King George Hospital. The first cohort of occupational therapists graduated in 1970 and obtained certification in 1972. The curriculum was later reviewed and revised to offer diploma of occupational therapy. The first cohort of diploma holders graduated in 1978 and since then there have been curricula reviews and revisions every four years. MTC has also since expanded into a middle level college renamed to the Kenya Medical Training College (KMTC). Since 2012, KMTC has undergone a substantial expansion, which included the establishment of three additional OT schools in its campuses outside of Nairobi. By 2021, KMTC reported that approximately two thousand (2000) occupational therapists have graduated with diplomas since its 1968 inception (Ministry of Health-MOH, 2021). In the same year, KOTA reported a record of 1650 members on its registers (Ministry of Health-MOH/Kenya Occupational Therapists Association-KOTA, 2021). These documented numbers of OTs may be less than the actual number, considering that the two new university programs have also graduated OTs. In addition, there is undocumented evidence that some of the alumni of OTs from Kenya have furthered their education abroad at varied levels (ranging between higher diploma to doctoral).

Like many other African countries, Kenyan OT education has been influenced by numerous factors. The OT education at KMTC should have expanded more than is presently the case, but its growth has been hampered by many factors, which include: i) The school is a government establishment which is controlled by national policy agenda for growth and expansion. Any proposed expansion must be evaluated through numerous bureaucracies and red tapes, checks, and balances within the prevailing government policies. This has on several occasions discouraged potential partners and stakeholders who most often give-up the endeavour to participate in the growth OT education in Kenya. ii) The school is housed in a middle level educational institution which by law can only award diploma certification. Thus, proposals to establish upgrade, honours or baccalaureate programs within the college have not been possible. iii) Prior to 2022, the OT profession was regulated under the Ministry of Health (MoH)

with no regulatory board to champion its growth hitherto. The regulatory council has since been registered under an independent Act of parliament of 2022 and the national council / board (Occupational Therapy Council of Kenya) is in the process of operationalizing its functions. For these reasons, KMTC continues to graduate only diploma holders (Ndirangu & Rangara-Omol, 2022).

At the beginning of the new millennium, two (2) Kenyan Universities began efforts to bridge the gap in training by establishing diploma- to degree upgrade and full baccalaureate degree programs in OT. The two are the Jomo Kenyatta University of Agriculture and Technology (JKUAT) and the Presbyterian University of Eastern Africa (PUEA). The two universities graduated their first cohorts in 2013 and 2015, respectively. The degree programs provide opportunities for diploma graduates to register for upgrade degrees through a credit recognition and transfer pathway. This takes a shorter time from registration to graduation; usually a minimum of two years, as it transfers credits from diploma training and provides units or fieldwork hours that are missing in the diploma program. In addition, some of its units which may have already been taught in the diploma program are provided for, in advanced versions. The two Kenya universities have successfully provided upgrade programs for a total of 108 OTs who previously held diplomas to train or obtain full bachelor's degrees (obtained from the universities' raw data in April 2022). These include OT students from other countries apart from Kenya, including Malawi, Uganda, and Tanzania.

Prevailing professional trends indicate that there is a global shortfall of workers for almost all healthcare cadres and a skewed distribution for certain health professions (Brown et al., 2015). From the early 1990s to date, Kenyan OT graduates (even with the diploma graduates) continue to access cross-border employment opportunities around the world with many of them in the United States of America (USA) and the United Kingdom (UK) (WFOT, 2015). This has been possible due to the global WFOT regulations which continues to be the guiding framework for OT schools worldwide. The migrations of Kenyan OTs occasioned a brain-drain with gaps that continue to create a demand for OTs in Kenya. In the early 1990s, some countries like the UK were able to transitions OT diplomas to degrees through equalisation of diploma credits to degree qualifications (Gape & Hewin, 1995; College of Occupational Therapists Diploma, 2022). This also enabled Kenyan graduates at the time, to enter the international job market. However, this has since changed according to the *Minimum Standards for the Education of Occupational Therapists (2016)* which now outlines the minimum entry of practice for OTs. Some states in the USA have regularised their minimum entry standards to master's level while others to doctoral level (Wells & Crabtree, 2012; Brown et al., 2015). Canada also raised its minimum entry levels to the same standards (Liu, 2018). The establishment of these regulations has far-reaching effects on internationally trained OTs seeking to work in the USA and other overseas countries. Thus, Kenya needs to develop to such entry levels beginning with undergraduate degree programs. This also justifies the need for more degree and postgraduate training programs. WFOT states that;

> "Occupational therapy's entry-level education must be anticipatory, not just responsive, to growing global health challenges. The profession's powerful client or patient focused approach at the micro level of direct service requires expansion. Occupational therapists ought to be involved in the creation of population-based programming to address health, social and educational aims" (*Minimum Standards for the Education of Occupational Therapists 2016* pg. 6).

This not only supports the need to expand OT programs but also emphasises on continuous review of programs in alignment with prevailing global occupational and contemporary issues. Despite the educational entry point (i.e., bachelors, masters, or doctoral), OTs are expected to possess problem-solving skills and use the associated competencies to grow and function beyond OT practice. The development of undergraduate and postgraduate programs for OT

in Kenya has also been hampered by the inadequate numbers / lack of qualified academicians to run the programs. Therefore, to fill in the need for qualified educators, offering upgrade programs for diploma holders is believed to be a start point for preparing professionals to further their education progressively to master's and doctoral levels. This will also enable the elimination of diplomas and push the entry level to bachelor's degree levels in Kenya. In addition, it is believed that an accredited degree qualification is a global certification for OTs who seek cross-border opportunities in any country (*Minimum Standards for the Education of Occupational Therapists 2016,*).

OTs with diploma qualifications who are interested in registering for upgrade programs are adult learners. This group requires a defined set of motivation and learning styles that will accommodate their already busy lives (McKenna et al., 2020). Thus, the theoretical framework that guides this study is the theory of transformative learning developed by Jack Mezirow in 1978 (Schnepfleitner & Ferreira, 2021). This theory is premised on the concepts of adult learning by Malcolm Knowles in 1970 (Henschke, 2011) also known as andragogy (El-Amin, 2020) and constructivism (Feyzi & Yasrebi, 2020). It recognises that the adult learner not only comes into the learning space with a foundation of experiences but is motivated to acquire new knowledge. The goal of learning is to transform the self with new behaviours and perspectives that positively influence present and future practices. Buoyed by experiences in the education sector's post COVID-19 pandemic experiences, many university programs are increasingly embracing blended / online learning within student-centred course delivery models (Alvi, 2023; van der Stap et al., 2023). This may inform future curricula reviews for upgrade degree programs. The benefits of online professional development programs include (VanderKaay et al., 2019; McKenna et al., 2020):

- Provides a good forum for practitioners from diverse global locations to meet, share and collaborate in knowledge and skills gaps.
- Easy access of online modules through mobile and static technologies, which helps to mitigate against the learner's limitations of having to take time off work, and the costs for travel and accommodation associated with relocation.
- Provides opportunities for networking and collaborations on a global level without incurring the prohibitive costs for travel and accommodation.

The purpose of this study was to explore the demand for upgrade OT programs in Kenyan universities and associated educational issues for OT. It provides a baseline for the upscaling of the upgrade degree programs and opportunities not only in Kenya, but globally.

II. PROBLEM STATEMENT

Occupational Therapy (OT) education in Kenya had stagnated at the diploma level for more than 40 years prior to 2012 when the first bachelor's degree programs were established. The stagnation has negatively impacted both the growth and practice of OT in Kenya (Ministry of Health-MOH / Kenya Occupational Therapists Association-KOTA, 2021). While many international universities including Curtin University (Western Australia) and Bournemouth University (United Kingdom) previously equalised the Kenyan diploma and offered degree-conversion programs, the unit cost per student was widely prohibitive (Graber & Bolt, 2011). This encouraged Kenya to establish its own degree programs in two universities beginning in the year 2010 and admitting pioneer students. The ratio of diploma graduates to those registering for degree upgrade programs is widely undocumented. The observed gaps in data availability are due to low research practices and poor documentation.

OT practice in Africa, Kenya included, needs more effort with regards to education, training, research, and evidence-based practice (van Vuuren et al., 2020; Kou, 2021). The gaps make it difficult to determine the exact number of graduate OTs, practising OTs, and the need / modalities to expand OT academic programs. Expansion should be responsive to the demands

of client / stakeholder populations and current practice trends. WFOT and prevailing international practice require the higher-level education or upgrade for entry level OTs. Yet, most Kenya OT schools are still producing OT diploma graduates. These graduates should be aware of the global entry level standards and be motivated to upskill through upgrade degree programs. What would motivate diploma holders to enrol for upgrade programs? As a contributory framework in making Kenyan OT academic programs more responsive, this study intended to assess the need and demand for upgrade OT program from diploma to degree for Kenyan and worldwide OTs. It also explored participant's motivation levels in flexible modes of program delivery including blended and distance learning modes. The findings should inform planning, growth, and expansion of undergraduate and post graduate programs in Kenya.

2.1 Main Objective

To assess the need and demand for upgrade occupational therapy (OT) programs (from diploma to degree) in Kenya.

2.2 Secondary Objectives

1. To construct a baseline framework that will inform growth and expansion of occupational therapy (OT) upgrade degree programs.
2. To explore the factors that motivate occupational therapy (OT) diploma graduates to register for occupational therapy (OT) upgrade degree programs.

III. RESEARCH QUESTIONS

1. What is the baseline data of occupational therapists (OTs) who would like to register for upgrade degree programs?
2. What are the factors that motivate occupational therapists (OTs) with diplomas to register for upgrade degree programs in occupational therapy (OT)?

IV. METHODS

The study utilized an exploratory design with quantitative data collection methods. Participants were required to respond to questions in two (2) differentiated structured online questionnaires. This approach gave a comprehensive investigation into the need and demand of a top-up degree program in occupational therapy (OT). The target population for the research comprised of two groups:

i. Practicing occupational therapists with diploma qualifications who have not registered for upgrade degree (G1).
ii. Occupational therapists who are currently studying in an upgrade degree program and occupational therapists who have graduated with upgrade degrees from Kenyan Universities (G2).

Sample size: To determine the sample size for Group 1 (G1), a simple random sampling technique was used on a population of 259 occupational therapists who were members of KOTA members WhatsApp forum. The Yamane's formula (S= P/1+P(e)^2) was applied to calculate the required sample size, where S represents the sample size, P represents the population of the study (in this case, 259), and *e* represents the margin of error, which was set at 5% (or 0.05) for this study. Using this formula, the sample size was calculated as follows:

S = 259/ (1 + 259(0.05) ^2)

S = 259/1.65

S = 156.9

Rounding up to the nearest whole number, a sample size of 157 was determined for G1.

In Group 2 (G2), purposive and census sampling approaches were used to select participants from 108 ongoing and graduated occupational therapists from the databases of the two universities. A census sample (Daniel 2012; Cantwell, 2008) targeting a threshold of 30 participants was set based on the Central Limit Theorem (CLT), which suggests that a sample size of 30 or more is sufficient to assume a normal distribution of data (Ganti, 2022). To ensure an adequate response rate, a structured online questionnaire was administered to as many participants as possible who met the inclusion criteria, with the goal of achieving a minimum of

30 participants. Overall, the use of purposive and census sampling with the application of CLT helped to ensured that G2's sample size and distribution were appropriate for the research objectives.

V. DATA COLLECTION INSTRUMENTS, PROCEDURES AND ANALYSIS

Two (2) structured online questionnaires were designed to test the research questions, one for each group and administered concurrently. Likert scales were scored as Strongly agree (SA) (5), Agree (A) (4), Neutral (N) (3), Disagree (D) (2), Strongly disagree (SD) (1) and Most competent (5), Competent (4), Somewhat competent (3), averagely competent (2), Least competent (1) for different sections. The blanks in both cases were scored zero (0). Adhering to the national ethics guidelines, email addresses were accessed from the KOTA database and university OT departments for G1 and G2 respectively. The links to the questionnaires were shared on emails inviting participation from the sampled population. To ensure that each participant freely consented for participation, the questionnaires included a required consent statement. Any participant who did not consent could not proceed beyond the consent page of the online questionnaire. Data collection was conducted over a period of three weeks with weekly reminders. Data was scrutinized and analysed to identify points of convergence and divergence between and within the groups. Findings were presented through a combination of descriptive and inferential statistics. Ethical Considerations: Study approval was obtained from the Institutional Research Boards (IRBs) of both universities under study and the National Commission of Science Technology and Innovations (NACOSTI). Participants were provided with sufficient study information for them to make informed decisions/consent and voluntary participation. However, as with any online activity, there was a possibility of breach of confidentiality. To mitigate this, personal identifiers were not collected, and responses remained confidential, and password protected.

VI. RESULTS AND DISCUSSION

Results revealed that: i) More than 50% of recent diploma graduates (2015 to 2024) are motivated to register for upgrade programs; ii) There are motivating factors and preferred learning models for potential upgrade OTs who have not registered for upgrade programs; and iii) Upgrade programs provide opportunities for occupational therapists to upscale their knowledge and competencies in multidisciplinary teams and emerging practice domains. 157 questionnaires were sent out to G1 and 78 were returned giving a 49.7% response rate. In G2, 108 questionnaires were sent out, 17 emails were undelivered leaving 91, out of which 43 responses were received surpassing the expected 30 responses (Table 1). The total number of questionnaires analysed was n = (78+43). Online surveys rarely receive high response rates; 44% to 50% is a practical expectation (Wu et al., 2022). Cronbach's alpha output (validity and reliability) test was run on the actual items of the final questionnaires. Results returned an α score of 0.91 indicative of a reliable and valid instrument. In addition, demographic representation of participants (n=122) indicated that most participants resided in Kenya at 92% (n=78) and 88% (n=43) for G1 and G2 respectively. However, other 7 other countries; Canada, Japan, Nigeria, Qatar, Saudi Arabia, Syria, Tanzania, Uganda and United States of America were represented.

Table 1: Response Rate

	Group 1	Group 2	Total n=
Total number of questionnaires sent out on email	157	91	248
Questionnaires received back	78	43	121
Response rate %	49.7%	47.3	48.8%

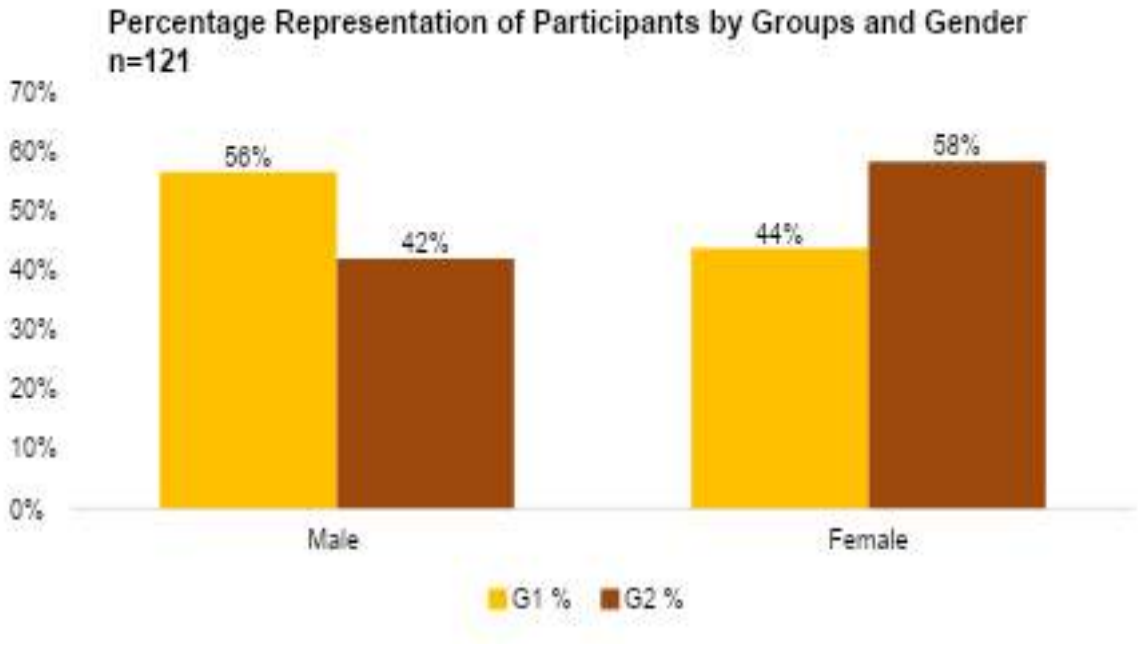

Figure 1

Figure 1 indicates a balanced representation in providing experiences and insights on upgrade degree programs from both groups by gender. Over 50% of participants were male in G1 (n=78) and inversely in G2 (n=43) over 50% were females. This contributed to balanced contributions towards the study construct.

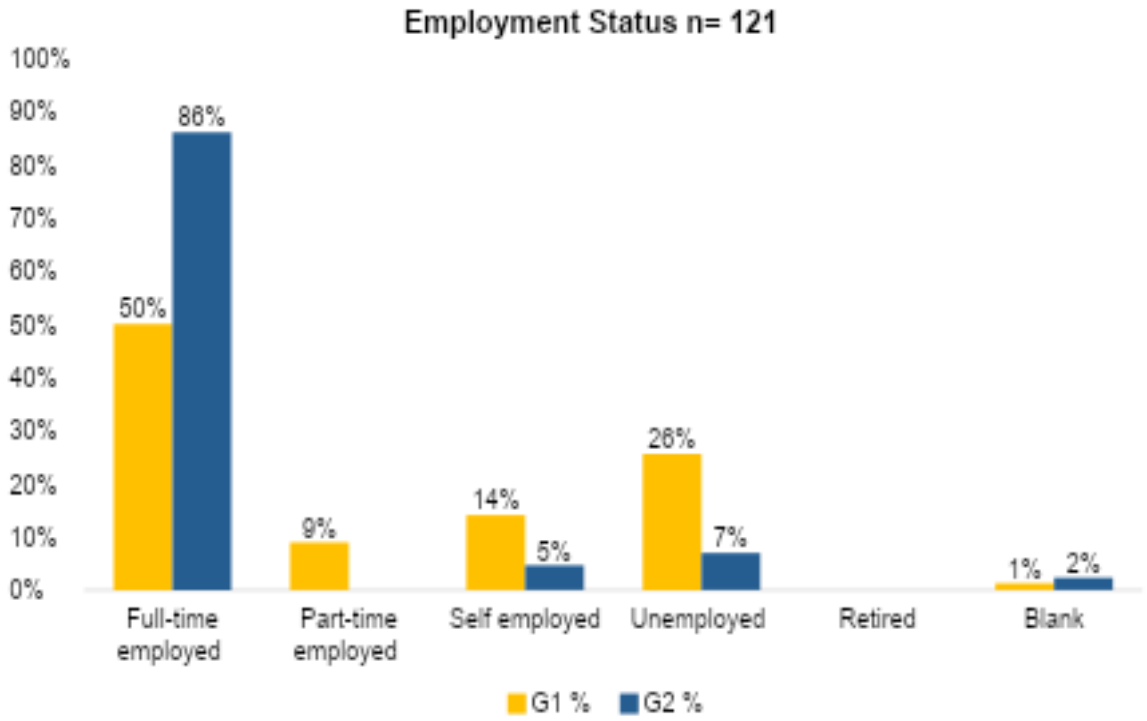

Figure 2

Since professional development and participation in educational programs require resources, the Employment status as an indicator of a source of income can be a motivating factor. Most of the

participants indicated that they have a stable financial foundation to plan / prioritise for further education presumed on employment status (Figure 2). Comparative and combined groups data represented in Figure 2 indicated that both groups (G1, n=78) and (G2, n=43), showed most of the participants were in full time employment at 50% (n=121) and 86% (n=121) for respectively (Figure 2). This excluded those who were self-employed at 14% (n=121) and 5% (n=121) for (G1, n=78) and (G2, n=43) respectively. In G1, 26% (G1, n=78) of participants are unemployed but are interested in registering for upgrade programs. This group may require scholarships or sponsorship from partners (Figure 2). In both groups full time employment (FTE) was the majority. Thus, FTE may be a motivator for G1 while the same maybe an indication / motivator for flexible modes of education as they can learn while continuing with work.

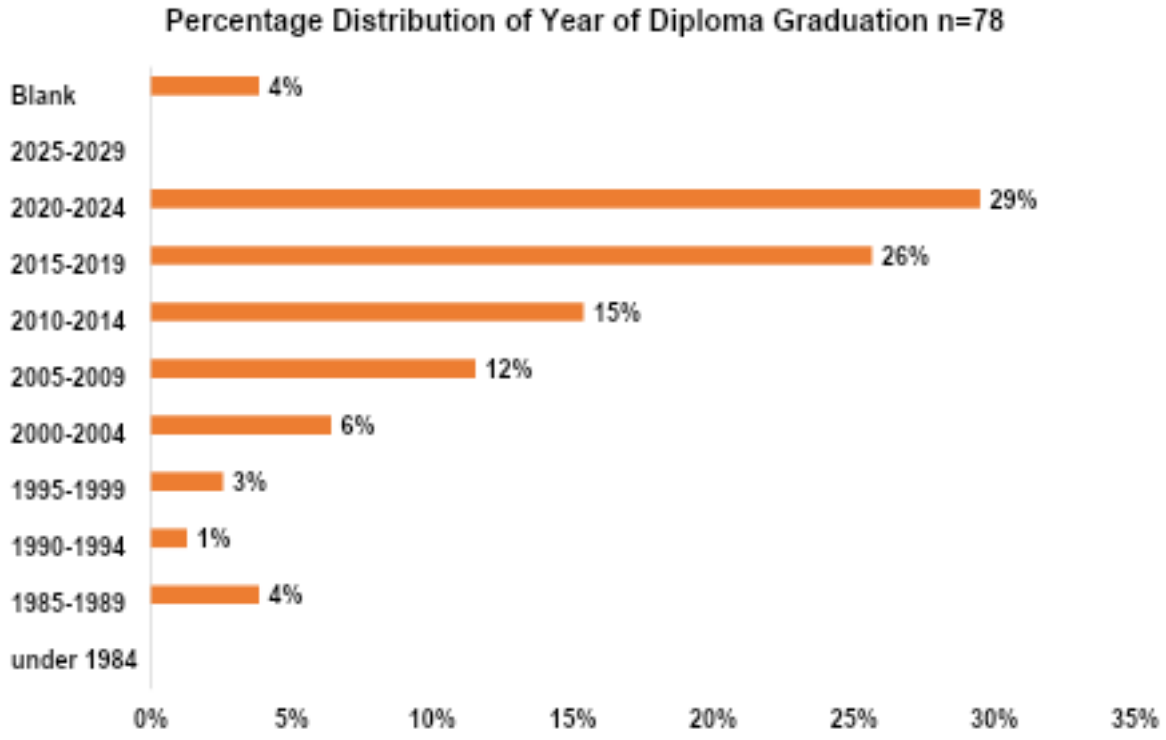

Figure 3

The participants in G1 (n=78) were required to indicate their year of graduation from OT diploma programs. This was for the purpose of assessing the length of time occupational therapists would practice before considering to further their education through upgrade OT programs. Figure 3 illustrates that fresh graduates from diploma programs represent the highest percentage of OTs seeking to register for upgrade programs at a combined 55% between 2020 – 2024 at 29% (n=78) and 2015 – 2019 at 26% (n=78).

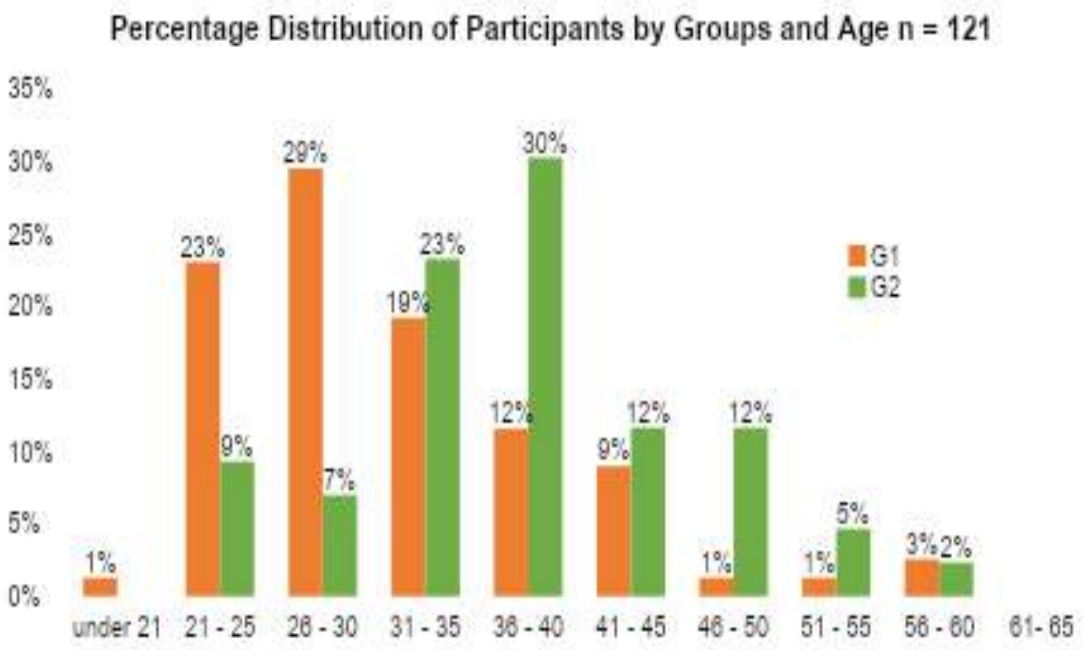

Figure 4

Figure 4 illustrates participants who are interested in upgrade degree programs by groups and age. The highest percentage of students who were interested in registering for upgrade programs (G1, n=77) were in the age group of 26-30 years at 29% while the same for the registered or graduated (G2, n=43) were in age groups of 36-40 years at 30%. In G1 (n=77) had the highest percentage of participants in the age groups 21-25 and 26-30 years totalled 52% (n=77) while G2 had the highest age groups of participants in 31-35 and 36-40 years had a combined total of 43% (n=43). Thus, during developing and reviewing curricula, considerations should be made for the characteristics and needs of the 21 to 30 years' age group. A plausible explanation for the comparatively older participants (G2, n=43) may be that i) the opportunity for upgrade was not available when they were younger and ii) it took time to gather the resources.

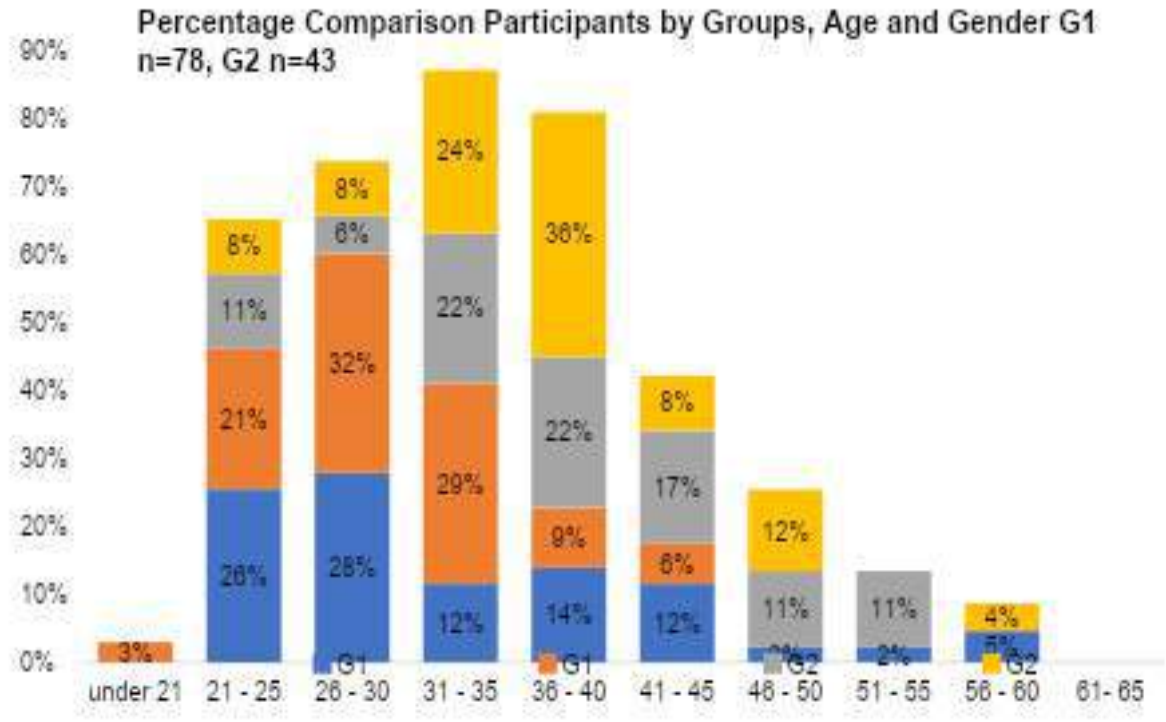

Figure 5

Figure 5 illustrates interests of participants in upgrade degree programs by age, gender and groups. The distribution by gender was as follows; G1, n=78, males (n=43) and females (n=34), G2, n=43 males (n=18) and females (n=25). There were more males in G1 than females and inverse for G2. For G1(n=78), females recorded the highest percentage of therapists who were interested in upgrade programs at 32% (n=34) in the age group of 26-30 years while the lowest at 0% (n=34) in age groups below 21 years and older than 45 years. In the same group (G1, n=43) males, recorded highest and lowest in the combined age groups of 21-25 and 26-30 years at 52% (G1, n= 43) and at 2% (G1, n= 43) for age group of 46-50 years respectively. It thus seems that for both gender (n=120), the highest demand for upgrade programs are therapists aged between 25 to 45 years. For G2 (n=43), females (n=25) who had registered / graduated in upgrade programs recorded 50% (n=25) combined from the age groups of 31-40 years and lowest at 0% (n =25) in the age group of 51-55 years. In the same group (G1, n=43) males (n=18), recorded highest and lowest in the combined age groups of 31-40 years at 44% (G1, n= 18) and 6 % (G1, n= 18) for age group of 26-30 years respectively. The age group that stands out in both groups in the demand of upgrade programs is between 25 to 40 years for both gender (Figure 5).

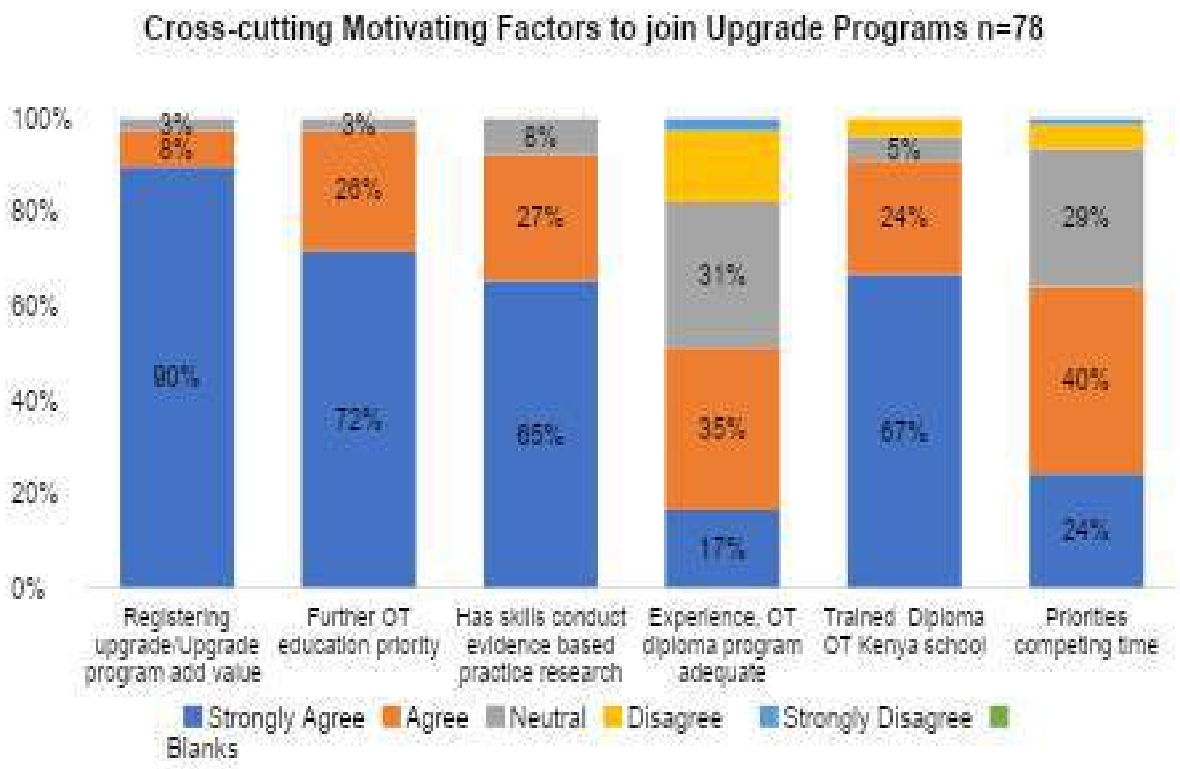

Figure 6

Cross-cutting motivating factors were explored in G1. These factors included possible value addition, the need to further studies, research skill acquisition among six factors (Figure 6). 98% (n=78) of participants indicated that registering for upgrade program would add value to their profession and career goals. 98% (n=78) indicated that furthering their education was a priority while 92% (n=78) believed that registering for the programs would assist them in developing skills for research and evidence-based practice. Additionally, the comfort of having trained in Kenya and that the universities offering these programs are also located in Kenya was a motivating factor for 91% (n=78). 17% (n=78) indicated that Diploma OT was adequate illustrates that there is a large group of OTs who may require upgrade degree programs. The factor which recorded the least was time-management skills which scored 64% (n=78). This being more than 50% is not a big concern. With additional training in time-management skills most students will be attracted to register for upgrade programs.

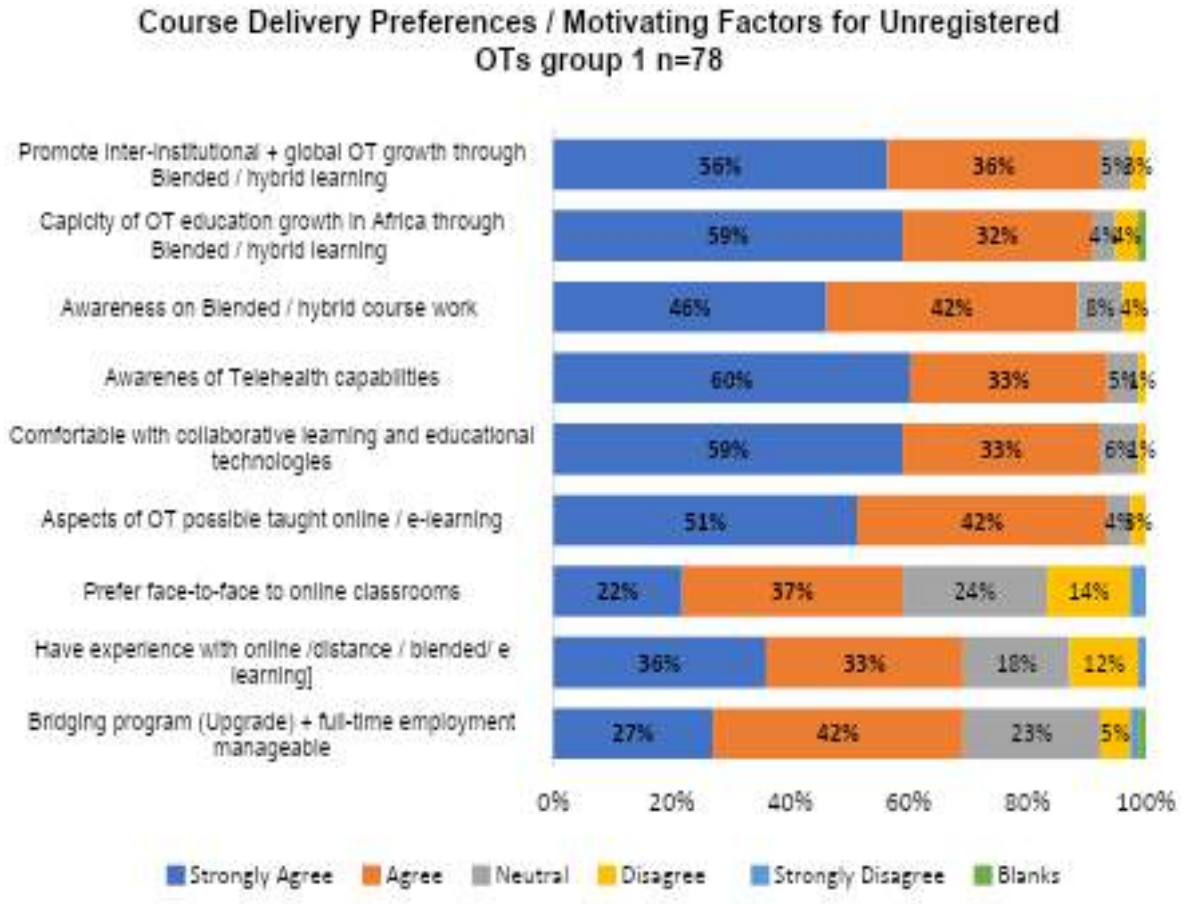

Figure 7

A second cluster of motivating factors under 'course delivery preferences' were explored in G1 (n=78). There is an upsurge of online course delivery systems which is believed to have trade-off for student demographics who combine work and studies (VanderKaay et al., 2019; McKenna et al., 2020). These include reduced costs on travel and accommodation as well as reduced opportunity costs for both employers and employees. To this end factors that were explored included nine (9) questions on student preferences (Figure 7). A preference of face-to-face over online learning received a mixed reaction with scores of 22%, 37%, 24%, 14% and 3% (n=78) for Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree respectively. A combined 92% (n=78) of participants SA 59% (n=78) and A 33% (n=78) were comfortable with collaborative learning and education technologies. Further, face-2-face preference had the lowest SA score of 22% and combined SA & A at 59% (n=78). This advocates for implementing a mixed approach of course delivery; either blended, hybrid or distributed learning.

To explore professional factors that would motivate participants (both G1 and G2) to register or participate in upgrade programs, a set of twenty-four (24) skills (Table 2) in OT practices were tested. These skills were drawn from the common practice domains in Kenya OT practice. They include skills in using standardised assessments, working with clients with history of drug and substance abuse, working with insurance, research, and evidence-based practice among the listed (Table 2).

Table 2

	Means of OT Practice Domains, Skills, Knowledge, and Competency Levels)	G1	G2
1.	Skills standardized assessments	4	4
2.	Skills Pre-schools & Schools	3	3
3.	Skills Workplace and organisational re-design	4	4
4.	Skills Mental / psychosocial health	3	4
5.	Skills Drugs and substance abuse	3	4
6.	Skills Physical disabling conditions (children & adolescence)]	4	4
7.	Skills Physical disabling conditions	4	4
8.	Skills Hospital (in patient)]	4	4
9.	Skills Hospital (outpatient)]	4	4
10.	Skills Community based rehabilitation	4	4
11.	Skills Vocational rehabilitation	3	4
12.	Skills Telehealth	3	3
13.	Skills Disaster preparedness	3	3
14.	Skills Health education / Public health	3	4
15.	Skills Environmental adaptations (buildings, planning)	3	4
16.	Skills Refugees and internally displaced persons	3	3
17.	Skills Working in industry / manufacturing	3	3
18.	Skills Working in Insurance and indemnity	3	3
19.	Skills Occupational health and safety	3	4
20.	Skills Research, education & knowledge sharing	3	4
21.	Skills Advocacy	3	4
22.	Skills Marketing and entrepreneurship	3	4
23.	Skills Inter- and multi-disciplinary teams	4	4
24.	Skills Lifelong learning	4	4

Key	Blank	Least competent	Somewhat competent	Averagely competent	Competent	Most competent
	0	1	2	3	4	5

A set of twenty-four (24) skills (Table 2) in OT practices were tested. Independent *t test* returned; G1, n=78 (SM = 3.375, SD = 0.495) paired with G2, n=43 (SM = 3.750, SD = 0.442) demonstrated a significant difference t (23) = -2.769, p = .008 at p < .05 in competency levels of both groups. G2 indicated a higher sample mean (SM) indicating that upgrade programs either attract mature students with experiential skills or teaches new skills or reskills them. This indicates that upgrade programs are important providers of training or enrichment of OT practice domains.

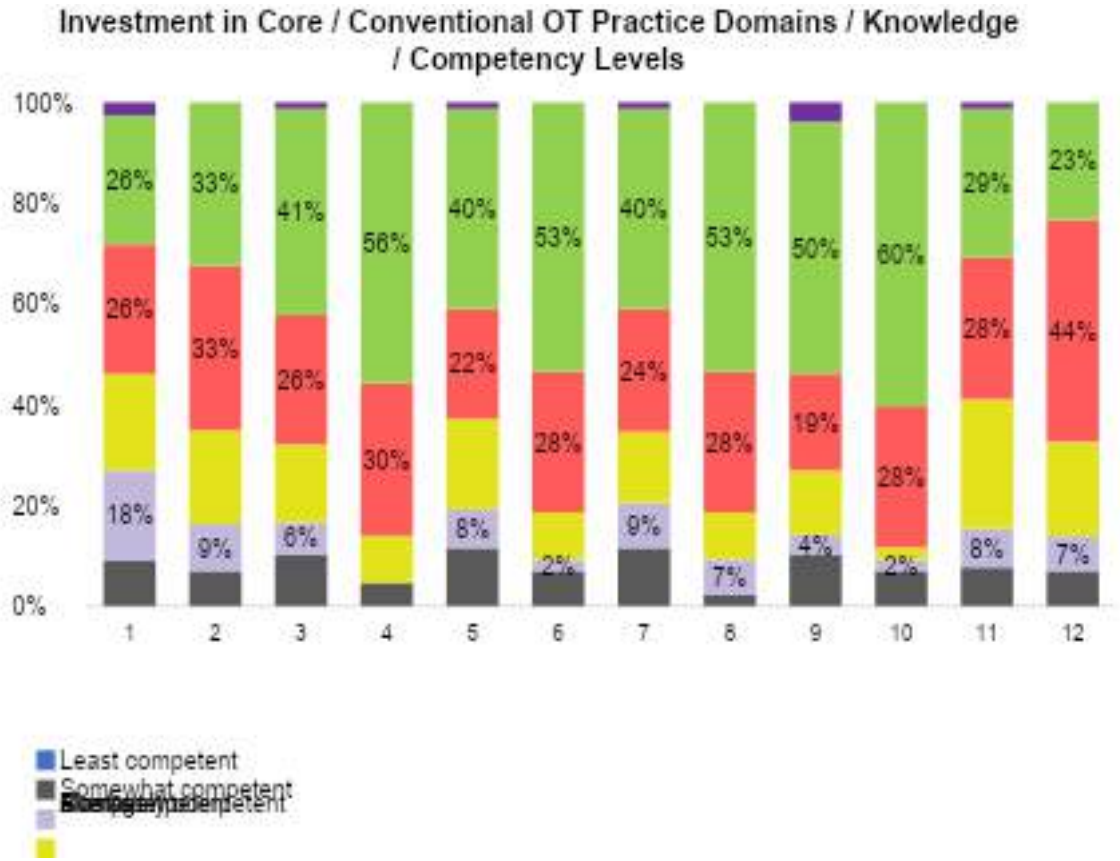

Figure 8: Investment in Core/Conventional OT Practice Domains/Knowledge/Competency Levels

A set of six (6) core occupational therapy domains were further selected out from the 24 skills-set to calculate the means and variances in OT competencies. These included working with i) clients with psychosocial issues and health promotion/prevention of disabling conditions ii) children and adolescents with physical and other disabling conditions iii) adults with physical and other disabling conditions iv) Hospitalised patients v) outpatient clients in hospital settings and vi) standardised assessments for all clients. These skill domains are found in diverse settings including communities, schools, organisations, hospitals, and all environments where people are performing occupations. It is required that OTs acquire these skills in basic training and continue to perfect them through life-long learning opportunities. Most participants indicated high competency levels in the tested areas (Figure 7). The highest competency was in outpatient hospital practice 50% (n=78) and 60% (n=43) and lowest at 18% (n=78) and 9% (n=43) in psychosocial practice for G1 and G2 respectively. Independent *t test* returned; G1, n=78 (SM = 3.380, SD = 0.372) compared to G2, n=43 (M = 4, SD = 0) demonstrated no significant difference t (5) =-2.769), p = .340 at p < .05. This indicates that both groups may require upgrade programs to reskill and upskill them in these core competency areas.

VII. CONCLUSIONS AND RECOMMENDATIONS

This study provides baseline data to inform further development and strengthening of existing and future occupational therapy schools. The data should inform curricula developers on the target age group and the curriculum design that would motivate diploma holders to register for upgrade programs. Many of the participants indicated that they were comfortable with educational technologies, an indication to consider developing online or blended programs. This study has illustrated that upgrade programs attract mature students with experiential skills, reskills them teaches new skills. The findings from this study indicate that OT diploma graduates ages between

25 to 40 years are the most attracted age group for the upgrade degree programs. This implies that there is potential decline in interest in the upgrade programs for OTs who have practiced with diploma qualifications for more than 15 years. Of the participants yet to register for upgrade programs, 26% (G1, n=78) of participants were unemployed – a possible indicator for scholarships. As an assessment for the need and demand for upgrade programs in OT, this study illustrated that; registering for upgrade program would add value to professional practice, assist in developing skills for research and evidence-based practice, and support career goals through further education. Therapists need continuous upskilling in core OT practice domains. In the core areas of OT practice, there are indications that both groups need to develop more skills and competences in working with clients in mental and psychosocial domain. They also need to acquire more training in the use of standardised assessments for their clients.

Therefore, it is recommended that upgrade programs should i) focus efforts on providing opportunities for diploma holders to enter upgrade programs as soon as possible after their graduation. Probably interlink diploma with the upgrade schools or find a policy shift that progressively phase out the diploma program. ii) provide practical mechanisms of motivating OTs to register for upgrade degree programs through lifelong learning, blended course delivery systems and training of student-centred learning skills and iii) allocate more effort in training of core OT domains especially in the emerging frontiers of practice.

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