

Stakeholders Contribution in the Development of Occupational Therapy Profession and Impact of the Profession in Rwanda

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Abstract

Introduction: Africa was noted as a challenging place for allied health care professions including occupational therapy. Those challenges include promotion of occupational therapy and educational program. The University of Rwanda started the occupational therapy training program in 2014 with support of different stakeholders such as Humanity & Inclusion (HI), Rwanda. **Aim:** This study aimed to explore the contribution of different stakeholders in the development of occupational therapy programs and impact on the profession in Rwanda. **Methods:** A survey and mixed method of qualitative and quantitative approach was used. Client satisfaction questionnaire, semi-structured self-generated questionnaire were administered to the participants. **Results:** The majority of occupational therapists were between 20 and 30 years old and only half of the entire population were employed. Majority of the involved Universities excellently achieved their responsibilities. However, few of them reported to have achieved only 50% of their responsibilities. Other contributors like lecturers reported to have excellently achieved their duties while others reported to have achieved only 50%. Non-Governmental Organizations reported to contribute to enough level

however there were some organizations contributed to the lowest level below 50%. The client receiving the Occupational Therapy services showed that they are very satisfied at the level of 73.5%, satisfied at 59% and not all satisfied at 20%. **Conclusion:** This study concluded that there is need for various stakeholders' contributions, and a need for further study to explore the impact of occupational therapy profession in rehabilitation healthcare system of Rwanda.

Keywords

Occupational Therapy, Rehabilitation, Stakeholders, Profession and Contribution

1. Introduction

Rehabilitation services provision is developing in Rwanda [1]. According to Wenger 2014, as cited By Cruz [2], before 2014, rehabilitation services were provided by physiotherapists and prosthetist & orthotist. There were no qualified occupational therapists since 2010; therefore, it was seen as a gap in rehabilitation services which was a baseline to train qualified occupational therapists in Rwanda [3].

2. Background

Occupational therapy is a client-centred health profession concerned with promoting health and wellbeing through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life [4]. According to American Occupational Therapy Association 2018, Occupational therapy helps people of all ages to participate in the things they want and need to do through the therapeutic use of everyday activities or occupations. Unlike other professions, occupational therapy helps people learn to function in all of their environments while addressing the physical, psychological and cognitive aspects of their well-being through engagement in occupation [5].

3. Historical Perspective

CMHS developed two partnerships to co-implement the early stages of the introduction of occupational therapy education with them. Around 2011 they asked HOGENT University in Belgium to provide pedagogical support with developing a curriculum. HOGENT was able to do this but they could not engage beyond mid-2013. Through HOGENT a second partnership was established with Handicap International Rwanda to provide financial and further technical support until 2016.

Federation Handicap International, which runs its programs under the name of Humanity & Inclusion (HI), is implementing a functional rehabilitation project under the funds of DGD. One of the aims of this functional rehabilitation project is to support the University of Rwanda College of Medicine and

Health Sciences (UR-CMHS) to start the Occupational therapy (OT) program. The main methodology includes capacity-building for the College of Medicine and Health Sciences help setting up a professional organisation, and the conducting of advocacy actions targeted at the Ministry of Health to promote the recognition and inclusion of the professional within the national system.

HI has supported Occupational therapy development in two phases started with need assessment. The first phase of the program started in 2014 until 2016. During this phase, HI provides technical and financial support to UR- CMHS for the implementation of the occupational therapy education program. The second phase started in 2017 until 2021. During this phase, HI continually supported UR-CMHS to provide quality occupational therapy training in compliance with international standards and in partnership with the University of Applied Sciences and Art of HOGENT and Thomas Moore as technical assistant's partners. Furthermore, HI supported Rwanda Occupational Therapy Association (RWOTA) to conduct advocacy for the occupational therapy profession development. RWOTA currently has 29 registered members out of 31 occupational therapists existing in the country.

Since the start of occupational therapy program in the University of Rwanda CMHS in 2014, HI has secured all necessary technical and financial means to ensure quality and sustainable occupational therapy training. The overall objective of Federation Handicap International in supporting the occupational therapy training was to formally introduce occupational therapy in Rwanda as part of physical and functional rehabilitation profession and to mainstream the profession throughout the national healthcare system. Currently, UR-CMHS has released 39 occupational therapists graduates with a bachelor's degree. The first cohort graduated in 2018, the second in 2019, and the third in 2021.

4. Stakeholder's Participation Conceptual Framework

To explore the contribution of different stakeholders involved in the development of occupational therapy profession and its impact in Rwanda. The team conducted a preliminary retrospective data search about the development of occupational therapy profession in Rwanda, identify various stakeholders' involvement, challenges encountered and most importantly understand the lesson learnt by all the stakeholders. To understand the lesson learnt by different participating stakeholders in the development of occupational therapy in Rwanda, the research emphasizes on the relevant question, need & rationale behind the study and set out specific objectives that helps in achieving the aim of this study.

Furthermore, Occupational therapy is recognized by the Ministry of Health as rehabilitation service in Rwanda and occupational therapists are currently working in different health care facilities hospitals in Rwanda. In fact, Rwanda occupational therapy association in collaboration with Humanity & Inclusion felt the need to highlight the contribution of different local and international stakeholders, challenges and difficulties encountered during the planning, implementation, and the future projections of the profession in Rwanda.

5. Theoretical Perspectives

There are various stages taken during the development process of occupational therapy program across the world which were similar in Rwanda. This includes initial needs assessment, phase I and II implementation, program evaluation, lesson learnt and way forward. This study examined various literatures to understand how occupational therapy program and profession was developed in different countries, challenges encountered, strategic solution implemented, perceptions of occupational therapy service users and important benefits of government and non-governmental organization involvement.

6. Research Questions

What are the lessons learnt in the development of occupational therapy profession in Rwanda?

Aim of the Study

The study aimed to explore the contribution of different stakeholders in the development of occupational therapy program and impact of the profession in Rwanda.

7. Main Objective

The main objective of this research is to explore the planning, implementation, and future projection of occupational therapy profession in Rwanda.

Specific Objectives

- 1) To identify the contribution of local and international stakeholders that was involved in the development of occupational therapy profession.
- 2) To identify challenges encountered during the implementation of the occupational therapy profession.
- 3) To identify strategies and actions taken to overcome those challenges.
- 4) To identify future perspectives for the promotion of the occupational therapy profession.
- 5) To explore the perception of the Occupational Therapy graduates during their training and practice in Rwanda.
- 6) To explore client's satisfaction with occupational therapy services across the country.
- 7) To explore the lessons learnt by different stakeholders in the development of occupational therapy in Rwanda.

8. Occupational Therapy Training Program and Its Achievement

Africa was noted as challenging place for allied health care professions including occupational therapy [6]. Those challenges include promotion of occupational

therapy educational program, specifically for the native Africans [6]. However, the World Federation of Occupational Therapists (WFOT) emphasizes the need to increase the occupational therapy education in Africa by working with different regional and international professional occupational therapy associations [7].

In 2001, there were 12 occupational therapy training programs in Africa [8]. [9] identified 16 occupational therapy training programs in their study about occupational therapy and physiotherapy education and workforce in Anglo-phone Sub-Saharan African (SSA) countries. Occupational therapy is a developing rehabilitation profession in Rwanda. Meanwhile, the University of Rwanda started the occupational therapy training program in 2014 [10] and the program was accredited by the World Federation of Occupational Therapists in 2016 [11].

Since the start of occupational therapy program, some achievements had been registered. This includes; Availability of occupational therapist, employment of occupational therapists at different health care facilities, awareness raising in the country, research implementation, educational development, collaboration with national and international institutions and achieving local and international recognition [12].

9. Notable Challenges Encountered during the Implementation of Occupational Therapy Program

Different challenges that impact the growth of occupational therapy education program in Africa. Those include, reliance on foreign teaching staffs instead of native Africans, clinical and academic support from the international volunteers of which most of them usually returned home, lack of clinically trained staff to supervise students, lack of health care volunteer to establish occupational therapy service in community, poor pay and lack of appropriate health care facilities to carry out occupational therapy service [13]. Also, limited resources such as assessment and treatment tools were identified as the major challenges confronting occupational therapy students at clinical setting in developing countries [14]. Furthermore, inadequate government funding of occupational therapy programs, mis-understanding of health care professionals towards occupational therapy practice, shortage and lack of trained occupational therapist, limited private sectors support of occupational therapy programs, lack of provision of occupational therapy education and advocacy by private organizations to support creation of more recognised occupational therapy education are parts of the identified challenges confronting the profession [15] [16] [17]. Shortage of occupational therapist practitioners was reported in the United State of America due to lack of governmental and private sector support and poor strategies for raising OT's professional awareness [18]. In Rwanda the afore-mentioned challenges are present and are not limited to occupational therapy. Although these challenges exist across all rehabilitation disciplines and there could still be more that need to be explored. Hence the need for partnering with non-governmental organization is essential for sustainability of the profession.

10. Strategies Used to Overcome Different Challenges

It was emphasized that community outreach and awareness activities are a good strategy to make occupational therapy recognized. Promoting occupational therapy values and emphasizing on the unique role of occupational therapy should be set as a priority in achieving occupational therapy recognition [19]. Additionally, increasing the numbers of qualified occupational therapy professionals in a country would serve as a good strategy to show case the relevance of the profession to attract more funding [20].

In 2019, the need for-structuring occupational therapy as a primary health care provider was proposed for better management of people with disability with emphasis on early intervention, disability prevention and advocacy [21]. This will increase the visibility and awareness of occupational therapy practice among health care service providers. However, there is no information found which are specific to strategies implemented in Rwanda, thus, there is a need to explore those strategies in this study.

11. Client Satisfaction of Occupational Therapy Services

Different studies have identified client's satisfaction from occupational therapy services all over the world for the population ranging from children to geriatrics. In Namibia occupational therapy customers' were satisfied with occupational therapy services delivery in terms of patients care and quality of services delivery [22]. Also, it was reported that occupational therapy clients with traumatic brain injury, parents' of children with cerebral palsy, patients with haemodialysis and people with dementia were satisfied with occupational therapy services delivery and improvement of quality of life [7] [23] [24] [25].

12. Relevance of Stakeholders in the Development of Occupational Therapy Program (Universities and Non-Governmental Organizations)

Drawing from the challenges, it's visible that there is always limited governmental support during the implementation of occupational therapy programs, hence the need to involve other stakeholders who will support the development and implementation of the program. Some literatures revealed that the government and other stakeholders provide a greater support and helpful guidance in the development of a healthcare system with occupational therapy inclusive [3]. The essence of occupational therapy services incorporation was to implement occupational therapy education, preventive programs and awareness of the relevance of the profession at primary health care level to the appropriate population [26].

In Rwanda, Humanity & Inclusion (HI) through its functional rehabilitation project and other stakeholders has been instrumental in the development of occupational therapy profession and their contributions were explored in this study.

13. Ethical Approval

Ethical clearance was obtained from Humanity & Inclusion, non-disclosure of participant information was guaranteed and consents of participation were signed by all participants.

14. Study Area

The study areas were decided based on the categories of the study participants. Participants were categorised into seven different clutters including Ministries, Universities, Professional Associations and Board, Non-Governmental Organizations, Occupational Therapy Graduates, Occupational therapy end-service users and other Contributors. In each category, there are several individual key contributors with distinct differences in terms of support and areas of focus. The Ministries involved in the development and implementation of occupational therapy program in Rwanda include: Rwanda ministry of health, Rwanda ministry of education through its Higher Education Council and Ministry of labour and public service. The universities involved are University of Rwanda, University of applied sciences and Art of HOGENT, Thomas Moore University, and Stellenbosch University. World Federation Occupational Therapists, Rwanda Allied Health Profession Council, Occupational Therapy African Region Group, Rwanda Occupational Therapy Association serves as the Professional Associations and Board that were part of the occupational therapy development. Further, the Non-governmental organizations that were part of the development and implementation includes; Humanity &Inclusion, Christian Blind Mission, International Committee of the Red Cross. Other contributors include; the Lecturers in occupational therapy program at University of Rwanda, occupational therapy graduates, clients who received occupational therapy services at the following practice settings: CARAES Ndera Neuro-Psychiatric Hospital, HVP Gatahara Orthopaedic and Rehabilitation Hospital, Gahini Rehabilitation Centre, Love with Actions, and Rwanda Military Hospital.

Therefore, the aforementioned places serve as the study areas because each have participated in the development and implementation of occupational therapy program, as they are among the health care facilities providing occupational therapy services. Considering the nature of occupational therapy program development in Rwanda, all the stakeholders were contacted to understand their essential roles and lesson learnt during the development and implementation of occupational therapy program.

15. Study Approach, Design and Data Collection

A survey and mixed method of qualitative and quantitative approach was used to obtain necessary data in order to assess each stakeholder's contribution towards the development of occupational therapy profession and its impact in Rwanda. The focus was to devote careful attention to each stakeholder's participation during the development and implementation of occupational therapy

profession with careful examination of strategies used, achievements, challenges, draw backs and lesson learnt by each stakeholder.

The survey and mixed method study design approach was considered appropriate in this study because in spite of the fact that the researchers explored in depth activities and processes of each individuals' stakeholders, the extent of knowledge of study participants and opinion on the subject matter under investigation vary. This gave the researchers the opportunity to collect detailed information using variety of data collection procedures over a sustained period of time. The predominant data type was qualitative, notwithstanding the indispensability of some amount of quantitative data.

The study used semi-structured interview guides and questionnaires as tools for data collection. Semi-structured interviews were conducted and questionnaires administered as methods of data collection to ensure an extensive examination and understanding of the phenomenon as well as the dynamics of each stakeholder's contribution during the development and implementation of occupational therapy profession and to understand the impact of the profession on the service users across the practice settings. The data collection process involved seven categories of stakeholder's responses including the Ministries, Universities, Professional Associations and Board, Non-Governmental Organizations, Occupational Therapy Graduates, Occupational therapy services users from the selected practice settings and other Contributor's response category.

As Kothari [27] stated, whenever a study sampling is made their arises some sampling error which can be controlled by selecting a sample of adequate size and that the researcher will have to specify the precision that he wants in respect of his estimates concerning the population parameters.

In view of this, a 1.5% margin of error was allowed at 95.5% level of precision in determining the true population value within the range of precision indicated. The confidence level of 95.5% gives a z-score of 1.242 from the standard distribution. Given a population defectiveness rate of 1.5% (p) of the client's stakeholder across the selected practice settings in Rwanda and to obtain a conservative estimate of the sample size required, q was set at $(1-p)$ which is often used to determine the sample size that will achieve the precision indicated.

Considering the variables explained above, the sample size determination formula above was adopted to determine the sample size for the clients (occupational therapy service users) used in this study:

A total of 233 client's respondents were drawn from CARAES Ndera Neuro-Psychiatric Hospital, HVP Gatagara Orthopaedic and Rehabilitation Hospital, Gahini Rehabilitation Centre, Love with Actions and Rwanda Military Hospital. The 233 client's respondent's population were sampled for the study given average number of 46 sample size for the occupational therapy service users. Convenience sampling technique was used to sample the clients because of the diverse nature of each practice settings.

Meanwhile, the research team target one hundred and twenty-five stakeholders' respondents. This was distributed as follows: Twenty seven (27) stakehold-

er's representatives from Rwanda ministry of health, Rwanda ministry of education, Rwanda ministry of labour; University of Rwanda, HOGENT university, Thomas Moore university, Stellenbosch university; World Federation Occupational Therapists, Rwanda allied health profession council, Occupational Therapy African Region Group, Rwanda occupational therapy association; Humanity & Inclusion, Christian Blind Mission, International Committee of the Red Cross. Thirteen (13) other contributors' respondents, Thirty-nine (39) graduates of occupational therapy program respondents and forty-six (46) clients of occupational therapy services.

The study therefore employed purposive non-probability sampling, and the convenient sampling method. The purposive sampling was used such that the potential respondents were known in advance, and the selection was based on the fact that they have the relevant knowledge and experience with which to contribute to the study [28]. The stakeholders, other contributors and occupational therapy graduates were not sampled because the numbers were already pre-determined which is in line with the above information.

In summary, the study sample size is illustrated as follows:

Total of N = 125 respondents drawn from; n = 46 occupational therapy services users, n = 27 stakeholders, n = 13 other contributors and n = 39 occupational therapy graduates.

15.1. Inclusion Criteria

This study involved individual stakeholders who were involved in development of occupational therapy profession, contributors who were involved in the occupational therapy education training in Rwanda, stakeholders who have the mission to support rehabilitation services including occupational therapy, graduates of the occupational therapy program and clients who received occupational therapy services from the selected practice settings. The client must be cognitively orient to situation around and in case of mental health patient; care giver could help during the process of participation.

15.2. Instrumentation

A range of different tools was used to collect, analyses and document data, which includes Client satisfaction questionnaire (reliability of 0.83 to 0.93) and Semi-structured, self-generated questionnaire. The semi-structured, self-generated questionnaire includes; Questionnaire for Ministries and higher education council, Questionnaire for the Universities, Questionnaire for Professional associations and board (Cronbach's Alpha of 0.6), Questionnaire for non-governmental organizations, Questionnaire for other contributors and Occupational therapy graduates opinion Questionnaire (Cronbach's Alpha of 0.91) [29].

The psychometric properties of the above instruments were tested through a preliminary pilot study conducted on the tools before applying on the main study population.

The preliminary study on the tools involved stakeholder's representatives and clients from two selected practice settings; New life Autism foundation and Wikwiheba Mwanacentre. The semi-structured self-generated questionnaire was given to four stakeholder's representatives and eight occupational therapy service users from the above selected practice settings. The questionnaires that target the Universities, Ministries, NGOs, Organizational, Boards and Associations were designed according to their mission and with the purpose of identifying the contribution of each stakeholder.

16. Data Collection Procedures and Analysis

Electronic written letters were served to the respective stakeholders requesting their participation and consent agreement was signed by all the participants who participated in this study. The client satisfaction questionnaire was translated from English to Kinyarwanda for easy comprehension of clients who do not or with limited understanding English language. The research team decide which tools should be used to collect information from which stakeholders; the data was collected by face to face, online mailing system, phone and video call and in some cases combination of all using survey CTO software.

The data will be analysed qualitatively by sorting and categorising the data that will be obtained from the semi-structured and client's satisfaction questionnaires according to thematic areas. The qualitative responses will be summarised to fit well in the study since they will be detailed in nature. The data will also be analysed using themes. Precisely the responses from different respondents were compared to determine the most occurring responses and these were used in the analysis and interpretation of the data. The authors developed three-point Likert scales which will be applied in determining the stakeholder's contributions, challenges, lesson learnt and impact of the profession in Rwanda during the analysis with reference to the study objectives.

The data will be summarised in the form of narratives and most importantly the objectives of this study will be used to illustrate the main findings. Quantitatively, the statistical package for social scientists (SPSS) version 23 will be employed using descriptive analysis of the respondents; to analyses the demographic distributions, measures of central tendencies, correlation co-efficient and other statistical relationships between variables in the semi-structured self-generated questionnaire will be used, Cronbach's Alpha was used to test the internal consistence of all the tools after piloting and Excel sheet, tables and graph will be used to present the results and interpretation.

17. Results and Interpretation

The results obtained during data collection process were detailed in this section. Demographic data of the participants from Ministries, Universities, NGOs, other Stakeholders, Professional Associations and board, occupational therapy graduates and occupational therapy services users were provided. The themes and categories were presented in the analysis. Thereafter each theme and its asso-

ciated categories were described in details.

Table 1 indicates the gender and distribution of the participants that participated in this study except occupational therapy graduates and services users. As reflected in the table, the university and other contributors such as lecturers were instrumental in the occupational therapy program and profession development.

Table 2 shows the gender distribution of the clients who participated in this study and diverse categories of the clients. It was recorded that majority of the clients' participants were suffering for various physical disabilities such as, cerebral palsy, cerebra-vascular accident, spinal cord injuries, and developmental delay among other conditions.

Figure 1 summarizes the gender, age distribution and employment status of occupational therapy graduates. It is noting that; majority of occupational therapist in Rwanda is male as compare to their female counterparts which accounts for 31% out of the entire occupational therapist population. Also, the therapist is between 20 and 30 years old and only half of the entire population are presently employed. This is the most active age and there is need for employment in other to preserve the skills achieved by the graduates during their training.

Table 1. Demographic distribution of the stakeholders. Demographic data including age, gender, positions and employment status were provided in the table below.

Stakeholders	Frequencies	Percent	Cumulative Percent	Gender	
				Female (%)	Male (%)
Ministries	2	7.1			
Universities	8	28.6	7.4		
Other contributors	7	25.0	37.0		
NGOs	5	17.9	63.0	54	46
Association & Board	5	17.9	81.5		
Total	27	96.4	100.0		

Table 2. Demographic distributions of the client participants.

Disability category	Frequency	Percentage	Overall cumulative percentage
Physical disability	33	67%	49
Intellectual disability	3	6%	
Visual disability	1	2%	
Multipledisability	12	24%	100%

Gender		
	Female	Male
Frequency	25	24
Percentage	51%	49%

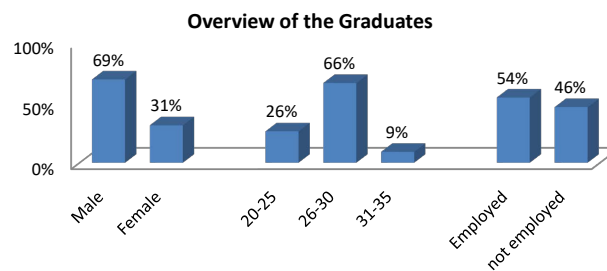


Figure 1. Occupational therapy graduates distribution.

Figure 2 reflects the program objective achievement by the Universities. This analysis has shown that, Universities are among the main stakeholders that offered great contribution to the development of occupational therapy program and profession in Rwanda. Majority of the involved Universities excellently achieved their responsibilities. However, few of them reported to have achieved only 50% of their responsibilities towards occupational therapy program and profession development.

Other stakeholders mainly include Lecturers who have provided their contributions by fulfilling their respective institutional duties and responsibilities towards the development of occupational therapy program and profession through lecturing and engaging occupational therapy graduates in meaningful activities. Some of them reported to have excellently achieved their duties and responsibilities while others reported to have achieved only 50% of their duties and responsibilities towards the development of occupational therapy program and profession. However, some participants were not able to achieve their duties and responsibilities due to various reasons. This impact on the program development as reflected in **Figure 3**.

Figure 4 indicated that all NGOs that have contributed to the development of occupational therapy program and profession are aware of occupational therapy and understand its uniqueness. They also collaborate with Rwandan occupational therapy association during different activities to promote the profession. Although, they all met with different challenges and were aware of those challenges as reflected in the chart above. Furthermore, majority reported to have excellently achieved their responsibilities during the development of occupational therapy program and profession while others reported otherwise; with minimal contribution and less than 50% responsibilities achievements as reflected above.

Occupational therapist serves as the end users of the program developed and also responsible for delivering of occupational therapy services across different settings. The outcome of the graduate responses shows that half of the graduated occupational therapist have gainfully employed at various healthcare facilities and are able to be mentored by senior colleagues, lecturers and or other rehabilitation professional present at their work place. Majority of the occupational therapist are satisfied with their nature of job responsibilities. Although, they all face challenges at the beginning of their practice and aware of those challenges and were able to mitigate around those challenges as reflect in the chart above.

Furthermore, it is clearly shown that there are limited job opportunities in the country and almost 47% of the graduates are not employed in Government institution as reflected in **Figure 5**.

The study showed that participants who attend Occupational therapy service were very satisfied with the occupational therapy services received across different occupational therapy practice settings as reflected above. Meanwhile, the result indicates that 73.5% of the respondent was very satisfied and 59% were also satisfied with services received from occupational therapy graduates at different institutions. Although, 20% of the respondents were not at all satisfied with occupational therapy services delivery as reflected in **Figure 6**.

18. Discussion

Key contributions, challenges and lessons learnt by the stakeholders during the development of occupational therapy profession.

Exploring the program achievement by universities

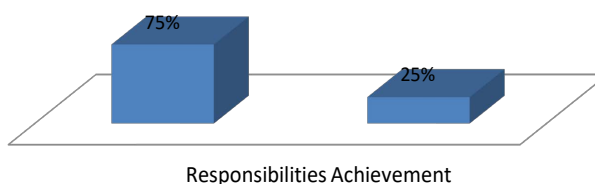


Figure 2. Roles and responsibilities achieved by Universities.

Exploring the program achievement of other contributors

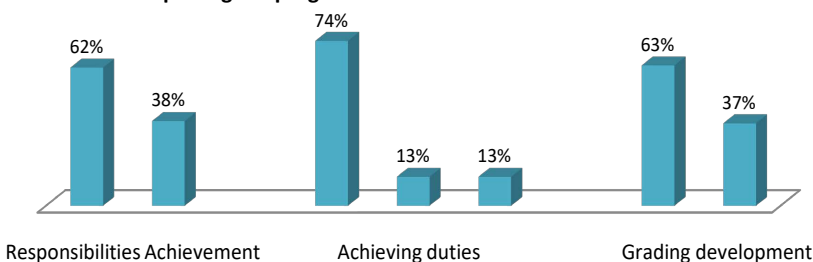
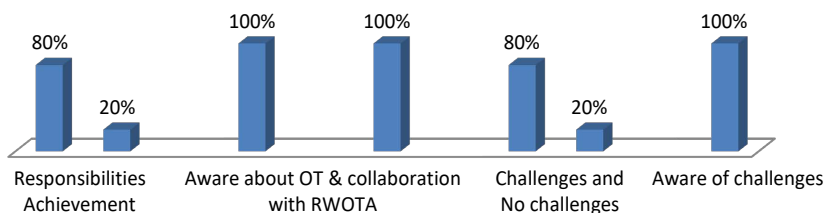


Figure 3. Achievements of other contributors (Lecturers).



Exploring the program achievement of the NGOs

Figure 4. Achievement distribution of Non-Governmental Organizations to the Profession.

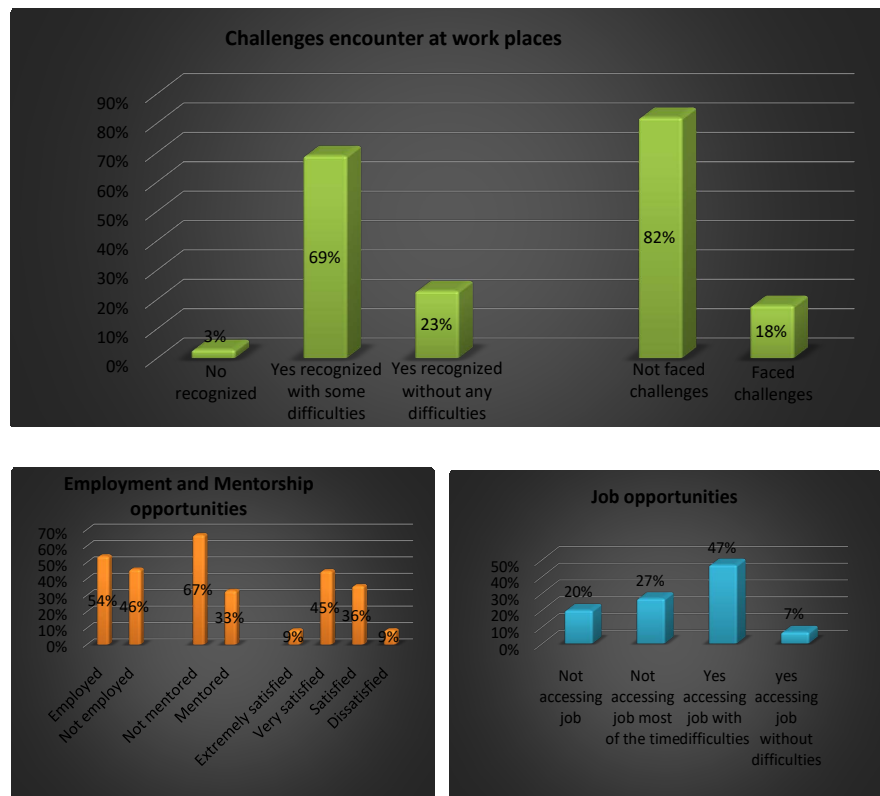


Figure 5. Exploring the opinion responses of the graduates.

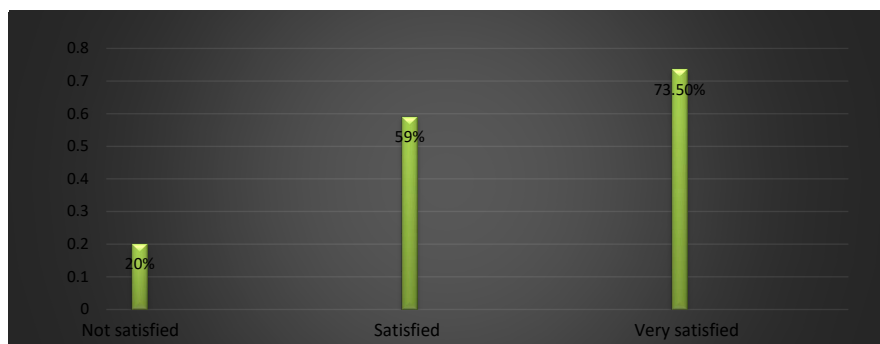


Figure 6. Client Satisfaction following intervention received across different settings.

19. Contributions of the Stakeholders

19.1. Ministries

The outcome of this research shows that Ministry of Health and Ministry of Education was instrumental in the cabinet approval and proper implementation of occupational therapy program in Rwanda. This was achieved through advocacy and sensitization of different organizations, including NGOs and hospitals for better consideration and sustainability of the profession. The integration of occupational therapist into the Rwanda work scheme and expansion of occupational therapy services in private special schools for children with disabilities was achieved by the Ministry of Public Service and Labour.

19.2. Universities and Lecturers

Furthermore, different universities contributed to the development of occupational therapy profession through different activities and functions. Their contribution includes but not limited to the Curriculum development by consulting experts in different fields, developing the learning outcome, objectives of each modules, referencing other international standard curricula, developing modules contents, and presentation of the final draft of the curriculum for the University of Rwanda Senate approval. It was also revealed that, some of the staff from these universities participated in administrative role, establishment of the occupational therapy program, overseeing the program development, and facilitated the partnership between University of Rwanda and other universities for the sustainability of the program, participating in funds and resources/materials mobilization from partners, participated in education, training and supervision of the occupational therapy students.

The study further indicates that, occupational therapist and lecturers from different countries contributed to the development and implementation of occupational therapy program in Rwanda with key contributions to the academic activities, heading the occupational therapy department, and clinical supervision.

19.3. Non-Governmental Organization

The results also shows that HI provided technical assistants in the following areas; occupational therapy guidelines development, organizing and attending OT conferences, provision of RWOTA operation office, training of OT aides at different settings during the early implementation of the program, equipping the occupational therapy skill lab and funding of occupational therapy program among others.

HI through it Functional Rehabilitation project in Rwanda was important to the establishment of occupational therapy profession from inception and inaugurate of Rwanda Occupational Therapy Association as the legal body for all occupational therapists in Rwanda with affiliation to WFOT.

HI was not limited to the establishment of occupational therapy profession and professional association but also instrumental in the training of occupational therapy students from the University of Rwanda, through the provision of financial and technical supports at both the university and at clinical settings. HI collaboration with university of Applied Sciences and Art HOGENT, Stellenbosch University and the University of Rwanda, aimed to providing the training for occupational therapists in Rwanda and beyond.

Furthermore, CBM is involved in occupational therapy development at Gahini Rehabilitation center. Before and after the commencement of occupational therapy education program in Rwanda, CBM supported the establishment of occupational therapy profession by building and equipping a world class occupational therapy department at the center and provision of financial support in-

cluding salary payment of foreign occupational therapist employed at the center. The students from the University of Rwanda benefited from the use of this built occupational therapy department as well as expertise of occupational therapist at the setting and other rehabilitation team including the Physiotherapist, Prosthetic and Orthotic technician.

It was noted that ICRC is strengthening rehabilitation services and other health sectors in Rwanda and championing efficient collaboration between the rehabilitation professionals. Also, ICRC is fostering inter-professional collaboration between P&O, OT, and PT at the University of Rwanda to help develop students in this model of practice and emphasized that clients will benefit more when the professionals are cohesively collaborated towards the needs of clients.

19.4. Professional Associations and Boards

The Rwanda Occupational Therapy Association (RWOTA) contributed in the development of occupational therapy in Rwanda by collaborating with the University of Rwanda to sensitize students during the induction week of the first cohort of occupational therapy students, supporting students and graduates in awareness activities such as exposition and engaging students in celebration of occupational therapy day. It also engaged in field visit to different hospitals and rehabilitation centers across the country to find out challenges and problems faced by occupational therapy professionals at their working areas, participated in situation assessment of rehabilitation in Rwanda championed by Ministry of Health and development of a unified tariff document for the purpose of billing for services delivered by occupational therapists. The billing codes are intended to help the private and public insurance for the universal service charge of occupational therapy services. RWOTA established partnership with HealthEdu, Rwanda allied health professional council, Rwanda health care federation and other organizations for professional development of its members.

It was also shown that RAHPC contributed to the development of standard guidelines on the training and practice of occupational therapists. It was noted that OTARG representative contributed during the curriculum development, lecturing, and serves as external examiner at various occasions. Finally, the finding of this current study shows that, WFOT provided ideas on the curriculum design and provision of advice on the establishment of RWOTA as well as accreditation approval of occupational therapy education program.

Literature shows that, collaboration between different organizations and government agencies is a core to establishment and development of health profession in a country. The results from this current study revealed similar strategies as used by Medical Committee Netherlands Vietnam (MCNV) during the development of occupational therapy in Vietnam [30]. Further, the contribution of Ministry of health, NGOs and Universities played a big role during occupational therapy development in Vietnam. Those contributions include, provision of occupational therapy lecturers, involvement in the development of curriculum and

provision of technical support [31]. Also, the contribution of Regional professional body has been noted as a core to the development of a profession. It is well emphasized by Crouch [14], that WFOT through OTARG played a big role to the development of occupational therapy on Africa continent.

20. Challenges Encountered and Strategies Used

Different challenges were revealed during the development of occupational therapy profession in Rwanda. Those challenges include but not limited to, inadequate materials, shortage of staffs and lack of mentors.

The results show that, Ministry of Education and RAHPC assessed the OT program and discovered some challenges including inadequate equipment, materials and textbooks that were required for proper implementation of the occupational therapy program at the university and different areas of work. Based on the outcome of this, the University of Rwanda didn't admit occupational therapy student between 2017-2018 and 2018-2019 academic years. The MoH experienced challenges in terms of shortage of occupational therapist practitioners due to the drawback based on the report of the ministry of Education and RAHPC.

Despite the contributions from different universities; some challenges were encountered during the development of the occupational therapy program in Rwanda. These challenges included the shortage of human resources/lecturers at University of Rwanda, lack of experienced occupational therapists to guide on the needed equipment's, problem coordinating the program, limited budgets, and delayed procurement process. The lack of specific place for occupational therapy materials, inadequate mentors at the clinical settings and limited occupational therapy services in the health settings was also reported by RWOTA, occupational therapy graduates and Universities. Similarly, challenges such as lack of funds for awareness activities, supervisions, mentorship, continuing professional development provision were also reported by occupational therapy graduates. Further, limited occupational therapists lecturers of different specialties were the major reason why Ministry of Education temporarily suspended the program in the mentioned academic year above. The results of this current study are similar to the study on the role and scope of occupational therapy in Africa, where lack of governmental support, insufficient resources such as, supervisors, lectures [32], as well as educational materials, CPDs, reliance on international organizations supports; were found as challenges encountered by occupational therapists [33].

However, the universities have managed to overcome the encountered challenges. One of the strategies was hiring expatriates based on the UR students staff ratio, getting the teaching staff from the partnering universities, training Rwandan OTs to advance their studies outside the country, equipping OT skills lab, equipping OT study materials at university library, conducting community outreach activities, finding additional clinical sites for students' placement, as

well as collaboration and finding support from the NGOs.

Even though HI is very enthusiastic to support the development of occupational therapy profession in Rwanda, The results show that, HI and CBM have encountered the following challenges; misunderstanding about the role of occupational therapists among the healthcare professionals and same was also reported by RWOTA. Further, ICRC reported that unavailability of occupational therapy representative who could have benefited from different seminars and workshops to take advantage and raise awareness about occupational therapy services among other healthcare provider.

Delayed approval of occupational therapy unified tariff document has also been noted by HI and RWOTA; and this has hindered the occupational therapy graduates to secure suitable jobs. HI with a goal to serve some certain population who are in need of rehabilitation services confronted with misunderstanding of the profession by decision makers and clinicians serving at different healthcare facilities. Thus, some beneficiaries are deprived of occupational therapy services due to limited referral to occupational therapy department from the healthcare providers (clinicians and service providers). Throughout HI collaboration with UR/CMHS and RWOTA, different advocacy and awareness activities were organized. Furthermore, the information about occupational therapy and the need of its services in Rwanda was presented during different conferences and seminars attended by professionals with different expertise, service users and partners. Moreover, CBM used different strategies to overcome these challenges including provision of equipment and training of occupational therapy aides. With these facilities, the international students from Belgian and USA came for internship at the setting and helped in awareness risings, and donation of occupational therapy materials. HI and RWOTA encouraged professionals to use locally available materials, sharing challenges with other occupational therapists working in different places to come up with context based solution, Sites visits for explaining more about occupational therapy in different health care facilities, Advocating for the profession at Ministry of Health as well as networking with other professional associations.

It was emphasized that, networking, joining local professional association and advocating for the profession, are crucial strategies to professional development [34]. Further, awareness activities are well recommended as a way to harness professional advancement [35].

21. Reflections of Occupational Therapy Graduates and Impact of the Profession on Client of Occupational Therapy Services across Different Setting

Occupational therapy graduates practiced across different settings as an intern, employee and volunteer in various activities including occupational therapy service provision, raising professional awareness, fabrication of adaptive equipment.

The study showed that 54% of the graduates are employed while others served as an interns or volunteers at different healthcare facilities. In addition 67% had local mentorship opportunity and presence of the occupational therapy graduates' has facilitate recognition of the profession among interdisciplinary team members as reflected in the result. This study also showed that vast majority of the client treated by the occupational therapy graduates were satisfied with the services received at different settings. Although about 20% of the clients were not satisfied with the services received. This correlates with the challenges faced by occupational therapy graduates at different settings which were: shortage of qualified and experienced occupational therapists at clinical site, lack of mentors, lack of enough teaching aids (books, notes, and articles), inadequate equipment at working site, inaccessibility to assessment tools which are very expensive and limited occupational therapy jobs across the country. This is in line with a study done by [36]. titled new graduates' experiences of learning to practice occupational therapy, it was reported that newly graduate of occupational therapy program encounter challenges related to practice skills, system issues, professional identity, unstructured work environment, bridge between academic training and clinical settings. More so, occupational therapists need continuous professional development, suitable work environments, ongoing strengthening of the training centers, professionals supports, mentorship and clearly define their role to better satisfy their clients [11] [15] [16] [37].

22. Lesson Learnt during the Development of Occupational Therapy Profession in Rwanda

It was learned that the development of occupational therapy profession is much-needed to compliment other rehabilitation professionals that help in serving the population in need of rehabilitation services in Rwanda and integration of occupational therapy services into healthcare system by policy makers serve as the benchmark for the acceptance of the profession. It was also learned that occupational therapy services are supposed to be delivered by the occupational therapist and not institution trained occupational therapist aides who were unable to mentor or improve the practical skills of the occupational therapists and that of the clients. Collaborative work among occupational therapists through awareness rising and job opportunities will help in the advancement of the profession.

Further, there is need for periodical curriculum revision for the upcoming occupational therapists in order to keep up to date learning, evidence-based practice and standard of the profession. The lesson learned during the development of occupational therapy profession in Rwanda can be correlated with a report from qualitative descriptive study conducted on 15 occupational therapists from 11 African countries which stated that collaboration among occupational therapists is essential to occupational therapists role within a multi-disciplinary team, to provide professional support, and international partnerships [17].

It was quoted that “occupational therapy is a profession that help to improve quality of life for both persons with disabilities and non-disabled”, played a paramount role in helping people with disability to resume their occupations after injury. Meanwhile, occupational therapy is an expensive profession that need non-governmental partnership as well as the government and qualified Rwandan occupational therapy lecturers for the sustainability of the profession.

This study found that Rwanda Medical Supply need to available sophisticated occupational therapy equipment and materials on their order of medical equipment for the entire nation. This will solve the challenges reported by the occupational therapists both at the university and practice settings. It was also learned that Rwandan occupational therapists need to maintain global core principles of occupational therapy, including focusing on occupation, function, participation, empowerment and holistic practice at all time to maintain their professional identity. However, they must also be rooted in their local context, providing contextually relevant practice, sustainable services, developing appropriate practice tools, using local resources and respecting cultural norms and beliefs of the clients. Following the improvement noted in clients of occupational therapy services delivery across different settings, it was learnt that occupational therapy clients were satisfy with services received and gain recognition across different settings in Rwanda. Further, there is need for networking with other foreign hospital and universities which will be very important in sharing and transferring skills between occupational therapists professionals. This can be achieved through internship and mentorship program in various areas of occupational therapy practice [38] [39].

23. Recommendations and Future Perspective of the Profession in Rwanda

Stakeholders that participated in this study have reported different future perspectives towards the development of occupational therapy profession.

This study showed that, there is a need for continual promotion and sustainability of the profession in Rwanda. This can be achieved by increasing the number of students on Master’s degree scholarship, occupational therapists practical skills, participating in interdisciplinary training, strengthening the education of occupational therapy in mental health, prisons, displacement (refugee), geriatrics, collaborating with developed occupational therapy programs in Africa, awareness and recognition activities, scientific based research activities, implementation of evidence-based practice, capacity building through international collaborations with professional associations, regional professional bodies and world federation of occupational therapists to exchange learning and experiences in different practice context and expansion of occupational therapy training facilities with world class well equipped occupational therapy units.

In addition, there is a need for the expansion of occupational therapy services at district, provincial hospitals, prisons, schools and approval of unified tariff

document for occupational therapy services by the Ministry of Health and Ministry of Education. This will avail more job opportunities for the occupational therapists. Similarly, there is a need for institution-level tariff document to guide occupational therapy services billing across different levels of health care facilities including (teaching, referral, provincial, district, Rehabilitation hospitals and school settings among relevant others).

Furthermore, HI and other stakeholders are optimistic and passionate to continue their partnership with the training institution, continual provision of technical supports, funding and increased advisory services for the professional development of occupational therapy profession as a new emerging rehabilitation profession in all areas of practice in Rwanda. This plan is in line with a study report by [7] which revealed that the government and other stakeholders provide a greater support and helpful guidance in the development of healthcare profession.

Lastly, it was proposed that strong links must be maintained between the University of Rwanda that is training the occupational therapist and the professional association of occupational therapist (RWOTA) in order to ensure consistency around occupational therapy services delivery and advancing the advocacy as future plan to make it well-known among medico-social workers.

24. Conclusions

Although many lessons were learned through this experience which has allowed the occupational therapy program to shine in the country and the community while also promoting skills development in the next generation of occupational therapists and contributing to betterment of rehabilitation practices in Rwanda. Even though the occupational therapists' graduate showed that their clinical practice brought changes to clients' quality of life, they are still in need of further support and facilities in their practice fields to advance practical skills and better serve the clients. It was also noted that different future projections were highlighted by different stakeholders involved in the program development which has to be taking into consideration in the coming years to enhance and promote the relevance of occupational therapy profession in Rwanda and finally, this study concluded that there is need for various stakeholders' contributions and collaboration, continuous awareness activities, networking and active professional association to achieve occupational therapy professional development and recognition.

However, there is a need for further study to explore the impact of occupational therapy profession in rehabilitation healthcare system of Rwanda.

25. Limitations

Although this study has come to an end, the following are limitations encountered:

- Different stakeholders' representatives who were there at the planning and

implementation of the program, were no longer in place when this study was conducted thus impacted the retrospective data collection process.

- Lack of situational analysis document that was used as the baseline to start the program in Rwanda.

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Data Availability Statement

The raw data are available and kept in Rwanda Occupational Therapy Association archives.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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List of Abbreviations

WFOT: World Federation of Occupational Therapists;
HI: Humanity & Inclusion;
DGD: Direction Generale de Development Belge;
UR-CMHS: University of Rwanda College of Medicine and Health Sciences;
OT: Occupational Therapy;
RWOTA: Rwanda Occupational Therapy Association;
MoH: Ministry of Health;
MIFOTRA: Ministry Public Service AND Labour;
HEC: High Education Council;
OTARG: Occupational Therapy Africa Regional Group;
CBM: Christian Blind Mission;
ICRC: International Committee of Red Cross;
NGOs: Non-Governmental Organizations;
MCNV: Medical Committee Netherland Vietnam.