

# Physiotherapy Students and Clinical Education in Sudan

Tariq Abdalmagid<sup>1</sup>, Hassan Abdelnour<sup>2</sup>, Rashed Aladwan<sup>2</sup>

<sup>1</sup>School of Health Sciences, Physiotherapy Department, Ahfad University for Women, Omdurman, Sudan.

<sup>2</sup>Faculty of Applied Medical Sciences, Physiotherapy Department, Jerash University, Jerash, Jordan.

**Corresponding author:** Hassan Abdelnour

**ORCID ID:** <https://orcid.org/0009-0001-9873-5966>

**DOI:** <https://doi.org/10.5281/zenodo.10046022>

**Published Date:** 27-October-2023

---

**Abstract:** *Introduction:* In Sudan, efforts towards establishing physiotherapy education programs at higher education levels started during the 2000s. Clinical learning experience influences is important to physiotherapy students' knowledge and skills. At the same time, it is widely acknowledged worldwide that clinical placement evaluations is required in order to improve the physiotherapy education as general and the clinical education specifically. The study *aims* to assess Ahfad University for Women (AUW) physiotherapy student's perception and experience during the clinical placement. *Methods:* The study was a descriptive cross sectional study. The data were gathered from 3<sup>rd</sup> year to 5<sup>th</sup> in physiotherapy Specialization at School of Health Sciences, AUW, Omdurman, Sudan. Total of 84 physiotherapy students attending the clinical placement participated in the study. Students were in 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> year of the physiotherapy program. The Clinical Placement Evaluation Form developed by Penman and Oliver in 2004 been used. Data were collected during one month and analyzed by Statistical Package for Social Sciences (SPSS) version 25. Tables and graphs were used to analyse the data. *Results:* Almost (47.6%) of the students were found to be satisfied and felt positive about the experience they encountered at the placement settings. Most of the students (52%), perceived their professional development during the clinical placement. Almost (34.5%) of the students agreed that the barrier is that the clinical educator is not always available in some of the hospitals all times. There were (36.9%) agreed that there are a lack of follow ups during the clinical placement. *Conclusion and recommendations:* Using more diverse and representative investigations in the future could enhance the evaluation of the clinical placement in the physiotherapy educational programs in Sudan as recommended by Snowden *et al* (2021).

**Keywords:** Physiotherapy education, Clinical placement, Clinical Supervision, AUW, Sudan.

---

## 1. INTRODUCTION

Sudan is a developing country located in north east Africa. Education and health services meets several challenges due to lack of resources and political instability. There were limited access to physiotherapy education and services in the Sudanese community till mid 2000s (Abdelnour, 2020; Haugland *et al*, 2014). Therefore, efforts towards establishing physiotherapy education programs at higher education levels started. This efforts been conducted through different institutions such as Ibn Sina University, Al Neelain University, National University, and AUW as first institutions took the lead establishing such kind of educational program (Abdelnour, 2020). The idea of clinical education in physiotherapy education is to transform student's theoretical classroom knowledge into professional practice knowledge. This shows the importance of clinical educators in the process.

The use of international partnership and collaboration been used in establishment of the physiotherapy education at AUW (Abdelnour *et al*, 2023; Haugland *et al* 2022; Haugland *et al*, 2014; Abdelnour, 2020).

Limited efforts been done towards assessing clinical education for physiotherapy students in Sudan (Abdelnour *et al*, 2023). The benefit of exposure to clinical placement shows positive impact into physiotherapy knowledge and skills at AUW (Abdelnour *et al*, 2023). In this study, the clinical assessment for clinical placement includes the clinical education from different aspects such as student's perception and experience.

## 2. METHODOLOGY

Descriptive cross sectional study design was used. Officially registered AUW physiotherapy students of the 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> year class were the targeted population due to the fact that they exposed to clinical placement settings in their program curriculum. Their total number was 84 students and all of them agreed to participate in the study.

Data was collected using The Clinical Placement Evaluation Form developed by Penman and Oliver. Descriptive statistics to analyse the survey data was implemented. Data were entered into Microsoft Excel sheet then exported into the Statistical Package for the Social Sciences (SPSS) version 25.0. Tables and Graphics were used to categorize the continues data.

An Official consent forms was obtained from Sudan Medical Specialization Board, Dean of the Faculty of Health Sciences AUW Research Ethics Committee, and students participated in the study to guarantee their approval for the conduction of the study. Study title and objective clearly explained to the participants and confidentiality been granted.

## 3. RESULTS

### 3.1. Demographic Data:

Most of participant's age varies from 19 to 25 (52.4%) years old, in 3 different academic years from 3<sup>rd</sup> year to 5<sup>th</sup> year. Most of the respondents were residing in Omdurman (64.3%), followed by those residing in Khartoum (21.4%), and Khartoum north (14.3%).

Most of the respondent attend their clinical placement in primary health center (35.7%) followed by secondary hospitals (31%), private hospital (20%) and tertiary hospital (10. 7%) as shown in table 1.

**Table 1. The facility where students have their placements:**

Type of Facility	Frequency	Percent
Secondary Hospital	26	31%
Tertiary Hospital	9	10.7%
Private Hospital	18	20.2%
Primary Health Care (PHC) Center	31	35.7%
<b>Total</b>	<b>84</b>	<b>100%</b>

Most of the respondent attend their clinical placement in Primary Health Care (PMC) Centers (35.7%) followed by Secondary Hospitals (31%), Private Hospitals (20%) and Tertiary Hospitals (10. 7%) as shown in table 2.

**Table 2. The student's supervisor ratio:**

Student supervisor ratio	Frequency	Percent
1:1	13	15.5%
1:2	3	3.6%
1:3	2	2.4%
1:4	45	53.6%
1:5	10	11.9%
Other	11	13.1%
<b>Total</b>	<b>84</b>	<b>100%</b>

Regarding physiotherapy practice to thematic areas community placement have the highest rate of physiotherapy thematic practice, (38.1%), followed by neurology (32.1%), pediatrics (17.9%) and orthoses & prostheses (9.5%) as shown in table 3.

**Table 3. The type of the placements training conducted by the students:**

Type of placement	Frequency	Percent
Pediatric	15	17.9%
Orthopedic	0	0%
Neurology	29	% 5.43
Cardiopulmonary	0	0%
Women’s health	0	0%
Rheumatology	0	0%
Orthoses & prostheses	8	9.5%
Community	32	38.1%
<b>Total</b>	<b>84</b>	<b>100%</b>

**3.2. Assessment of the clinical training:**

Most of students (47.6%) agree that the placement assisted their learning and enhance their clinical skills. Regarding the feedback by clinical staff and supervisor most of student agree that the feedback was adequate (56%, 53.6%). Most of the student (65.5%) agree that the patients load was adequate. Most of the student agree that the orientation by clinical staff and supervisor was adequate (42.9%, 38.1%). The majority of student agree that the clinical staff help them and they are willing and available to assist their learning (35.7%). most of students are satisfied with the amount of supervision that they got in the placements (51.2%), the confidence was increase during the placement (48.8%), also student agree that they have new learning opportunities (42.2%) as shown in table 4.

**Table 4. Assessment of the clinical training:**

		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1	Overall, the clinical placement was a pleasant learning	2 (2.4%)	5 (6%)	43 (51.2%)	34 (40.5%)
2	The placement enhances my clinical skills	3 (3.6%)	4 (4.8%)	33 (39.3%)	44 (52.4%)
3	Orientation by clinical staff was adequate	11 (13.1%)	27 (32.1%)	36 (42.9%)	10 (11.9%)
4	Orientation by supervisor was adequate	17 (20.2%)	28 (33.3%)	32 (38.1%)	7 (8.3%)
5	The clinical staff was very willing and available to assist my learning.	6 (7.1%)	23 (27.4%)	30 (35.7%)	25 (29.8%)
6	Feedback during the block by the clinical staff was adequate	10 (11.9%)	21 (25%)	47 (56%)	6 (7.1%)
7	Feedback during the block by the supervisor was adequate	10 (11.9%)	24 (28.6%)	45 (53.6%)	5 (6%)
8	The patients load was adequate	4 (4.8%)	18 (21.4%)	55 (65.5%)	7 (8.3%)
9	I was satisfied with the amount of supervision received	13 (15.5%)	18 (21.4%)	43 (51.2%)	10 (11.9%)
10	As a result of my block, I feel confident working in this venue.	4 (4.8%)	21 (25%)	41 (48.8%)	18 (21.4%)

**3.3. Challenges faced by physiotherapy students during the clinical practice:**

Regarding the availability of supervisors in the hospitals student disagree with a fact that there are no supervisors in the hospitals (34.5%), they disagree about the fact that there are conflict between them and diploma supervisors (50%). They disagree about the fact that the supervisors doesn’t want to assist them (47.6%) and they agree there is a lack of follow up from academic supervisors (36.9%), Most of students disagree about the fact that the instruction are confusing and the team in the health facility are uncooperative (39.3%,42.9%) as shown in table 5.

**Table 5. Challenges faced by physiotherapy students during the clinical practice:**

		<b>STRONGLY DISAGREE</b>	<b>DISAGREE</b>	<b>AGREE</b>	<b>STRONGLY AGREE</b>
<b>1</b>	No supervisor in some of the hospitals	12 (14.3%)	29 (34.5%)	29 (34.5%)	14 (16.7%)
<b>2</b>	Inadequate supervision	10 (11.9%)	19 (22.6%)	36 (42.9%)	19 (22.6%)
<b>3</b>	Conflict between students and diploma supervisors	16 (19%)	42 (50%)	25 (29.8%)	1 (1.2%)
<b>4</b>	Supervisors not willing to assist students	17 (20%)	40 (47.6%)	21 (25%)	6 (7.1%)
<b>5</b>	Lack of follow ups form academic supervisors	15 (17.9%)	24 (28.6%)	31 (36.9%)	14 (16.7%)
<b>6</b>	Confusing instructions from supervisor	12 (14.3%)	33 (39.3%)	26 (31%)	13 (15.5%)
<b>7</b>	Uncooperative members of the health team	14 (16.7%)	36 (42.9%)	25 (29.8%)	9 (10.7%)

#### 4. DISCUSSION

In this study, most of the participants went to PHC centers since the key aspect of the physiotherapy clinical curriculum at AUW is Community Based Education (CBE). This is clearly collate with the study done by Abdelnour (2020), which the investigated the physiotherapy curriculum at AUW. The common ratio rates between supervisors and students in this study is 1:4 which is one of the ratio rates used in clinical education. It is recommended that less students to be supervised by the clinical educator means more benefits. For example, the study done by Barrett *et al* (2021), found that the ratio rate of supervisor and physiotherapy students in Ireland is 1:1.

Physiotherapy as one of the rehabilitation professions aims towards offering rehabilitation services in the community (Taoube *et al*, 2023). In this study, AUW allocated community as one of the main themes of the clinical placement education. Therefore, CBR was a major component in the physiotherapy curriculum at AUW (Abdelnour, 2020). Clinical supervision maintain high quality care and improve professional skills of the physiotherapy students (Snowdon *et al*, 2021).

The study showed there are a lack of follow ups form academic supervisors during the clinical placement. Haugland *et al* (2022), explained how AUW established physiotherapy entry-level education through four levels of partnerships. The four levels were partnership initiation, curriculum development and implementation, graduation of 1<sup>st</sup> cohort of students in 2012, and reviewing the curriculum and integrating CBE.

Clinical placement was challenging issue since the 2<sup>nd</sup> level of the partnership. The limited number of clinical supervisors challenge the supervision and follow up as well (Abdelnour, 2020: Haugland *et al*, 2014). Therefore, AUW established a clinical placement manual through the four levels to ensure the maximum benefits for the students as recommended by Gardner *et al* (2022). At the present time, the ongoing continues process of the 4<sup>th</sup> level might give attention to the lack of follow ups form academic supervisors during the clinical placement.

Finally, the perception and experience of physiotherapy students at AUW on the clinical placement reflect acceptable level of satisfaction regarding learning outcomes, skills development, and supervision. Continues evaluation to the clinical placement will help in developing the program curriculum and improve the clinical placement guidelines and outcomes. At the other hand, more effort can be direct towards the clinical placement supervision follow up using clinical placement manual.

#### 5. CONCLUSION AND RECOMMENDATIONS

The study shows that special attention needs to be given to the supervision follow up during the clinical placement at AUW. Therefore, using clinical placement manual as a part of the physiotherapy program curriculum at AUW helps in maintaining and improving the training program. Continues evaluation as followed by AUW is the proper way to achieve this maintenance and improvement.

Finally, using more diverse and representative investigations in the future could enhance the evaluation of the clinical placement in the physiotherapy educational programs in Sudan as recommended by Snowdon *et al* (2021).

**ACKNOWLEDGMENT**

We would like to thank Ahfad University for Women in Sudan & Jerash University in Jordan to encourage authors to publish this manuscripts. Special thanks to Dr. Ismail Faisal the Head of Physiotherapy Department at Military Hospital, Omdurman, Sudan for his continues support and efforts towards Ahfad University for Women Physiotherapy clinical education, placement, and facilitations.

**Conflict of interest**

The authors declare no conflict of interests related to this manuscript.

**REFERENCES**

- [1] Abdelnour, H. (2020). Evaluating the feasibility of the expansion of community based rehabilitation into the physiotherapy curriculum in Ahfad University for women Sudan. Online at: [https://etd.uwc.ac.za/bitstream/handle/11394/7273/abdelnour\\_phd\\_chs\\_2020.pdf?sequence=1&isAllowed=y](https://etd.uwc.ac.za/bitstream/handle/11394/7273/abdelnour_phd_chs_2020.pdf?sequence=1&isAllowed=y)
- [2] Abdelnour, H. Crisian, H. Bolis, M. Aschalew, M. (2023). Clinical Placement effectiveness on Physiotherapy Students at Ahfad University in Sudan. *International Journal of Education and Research*, 11(9), 135-142.
- [3] Barrett, E. M., Belton, A., & Alpine, L. M. (2021). Supervision models in physiotherapy practice education: student and practice educator evaluations. *Physiotherapy Theory and Practice*, 37(11), 1185-1198.
- [4] Haugland, M., Aanes, M. M., Jensen, G., & Salih, O. (2022). Norwegian physiotherapy teachers' experience from working in a partnership project in Sudan-A case study approach. *Physiotherapy Theory and Practice*, 38(12), 2111-2121.
- [5] Haugland, M., Sørdsahl, A. B., Salih, A. S., & Salih, O. (2014). Factors for success in collaboration between high-and low-income countries: Developing a physiotherapy education programme in Sudan. *European Journal of Physiotherapy*, 16(3), 130-138.
- [6] Gardner, M. J., McKinstry, C., & Perrin, B. (2022). Effectiveness of allied health clinical supervision following the implementation of an organisational framework. *BMC Health Services Research*, 22(1), 1-8.
- [7] Taoube, L., Khanna, P., Schneider, C., Burgess, A., Bleasel, J., Haq, I., & Roberts, C. (2023). Situated learning in community environments (SLICE): Systems design of an immersive and integrated curriculum for community-based learning. *Medical Teacher*, 45(1), 80-88.
- [8] Snowdon, D. A., Kolic, J., & Taylor, N. F. (2021). Improvement in the Short-Term Effectiveness of the Clinical Supervision of Physiotherapists Who Have Taken Part in a Clinical Supervision Training Programme. *Physiotherapy Canada*, 73(4), 370-380.

**Author's Profile:**

Tariq Abdalmagid, Senior Lecturer, School of Health Sciences, Physiotherapy Department, Ahfad University for Women, Omdurman, Sudan.



Dr. Hassan Abdelnour, Assistant Professor, Faculty of Applied Medical Sciences, Physiotherapy Department, Jerash University, Jerash, Jordan.



Dr. Rashed Aladwan, Assistant Professor, Faculty of Applied Medical Sciences, Physiotherapy Department, Jerash University, Jerash, Jordan.