



Original Paper

An Evaluation of the Attitude of Physiotherapy Students towards Managing Children with Disabilities in Lusaka, Zambia

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To cite this article:

Patricia M. Ndhlovu, Margaret M. Mweshi, Micah Simpamba, Loveness Nkhata, Olipa Zulu. An Evaluation of the Attitude of Physiotherapy Students towards Managing Children with Disabilities in Lusaka, Zambia. *Journal of Preventive and Rehabilitative Medicine*, Vol. 1, No. 1, 2017, pp. 12-18. doi: 10.21617/jprm.2017.0102.2

ABSTRACT

Background: Negative attitudes of medical professionals and students towards Persons with Disabilities (PWDs) have been reported. Attitudes of physiotherapy students towards managing children with disabilities in Zambia are not yet known. The purpose of this study was to gain an insight into what attitudes physiotherapy students at the three learning institutions in Zambia have toward this segment of the population in order to support efforts to implement appropriate interventions.

Methodology: This study was a cross sectional design that used a self-administered questionnaire for data collection. Physiotherapy students were recruited from Evelyn Hone College (EHC), Lusaka Apex Medical University (LAMU) and the University of Zambia (UNZA). Demographic information, basic issues of disability and attitudes of physiotherapy students using the Attitude towards Disabled Persons Scale (ATDP-A) were captured. Statistical Package for Social Sciences was used for data management and analysis. Descriptive statistics were used for data summaries. Overall and item-by-item analysis of the responses to the ATDP-A scale was carried out. Analysis of Variance was used to test the influence of variables while chi-square test was used to test the Associations of factors.

Results: One hundred and twenty-six students (N=126) with a male majority (53%) participated in the study. Mean age of the participants was 24.4 ± 2.4 years (range 18-38 years; SD=2.4). Scores on the ATDP-A scale ranged from 20 to 102 with an overall mean score of 74.95 and a standard deviation of 6 (17.50). Based on the cut-off score for the scale, positive majority attitude score was observed in 55% of the students. Evelyn Hone College had significantly more positive attitudes than LAMU and UNZA (F (13.61), p < .0001). Older age and training satisfaction were contributing factors to attitudes of students.

Conclusion: Physiotherapy students at all the three institutions had overall negative attitudes towards managing children with disabilities. Student preparation, enough exposure to PWDs and willingness to work with children with disabilities have an impact on the attitude students have towards managing children with disabilities. It is therefore imperative that students are adequately prepared to work with children with disabilities to reduce negative attitudes upon graduation.

Keywords: Childhood disabilities, Attitudes, Physiotherapy students, Zambia.

1. Introduction

Attitudes of medical students toward disability is very important because as future practitioners, they represent the future health care professionals of a country whose attitudes may positively or negatively affect the process of social integration of disabled people [1]. Medical students are specialists-in-training that make up the health team among them physiotherapists [2]. The profession of physiotherapy has grown from a small band of ‘reconstructive technicians’ to a body of professional practitioners who play a vital role in today’s health care environment by providing information, support & rehabilitation to Persons with Disabilities (PWDs) [3]. Areas where physiotherapy is practiced include schools for children with disabilities, rehabilitation centers, communities, sports, private and acute public hospitals [4].

It has been observed that during physiotherapy training, most students receive less coursework and practical experience in managing children and hence will enter the field with inadequate skills [5]. In New York, Lam and colleagues conducted a study in which recommendations were made to explore what factors affect attitudes of healthcare students towards children with disabilities and also to evaluate the impact of their educational programs towards improving students’ attitudes [6]. Other studies that have been carried out in Nigeria, India and Albania show inconsistencies in the attitudes of health care students towards children with disabilities, as some studies report negative while others positive attitudes [7,8,6]. The acknowledged importance of physiotherapy students’ attitude towards PWDs has resulted in several studies in different countries of the world such as Malawi, Tanzania, Hong Kong China and Australia [9,10,11,12]. However, more knowledge is needed about the current attitudes of physiotherapy students in Zambia and what factors could be influencing their attitudes.

It is therefore imperative to gain an insight to what attitudes physiotherapy students at the three learning institutions in Zambia have toward this segment of the population in order to support efforts to implement appropriate interventions.

2. Methodology

Study design

This was a cross-sectional study conducted at the three tertiary institutions in Zambia namely the University of Zambia (UNZA), Lusaka Apex Medical University (LAMU) and Evelyn Hone College (EHC) where physiotherapy training is currently being offered. The study sites provided a 100% representation of all physiotherapy students in the country.

Sample size determination

The population consisted only those students in clinical training and these were the fourth year and final year degree program students and only the final year students in the Diploma programs giving a total of 184 students. Table 1 shows the breakdown of the eligible students. A sample size estimation of **126** students was calculated based on the **184** eligible students using the following formula:

$$n = N/1 + N(0.05)^2$$

$$n = 184/1 + 184(0.05 \times 0.05)$$

$$n = 184/1 + 184(0.0025)$$

$$n = 184/1 + 0.46$$

$$n = 184/1.46$$

n = 126 was the required sample size.

Table 1: Breakdown of physiotherapy students in Zambia (2016).

Institution	Total Number of Students	Total Number of Eligible Students	Total
UNZA	105	Clinical Year Students 5th and 4th year 31+34	65
LAMU	176	Clinical Year Students 5th and 4th 16+8	24
EHC	274	Clinical Year Students 3rd Year students 95	95
	555		184 Eligible Students

Ethical Considerations

Ethical approval was obtained from the Biomedical Research Ethics Committee of the University of Zambia, School of Medicine Research Ethics Committee (IRB00001131 of IORG0000774). Permission was granted by the three training institutions training physiotherapy students and written informed consent was obtained from individual study participants.

Procedure of data collection

Following ethical approval, clinical physiotherapy students were recruited from three tertiary institutions in Zambia. Simple random sampling method was used to recruit the 126 participants. The study used a self-administered questionnaire with three sections. Section 1 captured demographic information while section 2 assessed basic issues of disability and section 3 presented the Attitude towards Disabled Persons Scale (ATDP) [13] that was used to assess each student’s attitude toward persons with disabilities. The overall ATDP-A score ranges from 0 to 180 and can be divided into two categories namely; 0 to 90 (negative attitude) and 91 to 180 (positive attitude).

Data analysis

Differences in attitude by sex, age, year of study, learning institution, time exposed to children with disabilities was examined using independent t-test and one-way ANOVA.

Findings were summarized and presented using tables, pie charts and bar charts. Association of factors were tested using the chi-square test in order to evaluate whether age, gender, and years of institution of learning influenced attitude towards children with disabilities among physiotherapy students. Research variables [14] of any scientific experiment or research process are factors that can be manipulated and measured. The following variables were used.

Table 2: Description of variables, their indicators and the statistical measurement

Variable type	Indicator	Scale of measurement
Dependent	Attitude of physiotherapy students towards children with disabilities	Positive and Negative
Independent	Age of student	18-24; 25-31; 32-38 years
	Gender	Male, Female
	Type of student	Quota, in-service
	Institution of learning	UNZA, LAMU, EHC
	Percent of exposure to children with disabilities	Less than 30%; 31-50%; 51-70%; 71-100%
	Year of clinical practice	3 rd , 4 th , 5 th Year

3. Results

Study participants

From a total of 126 physiotherapy students, 53% were males compared to 47% females. There were more students (57%) in the age category 25 to 31 years followed by (38%) the age category of 18 to 24 years with the least number (5%) of students in the age category of 32 to 38 years. However, the mean age of the physiotherapy students was 24.4 years (SD: 2.4) with the age range of 18 to 38 years. With regards training satisfaction (Figure 1), the majority of students (41%) showed extreme training satisfaction followed by those who said that training was fair (37%) and lastly those that never expressed training satisfaction (22%).

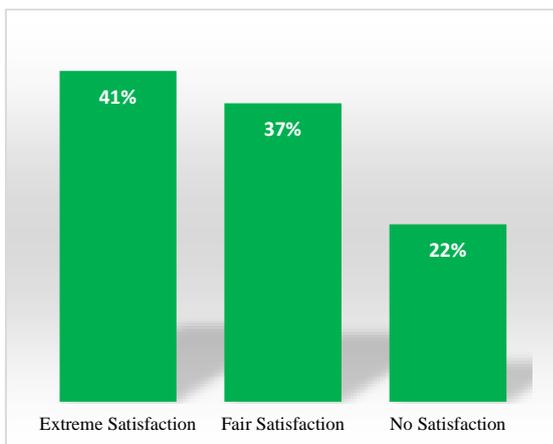


Figure 1: Levels of training satisfaction of Physiotherapy Students

Attitudes of physiotherapy students towards managing children with disabilities

Scores on the ATDP-A scale ranged from 20 to 102 with an overall mean score of 74.95 (SD: 17.50). Based on the cut-off score for the scale, positive majority attitude score was observed in 55% of the students. Frequency score distribution of responses to each of the scale's 30 items however showed that more students held negative attitudes in 17 out of the 30 items. These items consider persons with disability as being generally different, more emotional, worrisome, and uncomfortable compared to those without disability. More positive attitudes were however reported on issues of intelligence, competitiveness, self confidence and independence of persons with disability and the need for inclusion.

Attitude by demographics and differences in attitudes amongst physiotherapy students

The scale has a cut-off point of 90 and any score higher than 90 indicates a more favourable attitude toward persons with disabilities; whereas, a score below 90 indicates a more negative attitude. Individual scores were summed for each category variable and analyzed. An ANOVA performed on the scores from the ATDP-A scale by participant revealed significant differences in the different learning institution category, (F (13.61), p < .0001).

Students reported significantly higher ATDP-A scores, which corresponded with more favourable attitudes toward persons with disabilities irrespective of one's institution, with a higher attitude score towards people with disability among Evelyn Hone College Students (101.15) score. There were no significant differences for gender towards people with disability (p= 0.401). However, significant differences on year of study differed on attitude towards people with disability between those in their junior year of study and those in the final years of study with ATDP-A score of 73.36 and 96.68 respectively (P=0.020). Differences in attitudes were also statistically significant by age at P =0.021.

The students were grouped into 3 age categories namely 18-24 years, 25-31 years and 32-38 years. The highest scores on the ATDP-A scale was observed in the 32-38 years age group implying that older age was associated with more positive attitudes. Based on the training satisfaction of the participating students which were very much satisfied, 'fairly' and 'not at all satisfied' ATDP-A scores were much higher for those who were very much satisfied compared to students who were fairly and not at all satisfied P= 0.022.

Table 3: Distribution of responses to ATDP-A scale items suggestive of a majority of positive attitude by all the 3 schools

		Agree very little to agree very much	Disagree very much to disagree very little	No Response
3	Disabled people are no more emotional than other people.	84	42	0
4	Disabled persons can have a normal social life.	85	41	0
6	Disabled workers can be as successful as other workers.	90	36	0
7	Very few disabled persons are ashamed of their disabilities.	70	56	0
10	Disabled people do not become upset any more easily	70	35	21
12	Most disabled persons get married and have children.	50	49	27
13	Most disabled persons do not worry any more than anyone else.	90	36	0
21	Disabled children should not compete with non-disabled children.	49	34	41
22	Most disabled people do not feel sorry for themselves	58	54	14
24	Most severely disabled persons are not as ambitious as other people.	40	86	3
26	Most disabled persons don't want more affection and praise than other people.	89	35	2
27	It would be best if a disabled person would marry another disabled person.	31	92	3
28	Most disabled people do not need special attention.	86	37	3

Table 4: Distribution of responses to ATDP-A scale items suggestive of a majority of negative attitude by all the 3 schools

		Agree very little to agree very much	Disagree very much to disagree very little	No Response
1	Parents of disabled children should be less strict than other parents	22	99	5
2	People who are disabled should not have to pay income taxes.	39	87	0
5	Most physically disabled persons have a chip on their shoulders.	90	30	6
8	Most people feel uncomfortable when they associate with disabled people	98	20	8
9	Disabled people show less enthusiasm than non-disabled people.	100	26	0
11	Disabled people are often less aggressive than normal people.	93	33	0
14	Employers should not be allowed to fire disabled employees	40	86	0
15	Disabled people are not as happy as non-disabled ones.	100	26	0
16	Severely disabled people are harder to get along with	98	28	0
17	Most disabled people expect special treatment.	102	24	0
18	Disabled persons should not expect to lead normal lives.	89	34	3
19	Most disabled people tend to get discouraged easily	97	23	6
20	The worst thing for a person would be for him/her to be very severely injured.	89	33	4
23	Most disabled people prefer to work with other disabled people.	86	40	0
25	Disabled persons are not as self-confident as physically normal persons.	91	23	12
29	Disabled persons want sympathy more than other people	83	43	0
30	Most physically disabled persons have different personalities than normal.	85	41	0

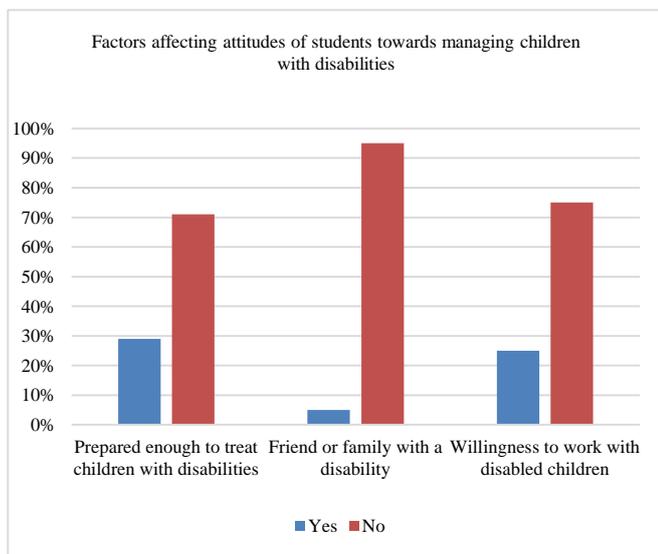


Figure 2: Factors affecting attitudes of students towards managing disabled Children

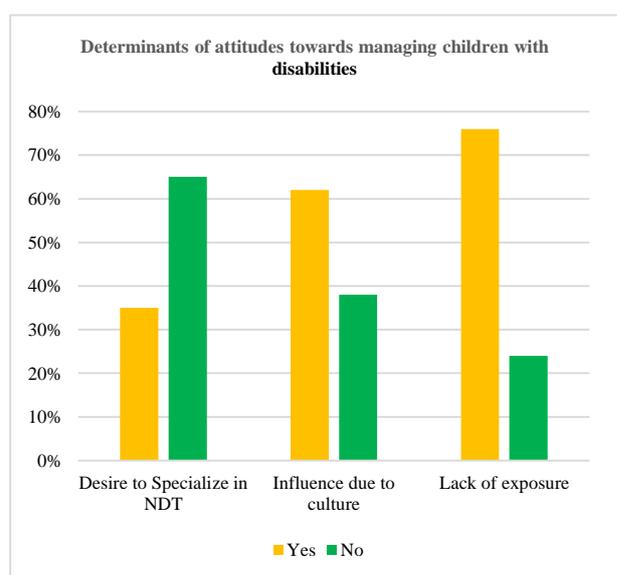


Figure 3: Determinants of attitudes towards managing disabled children

Factors contributing to attitudes among physiotherapy students

The variables that were identified as factors that contribute to attitude among physiotherapy student are one's preparedness to treat children with disability, having a friend or family member with disability, one's willingness to work with children with disabilities after school. The majority (70%) of students expressed that students were not adequately prepared to treat children with disabilities while 30% showed they were prepared as shown in figure 2. Almost all the students (95%) expressed that having a friend or family with a disability did not affect their attitudes. The Majority of students (75%) did not think willingness to work with disabled children was a factor in attitudes students had. Lack of adequate preparation ($p=0.004$), having no family member or family ($p=0.001$) and willingness to work with children with disabilities ($p=0.003$) significantly contributed to the attitudes students had towards managing children with disabilities.

Planning to specialize in paediatrics or neurodevelopmental therapy, negativity due to culture and lack of exposure were investigated. The majority of students (65%) were not willing to specialize in paediatrics and their ATDP-A scores were low ($P=0.003$). Figure 3 shows that those participating students (62%) who thought that some students' perception towards disability is due to culture scored preferably well on the ADTP-A scale compared to those who felt culture did not influence ones' attitude towards disability ($P=0.032$). In addition, students that thought lack of exposure (76%) contribute to attitude toward persons with disabilities seemed to score better than those that thought otherwise ($p=0.004$).

4. Discussion

With an overall mean score of 74.95 ± 17.50 that fell within the range of negative attitude, attitudes of these physiotherapy students toward persons with disabilities also appear to be similar to that of physiotherapy students in Tanzania [10]. It is however also important to note that despite the negative attitude reflected, a positive majority score was observed in 55% of the participants. In addition, the overall mean ATDP-A score in this study was higher than that recorded in Tanzania [10], but lower than that reported among physiotherapy students in Nigeria [15].

In this study, the majority of respondents were male. This could have been influenced by the fact that institutions do not have an equal distribution of gender and owing to the smaller sample size of the study, random selection could not have eliminated this inequality of gender distribution. It was also established that there was no impact of gender on attitude towards disability. A study in Nigeria yielded similar results in which the author reported no significant

influence of gender toward PWDs [15]. However, males tended to hold a more favourable attitude toward persons with disabilities than females did in a study conducted in Tanzania [10].

In addition, it was found that older participants (32-38) had a more positive attitude than the rest of the group. Age, which ranged from 18 to 32, was perceived to influence attitude. It is however difficult to deduce that older students have relatively more positive attitudes because younger students with no prior exposure also recorded positive attitude as was, in the case of the majority of Evelyn Hone college students. However, previous researches have shown inconsistencies in which gender and age affect attitudes of health care students toward PWDs. However, these two variables have no impact on attitude [16,17] although other scholars state otherwise [18,15,10]. At the same time, this study found a higher ATDP score among students in their final year similar to results obtained by Cervasio and Fatata-Hall when they measured the attitudes of graduating nursing students in the United States of America toward children with disabilities [19]. This could be attributed to the fact that attitude is affected by the year of study due to the increased knowledge and education regarding disability issues [19,20,20,21,22].

Positive attitude score was found in approximately half of the students, most of whom were from Evelyn Hone College (EHC). A peculiar finding in this study was that physiotherapy students at the two Universities held less positive attitudes when compared to those at Evelyn Hone College (EHC). Having identified a significant difference in attitude among students in the different learning institutions, of paramount importance was to identify and ascertain what specific elements influence attitude among students. While this study recruited both the Quota and In-service students, the study found that their attitude did not seem to be influenced by this virtue. Foregoing this fact, there are no in-service students at EHC and this means that being in-service does not influence attitude. This peculiar finding suggests that having practiced physiotherapy cannot guarantee positive attitude but attitude can be explained by the difference in curriculum in that EHC may be more clinically oriented. This trend in attitude could be qualifying an observation by Campbell and colleagues in a study conducted in Arizona that during physiotherapy training, most students receive less coursework and practical experience in managing children eventually leading them to enter the field with inadequate skills thereby exhibiting a negative attitude [5]. It is also speculated that attitudes of students of health care professions, toward PWDs may ascertain their attitude and practice post-qualification [15]. It appears as though the participants prefer to treat any other conditions not related to childhood disabilities although most reported positive

attitudes on the ATDP scale. This could be ascribed to the long term care required for these patients which may be a challenge in a developing economy such as Zambia.

Results of this study showed that most respondents agreed to culture playing a role in the way they perceive PWDs and thus generally exhibited positive attitudes. This could be linked to the positive trend in acceptance of PWDs in the physiotherapy programme. It could also be attributed to the number of organizations advocating for equality of PWDs as Eskay and colleagues highlight that the concept of disability is perceived differently in every culture and such perception shapes the kind of attitudes and services rendered [24]. It is unclear however, the type and level of exposure to PWDs that these students have as this may also impact on their attitudes [23]. The findings of this study calls for further research on the levels and type of exposure/contact with PWDs, and what childhood disabilities physiotherapy students prefer to manage. This will illuminate which areas of paediatric physiotherapy practice need more attention.

5. Conclusion

Results of this current study revealed that overall the students had overall negative attitudes towards persons with disabilities in relation to the ATDP scale cut off point. The majority of respondents reported that their attitude was in part affected by the amount of exposure to PWDs. This perceived neutral to negative attitude could have been influenced by the inadequate exposure to persons with diverse disabilities. Based on the ATDP A scale utilized in this study, physiotherapy students at the three tertiary institutions in Zambia could be said to possess a negative attitude toward persons with disabilities on average. The findings of this study calls for further research on the levels and type of exposure/contact with PWDs, and what childhood disabilities physiotherapy students prefer to manage.

Acknowledgement

This article is derived from a dissertation submitted to the UNZA while pursuing a Bachelor of Science degree in Physiotherapy. We thank the management of the University Teaching Hospital, the three learning institutions and members of the Department of Physiotherapy of UNZA for their contributions.

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