

## Original Research Article

# Secondary school students' knowledge of physiotherapy as a profession

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### ABSTRACT

**Background:** Physiotherapy plays a significant role in the health care system. The pursuit of a career in any profession by secondary school students depends largely on the availability of information about the practice and prospects of the profession. This study aimed at investigating whether secondary school students know about physiotherapy as a profession.

**Methods:** This study was a cross-sectional survey involving eight hundred and two senior secondary school students in Maiduguri. Multi-stage and systematic random sampling techniques were used in selecting thirty schools in Maiduguri whose students participated in this study. A 37-item questionnaire from previous literature comprising of socio-demographic characteristics of participants, knowledge of participants about physiotherapy as a course, knowledge of participants about physiotherapists' tasks and characteristics, and sources of their information about physiotherapy, was adapted for this study. Data were analysed using descriptive statistics.

**Results:** Responses of eight hundred and two participants, 446 female and 356 males with a mean age of 16.90±2.22 were included in this study. More than half of the participants (59.1%) had a high knowledge of physiotherapy as a career. The most common sources of information about physiotherapy were from a family member (48.5%), a movie (54.7%), and the school career counsellor (54.5%).

**Conclusions:** Half of the participants demonstrated a high level of knowledge of physiotherapy as a profession whereas a good number seemed to have little or no knowledge about the physiotherapy profession. The physiotherapy professional body should work towards increasing the level of knowledge of physiotherapy practice by creating avenues for career talks and awareness programs.

**Keywords:** Career choice, Cross-sectional survey, Health occupations, Nigeria, Physiotherapy, Students

### INTRODUCTION

Choosing a career is a decision that most people find difficult to make. Such choice is mostly made during the late adolescence and early adulthood during which most career seekers are in their senior secondary schools.<sup>1</sup> Before one can choose a career over another, adequate

information about several career options is necessary.<sup>2</sup> Again, many school children lack the knowledge of the array of career opportunities open to them and most of them analyse their career prospects by looking at the social-economic status of the occupation of their choice and the opportunities for career development.<sup>3,4</sup> At the senior secondary level, students begin to make their

career choices when they choose the subjects that are of interest to them. Students do this by choosing from sciences, arts, and commercial subjects. Among science-based students, the career choices are still vast, being split into engineering, physical sciences, environmental sciences, health sciences, among others.

The knowledge and awareness of medicine, nursing, and pharmacy as a career are more common among career seekers in healthcare than other healthcare professions like physiotherapy.<sup>5</sup> Physiotherapy is a healthcare profession that plays a vital role in the care of patients with various disease conditions. It focuses on prevention, promotion, and restoration of human function and movement throughout life.<sup>6</sup>

Physiotherapists are autonomous professionals who take active roles in the prevention of disease and the promotion of wellness, as well as physical fitness and rehabilitation.

Physiotherapy training in Nigeria has evolved over the last fifty years from a diploma program to a five-year bachelor's degree and specialist postgraduate training program (Master's and doctorate degrees).<sup>7</sup> Eight Universities in Nigeria are currently recognized by the Medical Rehabilitation and Therapist Board of Nigeria to train physiotherapists.<sup>8</sup>

The demand for physiotherapists has increased over the past two decades, yet the number of physiotherapists and students in training remains low in developing countries like Nigeria. This low number could be attributed to the minimal number of career seekers who chose physiotherapy as a career.<sup>9</sup> Previous studies have been conducted elsewhere on knowledge and awareness of physiotherapy as a profession, as well as its role in healthcare. These studies have elicited information from different groups such as high school students and other medical practitioners.<sup>1,3,10-12</sup>

A study in Sri Lanka by Dissanayaka and colleagues surveyed the awareness of physiotherapy among high school students.<sup>1</sup> They reported that students were not much aware of physiotherapy as a career. A Japanese study by Ogiwara and colleagues reported that science students and healthcare aspiring students were more knowledgeable about physiotherapy compared to the non-healthcare aspiring students.<sup>3</sup> Also, in India, a study by Patel et al reported that high school students were not much aware of physiotherapy as a treatment method and its applications in disease conditions other than orthopaedic conditions.<sup>13</sup>

In Nigeria, a study in the south-western region by Bolarinde et al reported that participants in their study demonstrated a high level of awareness about physiotherapy.<sup>10</sup>

After the literature search, there seems to be a paucity of data for referencing in the Northern part of the country where only three universities award degrees in physiotherapy. This may be seen as a serious omission in the public image promotion of the profession of physiotherapy in Nigeria. Promoting the public image of the profession should be considered not only in terms of service utilization but also in terms of desirability as a career selection because the profession requires a sufficient continuum of clinicians to meet future physiotherapist demands. Also, data from this study may serve as a reference point in advocacy for career seeking secondary school learners about the profession as a career path.

This study was therefore conceptualized to investigate the level of knowledge and awareness of physiotherapy as a profession among senior secondary school students in Maiduguri, Nigeria.

## METHODS

### *Study design and participants*

The study was a cross-sectional survey of senior secondary school students in public and private secondary schools in Maiduguri, North-Eastern Nigeria.

### *Sampling technique*

A multi-stage sampling technique was used to select participants from public and private schools in Maiduguri. Stage 1 included a listing of all the registered secondary schools in Borno Central Senatorial District from the Borno State Ministry of Education. A total of eighty-two secondary schools located in Maiduguri Metropolitan council and 54 secondary schools in Jere Local Government were identified.

Next, we used systematic random sampling to select 30 schools from the list. This included 8 public schools and twelve private schools from Maiduguri Metropolitan Council, two public schools and 8 private schools from Jere Local Government. Participants for this study were then recruited from the students in the senior classes (SS1-SS3) from each of the selected schools. Only students who expressed willingness to participate and whose parents signed the informed consent were recruited.

### *Study setting*

Maiduguri is the capital and the largest city of Borno State in north-eastern Nigeria. It is estimated that there are 1,627 schools across the state with 687,733 students enrolled in both primary and secondary schools in the year 2017.<sup>13</sup>

Nigeria operates the 6-3-3-4 system of education, the recipient of the education would spend six years in

primary school, three years in junior secondary school, three years in senior secondary school, and a minimum of four years in a tertiary institution.<sup>14</sup> Junior secondary school (JSS) consists of JSS1, JSS2 and JSS3 which are equivalent to the 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> grade while the senior secondary school (SS) consists of SS 1, SS 2, and SS 3 which is equivalent to the 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> grade. The senior secondary school examination (SSCE) is taken at the end of the SS 3 from which students may proceed to university.

### ***Inclusion and exclusion criteria***

Students in the junior secondary school classes were excluded from this study. Students in their senior secondary school years were included in this study.

### ***Instrumentation***

The instrument for this study was adapted from a questionnaire developed by Tsuda et al.<sup>15</sup> It covered information on socio-demographic characteristics of participants, knowledge of participants about physiotherapy as a course, knowledge of participants about physiotherapists' tasks and characteristics, and sources of their information about physiotherapy. The questionnaire consists of 37 items with sections 2 and 3 having 3 domains each and section 4 having 2 domains.

Questions on knowledge of physiotherapy as a career were given one point for correct (yes) response and zero point for unanswered questions (don't know) or incorrect answers (no). The maximum score was 19, and the minimum was zero. A score of 0-5 indicated low knowledge, 6-10 indicated moderate knowledge, 11-15 while a score greater or equal to 16 indicated a very high score

A literature search was conducted to identify questions that are relevant to this study. This was done by two experts who are knowledgeable in questionnaire development. A total of 45 questions were generated. Copies of the generated questions were sent to three independent experts including a senior physiotherapist, a career counsellor, and an educationist to ascertain the relevance of questions to this study.

A meeting among the experts including the researchers was held at the department of physiotherapy, the University of Maiduguri after which a draft copy of the questionnaire was produced. For the reliability of the instrument, trial testing was initially carried out on 40 participants. This is in line with Smith et al.<sup>15</sup> The instrument was re-administered to the same participants after two weeks to reduce student memorization and potential problems with the wording of the items which are the impetus for test-retest. The first and second outcome of the trial testing was subjected to the Pearson correlation coefficient, value (r) was found to be 0.704, showing a strong positive correlation.

### ***Data collection***

Ethical approval was sought and obtained from the research and ethical committee of the University of Maiduguri Teaching Hospital, Maiduguri before the commencement of the study. The protocol for the study was explained to the principals and teachers in the selected schools and their permissions were sought and obtained, also an informed consent letter was given to each student to seek the consent of their parents before the data collection date. On the day of data collection, the procedure for the study was again explained to the students after obtaining their informed consent signed by their parents. With the assistance of the teachers, participants were thereafter requested to complete the questionnaire in their various classes in the presence of the researcher to reduce items' misinterpretation and clarify any ambiguity in the contents of the questionnaire.

### ***Data analysis***

Descriptive statistics of mean, standard deviation, frequency, and percentages were used as appropriate to summarize the participants' demographic characteristics.

Knowledge of participants about physiotherapy as a course was assessed by answering 19 multiple-choice questions followed by the calculation of a total cumulative knowledge score for each participant. Questions were given one point for correct (yes) response and zero point for unanswered questions (don't know) or incorrect answers (no). The maximum score was 19, and the minimum was zero. A score of 0-5 indicated low knowledge, 6-10 indicated moderate knowledge, 11-15 indicates a high knowledge while a score greater or equal to 16 indicated a very high score. Data were analysed using STATA 16 software.

## **RESULTS**

A total of 1024 questionnaires were administered among the participants out of which 802 were returned and all fields completed, yielding a response rate of 78.3%. The mean age of the participants was 16.90±2.22 (Table 1) with the majority of the students within the age range of 16-21 years. More than half of the students (55.6%) were males and 50.9% were science-based students. Participants who proposed to pursue a career in healthcare-related courses were 436 (54.5%), one hundred and ninety-six proposed to pursue a career in a non-health related field, while 169 were yet to decide a career path. The majority of the participants (59.6%) were in the penultimate (senior secondary school 2) class, only 2.5% of the participants were in the final year of secondary school. About half of the participants attend public schools. 77.1% of the participants were day students, whereas 22.9% were boarders.

Results of knowledge assessment of the participants regarding physiotherapy as a career are shown in Table 2.

**Table 1: Demographic data of the participants.**

Variables	Frequency (%)
<b>Gender</b>	
Male	446 (55.6)
Female	356 (44.4)
<b>Class type</b>	
Science	408 (50.9)
Art	394 (49.1)
<b>Proposed career</b>	
Health related	436 (54.5)
Non health related	195 (24.4)
None yet	169 (21.1)
<b>Class</b>	
SS1	304 (37.9)
SS2	478 (59.6)
SS3	20 (2.5)
<b>School type</b>	
Public	403 (50.3)
Private	398 (49.7)
<b>Schooling mode</b>	
Day	618 (77.1)
Boarding	184 (22.9)

**Table 2: Levels of the knowledge of physiotherapy as a course among students.**

Knowledge of physiotherapy score	Frequency (%)	Level
0-5	93 (11.6)	Low
6-10	232 (28.9)	Moderate
11-15	408 (50.9)	High
≥16	69 (8.6)	Very high

**Table 3: Source of information about physiotherapy as a career.**

Variables	Yes N (%)
<b>Personal contact</b>	
Family member	389 (48.5)
A nurse told me	331 (41.3)
A friend told me	315 (39.3)
My friend was a patient	318 (39.7)
I was a patient	292 (36.4)
A doctor told me	329 (45.0)
A parent or relative is a PT	361 (45.0)
A friend to my family is a PT	376 (46.9)
<b>Media</b>	
Television	437 (54.5)
Movie	461 (54.7)
Newspaper	405 (50.5)
Novel	377 (47.0)
Advertisement	397 (49.6)
<b>Career information resource</b>	
School guidance counsellor	437 (54.5)
Career literature	339 (42.3)
Career awareness	423 (52.7)
Never heard of physiotherapy	318 (39.7)

The total knowledge score ranged from 11 to 15, which signified that the majority (51%) had high knowledge about physiotherapy as a course.

**DISCUSSION**

The present study investigated the level of knowledge of physiotherapy as a career choice among senior secondary school students in Maiduguri, Nigeria. The previous study had noted that the information which high school students have about a career would influence their choice of career.<sup>1</sup> To determine the level of knowledge of physiotherapy as a course among the participants in this study, eight hundred and two senior secondary school students completed a questionnaire. The majority of the participants were male (55.6%), science students (50.9%). This is comparable to the study conducted by Ogiwara and Nozoe in Japan, where a majority of the participants in their study were male, sciences students, and students with an interest in pursuing a career in healthcare (15.3%).<sup>3</sup> However, our findings of a high level of knowledge among science-based students contradict the result of a study among senior secondary school students in Sri Lanka where there was poor awareness of physiotherapy as a profession and as a treatment among science students.<sup>1</sup> This discrepancy could be attributed to the fact that physiotherapy is still limited only to the urban areas in Sri Lanka and the limited availability of career information resources.<sup>1</sup>

More than half of the participants in this study had good knowledge about physiotherapy as a career. This is in tandem with the findings of a previous study, and contrary to the findings in studies conducted by Bolarinde et al, Ogiwara, Dissinayaka and Banneheka, and Tsuda et al where they found poor awareness and knowledge of physiotherapy as a career choice among their participants.<sup>1,3,10,15</sup>

The discrepancy in our findings and that of Tsuda et al could be attributed to changes such as advancement in information technology which has increased easy access to information to people of ages.<sup>15</sup> Again, the reason for the difference in our findings and that of Dissinayaka and Banneheka could still be linked to poor or limited availability of physiotherapy services and few physiotherapy training institutions in Sri Lanka and limited availability of career information resources. In Maiduguri, the presence of a physiotherapy training institution; the University of Maiduguri, might have contributed to the high level of awareness of Physiotherapy as a career choice.

The source of information about physiotherapy as a course was explored in this study. Questions about the sources of information were asked under three categories which included personal contacts, media, and career information resources. Among the three general categories for sources of information, most participants reported to have learned about physiotherapy as a career through media (movies, newspapers, and television programs), followed by career information resources

(school career counsellor and career awareness campaigns), and the least source of information was through personal contact. Overall, participants learned about physiotherapy through the media. This finding is in tandem with that of previous studies where most senior secondary school students reported media to be their major sources of information about physiotherapy as a career.<sup>1,3</sup>

Also, about 54.5% of participants in the present study reported that they learnt about physiotherapy through school career counsellors. This again is in line with the findings of Ogiwara and Nozoe but negates the findings of Bolarinde et al where a majority of the participants reported that they never heard about physiotherapy from a school career counsellor.<sup>3,10</sup>

This study has some limitations. Due to the non-probability sampling technique in this study, the findings of the study may not be generalizable.

## CONCLUSION

About half of the students demonstrated good knowledge of physiotherapy. The professional body of physiotherapy should create a detailed career talk in secondary schools to increase the level of awareness and knowledge about the practice of physiotherapy, treatment modalities and specialties.

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