

# Awareness in Physiotherapy among High School Students

Thusharika D. Dissanayaka, Shayama Banneheka

Department of Physiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka

**Abstract-** The demand to the physiotherapy continues to increase, due to the increasing of aging population. The University Grant Commission (UGC) has started degree program in physiotherapy to address this demand in 2007, by providing high school level science students to enter this program based on the grade achieved from the advanced level exam. The aim of this study was to assess the level of awareness about physiotherapy among advanced level science students in the Kandy educational zone and to assess the sources form which they could obtain information regarding physiotherapy. A structured survey consisting of three parts was used, and eight hundred and fifteen high school level Sinhala medium science students from nine schools in Kandy zone in Sri Lanka were approached. Of these, Seven hundred and seventy six completed questionnaires were returned (95% response rate). The students were not much aware of physiotherapy as a career, treatment method and its applications in disease conditions other than sports injuries. Television, internet, and newspapers/magazine were the most cited source of information for physiotherapy. There is a need for a programme to educate the general public in Sri Lanka about Physiotherapy both as a therapeutic modality and as a prospective career pathway

**Index Terms-** Awareness, High school students, Physiotherapy, Profession, Science

## I. INTRODUCTION

In the healthcare sector, professions like those of Doctors and Nurses are well known than the other paramedical professions like Physiotherapy<sup>1</sup>. However, the physiotherapist plays a major role in providing health care and it is a highly recognized profession worldwide. Physiotherapy is a healthcare profession engaged with human function and movement and maximizing potential. Also physiotherapists work in a wide-ranging of health settings including intensive care, mental illness, stroke recovery, occupational health, and care of the elderly. Physiotherapy is certainly far more than fixing musculoskeletal sports injuries although that is perhaps the most common perception of the profession. It uses physical approaches to promote, maintain and restore physical, psychological and social well-being, taking account of variations in health status and it is science-based, committed to extending, applying, evaluating and reviewing the evidence that underpins and informs its practice and delivery the exercise of clinical judgment and informed interpretation is at its core<sup>2</sup>. The main concern of physiotherapy is rehabilitation which is defined as “The restoration of an individual part or parts back to normal or near normal function after a disabling disease, injury, addiction or incarceration”<sup>3</sup>. According to the reports of World Health Organization, the number of aging people (more

than 65 years old) will increase from 600 million to 2 billion between 2000 and 2050 worldwide and the estimated over 60 population in Sri Lanka will be 21.9% by 2031 making it the fastest aging country in south Asia<sup>4</sup>. This will decline savings resulting in a reduction in investments since less savings create less capital, and eventually a decline in the economic growth of Sri Lanka. As physiotherapy plays a major part in rehabilitation of aging people, interest in this profession is also expected to increase globally in the future<sup>5</sup>. Although, a large number of schools, universities and other higher education institutes, clubs etc. in Sri Lanka are involved in numerous sports programmes, only a handful of them are obtaining the regular services of a physiotherapist unless they have injured players/athletes. Unfortunately, this is even true for most of the national teams also.

When planning one's future career, it is important to have information about various occupations and professions that are related to his/her field of study. Even though a few people have an idea about their future career pathways in advance, majority of them are uncertain about it. For most people, these plans are usually made during their early and late adolescence. A majority of school children are also unaware about career opportunities open to them and most of them analyse their career prospects by looking at the social status of the occupation of their choice and the opportunities for career development<sup>6,7</sup>. The situation in Sri Lanka also same to other countries as they decide their future career according to the results they get from their advanced level examination. Until recently, Sri Lankan state universities offered only a limited number of degree programmes for the students who obtain good results at the Advanced level examination in biology stream at the end of their high school careers. Those were (in the order of merit) Medicine, Dentistry, Veterinary Medicine, Agriculture and Bio- Sciences. Although, a number of new courses including Physiotherapy and other Para-medical sciences, Nursing, Molecular biology etc. have been introduced in the recent years, public awareness about these courses seems to be not yet adequate. As a result, most parents and teachers still press the biology stream students to enter medical schools, subjecting them to unnecessary mental and physical stresses. Therefore the aim of this study was to investigate the level of awareness regarding various aspects of physiotherapy among advanced level science stream students in the Kandy educational zone, Sri Lanka and also to assess the sources form which they could obtain information regarding physiotherapy. The authors hope that the study would generate valuable information that could be used to further educate the general public in Sri Lanka about Physiotherapy both as a therapeutic modality and as a prospective career pathway.

## II. METHODS

### Instrumentation

A survey was implemented in this study. The questionnaire was modified and adapted, with permission, from a similar study done by Jayawardana, et al., (2011).<sup>8</sup>The questionnaire contained three parts, (parts A, B and C). Part A consisted of subjective information of the students including gender, grade and field of study. Part B consisted of seven close ended questions which had four sub questions under each to evaluate the awareness about physiotherapy. Those questions were to assess the awareness in physiotherapy as a career and as a treatment method in sports and other disease conditions. Each sub question contained three responses (yes, no and don't know).Part C consisted of a close ended question with multiple responses to identify the source of information regarding the physiotherapy profession.

### Participants and procedure

High Schools with Sinhala medium advanced level classes in Kandy educational zone were identified from the data base of the Director of Education (planning), Central province, Sri Lanka. Permission to carry out the study in the selected schools was also obtained from the same office and ethical approval was granted by the Faculty of Medicine, University of Peradeniya. From a total of eighteen schools in Kandy zone, a sample of 815 Sinhala medium science stream students were selected from nine schools using envelop method. Students who were unwilling to participate in the research, absent on the day of data collection and Tamil and English medium students were excluded from the study. Anonymity of respondents was maintained during data entry, data analysis and write-up phases. Data were analysed

using Statistical Package for the Social Sciences Version 17 (IBM Cooperation, NY, USA).

## III. RESULTS

### Subjective data

Eight hundred and fifteen students were given survey packs and seven hundred and seventy six questionnaires were completed and returned (95% response rate). There were 320 males and 456 females among the respondents.

### Awareness in physiotherapy

In general, the awareness about physiotherapists, structure of a physiotherapy unit and the availability of physiotherapy services was unsatisfactory (Questions 1, 2 and 3). The true answer rates for these questions were 32%, 17% and 34% respectively (Table 1). Interestingly, 95% of students did not know that electrical modalities are available at physiotherapy units. In average, more than a half of the study population (62%) was not aware of treatment methods used in physiotherapy (Question 4), and 64% did not know when to meet a physiotherapist (Question 5). Generally, 54% of students were not aware how the physiotherapy helps in sports injury management (Question 6). A vast majority of student were unaware about the uses of physiotherapy in other disease conditions than sports injuries (Question 7), mainly in chest conditions like bronchitis (80%). The overall awareness about physiotherapy (as indicated by true answers to the questions in Part A of the questionnaire -Table 1) was approximately 30.5%.

**Table 1: Analysis of answers to the questions in Part B of the questionnaire**

Topic Question	Sub Questions	Right answer %	Wrong answer %	Don't know %
1. Physiotherapy is,	a. Practiced by the doctors	42	52	6
	b. A branch of acupuncture	34	60	6
	c. Practiced by masseurs	26	68	6
	d. An indigenous treatment method	26	68	6
2. A Physiotherapy unit (Department of Physical Medicine/ DPM) includes	a. A gymnasium with exercising machines, gym balls and other equipment	20	72	8
	b. Electrical modalities	1	95	4
	c. a section for manual treatments using bandages, tapes and splints	23	69	8
	d. A therapeutic pool	23	69	8
3. Places where the physiotherapy services can get	a. Private clinics	36	56	8
	b. Government hospitals	35	57	8
	c. Private hospitals	36	57	7
	d. NGOs	30	63	7
4. Physiotherapy treatments include	a. Manual therapy	34	60	6
	b. Ice/Heat therapy	31	63	6
	c. Hydrotherapy	25	69	6
	d. Electrotherapy and exercise therapy	36	58	6
5. Do you know when to meet a physiotherapist?	a. When you have an injury	27	67	6
	b. When there is is pain arising in any	36	58	6

	body part with or without a known cause			
	c. When you feel pain or discomfort in any of the sporting technique	39	56	5
	d. When you have fever or flu.	18	76	6
6. When a sport injury happens, physiotherapy,	a. Involves reducing the pain	42	51	7
	b. Can be used to improve the quality of muscles	43	50	7
	c. Helps to regain the full motion of the joints as it was before the injury	40	53	7
	d. Helps to prevent complications after injury	33	61	6
7. Uses of physiotherapy in any other conditions than in sport injuries	a. Neurological conditions (stroke, Parkinson)	36	57	7
	b. Musculoskeletal conditions (Osteo-Arthritis)	46	48	6
	c. Pediatric conditions (Cerebralpalsy)	23	71	6
	d. Chest conditions (Bronchitis)	14	80	6

Source of information about physiotherapy

The commonest source to obtain information regarding physiotherapy was television programs (44.6%), followed by the internet and newspapers/magazines (39.8% and 36.3% respectively). Sources mentioned less often were books (24.5%),

teacher/ counsellor/ coach (23.1%), friends (22.7%) and career literature (21.4%), and those cited least often were the family physician (10.6%) and family physiotherapist (5.5%). (Figure1)

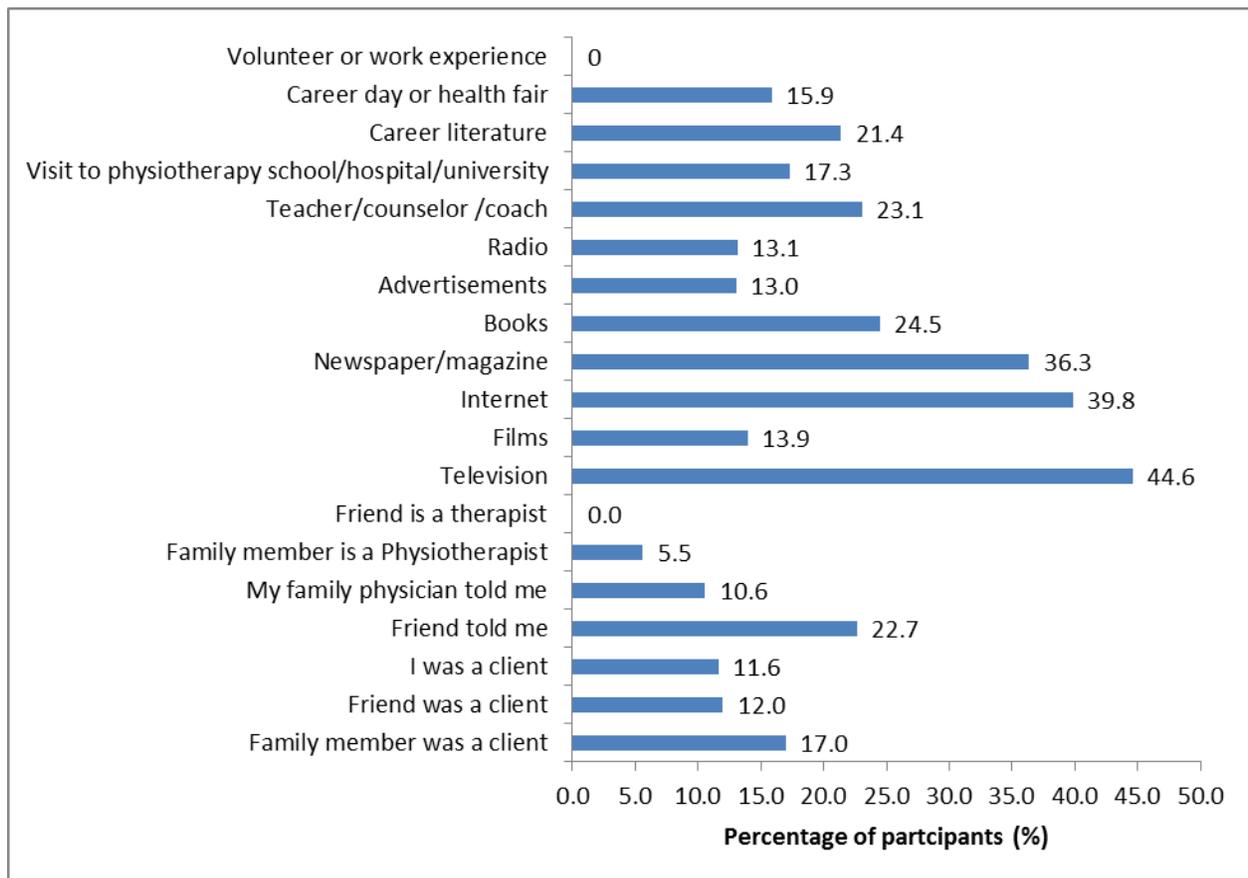


Figure 1: Sources of information about physiotherapy

#### IV. DISCUSSION

In general, more than half (63%) of high school students were unaware of physiotherapy profession and its applications in patient management. This finding suggest that the high school students in Kandy zone, Sri Lanka are less informed about physiotherapy compared to students in Japan<sup>6</sup>. This is probably due to the following factors: (1) until the year 2006, a BSc in Physiotherapy degree programme was not offered by the state Universities in Sri Lanka. Although a diploma course was available, entrance to that was not directly based on the Advanced Level examination. Hence, high school students paid less attention to this field. (2) The general public has only a little or limited access to physiotherapy. (3) Unavailability of information regarding the scope of physiotherapy, both as a profession and as a treatment modality in Sri Lanka. However, since 2006, two state Universities (Peradeniya and Colombo) and also the Defence University have started degree programmes in physiotherapy and two or three batches have already graduated. As a result, the awareness about physiotherapy seems to be increasing too. This is evident from the fact that the minimum Z score needed to enter the physiotherapy undergraduate programme in a state University has become the 4th highest (after Medicine, Dentistry and Molecular Biology), according to the latest data from the University grants commission of Sri Lanka<sup>9</sup>.

Many high school students thought that physiotherapy is practiced by either doctors (52%) or masseurs (68%). This may also be the cause for huge misunderstanding that one should see a physiotherapist when having a fever /flu. Also, 68% of students believe physiotherapy is an indigenous method of treatment (Table 1). Sri Lanka faces considerable challenges in delivering reliable and quality healthcare services across the nation. Pain management has been described as a fundamental human right that should be available in primary care settings, yet pain management services in Sri Lanka are not given priority. Most physiotherapy services are confined to large hospitals, often in private sector and located in urban areas and provision in public or government hospitals appears to be inadequate. The reason for this misunderstanding on physiotherapy may be inappropriate accessibility to physiotherapy services in Sri Lanka.

It was also evident from the results of this survey that a majority of the participants did not have a clear idea about the scope of physiotherapy. For instance, 95% of the students were unaware of availability of electrical modalities in physiotherapy units and 60%, 63%, 69% and 58% of the students were unaware about usage of manual therapy, ice/heat therapy, hydrotherapy and electro/exercise therapy respectively. Moreover, approximately 64% were unaware about the use of physiotherapy in conditions like bronchitis, stroke, Parkinson, cerebral palsy and osteoarthritis (Table 1). The factor for the low level of accuracy in responses to the statements concerning use of physiotherapy in other disease conditions than sport injuries may be due to unfamiliarity on the part of the respondents of cardiopulmonary physiotherapy and exercise therapy that are frequently carried out in musculoskeletal, neurology, paediatric and cardiopulmonary settings.

The unsatisfactory level of awareness about the scope and importance of allied health care professions such as

physiotherapy may be one of the causes for higher competition for medicine among science stream students when they entering to the university. One reason for above finding may be due to that physiotherapy is still limited only to the urban areas in Sri Lanka and the limited availability of career information resources. Also the highest reputation on medical profession and inappropriate beliefs about physiotherapy career may be some other reasons. However a lower degree of awareness in physiotherapy expressed by the healthcare- aspiring students in Sri Lanka is in contrast with the findings by Ogiwara and Nozoe (2005) which showed that science students and healthcare aspiring students were more knowledgeable about physiotherapy compared to the literary and non-healthcare aspiring students in Japan<sup>6</sup>.

Based on the analysis, television, internet and magazines/newspapers are the highest rated sources of information regarding Physiotherapy in Sri Lanka (Figure 1). However, the fact that most of the students did not possess adequate and/ or accurate information regarding physiotherapy, both as a treatment modality and as a profession, suggest that even those sources are not providing enough information. This situation is unlikely to change unless those who are in the profession of Physiotherapy work actively towards educating first, the mass media and then the general public through them. After all, half of the general public is dependent on mass media for acquisition of information on their health and illness<sup>10</sup>.

This study was designed to assess high school students' awareness and their sources of information on the physiotherapy profession. Awareness of physiotherapy was found to be low amongst the science students who participated in the study. Mass media was considered to be the most influential source of information and many respondents cited television as the source of information. Based on the findings of the survey, the authors feel that those who are in the profession of physiotherapy in Sri Lanka should play a more active role in educating the public.

#### V. ACKNOWLEDGEMENT

The authors greatly appreciate the participation in this study of the principals, teachers, students of the schools in Kandy zone, Sri Lanka. Also the authors wish to acknowledge and thank staff of the Department of Physiotherapy and the International Research Centre, University of Peradeniya, Peradeniya.

#### REFERENCES

- [1] Greenwood N, Bithell C. Perception of physiotherapy compared with nursing and medicine amongst minority ethnic and white UK students: Implications for recruitment. *Physiotherapy*. 2005; 91(2): 69-78.
- [2] Wilson D. (2005-2011), Physiotherapy; What is Physiotherapy?, bodyworks Physiotherapy clinic, Available from <http://www.bodyworksphysio.com/html>
- [3] Mosby's Medical Nursing and Allied Health Dictionary. (2006), 7th edition, Mosby: St Louis.
- [4] Sri Lanka's aging population present risks, opportunities, Available from <http://www.lankabusinessonline.com/.../sri-lankas-aging-population.com/html>
- [5] Gotlib J, Bialoszewski D, Opavsky J, Garrod R, Fuertes NE, Gallardo LP, Lourido BP, Monterde S, Serrano CS, Sacco M, Kunicka I. Attitudes of European physiotherapy students towards their chosen career in the context of different educational systems and legal regulations pertaining to the

practice of physiotherapy: Implication for university curricula. Physiotherapy. 2011.

- [6] Ogiwara S, Nozoe M. Knowledge of physiotherapy: a study of Ishikawa High School students. *Journal of Physical Therapy Science*. 2005; 17: 9-16.
- [7] Gotlib J, Bialoszewski D, Sierdinski J, Jarosz MJ, Majcher P, Borczyk K, Bauer A, Anna C, Grzegorzczak J, Piaszewski M, Kulak W, Czupryna O, Prokopowicz K. A comparison of the perception and aspirations of third year physiotherapy students trained in three educational settings in Poland. *Physiotherapy* 2010; 96(1): 30-32.
- [8] Jayawardana RADWU, Fernando DAT, Priyadarshani WDMD, Lakmali NPN, Jeewani PKGT, Kumari WAKD, Nadaraja T, Amunugama ARMSS, Rajarathne AAJR, Liyanage E, Pallegama RW. (2011). Evaluation of Awareness about Physiotherapy and Identification of the Most Vulnerable Region to Injury among School Level Male Hockey Players in Kandy Educational Zone. *Proceedings of the Peradeniya University Research Sessions, Sri Lanka*. 2011;16: 58.
- [9] Minimum Z-Score for academic year 2012/2013, Available from <http://www.ugc.ac.lk.com/html>
- [10] Medico-Economic research Organization: The 1996 White Paper on Health Care, Tokyo: Nihon IryoKikaku, 1966, pp 351-352

#### AUTHORS

**First Author** – Thusharika Dilrukshi Dissanayaka, Department of physiotherapy, University of peradeniya, Sri Lanka, [thushfhs@yahoo.com](mailto:thushfhs@yahoo.com)

**Second Author** – Shayama Banneheka, head, Department of Physiotherapy, University of Peradeniya, Sri Lanka, [bmhsk@yahoo.com](mailto:bmhsk@yahoo.com)

**Correspondence Author** – Thusharika Dilrukshi Dissanayaka, Department of Physiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, Telephone: +94(0)716305852