***A Proposal for Investigating the Prevalence of Low Back Pain among Undergraduate Physiotherapy Students***

Submitted by

[]

July 2016

# CHAPTER ONE

# INTRODUCTION

Non-specific Low back pain (LBP) has been recognized as a major cause of disability and the most common musculoskeletal disorder among physiotherapy students (Ehrlich., 2003). Over the years, studies have demonstrated that physiotherapy students have a high prevalence of LBP (GE. 2003). It has been proposed that physiotherapists are at an increased risk of developing LBP because of physical and inherent psychological needs of the profession (Resnik. 2015). The objective of this proposal is to investigate the prevalence of LBP in undergraduate physiotherapy students and to compare the prevalence of LBP among physiotherapy students at different stages of their training. A further aim is to determine the different factors responsible for LBP.

Physiotherapy students are training to be physiotherapists. As a profession physiotherapy involves; providing rehabilitative care in a wide range of disabling conditions with the aim of restoring, maintaining as well as promoting function (Dionne CE., 2012). Training includes interventions that often entail a considerable amount of   “hands-on” techniques, characterized by repetitive movements, prolonged standing, and a lot of difficult postures (Ehrlich. 2003). For training purposes, physiotherapy students use dummies in place of real life patients. Transferring and lifting of these dummies, disguised as patients, are common activities in physiotherapy training and such activities are considered risk factors for LBP and that have been linked to its onset.

The purpose of this proposal is to examine and analyse the prevalence of LBP in physiotherapy students in one university in the North of England. According to Pellisé. (2009) there is limited evidence found that would be used to recommend any suitable prevention strategies of LBP. Presently, the only advocated prevention strategy among or rather for students are modifying the risk factors associated with LBP (Bailey. 2012). To have a successful prevention strategy for LBP, it is important to identify and understand the contributory and associated risk factors of LBP.

The aim of this study is to identify the factors which might contribute to NSLBP in physiotherapy students and to discuss ways in which these factors might be eliminated within pre-registration training programmes, thus enhancing the health of physiotherapy students.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

Non-Specific Lower Back Pain (NSLBP) refers to pain in the lumber region of the spine that is not caused by any identifiable pathology. These pathologies include; fractures, infections, or inflammation caused by certain illnesses. It is mostly brought upon by straining, stretching, compression or irritation of the region. Normal daily activities can bring about NSLBP when the spine is ‘used’ incorrectly. How one sits, stands, walks or bends - all this determine if one will experience back pain.

Moroder. (2011) highlights that Low back pain (LBP) has over the years been recognized as one of the leading causes of disability and an inability for people to work, and study effectively. Lower-back pain has created a major trouble in industrial productivity. In the United States, LBP has been shown to be the second most frequent cause of missed workdays because of illness and the main cause of disability. The financial repercussions of these figures are meaningful with Americans investing at least $50 billion every year on medicine for LBP, often with little consequence. Correspondingly, in the UK back pain is liable for the loss of one in six working days, easily lessening employee productivity and efficiency (Nur S. A. Ramdan, Ahmad Y. B. Hashim, Seri R. Kamat, Mohd N. A. Mokhtar, and Siti A. Asmai, 2014). It is as social as it is an economic health problem that is said to affect a population of all ages globally and based on the research by Pellisé (2009) it is expected to affect up to 90% of people at some point in their lives. According to (Andersson, 2011) an approximate value ranging from 12-80% of the younger population, many of whom are students experience LBP. It is a condition that is said to be as old as humanity itself.

Many people have reported the high prevalence of work-related musculoskeletal injuries in physiotherapists as compared to other medical related professions (Campo et al., 2008; Nyland and Gimmer. 2003; Cromie et al., 2000). Research by West and Gardner. (2001), stated that the ratio between the physiotherapists who experienced LBP during the first 5 years of their career was double than the physiotherapists who had LBP during their undergraduate studies. However, Nyland and Grimmer., (2013) debated through a cross-sectional study that physiotherapy students are more prone to have LBP due to their inexperience in handling the strenuous, physical nature of their profession than qualified physiotherapists and hence undergraduate study in physiotherapy can be a risk factor for LBP.

Expert opinion has linked the growing frequency of LBP being experienced by the modern society to an epidemic, and reports existing in the literature books consistently support this view (Hoy et al., 2010; GB., 1998). A recent systematic review suggested that LBP has quite emerged as the leading cause of activity, limitation and work absence all over much of the world and is as well associated with a great economic burden (Froud et al., 2014). According to West & Gardner., (2001) the prevalence of LBP in physiotherapists is high and the most common cause is the consequence of work-related injuries.

From as early as in the 17th century to date, LBP has been identified among different population groups, this has hence generated lots of attention in health care sector. Research has depicted that LBP or what in some instances is referred to as musculoskeletal disorders mainly occurs whenever there exists a mismatch between the physical requirements of the different activities being undertaken and the equivalent physical capacity of the human body (Smith DR., 2014).

According to (Smith DR., 2004) low back pain usually comes along when a muscle that is holding a vertebra in its proper position is strained, becomes weak, making the spine lose its stability, hence resulting in pain. However, in many cases results of diagnostic imaging does not match reported symptoms, and many the patient continues to report symptoms well beyond the expected tissue healing times, it is frequently impossible to establish which structure is actually causing the pain. LBP is recognized with different medical terms such as; PLID (prolapsed intervertebral disc), spondylolysis disc, spondylolisthesis, lesion, as well as degenerative disc diseases (Peter. 2000).

The yearly prevalence of LBP varies from a low of 5% to a high of up to 65%, while the lifetime prevalence ranges up to about 84% and the monthly prevalence ranging from 35% to 38% (Hoy et al., 2010). It is a condition that has been associated with a lot of disabilities hence escalated the cost of medical care (Froud et al., 2014; Bailey. 2006). The first episodes of LBP can be experienced as early as puberty years, and too often reoccur throughout the adult lifetime. As defined by Stanton. (2013) 24% to 87% of individuals at the age of 9 – 12, who have an episode of LBP are likely to suffer a recurrence within 1 year. It is because of recurrence that it is imperatively correct to diagnose LBP as early as possible and take appropriate measures to prevent its escalation to a chronic condition.

The burden and exposure to LBP in the society have continued to rise despite the vast and wide amount of research and time that have been devoted to its resolution over the last few years. Different aspects of LBP still remain to be poorly understood and defined (Bailey. 2006). This includes the risk factors that lead to the development of acute LBP and those that attributing to the cause of LBP to certain pathology.

According to Peter., (2000) an individual may experience LBP due to practices or activities that involve lifting and carrying heavy objects, or if an individual spends much of their time sitting, standing in one position or bending over. Heavy physical work has often been defined as the type of work that requires high amounts of energy use or rather requires some measure of physical strength. Physiotherapist consistently performs some activities that could be considered as heavy physical work such as soft tissue mobilization, transferring dependent patients, assisting patients in gait, providing manual resistance, assisting with mat activities, and lifting heavy and cumbersome equipment. (Marras. 2011), explains that these are jobs that impose comparatively large compressive forces on the human spine hence leading to potential risk factors for the back disorder. These potential risks (Peter. 2000) are in most cases often related to speed or changes and deviation from the normal non-neutral position of the body. It is hence recommended that physiotherapy students should learn to maintain a comfortable and a healthy posture as they undertake their activities. Avoid postures that may end up straining their muscles and the spine altogether (Bailey. 2006).

Other factors that may cause LBP include; Age, psychosocial factors, general health status, long duration of computer usage, sex, and history of prior LBP experience. According to Peter. (2000) women tend to experience and have recorded a higher prevalence of LBP as compared to men. However, though, this difference is said to vary in magnitude. Age is yet another factor related with a high prevalence of LBP. The older the age the more severe forms of LBP (Kristine Phillips., 2011).

Many physiotherapists report the onset of LBP during undergraduate studies at the university and it has been noted that physiotherapy students are potentially exposed to the same LBP occupational risks as graduates, such as poor working postures and frequent manual handling activities, often undertaken in difficult environments and with variable training regarding personal safety (Smith DR, 2014; West and Gardner., 2001).

## Category of Low back pain

Bailey., (2006) categorizes the various types of LBP as: Chronic low back pain (CLBP) – this persists for longer than 7-12 weeks; Acute low back pain (ALBP) - this lasts for less than 12 weeks; Sub acute low back pain (SALBP) – this is the most long-lasting LBP as it can last between 6 weeks and 3 months.

Anderson. (2011) argued that there exist three categories of LBP. The first is typical back pain, the second referred to it as sciatica, which is said to be associated with symptoms such as; bowel, anaesthesia and bladder while the third is referred to as spinal stenosis. On the other side, another categorization by the European agency for safety and health at work (EASHW), LBP is categorized into simple LBP and complex LBP. Simple LBP is one that can be treated by NSAID (non-steroid anti-inflammatory drugs) and some muscle relaxants for a period of about 6 weeks and some improvement is recognized, (GE, 2013). Complex LBP however, is complicated and likely to affect people more than 25 years age and according to Smith DR., (2004) it mostly occurs due to trauma, malignancy, intervertebral disc prolapsed infection, or degenerative changes.

## 2.3 Causes of low back pain

As stated in the literature review, LBP is mainly due to the incorrect ‘use’ of the spine in performing any activity. Other reasons such as: Individual characteristics, unhealthy static and dynamic working postures, working conditions which may involve heavy physical activities that cause strain on the muscles and the spine, manual handling and lifting of heavy objects (especially with physiotherapy students in the university), lifestyle factors and psychological factors, trauma to the back, osteoporosis or prolonged corticosteroid use, vertebral infections, tumours and bone metastasis also contribute (Peter., 2010).

Pain can be both a sensory and emotional experience (Andersson. 2011). In most cases, the transmission instances are the result of complex peripheral as well as central processes. Central processes or sensitization (Kristine Phillips., 2011) can be defined as a condition of the human nervous system that is associated with the maintenance and development of chronic pain. These processes can be modulated at different levels and pain perception is a result of the balance between facilitator and inhibitory interactions.

Based on research conducted by Anderson. (2011) it is and has been quite difficult to identify the exact source of LBP. This has hence made the possibility of any diagnosis and treatment of the LBP a major problem. Marras. (2011) ague’s that LBP can be produced by different tissues in the body such as; muscles, joint capsules cartilage, ligaments, soft connective tissue, as well as blood vessels. Whenever these tissues are pulled, stretched, strained, or even sprained they tend to rapidly produce some kind of an inflammation that hence lead to the release of inflammatory chemicals such as cytokines which in turn stimulate the surrounding nerve fibres and hence resulting in a pain-like sensation. The diagnosis of LBP is complicated due to the complex nature of pain as well as the non-standardized approach by which physicians take to make clinical decisions (Smith DR., 2004).

A retrospective survey of Cromie et al., (2000) showed that physiotherapy students do report LBP at some point of their training. The prevalence of LBP in physiotherapy students is higher than those of the other medical students. More than half of the physiotherapy students show LBP during their academic studies (Falavigna et al., 2010). Many students consider educational stress, student lifestyle, non-balance diet and manual handling on clinical placements to be the factors contributing to their LBP (Vincent-Onabajo et al., 2016). LBP decreases confidence and increases the time off from the university or work' which affects productivity, workplace and family stress (Latimer et al., 2004). Therefore it is important to identify the potential risk factors in order to prevent LBP (Nyland and Grimmer., 2003).

**Research Question**

What is the prevalence of LBP in physiotherapy students and what do they consider are the factors which contribute to their LBP.

# CHAPTER THREE

# RESEARCH METHODOLOGY

**3.1 Introduction**

The study will hence involve a questionnaire-based practice on physiotherapy students to obtain the demographic, and educational activities, as well as the LBP data. LBP is to be measured as a lifetime, 12-month, 1-month, and 7-day prevalence as well as a point prevalence (Andersson. 2011). The prevalence of LBP will be analysed with descriptive statistics while on the other hand, all factors associated with LBP prevalence will be evaluated using the SPSS. The results of this will hence help prove whether it is true that, physiotherapy students at the University of Cumbria, Carlisle campus' have a high prevalence of LBP.

**3.2 Justification of the chosen research methodology**

This study will be conducted using a cross-sectional research methodology. A cross-sectional study can be defined as one of the simplest variety of descriptive or rather known as an observational study (Bailey. 2006). In most cases, it is used to conduct epidemiological studies on representative samples of a certain population.

This is a methodology that is generally designed with an aim of to describe the relationships between the different factors of interest such as diseases and in this case, the prevalence of LBP, as they exist in the specified population at a given timeline, without any regards for what may have been earlier preceded or rather predicated about the status found at the time of study. In a cross-sectional research study methodology, data is collected from either the entire population or a selected subset of the entire population, which in-turn helps answer the different research questions of interest (Dionne CE., 2008).

This methodology is called cross-sectional necessarily because the information gathered about X and Y represents an event or activity going on at one point in time only. This methodology was suitable to this study necessarily because it mainly uses a data collection method that was suitable for the study at hand, use of a simple questionnaire (Appendix 1) (April. 2011). Other common data collection method applied in this methodology include; pedometers (measure distances walked), or scales (measure weight). The advantages that come with this study methodology is that it has been referred to as one of the cheapest methodologies for collection of large data. However, though, it comes with a shortcoming in that it is usually unable to describe which variables among the collected data is the cause as well as the equivalent effects. However, according to Schmidt. (2008) a cross-sectional study is often unable to include data on the different confounding factors, as well as the different variables that affect the relationship between the putative causes and effect (Apri., 2011).

**3.3 Justification of the chosen data collection method**

In conjunction with the cross-sectional study methodology, a questionnaire model of data collection is used in this study. A questionnaire can be defined as a way of gathering data or rather information by means of engaging the respondents or participants in a special kind of conversation (Shaughnessy. 2006). This conversation, could occur in different ways such as; face to face, via the mail, by telephone or even by written form. It is a conversation that contains certain rules that seem to separate it from normal conversations. In this form of data collection, the researcher is the one to decide what is relevant to their study and decide whether to ask the questions or state them in written form.

These questions are made in such a way that they should be both understandable as well as relevant to the purpose of the research. The respondent of the questions may either chose to answer the question or in some cases may refuse to participate in the conversation and refuse to respond to any particular question (Shaughnessy. 2006). However, when the respondents willing agree to participate in the study, they are expected to answer questions truthfully. This form of data collection is advantageous since it is time saving and may cover a wide range of people over a short period of time especially when the questions are in written form. However, though it is faced with the challenge of untruthfulness and dishonest answers hence providing wrong data and thereby distorting the study (Adèr. 2008).

**3**.4 Procedure

### 3.4.1 Informed consent

Before the research is conducted with the respondents, an informed consent will be necessary in order to gain authorization or to rather inform our subjects of the intent and our need for their help to perform a research on a certain issue at hand 'The Prevalence of Low Back Pain among Undergraduate Physiotherapy Students in the University of Cumbria' (Bailey., 2006). For this study, interested subjects will be given consent forms and will be informed of the purpose of the research and where necessary, the consent forms will be explained to the subjects verbally. Participation will be fully voluntary and hence the subjects will have the right to withdraw out of the research at any time they feel like. Confidentiality of the subjects will be something hoped to be maintained. Information or rather data from the subjects will be published in any presentations or even in a writing form, (Adèr. 2008).

## 3.5 Inclusion/Exclusion criteria

### 3.5.1 Inclusion criteria of the study:

The inclusion criteria will involve; both male and female physiotherapy students will be selected, only physiotherapy students will be selected for the research, and finally Physiotherapy student who has previously suffered from low back pain will also be included (Khalifa., 2014).

**Exclusion criteria of the study:**

While on the other hand, the exclusion criteria will include; Subjects who will not be willing to participate, Pregnant physiotherapy students (this is because, the prevalence of LBP during pregnancy mostly varies over time; the Onset of LBP occurs most commonly during the third month of the pregnancy to the seven months and after the pregnancy, this problem is usually resolved), and Physiotherapy students who have previously had LBP due to the pathological case i.e. LBP due to; Ankylosing Spondylitis, Tuberculosis(Khalifa., 2014).

**3.6 Samples**

Samples can be defined as the expected population of a certain study. A population according to Shaughnessy. (2006) may be used to refer to the members of a clearly defined set of people, objects or even events that are the focus of a certain research or investigation to which a hypothesis applies. These population groups tend to share a specific set of characteristics that is determined from a literature review and depending on the goals for the study. The Selection criteria of this sample group will be governed by the inclusion/exclusion criteria as well as available resources. Thereby, due to constraining in resources, the total sample size for this research is expected to be approximately 30 students.

**3.7 Data Collection Methods**

After the informed consent is issued and subjects are selected in accordance with the inclusion/exclusion criteria, and based on available resources, eligible students will be approached during their free time. A cross-sectional survey will be used to conduct the research procedures among them where ‘Questionnaires’ will be distributed for the subjects to give their details and their verdict or rather a response to the research problem, (Adèr. 2008). The filled in questionnaires will then be retrieved in bulk so as to ensure anonymity. Data collection is expected to last for about 3 – 7 days so as to enable every participant to get a chance as well as enough time to go through the questionnaire and provide a thoughtful response.

The questionnaire will be structured in a way that it will allow for the collection of the following variables: Gender, Age, Program, and Participant’s length of study (in numbers of semesters), Height, Weight, and Physical activity, Duration spent on a computer per day and the presence of LBP and its features.

**3.8 Data analysis**

Data analysis according to Adèr. (2008) can be defined as the process that involves the inspection, cleaning, transforming as well as modelling data with the aim of discovering necessary and useful information, suggesting conclusions, and for decision-making purposes. The aim of the data analysis is necessary to find out the meaning of certain raw data that has been collected.

In this study, data analysis will be performed in the program statistical package for social science (SPSS) version 16. SPSS (Bryman and Cramer. 2011) can be defined as one of the most widely used programs for statistical analysis such as; Descriptive statistics, and bivariate statistics. SPSS is a perfect choice due to its statistical features and as well due to its ability to make predictions for numerical outcomes. The presentation of this data will in-turn be performed in SPSS as well as in Microsoft office word 2010 (Bryman and Cramer. 2011). Every questionnaire will be re-assessed and rechecked for any missing information. Data will be inputted systematically into its respective variables in SPSS, after which another recheck of the inputted data will be done so as to ensure that all available data have been accurately transcribed from the questionnaire sheet into the SPSS data view. Then it's from there that the raw data will undergo necessary analysis in SPSS.

On the other hand, Microsoft Word Excel will be used in order to provide the ability to present data using table, column as well as pie charts. The result of this survey consisted of qualitative data. The collected data will be illustrated with bar graphs, table and pie chart (Adèr. 2008). This study is expected to make use of descriptive statistics such as; the measure of central tendency and the measure of dispersion, pie charts, bar graphs, histogram, as well as frequency polygon (Adèr., 2008), which are often used in conjunction with different survey methods. As explained by Shaughnessy. (2006) it is quite difficult to make any sense out of a large amount of data just by looking at the raw data.

This is why; the different forms of data collection methods enable the researcher to gain a great understanding of different individual clients on certain problems and issues in different practices. By the end of this analysis, a lot of information is expected to be collected which will in-turn give a basic idea about LBP among the physiotherapy students, what age is more affected, which factors lead to LBP more than the other(Andersson., 2011).

**3.9 Ethical consideration**

‘Research Ethics’ can be defined as the ethics that involve planning, conduct, as well as reporting of research. For a research to be ethical it should ensure and provide protections for human and animal subjects (David B. Resnik., 2015).

In this study and in any research, it is hence expected that ethical consideration (Protections of human and animal subjects), are adhered to at all aspects of the study (Bailey. 2006). This is because these entities are the crucial part of the entire research. Thereby, the research project will be submitted to the Physiotherapy Department of the University of Cumbria, so as to obtain approval for conduct and to involve any of the subjects to participate in the study. Interested subjects will be issued with consent forms as well as the purpose of the research so as to participate with utmost knowledge of what they are into (Dionne CE., 2008).

**Rigor**

During the data collection and data analysis, the researcher is expected to avoid influencing the process by their own perspectives, values and biases. They should avoid any form of leading questions in the questionnaire and in the case of any difficulties during the study, the researcher is free to ask for assistance from their respective supervisor.

**CHAPTER FOUR**

**CONCLUSION**

**Summary**

This study aims at utilizing a cross-sectional design in conjunction with questionnaire form of data collection as well as an SPSS and Microsoft excel 2010 to analyse a sample of about 30 physiotherapy students with the aim to find the prevalence of LBP among undergraduate physiotherapy students in the university of Cumbria, Carlisle campus. Based on the above literature review and based on the causes of reviewed LBP, it is highly expected that similar results are to come out of this research study. Based on the type of activities practiced by the physiotherapy students, it exposes them to a higher likely-hood to have LBP. Due to their lengthy course exposure and the physical activities they get to be involved in, the fall at risk of experiencing LBP and only by minimizing this activity or rather performing them in a way to avoid muscle strain would they minimize the risk of them being exposed to LBP as there have been found no possible diagnosis or treatment for it.

**Limitation of the study**

This study is definitely expected to be bound by a number of limitations. Some of such limitations include; the validity and reliability of data collected by questionnaire are questionable; the constraint in resources; lack of adequate experience with the different techniques and strategies associated with the practical aspects of research (Riddle. 2012).

# References

Bailey, D., 2006. Research for the health professional. 2nd edition ed. Philiphia: F.A Davis Company.

Dionne CE, D. K. C. P., 2008. A consensus approach toward the standardization of back pain definitions for use in prevalence studies. s.l.:s.n.

GE, E., 2003. Low back pain. Buckingham: Bull World Health Organ.

Schmidt, C. K., 2008. Cross-sectional study methodology. s.l.:s.n.

Shaughnessy, J. J. Z. E. B. &. Z. J. S., 2006. Research Methods. Seventh Edition Ed. New York: Routledge. McGraw–Hill Higher Education.

Adèr, H. &. M. G., 2008. Research Methods. Netherlands: Johannes van Kessel Publishing.

Anderson, P. &. 1988. Cumulative Trauma Disorders. s.l.:s.n.

Bailey, D., 2006. Research for the health professional. 2nd edition ed. Philiphia: F.A Davis Company.

David B. Resnik, J., 2015. Ethics in Research & Why is it Important. s.l.: NIEHS.

Dionne CE, D. K. C. P., 2008. A consensus approach toward the standardization of back pain definitions for use in prevalence studies. s.l.:s.n.

GB, A., 1998. Epidemiology of low back pain. s.l.: Acta Orthop.

Marras, W. L. S. L. S. F. F. F. S. &. A. W., 2011. Biomechanical risk factors for occupationally related low back disorders. New Zealand: s.n.

Moroder, P. R. A. R. H. &. T. M., 2011. Low back pain among students. Belgium: Acta Orthop.

Pellisé, F. B. F. R. L. C. C. A. M., 2009. Prevalence of low back pain and its effect on health-related quality of life in adolescents. Spine: s.n.

Peter, V., 2000. What are the causes and controls of Musculoskeletal Disorders? s.l.:s.n.

Philipp Moroder, A. R. H. R. M. T., 2011. Low back pain among physiotherapy students. Belgium: Acta Orthop.

Shaughnessy, J. J. Z. E. B. &. Z. J. S., 2006. Research Methods. Seventh Edition Ed. New York: Routledge. McGraw–Hill Higher Education.

Smith DR, L. P., 2004. Musculoskeletal disorders. Australia: s.n.

Is undergraduate physiotherapy study a risk factor for low back pain? A prevalence study of LBP in physiotherapy students.

Nyland LJ, Grimmer KA BMC Musculoskelet Disord. 2003 Oct 9; 4():22.

Work-related musculoskeletal disorders in physical therapists: a prospective cohort study with 1-year follow-up.

Campo M, Weiser S, Koenig KL, Nordin M Phys Ther. 2008 May; 88(5):608-19.

Occupational injuries of physiotherapists in North and Central Queensland.

West DJ, Gardner D

Aust J Physiother. 2001; 47(3):179-86.

Work-related musculoskeletal disorders in physical therapists: prevalence, severity, risks, and responses.

Cromie JE, Robertson VJ, Best MO

Phys Ther. 2000 Apr; 80(4):336-51.

Nyland, L. and Grimmer, K. (2003). Is undergraduate physiotherapy study a risk factor for low back pain? A prevalence study of LBP in physiotherapy students. BMC Musculoskeletal Disorders, 4(1). DOI: 10.1186/1471-2474-4-22

Cromie JE, Robertson VJ, Best MO: Work-related musculoskeletal disorders in physical therapists: prevalence, severity, risks and responses. Physical Therapy. 2000, 80: 337-351.

Falavigna, A., Teles, A., Mazzocchin, T., de Braga, G., Kleber, F., Barreto, F., Santin, J., Barazzetti, D., Lazzaretti, L., Steiner, B. and Beckenkamp, N. (2010). Increased prevalence of low back pain among physiotherapy students compared to medical students. European Spine Journal, 20(3), pp.500-505.

Vincent-Onabajo, G., Nweze, E., Kachalla Gujba, F., Ali Masta, M., Usman Ali, M., Alhaji Modu, A. and Umeonwuka, C. (2016). Prevalence of Low Back Pain among Undergraduate Physiotherapy Students in Nigeria. Pain Research and Treatment, 2016, pp.1-4.

Latimer, J., Maher, C. and Refshauge, K. (2004). The Attitudes and Beliefs of Physiotherapy Students to Chronic Back Pain. The Clinical Journal of Pain, 20(1), pp.45-50.

http://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/1471-2474-4-22

# Appendices

## Appendix 1

**Questionnaire**

Personal Details

 1. Name: …………………………………………………..…….

 2. Age: ……………………………………………………………

3. Gender: …………………………………………………………

4. Date of interview…………………………………..……………

**Part – B:**

**Back pain related Questions**

1. Do you currently suffer from low back pain?

Yes--------------- No-----------------

[If the answer is NO, please proceed to question no. 5]

2. How long do you suffer your current low back pain?

[A] Years------ [b] Months------------ [c] and Days…………

3. How do you describe the severity of the low back pain you suffer from?

[a] Mild [b]Moderate [c] severe

4. How long have you been a physiotherapy student? (In terms of semesters)

  …………………..semester(s)

5. How many hours do you spend on a computer per day as a physiotherapy student?

…………………….hour(s)

6. Which posture do you maintain most of the time during the study?

[A] Sitting [b] Forward bending [c] Standing

7. Which posture makes your pain worse?

[a] standing [b] sitting [c] lying [d] bending [e] walking

8. Which posture relieves the pain?

 [a] standing [b] sitting [c] lying [d] bending [e] Walking

9. Have you ever failed to attend your studies due to Low Back Pain?

Yes ----------------- No-------------------

If yes, how many days since last twelve months?

Days…………………………….

10. In your view, how likely the pain is associated with your current study practice?

[a] not associated at all [b] Associated to my study practice

11. Are you satisfied with the physical environment (structural facilities) of your study place?

Not at all ---------- Moderately Satisfied-------- Satisfied ----------

12. What are the main activities you carry out as a physiotherapy student?

………………………………………………………………………………..

…………………………………………………………………………………

………………………………………………………………………………….

13. Which among these activities make you feel strained, or over stretched?

……………………………………………………………………………………………

…………………………………………………………………………………………..

14. How does your pain affect you and your studies?

…………………………………………………………………………………………………

………………………………………………………………………..

15. What do you like to suggest in order improving the physical environment (structural facilities) of your study environment and activities?

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**Appendix: 2**

***CONSENT FORM***

Hello, I am a researcher, conducting a study for partial fulfilment of Masters of Science in Physiotherapy degree, titled “Prevalence of low back pain among the physiotherapy students in the University of Cumbria, Carlisle campus. I would like to know about some personal and other related information about Low Back Pain. All I may request from you is that you may spare some time to answer some questions which are mentioned in this form. This will take approximately 10 minutes. I would like to inform you that this study is purely academic and will not be used for any other purpose.

All information provided by you will be treated with utmost confidentiality. Your participation in this study will be totally voluntary and if you would like to withdraw yourself at any time during this study, it is allowed without any negative consequences. You also have the right not to answer a particular question that you do not like or do not want to answer during the interview. If you have any query about the study or your right as a participant, you may contact me.