

Nutrition Course and Physiotherapy Students in Jerash University, Jordan

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ABSTRACT

Introduction: Physiotherapists using exercises as one of the major rehabilitation techniques. Nutrition has significant impact on exercises rehabilitation and its outcomes. Adequate nutritional status maintenance in combination with a sufficient nutrient intake is the key to health and quality of life and wellbeing. Given that diet can greatly influence patients' capacity to participate in exercise rehabilitation and their overall results, it is advantageous for physiotherapists to comprehend the connection between nutrition and disease processes. It is beneficial to physiotherapists to have good background about nutrition in their carrier. The aim of this study is to explore Jerash University (JU) physiotherapy students experience on nutrition course. **Methodology:** A cross-sectional study was conducted, with a total of 50 participants, who are physiotherapy students at JU studying Nutrition. An online questionnaire designed via Google form consists of a seven items closed-ended questionnaire. It was sent to participate in their batch group chat. The data was statistically analyzed using descriptive analysis and presented using graphics and charts. **Results:** There were 92% of participants did not previously take nutritional course. Participants proficient in the subjects significantly increase from 20% before attending the course into 34.8% after attending the course. There were 58% of participants expected to learn new skills that may be developed overtime after attending the course while 32% of participants expected to learn new skills that can be used immediately after attending the course. **Conclusion:** Entry-level physical therapy students require more education on basic nutrition and want to receive more education throughout their program.

KEYWORDS: Nutrition, Physiotherapy, Awareness, Jerash University (JU).

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INTRODUCTION

Nutrition is defined by the WHO (World Health Organization) in 1948 as "a set of processes by which living beings incorporate, modify and remove substances from outside" [1]. According to the effects of the food on the human health, many investigations were done to clarify these effects [2]. Adequate nutritional status maintenance in combination with a sufficient nutrient intake is the key to health and quality of life and wellbeing [6]. About its role in rehabilitation, previous studies showed that nutrition has a crucial role in long-term management of risk factors, especially during the rehabilitation process [3]. These studies consider nutritional modification as one of the modifiable doctors in the prevention of major cases such as stroke [3] and cardiovascular diseases (CVD) [10]. Appropriate nutrition determined as one of the most important factors in rehabilitation effectiveness [4]. Based on that The European Society for Clinical Nutrition and Metabolism (ESPEN) has determined an evidence-based recommendations about the diet's indications and prescriptions, and monitoring of food intake at rehabilitation center [5], aiming to increase the awareness of the importance of proper nutrition in complication prevention in rehabilitation centers [5]. On the other hand, clinical malnutrition (which is a common problem in patients with chronic or severe diseases) however has a diverse effect for recovery from disease, trauma and surgery and increasing the duration of hospital stay and increasing both morbidity and mortality in many diseases [7]. Malnutrition also contributes to decrease in muscle mass which affects the rehabilitation process especially in critical illness [13]. As the recent growing attention to the importance of nutrition in the rehabilitation of chronic diseases is increasing, health care professionals should be aware about their role in integrating nutrition in a coordinated interprofessional practice model that can be applied to benefit patients throughout the healthcare spectrum [12]. The complexity of the nutritional problems and the impact of nutritional intake of patients with critical illness shed the lights on the importance of healthcare provider education about this field [13].

Physiotherapy rehabilitation has emerged as a significant medical health profession that addresses the Activity of Daily Living (ADL) and aims to preserve the highest level of functional ability in various abnormalities that may impact body systems [14,15]. Physiotherapists offer comprehensive interventions to their clients, primarily emphasizing exercise [16,17]. Given that diet can greatly influence patients' capacity to participate in exercise rehabilitation and their overall results, it is advantageous for physiotherapists to comprehend the connection between nutrition and disease processes. The importance of nutrition in physiotherapy should not be overlooked. Adequate nutrition is essential for facilitating the body's healing process, improving physical performance, and promoting overall health. In summary, there is substantial evidence demonstrating the significance of nutrition in physiotherapy and its positive effects on treatment results.

Awareness is a term related to knowledge and understanding something. In rehabilitation fields such as physiotherapy field,

awareness and knowledge are very important at the entry level education same as in the practical experience after graduation [18,19]. Encouraging behavioral change relies on the awareness and understanding needed to affect food selection. A well-rounded diet supplies the essential nutrients and energy. Although physical therapists concentrate on exercise and movement, they must also acknowledge the relationship between nutrition and physical health to enhance patient results. Therefore, Comprehensive studies regarding the deficiency of nutrition education among medical students highlight the significant disparity in nutritional knowledge throughout the healthcare sector as a whole.

Jerash University (JU) was founded in 1991 in Jerash State, Jordan [20]. The university offers a variety of educational programs, including Physiotherapy, Pharmacy, Medical Laboratories Technology, Nursing, Information Technology, Engineering, Law, Business Administration, Education, Accounting, and Art [20]. It is also offering different Master of Sciences (MSc) and Philosophy of Doctorate (PhD) degrees. The physiotherapy education program at JU encompasses a variety of subjects and rehabilitation areas essential for the physiotherapy profession, including Neurology Rehabilitation, Women's Health, Pediatric Rehabilitation, Sports Injuries Rehabilitation, Amputation Rehabilitation, Orthopedics Rehabilitation, Electrotherapy, Therapeutic Exercises, Cardiopulmonary Rehabilitation, Community-Based Rehabilitation, and Geriatrics Rehabilitation. The foundation for these rehabilitation fields consists of fundamental major subjects such as Biology, Human Anatomy, Pathology, Physiology, Psychology, Nutrition, and Assessment & Evaluation. Classrooms and laboratories within the university are utilized to instruct these subjects [20]. Presentations, assignments, quizzes, and examinations serve as assessment tools for the courses [20].

METHODOLOGY

A cross-sectional study was conducted, with a total of 50 participants, who are physiotherapy students at JU studying Nutrition. The study approved by the Institutional Research Committees of JU. And participants been asked to agree on the participation in the online questionnaires. An online questionnaire designed via Google form consists of a seven items closed-ended questionnaire. It was sent to participate in their batch group chat. Questions were designed based on the study objectives and divided into three sections: 1. Taken nutrition course before 2. Proficiency in the subject 3. Expectation after attending the course. The data was statistically analyzed using descriptive analysis and presented using graphics and charts. Ethical clearance was obtained from ethical committee in JU. All participants agreed online to participate in the study.

RESULTS

Participants experiences of previous nutritional courses: Data provided in figure1 showed that 92% of students do not previously take nutritional course, so this medical nutrition course is their first experience.

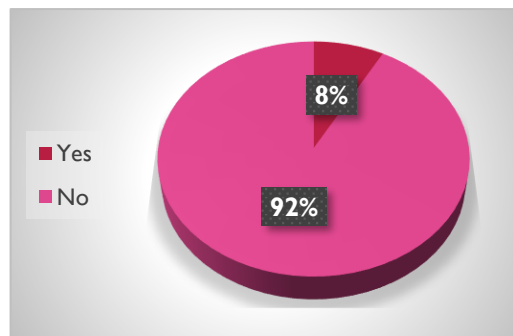


Figure 1. Taken nutrition course before:

Proficiency in the subject: Figure 2 summarizes the students' proficiency in the subject which may represent their benefit from this course. The figure shows that the percentage of student that are very proficient, proficient, little proficient in the subjects significantly increase from 20%, 14%, 14% before taking the course to 34.8%, 28.3%, 34.8% after taking the course, respectively. Interestingly, the percentage of students that are not proficient at all in the subject changed from 14% before the course to 0% after the course. The extent of increase in the percentage of proficiency may reveal the beneficial effects of this course.

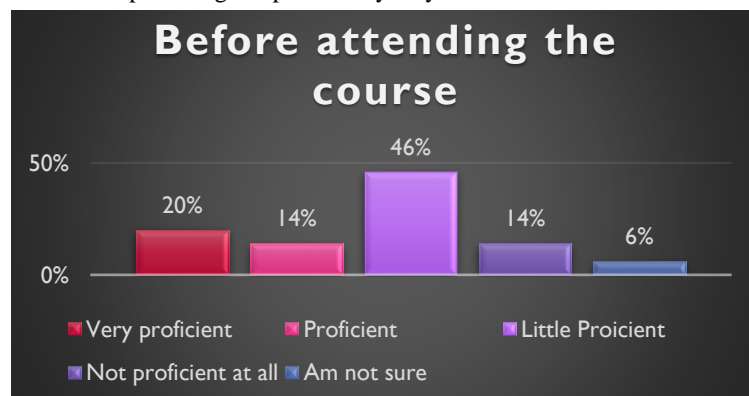
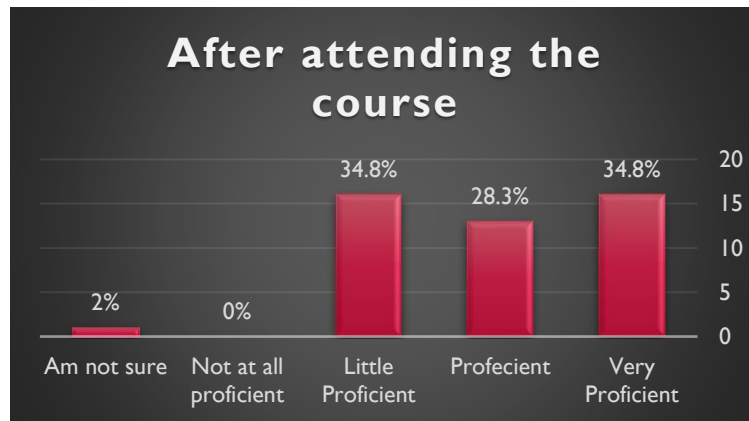


Figure 2. Proficiency in the subject:



Nutrition course as part of Physiotherapy job: The vast majority of the students realize that nutrition is a part of physiotherapy job and this percentage increase from 87% before the course to 88% after the course. Figure 3 illustrates these findings.

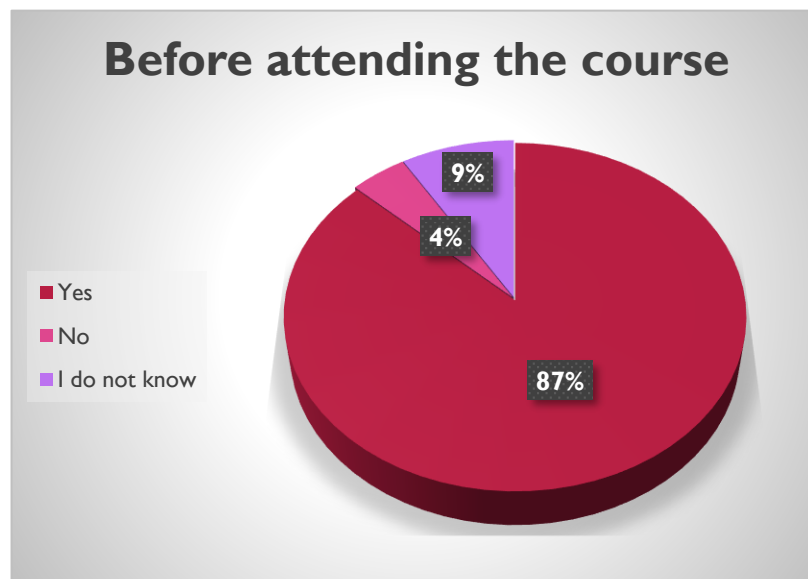


Figure 3. Nutrition course as part of Physiotherapy job

Expectation after attending the course: Figure 4 illustrates the expectations after attending the course. The majority of the students 58% of students expected to learn new skills that may be developed overtime. 32% of students expected to learn new skills that can be used immediately, while 10% of the students reinforced their existing skills.

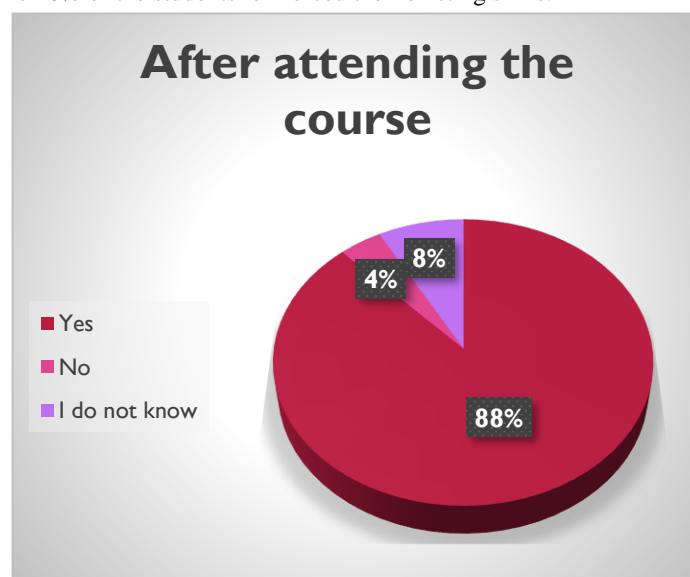
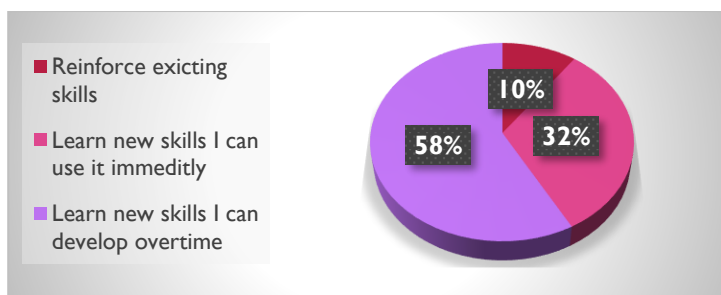


Figure 4. Expectation after attending the course:



DISCUSSION

There exists a significant necessity for a call to action concerning nutrition education within the healthcare sector and particularly in the domain of physical therapy [21]. The objective of this study is to investigate the experiences of JU physiotherapy students regarding the nutrition course. Jerash University (JU) physiotherapy students take two-credit theoretical course on clinical nutrition as part of their curriculum. The association between diet and malnutrition and diseases is explained throughout the course, along with how diet and malnutrition affect rehabilitative exercises.

The findings of this study revealed that the majority of students had not previously attended a nutrition course. In the same manner, a study carried out by Day et al. discovered that merely 25.6% of entry-level physical therapy students obtained some type of nutrition education training during their education [22]. In USA, only 10% of the physiotherapy students attended nutrition course in their education [23]. At the same time several studies highlighted the importance of nutrition knowledge in the physiotherapy education in USA and worldwide [23]. Nutrition classes are offered to physiotherapy students at JU. Additionally, students can enroll in a different nutrition course as a theoretical elective worth three credit hours.

This research indicated that the proficiency of the subjects improved following the course. In other words, physiotherapy students at JU discovered that participating in the nutrition course significantly enhanced their knowledge and skills. As previously noted in the first chapter of this research, physical therapists concentrate on exercise and movement; however, they must also acknowledge the link between nutrition and physical health to enhance patient outcomes [18,19,23]. While the majority of participants in this study understand that nutrition is a component of the physiotherapy profession, the percentage has risen after completing the nutrition course. This serves as valid evidence of the significance of understanding the relationship between physiotherapy and other skills, fields, and perceptions related to the physiotherapy domain. Similarly, the study conducted by Adam *et al.* in 2025 examined the importance and attitudes of physiotherapists towards other skills, demonstrating that it is of considerable significance [24].

The expectations of participants in this study suggest that they aim to acquire new skills for application and further development. After completing the nutrition course, participants anticipate gaining both theoretical and practical skills to enhance their employability. This objective can be fulfilled through skill enhancement and the acquisition of applicable knowledge. Consequently, specific teaching methods that introduce new content can improve their comprehension, or through collaborative efforts that foster teamwork and communication skills [24,25].

CONCLUSION

The findings outlined in this study indicate that entry-level physical therapy students need additional education on fundamental nutrition and express a desire for further education during their program. This knowledge will equip physical therapy students with an understanding of the energy necessary to engage in activities, which significantly influences strength, training, performance, and recovery.

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Conflict of interest: The authors declare no conflict of interest.

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