

EXPLORING ATTITUDES TOWARDS ENVIRONMENTAL PROTECTION OF STUDENTS AND PRACTICING PHYSIO- AND OCCUPATIONAL THERAPISTS

Chief Asst. Prof. Denitsa Vasileva, PhD

Department of Public Health and Health Care
University of Ruse "Angel Kanchev"
Phone: 0878 25 39 07
E-mail: ddecheva@uni-ruse.bg

Assos. Prof. Petya Mincheva, PhD

Department of Public Health and Health Care
University of Ruse "Angel Kanchev"
Phone: 0886 43 90 86
E-mail: pmincheva@uni-ruse.bg

Abstract: *Climate change and environmental protection are in the focus of all areas, including healthcare. A number of strategies have been developed to reduce harmful emissions, the carbon footprint and increase recycling, in which physiotherapists and occupational therapists also play a role. The awareness of the younger generation regarding environmental protection should be formed at school age. At the university level, knowledge in this area, especially in the health sector, should be embedded as part of the training. The opinion on basic issues concerning environmental protection of 86 people was surveyed. The group of students included a total of 32 students from the second and third year of study, distributed according to the specialty in which they are studying. All of them are studying at the University of Ruse "Angel Kanchev" at the time of the study. The group of workers includes 54 physiotherapists and occupational therapists working in hospitals in the cities of Ruse, Sofia and Varna. The study was conducted using a survey method, using an online form on the GOOGLE platform. The survey was constructed from 18 questions containing information about profession/specialty, attitude and opinion on issues related to pollution and environmental protection, some of which were summarized and analyzed in detail. Conclusions were made and inferences were drawn.*

Keywords : *Environmental protection, Survey, Physiotherapy, Occupational therapy*

INTRODUCTION

The global environmental changes we are witnessing are fundamentally altering the composition and functioning of our ecosystem (Maric, F., 2021). In recent years, there has been increasing talk about sustainable environmental development due to global pollution (Palmstan, A., 2024). Behind this principle is a model of using natural resources, which aims to meet human needs, but while maintaining environmental sustainability, so that not only the present, but also future generations can use natural resources to a comparable extent.

In 2015, the UN published 17 strategic goals related to achieving global sustainable development, some of which are: water conservation, protection and reuse of resources, combating climate change, good health and well-being. Currently, the problem of environmental pollution is very serious and it turns out that the health sector is one of the serious polluters. "The healthcare climate footprint is equivalent to 4.4% of global net emissions" (Healthcare without harm, 2019).

As health and helping professions, physiotherapy and occupational therapy should also be actively involved in environmental protection, as it has a direct bearing on human health (Stanhope, J ., et al., 2021). Climate change, for example, has serious consequences such as injuries after natural disasters, respiratory diseases, infectious diseases, malnutrition and even mental illness. Therefore, there are scientific and strategic publications on the role of these professions in nature conservation.

According to the World Federation of Occupational Therapists, global health should be at the heart of occupational therapy practice, education and research, with a focus on sustainability – environmental, social and economic (WFOT, 2018). Sustainable health practices address the socio-ecological determinants that impair health in populations, intervene as early as possible in the disease process, provide gentle procedures and reduce costs, which benefits patients, populations and the environment. Methods and tools are available to do this, and physiotherapists can play a key role in improving health outcomes and achieving sustainable development goals (Palstam, J., et al., 2022). In this regard, integrating sustainable practices into physiotherapy practice could not only reduce the intensity of climate change and carbon footprint, but also improve patient outcomes (Olafsdottir, S., 2025).

Some of the benefits of achieving zero emissions in the healthcare sector are: climate change mitigation, financial savings, reduction of air emissions and improvement of local communities. The awareness of the younger generation regarding environmental protection should be formed at school age. At university level, knowledge in this area, especially in the healthcare sector, should be embedded as part of the training. Studying the opinions and knowledge of students and practicing healthcare professionals is an important step towards changing attitudes.

EXPOSITION

The present study was conducted in the period May - September 2025, covering students and working health professionals - physiotherapists and occupational therapists, divided into two groups, in which their opinion and attitude regarding problems related to environmental protection were examined. The total contingent of the study covered 86 individuals. The group of students covered a total of 32 students from the second and third year of study, distributed according to the specialty in which they are studying. All of them are studying at the University of Ruse "Angel Kanchev" at the time of the study. The group of workers includes 54 physiotherapists and occupational therapists working in hospitals in the cities of Ruse, Sofia and Varna.

The study was conducted using a survey method, using an online form on the GOOGLE platform. The survey was constructed from 18 questions containing information about profession/specialty, attitude and opinion on issues related to pollution and environmental protection, some of which were summarized and analyzed in detail.

In terms of professional distribution and by specialty, a similar number of participants were observed in the working group - 28 physiotherapists (PT) and 26 occupational therapists (OT), while in the group of students, 26 students in the specialty of PT and 6 ET students in the specialty of ET took part in the survey, as can be seen from Table 1 and Fig. 1.

Table. 1. Distribution by profession and specialty

<i>Specialty/Profession</i>			
<i>students</i>		<i>working</i>	
<i>physiotherapist</i>	<i>occupational therapist</i>	<i>physiotherapist</i>	<i>occupational therapist</i>
26	6	28	26

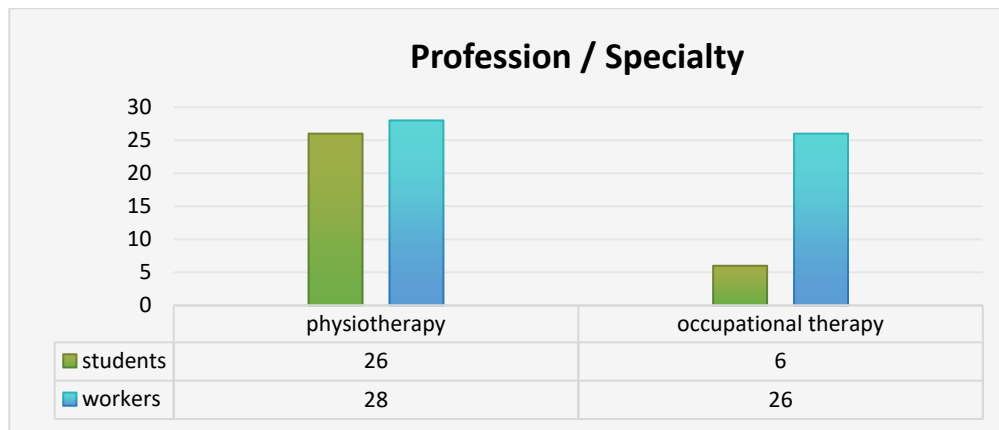


Fig. 1. Distribution by profession and specialty

The question related to whether the participants in the survey believe that they generally protect the environment was rated on a five-point scale, where 1 is the answer “Categorically NO”, and 5 - “Categorically YES”. The average statistical results obtained for all participants from both groups are over 4.00, which is interpreted as the answer “Rather YES”. These results give reason to believe that both working and training physiotherapists and occupational therapists show commitment to the problem of environmental protection (Table 2, Fig. 2).

Table 2. Opinion on environmental protection

Do you think that you generally protect the environment?			
students		working	
<i>physiotherapist</i>	<i>occupational therapist</i>	<i>physiotherapist</i>	<i>occupational therapist</i>
4.12	4.17	4.12	4.18

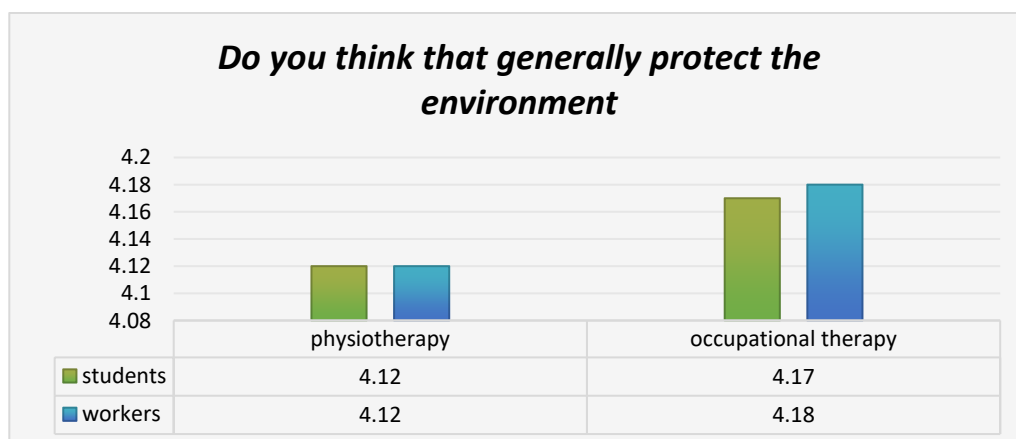


Fig. 2. Opinion on environmental protection

Similarity between the obtained average statistical results between the participants from both groups and both professions/specialties is also observed in terms of their opinion on whether they believe they lead a healthy lifestyle. Among physiotherapists, slightly higher values of the indicators in the working group are noted - 3.82 compared to that of students - 3.39, while among occupational therapists this trend of increasing average values is in the opposite direction - students believe that they lead a slightly healthier lifestyle - 4.00 compared to working people - 3.18 (Table 3, Fig. 3). All surveyed health professionals who took part in the survey share the opinion that they lead a healthy lifestyle.

Table 3. Opinion on leading a healthy lifestyle

Do you think you lead a healthy lifestyle?			
students		working	
<i>physiotherapists</i>	<i>occupational therapists</i>	<i>physiotherapists</i>	<i>occupational therapists</i>
3.39	4.00	3.82	3.18

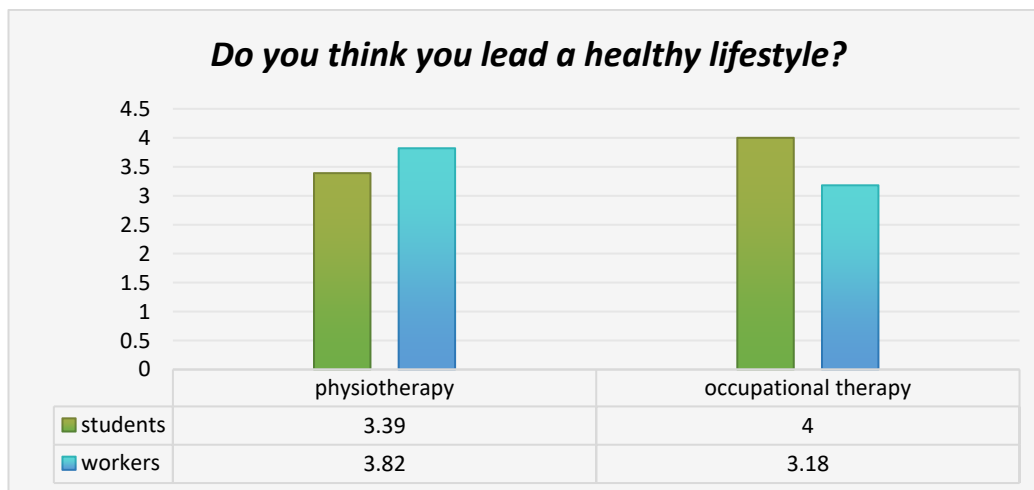


Fig. 3. Opinion on leading a healthy lifestyle

The survey also included a question asking participants' opinions on how they protect the environment at their workplace/study place. The data obtained show that both groups of health professionals - chiropractors - and occupational therapists note options such as recycling, saving consumables, and not a small number of them express an opinion that they do not pollute. The comparative analysis by specialty shows that in terms of recycling, CT students (7) recycle more than their working colleagues (3), while for occupational therapists this trend is the opposite - 10 of the working ones recycle compared to 4 of the students.

In terms of saving consumables, working healthcare professionals waste less unnecessary consumables, unlike their colleagues who are still studying in both specialties. Also, working chiropractors and occupational therapists share the opinion that they are not environmental pollutants more confidently than their students (Table 4).

Table 4. Results of a question regarding the opinion on environmental protection at the workplace/school

Do you think that at your workplace/school in some way you protect the environment?				
	students		working	
	<i>physical therapists</i>	<i>occupational therapists</i>	<i>physical therapists</i>	<i>occupational therapists</i>
I recycle.	7	4	3	10
I save on consumables	11	3	18	9
I don't pollute.	10	1	16	18

A question regarding harmful habits related to environmental pollution was also included in the online questionnaire. From the student group, 4 physiotherapists believe that one of their main harmful habits is the use of car transport, and from the working group, 9 physiotherapists and 7 occupational therapists share the same opinion. The use of many goods in plastic/metal/nylon packaging is also reported as a major factor polluting the environment by both students and working healthcare professionals. Smoking also ranks among the leading environmental pollutants according to participants in both surveyed groups. From the student group, 9 physiotherapists and 2 occupational therapists report that they are smokers, and from the working group - 5 physiotherapists and 3 occupational therapists. It is impressive that with regard to the lack of a recycling culture, only 1 participant in the survey from the working physiotherapist group admits that they do not recycle. Among the harmful habits leading to environmental pollution is also the shopping of unnecessary goods, which, however, is recognized as a habit by only 1 student physiotherapist and 2 occupational therapists, and from the group of workers by 1 physiotherapist and 4 occupational therapists. Of the total contingent of the surveyed individuals, only 3 physiotherapy students and 1 worker from both professions believe that they do not have a harmful habit that has a negative impact on environmental protection (Table 5).

Table 5. The main harmful habit polluting the environment

<i>What do you think is your main harmful habit that pollutes the environment?</i>				
	students		working	
	<i>Physiotherapists</i>	<i>Occupational therapists</i>	<i>Physiotherapists</i>	<i>Occupational therapists</i>
Using road transport	4	0	9	7
Using many goods in plastic/metal/nylon packaging	8	2	9	12
Smoking	9	2	5	3
I don't recycle.	0	0	1	0
Shopping for unnecessary goods	1	2	1	4
I don't have one.	3	0	1	1

The opinion of both practitioners of the two professions and students in these specialties was also studied, regarding their attitude towards setting a personal example to patients regarding leading a healthy lifestyle and protecting the environment. From the group of students, 25 physiotherapists and 6 occupational therapists believe that they should serve as an example, while only 1 physiotherapist is of the opposite opinion. Among the workers, 28 physiotherapists and 24 occupational therapists support the opinion that it is important to set a good example regarding a healthy lifestyle and protecting the environment for their patients, while 2 occupational therapists disagree with this (Table 6).

Table 6. Data from the results of a question assessing the opinion about the personal example regarding a healthy lifestyle and environmental protection

<i>Do you think that as a healthcare professional you should be an example for your patients regarding a healthy lifestyle and environmental protection?</i>				
	students		working	
	physical therapists	occupational therapists	physical therapists	occupational therapists
yes	25	6	28	24
no	1	0	0	2

CONCLUSION

Reducing the health system's contribution to the climate crisis and building resilience to respond to the worst impacts of a warming climate also offers an opportunity to protect the health of our patients, the population, and the planet.

Physiotherapy and occupational therapy are not only important health professions in the field of rehabilitation, but they could also contribute to general health and well-being through a responsible attitude towards environmental protection and ensuring sustainable development. The survey conducted shows that although they have a conscientious attitude and take steps to protect the environment, they themselves admit to having harmful habits that lead to global pollution.

The existence of strategic documents on a global scale for both professions obliges us to pay attention and include knowledge in this area.

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