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STRENGTHENING HEALTH VISITOR EDUCATION BY INCORPORATING INTERDISCIPLINARY KNOWLEDGE OF SUSTAINABILITY

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Knowledge of sustainability is essential for activities aimed at improving the health and well-being of individuals and communities. The dissemination of such knowledge in the training of all professionals is therefore crucial. A research team made up of university teachers has decided to develop and complement the training of health visitors with basic sustainability knowledge by launching an optional course. The goal is to develop a course that will provide students with sufficient theoretical and practical preparation, based on the professional experience gathered through a review of relevant international literature. During the 14 weeks of the course, interactive lectures on different sustainability topics will be organized occasionally, with the involvement of experts from other disciplines, following an interdisciplinary approach. Input and output questionnaires to assess the effectiveness of the session will be developed. In the autumn semester of the academic year 2023-2024, the professional preparation of the course is to be launched (elaboration of the theme, recruitment of lecturers, etc.). The launch of the course and the input and output data collection will take place in the spring semester of the academic year 2023-2024, and the revision and finalization of the curriculum and teaching methodology based on the training experience will be planned for the next academic year. The course proposal will be presented in this paper and previously at a conference.

1. Introduction

The humanistic concept of health seems to be far away from the technical concept of sustainability. Yet the UN Sustainable Development Goal 3 is to “Ensure healthy lives and promote well-being for all at all ages” (Tsalis et al., 2020). The link between these two concepts is not self-evident. Health is linked to the idea of environmental sustainability and makes clear the idea that humans and other living things on Earth are interdependent. If human affairs are managed in a way that keeps the ecosystems that support life in a stable state of equilibrium, then humans will survive and thrive. However, if a local, regional, or global ecosystem is degraded beyond the limits of sustainability, then the health and survival of the people in that ecosystem cannot be sustained. Emphasizing the multi-faceted relationship between human health and the Earth’s living and non-living environment, “One Health” is an integrated, holistic approach to balancing and optimizing the health of people, animals, and the environment (Eckert and Kovalevska, 2021).

Nature ensures the good health and well-being of the world’s population. Clean air, water, and food are essential for sustaining life; the natural environment provides space for recreation, relaxation, and social interaction; and raw materials are put into our production systems to ensure the comforts of modern life. However, pollution is inevitable. We are exposed to pollution in our homes, at work, in the outdoor environment, and when we eat, play, sleep, drive, walk, swim, or run. An indication of the impact of the environment

on human health is that 23 % of global deaths could be prevented by a healthier environment (World Health Organization, 2019), and 250,000 additional deaths are expected to be caused by climate change every year between 2030 and 2050 (World Health Organization, 2021).

At the same time, human impact on the environment is increasing. Many of the resulting risks cause ongoing illness and injury, affect the quality of life, reduce productivity, and strain health systems. As a single example, 5-10 % of greenhouse gas and other air pollutant emissions are caused by health systems (Cummings, 2019).

The vital role of the living environment in human health has only begun to be more widely recognized in the last decade. Biodiversity, ecosystems, and the essential services they provide are central pillars for all living things on the planet, including human life (Arora et al., 2019). They are sources of food and essential nutrients, medicines and medicinal compounds, fuel, energy, livelihoods, and cultural and spiritual enrichment. They also contribute to the provision of clean water and air and perform critical functions ranging from pest and disease control to climate change and natural disaster regulation. Each of these functions has direct and indirect consequences for our health and well-being, and each is an important piece of the epidemiological jigsaw that confronts our efforts to control communicable and non-communicable diseases (Alamouh et al., 2021).

The links between biodiversity and health are manifested at different spatial and temporal scales. At planetary scales, ecosystems, and biodiversity play a critical role in determining the state of the Earth system, regulating its material and energy flows and its responses to sudden and gradual changes. On a more intimate level, the human microbiota – the symbiotic microbial communities present in our gut, skin, respiratory, urinary, and genital tracts – contribute to our nutrition, help regulate our immune systems and prevent infections (Romanelli et al., 2015).

Health professionals are some of the most trusted and respected members of society and are in the perfect position to inspire and demand the changes that the United Nations needs for a healthier planet and healthier people. There are several ways that healthcare professionals can support sustainability or advocate for action at the intersection of people and planet health (Maibach et al., 2021).

Most health professionals are aware that climate change is happening and affecting the health of the people they care for; however, many still feel that they do not have sufficient knowledge on the subject and the majority of health professionals working in clinical practice today are unlikely to have received specific training or education in this area. An important first step to harnessing the potential of health professionals' voices is to ensure that they understand the principles of sustainable health care and the relationship between health and the environment (Kotcher et al., 2021).

At the most basic level, change must start at home and in the local community. Health professionals can increase their influence and advocacy credibility by leading by example through positive climate and environmental behaviors, such as active transport (e.g. walking or cycling to work), reducing carbon emissions, and sustainable eating. Leading by example has been shown to further increase the motivation of health professionals to take further action, which can help to foster a virtuous cycle of positive action (Economist Impact, 2022).

Health professionals are skilled communicators, especially when it comes to simplifying complex messages in a way that promotes behavior change. The trusted voice of health professionals can be persuasive not only to patients but also to colleagues, family members, and communities. The sight of a bicycle in a clinic office sends an important message to patients and colleagues, and the impact of positive action can be multiplied by explaining to others why they are taking action. Health professionals can often advise on healthy behaviors such as walking or reducing meat consumption in our diets, and where appropriate, explain how these choices can benefit the wider community and the health of the planet.

In addition to making changes in their personal lives, health professionals can also reduce the environmental impact of the care they provide in their institution or organization. Individually or collectively, health professionals can make policy or practice changes to increase energy efficiency, reduce emissions, minimize waste, and purchase low-carbon materials or sustainable equipment. They can also influence the design

and implementation of existing care models and delivery models in their organizations. And they can identify innovative options, products, or services that reduce the environmental footprint of care without compromising clinical outcomes. Examples include supporting teleconsultations or care closer to home, reducing unnecessary use of healthcare resources such as plastic gloves and other single-use devices, and exploring digital solutions as an alternative to traditional care methods.

Among the health professionals, members of the research team are training students to become health visitors. Health visitors are registered nurses with additional training in community public health nursing. They provide a professional public health service based on the best evidence of what works for individuals, families, groups, and communities; improving health and reducing health inequalities through a proactive, universal service for all children 0-5 y and for vulnerable populations targeted according to need. (Cowley et al., 2015) After childbirth, the health visitor teaches the mother how to breastfeed and her responsibilities to the child. They monitor the health and development of newborns, provide community health care for children (ages 3-18), help prevent behavioral disorders and bad habits, solve problems of adolescents, and refer them to the appropriate professional. Health visitors help families with mental hygiene and organize vaccinations. They participate in the planning, organization, and implementation of health development and promotion programs for individuals and communities. Health visiting is a proactive, universal service that provides a platform from which to reach individuals and vulnerable groups, taking into account their different dynamics and needs, and reducing health inequalities. Health visitors work with parents who have new babies, providing support and expert advice from the antenatal period until the child starts school. They may work in teams or have sole responsibility for a caseload derived from the local area or a general practice list; they are usually based in children's centers, surgeries, community, or health centers. Health visitors visit parents through a minimum of 5 universal home visits from late pregnancy to a developmental assessment at 2 y of age.

In preparation for the project to develop a course for health visitor students, the authors undertook a selective literature search, supplemented by a thematic internet search.

Based on the results of the search, it can be concluded that in the health sector, publications on sustainability in higher education relate partly to medical education and partly to nursing education. There is a significant increase from 2017 to 2021 regarding nurses as agents for achieving environmentally sustainable health systems. The most relevant countries in this area are the United States, the United Kingdom, and Sweden (Luque-Alcaraz et al., 2022). Maxwell and Blashki (2016) stated: "Given the dire implications for human health, climate change is of fundamental relevance to future doctors. Integrating climate change into medical education provides an opportunity for future physicians to develop skills and insights essential for clinical practice and public health roles in a climate-changing world." Experts generally agree that medical education should prepare future physicians for climate-associated hazards and corresponding professional challenges. (Boekels et al., 2023) Evaluation of an optional course that focused on the concept of planetary health, with an emphasis on the health consequences of climate change and options for action and adaptation in clinical and practice settings, shows that it had a significant impact on student's knowledge, attitudes, and behaviors (Lemke et al., 2023).

Climate change and limited natural resources will impact the sustainable supply and disposal of materials used in health care. Nursing students need opportunities to reflect on the environmental footprint of health-care to mitigate negative impacts on service delivery. Evidence-based educational tools that are relevant and meaningful to nursing practice are needed to raise awareness of these issues (Richardson et al., 2014). One way to make this topic real for students is through the use of clinically relevant scenarios in skills sessions (Grose and Richardson, 2016). Using a scenario-based learning approach with nursing and midwifery students can change attitudes and knowledge about sustainability and climate change. Embedding this approach in the context of clinical skills provides a novel and engaging approach that is both pedagogically sound and clinically relevant (Richardson et al., 2017). An international survey has shown that nursing students have increasingly positive attitudes toward incorporating sustainability and climate change into their nursing curricula. They also recognize the importance of education about sustainability and the impact of climate change on health, which supports formal preparation for environmental literacy (Álvarez-Nieto et al., 2022). Medina (2022) noted that the impact of education is long-lasting: "Attitudes and environmental awareness about climate change and sustainability increased significantly as students received the learning sessions over the three years."

Recognizing the responsibility of academics to reconcile human health and sustainability, and driven by research curiosity, the research team formulated the following scientific question: “What can university faculty do to disseminate sustainability knowledge to the general public? How can they contribute to a positive change in public attitudes and behavior towards sustainability? The authors, a research team of university teachers, decided to develop a sustainability training course for their health visitor students.

In this paper, the research group aims to present the procedure for developing and complementing the training of health visitors with basic sustainability knowledge by launching an optional course. For the design of our research, we studied a very similar survey conducted with British and Chinese students (Guo et al., 2022), which suggests that the attitudes of students at Széchenyi István University towards sustainability will shift in a fundamentally positive direction after completing the course.

2. Objective

The goal is to develop and supplement health visitor training with basic sustainability knowledge by launching an elective course. The educational effectiveness of this newly launched course will be assessed with the help of questionnaires. With the new course, the goal is that the students participating in the nursing education at Széchenyi István University will gain a better insight into sustainability and be able to integrate it into their other studies. In addition to making their diploma even more marketable with the knowledge acquired in the course, they will be able to effectively spread the view of sustainability during their work. In the future, it is planned to launch additional courses related to the topic of sustainability for a wider range of students, even at the university level.

3. Implementation

3.1. Starting a new optional course

With the information gathered during the study of the relevant international literature, the research group envisages launching an optional course that will provide students with theoretical and practical knowledge about sustainability. They develop the course primarily for students studying nursing, but they also want to ensure that the course can be taken by all students of Széchenyi István University.

For this purpose, during the 14 weeks of the course, interactive presentations on various sustainability topics are organized - following the approach of interdisciplinarity and involving experts from other disciplines.

It is planned to implement the curriculum for 14 weeks; the order of the topics is summarized in the first table.

Table 1: Course of the planned subject

The course of the semester (weeks of diligence period)	Sessions of the current week's classes	Discipline field of study
1.	Introduction, basic concepts	General foundation
2.	Sustainability in healthcare	Health Science
3.	Sustainability and waste management	Chemistry
4.	Sustainable healthcare	Applied sustainability
5.	The sustainability of the health visitor district	Health Science
6.	Energy management and healthcare	Physics

7.	Sustainable development	Economics
8.	The legal relationship between sustainability and healthcare, sustainability and law	Jurisprudence
9.	Project work: foreign examples of sustainability efforts in the healthcare sector (making a poster and competition work)	General knowledge
10.	Cooperation with the bodies of the European Union from the point of view of sustainability	International relations
11.	Project work: planning a sustainable health visitor district (making a poster and competition work)	General knowledge
12.	Sustainable education, sustainable health pedagogy	Educational science, health science
13.	Project work: Surveying the sustainability of health visitor work in Hungary	General knowledge
14.	Summary, repetition, practice for the exam, clarification of emerging questions	General repetition

In the first week of the course, the technical terms and definitions used in the field of sustainability will be introduced to the students. After that, from the second week onwards, specific topics are explored with the involvement and cooperation of experts from various scientific fields. In the second half of the semester, starting from the ninth week, the students prepare individual work (a poster on the topic of sustainability and a competition work modeled after the Science and Art Student Circle at the Széchenyi István University) as part of the project work every other week. Prepared applications are mandatory to obtain a signature certifying the successful completion of the course. The best works can also be submitted to the "Science and Art Student Conference" competition. In the last week of the hard work period of the semester, a summary of what has been learned so far takes place, as well as a discussion of the professional and technical questions that arise during the semester. The exam is then either written or oral, depending on the number of students, where knowledge is evaluated on a five-point scale (insufficient-adequate-medium-good-excellent). The required and recommended literature for the course will be given in the class note(s) and the special literature will be indicated by the instructors. For each of the specialized areas of the fourteen weeks, experts from the Faculties of Széchenyi István University will be invited, as well as recognized professionals working outside the University, to be speakers. The course will be prepared in the autumn semester of the 2023-2024 academic year (obtaining approval from the department, faculty, and then the University Education Committee, entering the final subject matter into the electronic lesson book (Neptune system), integrating the course into the Széchenyi István University courses, officially inviting instructors, etc.). The course itself will be started in the spring semester of the 2023-2024 academic year. Based on training experiences, the curriculum and teaching methodology will be reviewed for the next academic year and, if necessary, amended.

3.2. Survey

The plan is to develop a questionnaire to assess the efficiency of the four-month course. The questionnaire assesses what kind of knowledge and attitude the students have about sustainability and its various aspects at the time of entry and exit. The results will be used to revise the course. In addition, it is foreseen to publish the results, as the research group is confident that the results can contribute to the achievement of wider sustainability. The survey will be repeated every school year, thereby it will be created a larger database for later analysis and evaluation of trends.

As the first step in the development of the questionnaire, a view will be performed on the available relevant questionnaires, to formulate the questions taking into account the university's environmental specialty, and compile the questionnaire. The questionnaire developed in this way will be tested first in pairs and then in groups. The data collected in the survey are analyzed and interpreted in the framework of "before and after" design.

4. Conclusion

A few publications in the literature analyze the role of health professionals in contributing to sustainability goals. Other studies focus on the education of health professionals in sustainability. These papers mainly focus on the opportunities for environmental and energy conservation in the provision of health care. Health visitors can also act as role models and advise on sustainability to the parents they come into contact with in the course of their work. Therefore, the planned educational program will answer the question of what university teachers can do to spread sustainability knowledge among the population.

Sustainability is fundamental to Széchenyi István University and it is also an important topic for the authors' department. Familiarizing students with the possible tasks related to sustainability in their future fields is an important part of this. The students receive such new and relevant knowledge that they become more competitive in the labor market, not only in Hungary but also in the European Union. In line with international efforts, the training of health visitors concerning sustainability – similar to the training for other health professionals – can significantly promote the social diffusion of the view of sustainability through more intensive client relationships. Professionals of health visitors trained with this approach will naturally shape their area with sustainability in mind. In addition, they also play a major role in the transmission of attitudes among both adults and children. In this way, the civil sphere can connect more deeply with the scientific fields. In some way, the health visitor is also an educator who passes on the knowledge she has learned through young people and families, ultimately contributing to the sustainability of the health visitor practices and their wider environment. The development of effective sustainability training aimed at health visitors can significantly contribute to the fulfillment of sustainability goals. As a result, after the achievement of the set Sustainable Development Goals, further, larger-scale advances can be expected.

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