Nursing students' perception of climate change and sustainability actions – A mismatched discourse: A qualitative, descriptive exploratory study

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ABSTRACT

Background: Climate change is described as the biggest global challenge for human health in the upcoming decade. Nurses play a central role in mitigating the effect of climate change on the healthcare sector and adapting to the phenomenon. Therefore, nursing students must be prepared for a new professional role keeping climate change in mind; consequently, it is important to study students' perceptions of climate change and sustainability.

Objectives: To explore nursing students' perceptions of climate change and sustainability and examine how they perceive their role as nursing students in working towards a more sustainable development within the healthcare sector.

Design: It is a qualitative, descriptive exploratory study.

Settings: A nursing program at a university in central Sweden.

Participants: Nursing students.

Methods: Individual in-depth interviews and one group interview were conducted for the study.

Results: The main findings revealed that students saw themselves living in a mismatched discourse. They perceived the future of humanity as gloomy but thought that sustainability is the society's joint obligation to achieve the right to a good life for all people equally.

Conclusions: Nursing students perceived themselves as important actors in the work of climate change and sustainability. Thus, nursing education needs to integrate the impact of climate change on healthcare and promote sustainability into the curriculum for preparing students to take responsibility for sustainability in society.

1. Introduction

Several scientific studies and reports describe climate change as a major threat to human health (IPCC, 2018; Watts et al., 2015; Watts et al., 2018). As the largest body of healthcare staff, nurses play a central role in mitigating climate change (reducing or preventing greenhouse gas emissions) and adapting (reducing vulnerability to harmful effects) the healthcare sector to burdens caused by the phenomenon (ICN, 2018). Thus, nursing students must be well-educated, skilled, and prepared for a professional role that can contribute to climate- and environment-friendly care. An understanding of how nursing students perceive climate change and sustainability issues and how they see their own role in the work towards sustainable healthcare can guide future curriculum development in the area. The current study contributes insights into nursing students' perceptions of climate change and sustainability related to their future roles as nurses.

2. Background

Climate change affects human health; therefore, healthcare systems must address this issue and its global consequences (WHO, 2018; Woodward et al., 2014). The Intergovernmental Panel on Climate Change (IPCC) has documented serious, long-lasting, and permanent consequences of the ongoing climate change for humans as well as nature. It affects our most basic health factors, such as access to food and water, clean air, and a safe environment (IPCC, 2014). Climate change causes droughts, heat waves, and rain-related floods, storms, and hurricanes, which have a direct or indirect impact on the health and well-being of the population. It also has serious consequences for healthcare providers, healthcare systems, and the national economy. Nurses have a tremendous opportunity to protect their patients from the impacts of climate change by working to create sustainable, climate smart hospitals and health systems.

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https://doi.org/10.1016/j.nedt.2021.105028
Received 14 April 2021; Received in revised form 27 May 2021; Accepted 14 June 2021
Available online 18 June 2021
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Sustainability is a dynamic state that requires association between ecological, economic, and social systems to achieve the capacity to avoid the depletion of natural resources and maintain an ecological balance (UN, 2020). There is a dual relationship between climate change and sustainability. On the one hand, climate change influences key natural and human living conditions and thereby is the basis for social and economic development; while on the other hand, society's priorities on sustainable development influence both the greenhouse emissions that are causing climate change and the vulnerable (IPCC, 2018). Therefore, to tackle issues of climate change, nurses need a broad base to understand the meaning of sustainability. Sustainability in nursing has been defined as the core of knowledge in which ecology, globally and holistically comprise the foundation of sustainability. Its concept includes environmental considerations at all levels and the implementation of sustainability will contribute to a development that preserves the environment to not harm the current and future generations' opportunities for good health (Anåker and Elf, 2014). The healthcare sector has a clear mission to achieve the UN Sustainable Development Goals (SDGs), ‘to ensure healthy lives and promote well-being for everyone of all ages’ among other goals (UN, 2020, p. 20). This will require a considerable transformation of society, particularly in the nursing education sector that needs to train the next generation of nurses to face and deal with new and challenging issues so that they can address the effects of climate change and contribute to sustainable healthcare. Students will be required to discuss sustainability values in addition to knowledge, confidence, and the ability to provide environmentally friendly healthcare (Shaw et al., 2021).

The International Council of Nurses (ICN) (ICN, 2018) argues that nurses can make a powerful contribution to mitigate climate change and support people and communities to adapt to its effects. Additionally, ICN states that the concept of sustainability in nursing practice and climate change-related knowledge must be embedded in education, in both theoretical and practical courses, for enabling nurses to act as leaders and take action to build climate-safe health systems (ICN, 2018; Leffers et al., 2017; Leffers and Butterfield, 2018).

However, several studies have shown that nurses lack the knowledge to support and become involved in measures aimed at climate change and be able to adapt to the phenomenon that threatens human health (Anåker et al., 2015; Kangasniemi et al., 2014; Tiitta et al., 2021). Aronsson et al. (2020) found that education that focussed on the relevance and sustainability of climate change for health and healthcare in undergraduate education can help nurses overcome challenging unsustainable clinical practice.

Education plays an important role in achieving sustainable development goals (Otto et al., 2020; Shaw et al., 2021). Globally, there is a demand for higher education to prepare students for handling major environmental, social, and economic impacts caused by climate change (Shaw et al., 2021). The Swedish National Agency for Higher Education (UKA, 2021) is taking up steps for higher education to be based on SDG’s goals; the agency reports that its implementation is slow, and new pedagogical methods must be introduced for efficiency. Consequently, nursing education must target to educating the future nurses on sustainable healthcare. Several authors have stated that students should be trained to solve complex societal problems. They must be trained to lead sustainable development and influence others (ICN, 2018; Leffers et al., 2017; Leffers and Butterfield, 2018).

To learn more about climate change and sustainability, it is suggested that nurses should have positive attitudes towards these concepts, a sense of responsibility, a will to change, and confidence about the future (Cruz et al., 2018; Lopez-Medina et al., 2019). Studies have also shown that by involving students, listening to their concerns, and encouraging self-awareness and motivation, they can be encouraged to take ownership; this can result in learner empowerment and a learner-driven change (Huss et al., 2020). However, there are barriers to include sustainability in nursing education because there are perceptions that sustainability is not relevant to healthcare (Richardson et al., 2014), there is a lack of pedagogical expertise and methods (Richardson et al., 2016; Tun, 2019), and it is difficult to include another subject in a short curriculum (Tun, 2019).

To summarise, nursing students need to be prepared to act in a world facing climate change and contribute to sustainable healthcare and society. Students’ experiences and voices are pivotal to the continuous development of education (Sperstad et al., 2020). Thus, it is important to understand how nursing students perceive climate change and sustainability and how they understand their role in working towards a more sustainable healthcare system. This knowledge can help design the curriculum in such a manner that it relates to the students’ understanding of the subject. Therefore, the objectives in the study were to explore nursing students’ perceptions of climate change and sustainability and examine how they perceive their role in the work towards a more sustainable development within the healthcare.

3. Method

3.1. Design

The study was a qualitative, descriptive exploratory study and employed individual in-depth interviews. Given the lack of knowledge about students’ perceptions of climate change and sustainability, there is a need for exploratory and qualitative studies. Therefore, a qualitative descriptive study was designed to acquire narratives from students to attain an in-depth understanding of how they perceive issues around climate change and sustainability but also how the see their role as nursing student in the work towards sustainability. Qualitative studies offer a rich description of a particular phenomenon, especially when not much is known about it. Qualitative studies can have broad research questions that capture different dimensions in a new situation, making it possible to present a holistic view and rich description (Munhall, 2012; Polit and Beck, 2016).

3.2. Participants

Nursing students at a university in central Sweden participated in the current study. The participants were recruited as a volunteer sample (Polit and Beck, 2016) from a previously conducted questionnaire study in a three-year nursing program; the written information about the study and its purpose were provided. There were 51 students who answered the question about participation, of which, 12 agreed to be interviewed.

3.3. Data collection

The interviews were conducted in a semi-structured format and focussed on the students’ knowledge and perceptions of climate change and sustainability issues. Data were collected from May to June 2017. Ten women and two men participated in this study. The study included individual in-depth interviews by telephone (n = 8), personal meetings (n = 2), and one group interview (n = 2) since students wanted to be interviewed together. The interviews lasted between 22 and 57 min.

The second author (MS) conducted all individual interviews. According to Seidman (2012), a semi-structured interview's flexibility allows researchers to discover areas worthy of consideration that arise during an interview, while an interview guide permits comparisons of the different interviews. A script was developed containing a semi-structured interview schedule with questions aimed at capturing the purpose of the study. The following are examples of extensive questions asked: ‘What do you think of when you hear the word climate change?’, ‘What do you think of when you hear the word sustainability?’, and ‘How do you perceive your role as a nursing student in the work towards a more sustainable development within the healthcare system?’

Before the interviews, the participants were provided written and verbal information concerning the study, and informed consent was obtained. They were also informed that participation was voluntary and
could be withdrawn if desired, that participation would not affect their studies in any way, and that all data would be treated confidentially. All interviews and focus group discussions were digitally recorded and transcribed verbatim. All the above steps were performed to develop a comprehensive perspective on the data (Kvale et al., 2014).

3.4. Data analysis

The transcripts of the interviews were qualitatively analysed according to the methods of Elo and Kyngäs (2008) and Krippendorff (2013). Transcribed texts from both individual interviews and focus group discussions were analysed in one matrix. To structure and deduce the meaning of the transcribed text, it was organised and compared in a matrix with four different headings (meaning units, codes, sub-categories, and categories); all headings were aimed to capture the manifest content (Table 1).

The focus of the analysis was to identify and describe the similarities and differences in content. During the procedure, the transcript was coded with open coding, which means that notes and headings were written in the text while reading it; thereafter, central meaning units were extracted from the text including the codes and further grouped into five sub-categories. During the process of analysis, the meaning units were analysed by both the first author and the research group to reach a consensus on the codes, sub-categories, and categories.

3.5. Methodological considerations

Strategies were used to ensure a rigorous analytical approach. Trustworthiness (Graneheim and Lundman, 2004) was established through a common qualitative content analysis method (Polit & Beck, 2016) and a parallel analysis by the authors to achieve consensus. The researchers discussed the relationships between meaning units, codes, categories, and main category as the interpretation proceeded. The authors’ continuous discussion of the results ensured credibility and clarified that representative quotations from the transcript were added (Graneheim and Lundman, 2004). The present study was conducted using a qualitative approach in which a limited number of participants were purposefully selected. Therefore, the results cannot be generalised to the whole community of nursing students, but act as a starting point for further studies on nursing students’ perceptions of climate change and sustainability.

3.6. Ethical approval

Ethical approval for the study was granted by a local research ethics committee (approval: dnr 4.2-2016/556). Informed consent was obtained from all participants prior to the interview. Participants were free to withdraw from the study at any time.

4. Results

The analysis identified five categories with underlying sub-categories (Table 2). Based on the sub-categories and developed categories, one main category emerged that characterised how the students viewed their current perceptions and situations as nursing students, in the light of climate change: Living in a mismatched discourse. To clarify the main category, each section in the presentation was titled with the category, and quotations were included in the text to illustrate how the interpretations are grounded in the data.

4.1. A gloomy future for humanity

The data indicated that students had a pessimistic view of the future. They described the future as gloomy for humanity, and that different spheres of life can be directly affected by climate change. They were also aware of the association between climate change and its consequences on human health. They emphasised that climate change could accelerate the social and economic gaps between people globally, and further believed...
that these changes could aggravate poverty and make places uninhabit-
able. One student described: ‘It is the dramatic changes that are affecting people’s living conditions negatively – including all animals and nature. People will be forced to migrate due to shortage of food and water. I think about all the consequences, especially for people’ (Participant J).

The nursing students reported that people use resources irresponsibly, which has contributed to rapid climate change. A student expressed when asked about climate change, ‘I think of everything that humans have caused or done on earth; used resources irresponsibly and caused the climate to change gradually’ (Participant J).

The nursing students also stated that it is important for healthcare services to learn to sort waste. They pointed out that they had noticed many disposable products being used in patient care and it is important to correctly sort these products for recycling. They also discussed the management of residual drugs: ‘I think it is good that waste is sorted in healthcare. I am thinking about where the plastic gloves or boxes for plastic gloves are thrown. The disposal of garbage and expired or old medicine should be done carefully and responsibly’ (Participant A).

4.2. Sustainability is a shared responsibility

The nursing students considered it important that everyone has a sustainable strategy to protect the environment for future generations. They said that this generation’s behaviour must not adversely affect future generations: ‘Yes, you must have a way that is sustainable in the long run; and sustain resources for future generations with no negative impact on them. So, that is probably how I think it should be sustainable in the long run’ (Participant A).

The students expressed that everyone should be able to continue to exist on Earth. In addition, the students opined that it is crucial that the present generation take care of the earth to guarantee a life for future generations: ‘It is as if we have to take care of this Earth we live on, because otherwise it will not remain for our descendants’ (Participant F).

4.3. Sustainability is based on the right to a good life on equal terms

The students perceived that the core of the concept of sustainability was the right to a good life on equal terms. They believed that the basic prerequisite for a sustainable life is a society, in which, citizens can work and create a good life for themselves. The students’ detailed perspective stressed on the responsibility for the next generation: ‘You think of a society, which provides its people with the strength to work and build a life for themselves, so that they, as well as their children, can live a good life in the future’. (Participant B) They expressed that sustainability is a human right, which also guarantees a dignified life for all: ‘Sustainability is a human right, which guarantees a dignified and good life to everyone’. (Participant I).

4.4. Nurses are important actors but need more education

The students expressed that nurses’ work could contribute to sus-
tainable society and healthcare system, adding that their commitment and individual responsibility are crucial for working sustainably, thereby reducing the healthcare sector’s impact on the climate. The students stated that education can contribute to strengthening the nurses in the role of leading the work with sustainability. ‘We as nurses understand that things could have been better and that we need more education; however, there is hope’ (Participant C).

The students expressed that everyone had their own responsibility in working towards sustainability to reverse the effect of climate change. They believed that nurses can work against climate change by their active involvement. Moreover, they pointed out that more the people work on the issue, the greater the impact. They considered that a nurse can be a role model who can inspire other people to participate in the working towards sustainability.

4.5. Difficult to apply to nursing

Contrary to the participants that revealed that nurses can be a role model and have a central role in the work with sustainability, some of the participants were of the opinion that climate change and sustain-
ability were difficult to apply to the vocation of nursing, because the most important objective for nurses is to save lives. ‘It is difficult to see how climate change can affect healthcare and my future profession as a nurse. Nursing is about saving lives.’ (Participant D) A participant added that the focus on nursing education is not about climate change and sustainability but about saving lives. Environmental issues are ignored in the curriculum and are only addressed alongside other content.

5. Discussion

This study explored nursing students’ perceptions of climate change and sustainability. We sought to understand how they perceived these topics and their own role as future nurses in the work towards more sustainable healthcare. The main findings revealed that students saw themselves living in a mismatched discourse. They described the future of humanity as gloomy and believed that sustainability is a common societal obligation based on the right to a good life on equal terms for all people. Simultaneously, they expressed that nurses are important actors in the endeavour towards attaining a more sustainable world. However, they also added that sustainability was difficult to apply and opined that further education is needed. These varied insights contributed to a mismatch due to a failure to correspond or match the different perceptions of climate change and sustainability. This would impact the process of designing new curricula and courses to address such concerning global issues with a deeper focus on exploring the link between climate change, sustainability, and their new role as nurses. In the development of nursing programs, stronger emphasis on global issues is needed, where the consequences of climate change on health are more clearly highlighted.

The students expressed that humanity’s future is gloomy as climate change adversely affects the entire world. Albeit a pessimistic perspec-
tive, many agreed that it was a highly realistic observation. They also discussed how climate change has consequences that could affect human health. It is, therefore, crucial that students possess the requisite knowledge so that they can make insightful connections between climate change and its impact on health. The Lancet Commission (Costello et al., 2009; Watts et al., 2015; Watts et al., 2018) has repeatedly stated that climate change is the biggest global threat to human health, which has led to new policy actions, in which human health has become a central part of the climate change discussion.

Another prominent finding of this study was that the students believed that sustainability was a shared responsibility between many actors in the society. They also said that actions from people today should not adversely impact the future; they had a long-term mindset. The participants’ reasons can be linked to sustainability as an ethical principle in healthcare. Annette Riedel (2015) suggested that sustainable nursing must focus not only on current patients they meet in their daily clinical work but also on all future patients. It is important that education strengthens their ability to make long-term and sustainable decisions. The challenge for the entire healthcare system is to care for sustainable decisions and anticipate the long-term consequences of current practices and decisions. Sustainability should, therefore, be a fundamental value and an ethical starting point in all nursing work and should be included in the higher education curriculum.

The students essentially expressed that sustainability is based on everyone’s right to a good life on equal terms. This insight supports the global environmental movement and sustainability efforts, where climate justice is central. It was found that those who contribute the least to global warming are the hardest hit by the negative health effects of climate change. (Levy and Patz, 2015; Nicholas and Breaskey, 2017). Knowledge of the connection between health, justice, equality, and the
The results also reflected that the students believed that nurses are important actors in the work towards sustainability; however, they stated that they needed more education. They thought that climate change and sustainability were difficult to apply to nursing. These findings might be related to a curriculum and courses that are not designed to prepare the students for the role of an actor and a leader within a changing world. It is important for knowledge and education to clarify the role that nurses have in battling climate change. Education contributes to enabling nursing leadership and helps nurses support and contribute to mitigation of climate change through the implementation of environmental policies and sustainable practices. Schwerdtle et al. (2020) opined that it is important to update existing curricula for healthcare to contribute to protecting human health and the environment. This implies that professionalism must include environmental ethics and assuming responsibility, leading to environment-friendly practices. The concept of education for sustainability is dynamic, and sustainability is a notion of constant change. Education must integrate knowledge, skills, perspectives, and sustainability values. There is no instant formula for integrating sustainability into higher education, and each institution must apply methods that best suit their circumstances and their students’ perspectives. Today, many students already have a knowledge of environmental issues through previous education or their involvement in networks or organisations with a focus on climate issues. They are, therefore, important partners for teachers to integrate sustainability concepts into curricula and contribute to development. Teachers need to work together with students and listen to their opinions. In conclusion, our study has shown that nursing students have the basic knowledge about climate change and its impact on healthcare and that they understand the gravity of the responsibility against battling the issues of climate change and sustainability. However, to establish deeper and broader education around the two subjects of climate change and sustainability, the nursing program curriculum needs to include learning and teaching activities that better correspond to the global agenda for sustainable development. By studying the nursing students’ perceptions of issues of climate change and sustainability, we received a foundation to stand on as researchers and teachers, which, in turn, makes it possible to develop new teaching activities for nurses in the future.

6. Conclusion

In the work of climate change and sustainability, nurses are important actors. However, the participants in this study perceived themselves as living in a mismatched discourse. A discourse that includes awareness of the consequences on health that climate change has, and the perception of difficulty in applying the awareness and knowledge to nursing. Nursing programs should, therefore, develop the tactics to integrate climate change and sustainability in the curricula to provide students with the knowledge, skills, and motivation to understand and address health risks posed by climate change. Together, this may raise awareness and motivation to not only understand the relationship between climate change and health but also provide better preparedness as nurses and leaders within the area of sustainable healthcare.

CRediT authorship contribution statement

The authors acknowledge that the material presented in this manuscript has not been previously published, nor is it simultaneously under consideration by any other journal. Anna Anåker, Marianne Spante and Marie Elf worked closely together in producing this manuscript. They all have engaged in Conceptualization, Methodology, Data collection, Formal analysis, Writing (Original Draft, Review & Editing), and Visualization.

Declaration of competing interest

None.

Acknowledgments

The authors would like to thank Dalarna University research area Health and Welfare for supporting this study with research funds.

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