



Nursing Academic Staff and Students in Oman's Level of Knowledge about Climate Change Issues and their Level of Compliance to The Go Green, Be Climate Positive Campaign

Glenn Ford D. Valdez^{1*}, Salma Al Amri², Wadha Al Mamari², Hassan Abbas Kazmi³, Zakia Ahmed Doloolat², Simy Mathew², Noor Al Zuwameri², Maria Luisa Javier², Zaida S. Jo²

¹ Associate Professor – Department of Nursing Sciences, College of Applied Medical Sciences, Shaqra University, KSA

² Faculty of Nursing – Oman College of Health Sciences -Dhofar, Oman

³ Foundation Faculty, Oman College of Health Sciences- Dhofar, Oman

Correspondence

Glenn Ford D. Valdez, PhD, RN, CNE-cl
8384 LSDB3421^o 3421, Marat 15521, Saudi Arabia
E-mail:
glennfordvaldez@yahoo.com

Article History

Submitted: 12-09-2023

Revised: 19-03-2024

Accepted: 20-03-2024

This is an open-access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



ABSTRACT

Higher education institution students, faculty, and staff give environmental awareness and green initiatives high emphasis for several reasons: promoting environmental awareness: Students are the future leaders of the planet and will oversee addressing climate change issues. Students' environmental sensitivity is necessary for the advancement of a sustainable future, and college initiatives like "go green" and climate change awareness make this feasible. The study is a descriptive correlational study that aims to explore the student and faculty's level of awareness regarding climate change and the level of compliance with the Go Green Be Climate Positive Campaign. The study population comprised of nursing students and nursing faculty members from Oman College of Health Sciences-Dhofar. The sample was obtained using consecutive sampling with a response turnover of 75%. The researchers devised an online questionnaire consisting of three parts which were tested for reliability and validity. The study utilized SPSS Version 25 to run descriptive and inferential tests. Result showed the majority of the respondents were females, singles, students who are Omanis and living in a rural setting within the dominant age range of 20-25. Level of awareness above the mean average of 3.50 and the level of compliance the mean average of 2.30. The study demonstrates that age and awareness levels are associated, and that compliance levels are related to awareness levels.

KEYWORDS

Climate change, Nursing, Nursing students, Nursing education, Environmental health, Sustainability

How to cite:

Valdez, G. F., Al Amri, S., Al Mamari, W., Kazmi, H. A., Doloolat, Z., Al Zuwameri, N., Javier, M. L., & Jo, Z. (2024). Nursing Academic Staff and Students in Oman's Level of Knowledge about Climate Change Issues and their Level of Compliance to The Go Green, Be Climate Positive Campaign. *Journal of Rural Community Nursing Practice*. 2(1), 1–18. <https://doi.org/10.58545/jrcnp.v2i1.212>

1. BACKGROUND

Long-term changes in the Earth's climate, including variations in temperature, precipitation, and sea level that are primarily influenced by human activities are referred

to as climate change. The atmosphere's concentration of greenhouse gases, such as carbon dioxide, methane, and nitrous oxide, has increased as a result of the burning of fossil fuels for energy, including coal, oil, and

natural gas, as well as deforestation and other changes to land use (McNutt, 2013). The globe gradually warms as a result of these gases' ability to retain solar heat. According to Melillo et al. (2014), climate change affects the environment in a variety of ways, including increased frequency and severity of weather events (like heat waves, droughts, floods, and hurricanes), melting glaciers and sea ice, rising sea levels, and adjustments to the timing and distribution of seasonal events. By switching to sustainable energy sources (such solar, wind, and geothermal power), increasing energy efficiency, and halting deforestation, greenhouse gas emissions can be decreased. In order to adapt to climate change, one must plan for its effects and mitigate those, such as by building infrastructure that is resistant to sea level rise and extreme weather events (Hunt et al., 2011).

Since climate change is an issue that affects all countries and has important intergenerational implications, it calls for international cooperation and action. Recent years have seen a substantial increase in public awareness of climate change, which is now universally acknowledged as one of the biggest problems confronting humanity. The combustion of fossil fuels and deforestation

are driving changes in the Earth's climate, according to a large body of scientific research. Climate change is a topic that the public is becoming more aware of. The possible effects of climate change are causing great anxiety among many people, and there have been increasing calls for action to address the problem. Since many news organizations frequently report on the most recent scientific findings and the effects of climate change on communities and ecosystems, the media has played a vital role in boosting public awareness of the issue of climate change. Additionally, governments and international organizations have made efforts to increase public understanding of climate change (Tol, 2018). Many nations have also created educational initiatives and campaigns to raise public awareness of climate change and promote response. Despite the fact that there is an increasing knowledge of climate change, Reinman (2012) found that many people, groups, and governments continue to downplay or minimize the problem. The frequency and severity of extreme weather events, such floods and storms, which can seriously harm infrastructure and property, are predicted to rise due to climate change and have impacts on the production of oil

and gas (Al-Maamary, Kazem, & Chaichan, 2017).

The Gulf Arab countries are major producers of oil and gas, and climate change could have significant impacts on these industries. This includes the risk of damage to oil and gas infrastructure from extreme weather events, as well as the potential impacts of transitioning to a low-carbon economy. Climate change has a huge impact on the Gulf Arab countries overall. It will be crucial for these nations to take action to lessen the effects of the change and adapt to its effects, particularly by making investments in coastal protection, water infrastructure, and other measures to boost climate change resilience. Through both national and international agreements, an effort is made to lessen the effects of climate change. Oman in particular has developed a national climate change strategy that outlines the country's goals and targets for reducing greenhouse gas emissions and adapting to the impacts of climate change, according to Mushtaque & Choudri (2012). This strategy is one of the major initiatives that Oman has taken to address climate change. On the second half of the semester in 2022-2023, Oman College of Health Science, specifically its Dhofar Branch, has launch its project Go Green Be

Climate Positive, which aims to reduce plastic waste, conserve paper resources, and implement a campus-wide program to raise awareness about climate change and its effects. Similar projects are also underway in different academic institutions in Oman. These organizations are making a significant contribution to the efforts being made in Oman and elsewhere to lessen the effects of climate change (Al-Balushi et.al., 2022). Students, teachers, and staff in higher education institutions place a high priority on climate change awareness and green activities for a number of reasons: fostering environmental awareness: Students will be the world's future leaders and will be in charge of addressing climate change challenges.

The promotion of a sustainable future depends on students becoming environmentally sensitive, which is made possible by efforts like "go green" and climate change awareness conducted in the college. Students who are aware of climate change and participate in green activities learn the value of sustainable behaviors including conserving energy, buying eco-friendly goods, and using alternative forms of transportation. Students may lessen their carbon footprint and assist to mitigate the effects of climate change by incorporating

these habits into their daily life. This aimed at evaluating the level of student and faculty awareness and compliance to climate change and the Go Green campaign. These activities promote environmental consciousness, encouraging sustainable behaviors, fostering research and innovation, fostering community

participation, and improving employability among students in higher education institutions all depend on raising awareness of climate change and green efforts. Higher education institutions like Oman College of Health Sciences-Dhofar can significantly contribute to building a sustainable future by supporting these activities.

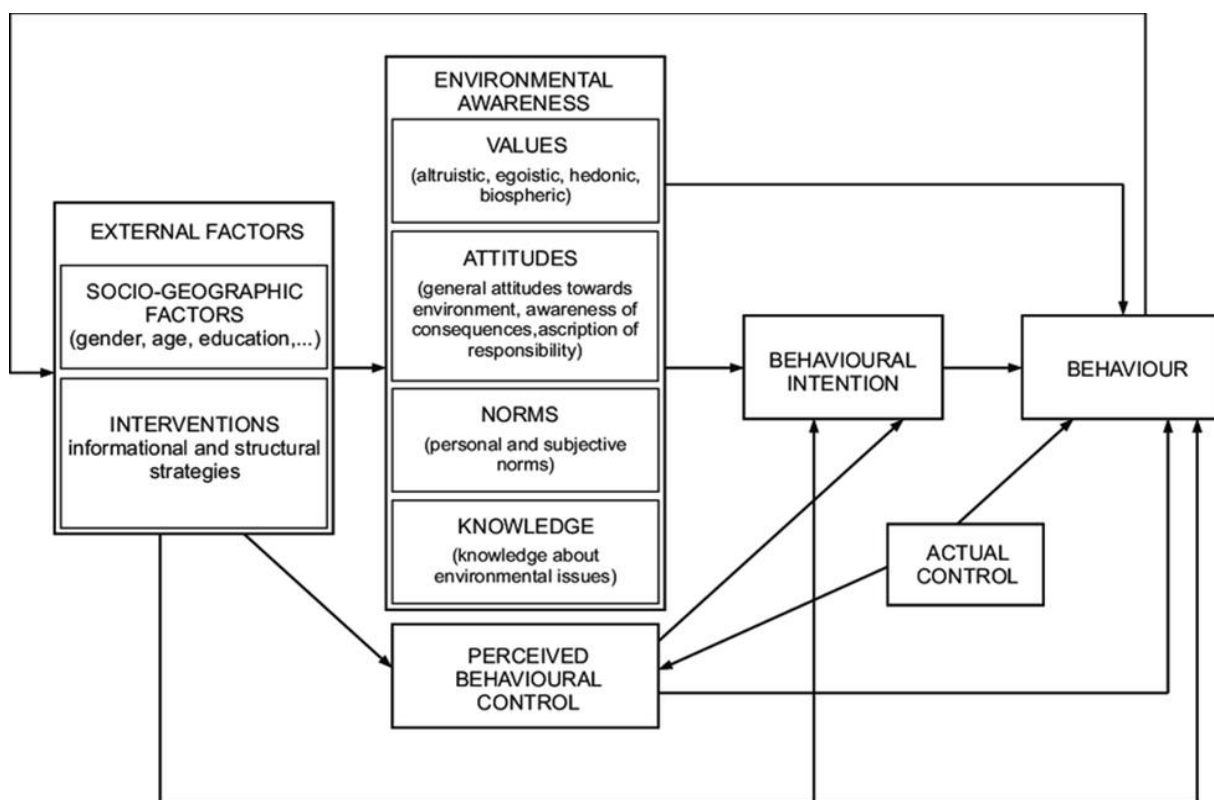


Figure 1. The theoretical model of environmental awareness and behavioral change, adopted from Ajzen (1991), Stern (2000), and Schultz (2002).

The theoretical model of environmental awareness and behavioral change is based on the work of several prominent social psychologists, including Ajzen (1991), Stern (2000), and Schultz (2002). The model proposes that environmental awareness is a critical

precursor to behavioral change, and that there are several factors that influence both awareness and behavior. The key components of the model are. Attitudes: Attitudes refer to an individual's positive or negative evaluation of a particular behavior, such as recycling or reducing energy

consumption. Attitudes are shaped by a range of factors, including personal beliefs, social norms, and cultural values. Norms: Norms refer to the unwritten rules that govern behavior within a particular social group. Social norms can be either descriptive (what people actually do) or injunctive (what people believe they should do). Norms play a critical role in shaping behavior, as individuals are often influenced by the behavior of those around them. Perceived behavioral control: Perceived behavioral control refers to an individual's belief in their ability to perform a particular behavior, such as using public transportation instead of driving a car. Perceived behavioral control is influenced by a range of factors, including personal skills and resources, social support, and the availability of alternatives. Environmental knowledge: Environmental knowledge refers to an individual's understanding of the impact of human activity on the natural environment. Environmental knowledge is a critical precursor to environmental awareness, as individuals who lack knowledge about environmental issues are less likely to take action to address them. Environmental awareness: Environmental awareness refers to an individual's recognition of the impact of human activity

on the natural environment. Environmental awareness is shaped by a range of factors, including personal experiences, exposure to media, and educational interventions. Behavioral change: Behavioral change refers to the adoption of new behaviors that promote environmental sustainability, such as recycling, reducing energy consumption, or using public transportation. Overall, the theoretical model of environmental awareness and behavioral change proposes that environmental awareness is a critical precursor to behavioral change, and that there are several factors that influence both awareness and behavior. By understanding these factors, environmental advocates can develop more effective strategies for promoting sustainability and mitigating the impacts of climate change.

2. METHODS

The study is quantitative cross-sectional in design. A cross-sectional study is a type of research that examines information gathered from a sample or population at a specific point in time. In this kind of study, the research team gathers information on several variables of interest at a specific period and then looks at how these variables relate to one another. Study with the goal of determining the

population's degree of knowledge and adherence to the Go Green Be Climate Positive Campaign and climate change and its relationship when grouped according to their demographics. An online survey was used in this investigation.

The population of instructors, staff, and students at OCHS-Dhofar makes up the study sample. Consecutive sampling was employing 134 or a turnout of 75 % study participants. In this study, a self-made questionnaire was used. Written consent was obtained to actively participate in the study. The research tool is organized into three sections, each of which contains open-ended questions assessed on a 5-point Likert scale. Section 1 of the demographic profile, Section 2 of the level of climate change awareness, and Section 3 of the level of go green be climate positive campaign compliance. The level of awareness scale ranges from 1- 5, 1- fully not aware, 2 –not aware, 3 –neither aware or not aware, 4- aware nor 5- fully aware. The level of compliance scale is scored from 0-4, 0- never, 1-rarely, 2-sometimes, 3-often, and 4 always. The level of awareness is scored using a mean range with corresponding qualitative interpretation highest range 4.21-5.00 interpreted as possessing proficiency and knowledge about the issue and the

lowest 1.00-1.80 interpreted as can't hardly understand the issue even with expert guidance., while the level of compliance is scored using a mean ranged with the highest 3.21-4.00 interpreted as excellent compliance and 0.00-0.80 as lowest interpreted as no compliance. Two experts on environmental health, climate change and awareness received the self-developed questionnaire and approved it. A post-hoc reliability test was carried out using Cronbach Alpha, and the results ranged from 0.80 to 0.85. Data collection process was facilitated by the trained investigators. A survey link was forwarded through the participant's official emails and social networking sites such as WhatsApp and Facebook. Consent is filled to voluntarily participate in the study. The participants were informed about the risk involved in the participation and were informed about their right to discontinue with the process at any point of the study without bearing any consequences in their marks or performance. To perform the necessary descriptives such as frequency and percentage, mean score average, and standard deviation, as well as inferential test statistics using Pearson R, a SPSS Version 25 was used to run the analysis. An ethical review and approval letter sought from the

Oman College of Health Sciences Central
Research Committee -

REC/PROPOSAL/APPROVED/2/2023-09, May
2023.

3. RESULTS

Table 1. Demographic profile according to gender and civil status

		Civil Status		Total
		Married	Single	
Gender	Male	6	20	26
	Female	14	94	110
	Total	20	114	

Table 1 above displays the demographic breakdown of the responders by age and gender: 26 men and 110 women. Out of the 26 male faculty members, 6 are

male, and out of the 110 female faculty members, 14 are female. Of these, 20 are married, and 114 are not.

Table 2. Respondent's position and domicile

	Position		Domicile	
	Student	Faculty	Rural	Urban
	20	6	16	10
	94	14	66	42
	114	20	82	52

Table 2. shows that 16 faculty members live in rural areas, compared to 10 who live in cities. 42 of the student responders live in

the city borders, while 66 of them live in the countryside.

Table 3. Age and Civil Status

		Civil Status		Total
		Single	Married	
Age	19 and below	32	0	32
	20-25	83	1	84
	26-30	1	0	1
	31-35	0	1	1
	36-40	2	3	5
	41-45	2	3	5
	46-50	2	2	4
	50 and above	0	2	2
	Total	122	12	134

Reading through Table 3 in the previous section. 83 respondents are in the age range of 20 to 25 years old, followed by 19 and younger respondents (32), those in

the bracket of 26 to 30 years old (one), and those in the range of 36 and older (six). This information shows the age of the respondents.

Table 4. Nationality and Civil Status

		Civil Status		Total
		Single	Married	
Nationality	Omani	118	6	124
	Non- Omani	4	6	10
Total		122	12	134

There are 124 Omani respondents and 10 non-Omani respondents, according to table 4 above, which displays the breakdown of nationalities. 118 Omanis are

single, compared to 6 who are married. 6 of the non-Omanis are married, while 4 are single.

Table 5. Level of Awareness about climate change (Continue to page 9)

Questions	Mean	Std. Deviation	Qualitative Interpretation
QA1. I am aware about what climate change is	3.71	1.29	Aware
QA2. I have great concern about the effects of climate change in my daily life	3.61	1.05	Aware
QA3. I believe the following are the most significant causes of climate change			
QA3.a Burning of fossil fuels	3.67	1.23	Aware
QA3.b. Deforestation	3.74	1.30	Aware
QA3.c. Transportation emissions	3.85	1.17	Aware
QA3.d. Industrial agriculture	3.98	1.10	Aware
QA4. 4. I know about the potential impacts of climate change on the environment and human society	3.83	1.07	Aware
QA5. I have taken personal actions to reduce your carbon footprint in the past year? (e.g., reducing energy consumption, using public transportation, eating less meat, etc.	3.11	1.03	Neither aware nor not aware
QA6. I have noticed changes in my local climate or environment that you believe may be attributed to climate change	3.50	.890	Aware
QA7. The government is doing enough to address climate change	3.17	1.13	Neither aware nor not aware
QA8. Governments and businesses take actions to mitigate the effects of climate change	3.19	1.04	Neither aware nor not aware
QA9. I'm willing to pay in additional taxes or fees to support climate change mitigation efforts	3.19	1.14	Neither aware nor not aware

Questions	Mean	Std. Deviation	Qualitative Interpretation
QA10. I purchase products encouraging energy efficiency in buildings and transportation	3.23	1.07	Neither aware nor not aware
QA11. Increasing public transportation options.	3.56	1.11	Aware
QA12. Avail services from companies that have made a commitment to reducing their carbon footprint.	3.23	1.02	Neither aware nor not aware
Q13. I feel that the following are the most effective way to reduce carbon emissions			
QA13.a. Investing in renewable energy	3.61	1.22	Aware
QA13.b. Implementing carbon taxes	3.32	1.11	Neither aware nor not aware
Mean Average	3.50		Aware

Table 5 above displays the respondents' level of climate change awareness. According to the respondents, industrial agriculture ranks as one of the major contributors to climate change, with a mean score of 3.98. Transportation emissions came in second with a mean of 3.85, and deforestation came in third with a mean of 3.74, both interpreted at the level of awareness, indicating that the respondents had a good understanding of the problem.

According to the table analysis, most respondents, with a mean of 3.11, indicated that they are neither conscious nor uninformed of taking any personal efforts to lessen their carbon footprint in the past year, suggesting that they may be aware of certain aspects of the problem. Overall, the respondents' degree of knowledge of climate change was above the mean average of 3.50, indicating awareness and an ability to comprehend the problem adequately.

Table 6. Level of Compliance to Go Green Be Climate Positive Campaign (Continue to page 10)

Questions	Mean	Std. Deviation	Qualitative Interpretation
QA14. How often do you recycle items such as paper, plastic, and glass?	2.31	.853	Acceptable Compliance
QA15. Do you use reusable bags, water bottles, and containers instead of disposable ones?	2.53	.819	High Compliance
QA16. How often do you use public transportation, carpool, or bike instead of driving alone?	1.89	.903	Low Compliance
QA17. Do you turn off lights and electronics when not in use?	3.23	.885	Excellent Compliance

Questions	Mean	Std. Deviation	Qualitative Interpretation
QA18. How often do you buy locally produced and organic food?	2.73	.727	High Compliance
QA19. Do you participate in environmental conservation activities such as beach cleanups or tree planting?	2.23	.951	Acceptable Compliance
QA20. Do you compost your food waste?	2.37	1.00	Acceptable Compliance
QA21. How often do you use environmentally friendly cleaning products?	2.61	.848	High Compliance
QA22. Do you avoid using single-use items such as straws and utensils?	2.62	.846	High Compliance
QA23. How often do you educate yourself about environmental issues and solutions?	2.83	.860	High Compliance
Mean Average	2.30		Acceptable Compliance

Table 6 above shows the respondents' level of compliance with the GO Green campaign. Analysis of the table shows that many respondents turn off their electronics when not in use, which received a mean of 3.23, indicating excellent level of compliance. Next, they educate themselves about environmental problems and

solutions, which received a mean of 2.83, indicating high level of compliance. Finally, they purchase organic products, which received a mean of 2.83, indicating high level of compliance. Overall, the chart demonstrates that the respondent's level of conformity with the mean average of 2.30 is acceptable.

Table 7. The relationship between level of awareness and compliance according to age, gender and civil status.

		Age	Ave Mean Awareness	Ave Mean Compliance
Gender	r ²	-.105	.035	.095
	p-value	.228	.687	.277
Civil Status	r ²	.700**	.118	.026
	p-value	.000	.175	.769
Age	r ²	1	.237**	.112
	p-value		.006*	.199
Ave Mean Awareness	r ²	.237**	1	.564**
	p-value	.006	*	.000*
Ave Mean Compliance	r ²	.112	.564**	1
	p-value	.199	.000	*

*P-value ≤ 0.01 ** r²

The correlation between amount of awareness, compliance, and a few demographic factors is shown in table 7 above. The data, when carefully examined, shows a significant positive correlation between civil status and gender with an r-value of 0.700, as well as a low positive correlation between age and awareness level with an r-value of 0.237. It has also been demonstrated that compliance and awareness levels have a moderately positive link with an r-value of .564. Age has been shown to be linked with level of awareness, and level of awareness is correlated with level of compliance.

4. DISCUSSION

The study was successful at attaining its aim of identifying the level of awareness about climate change, compliance with the Go green be climate positive and its relationship with the respondents' demographic characteristics. The study demographic composition shows that the majority of the respondents were female, single, student, living in a rural setting and are Omanis within the dominant age range of 20-25. The Oman College of Health Sciences in the Dhofar region caters to the nursing demands of the region through its four-year bachelor of science in nursing and

one year foundation program. Nursing and nursing profession is known to be a female dominant field of practice, while this is still true at present men has slowly increased in female nursing dominated specialties (Bordelon et al., 2023). In Oman, nursing is primarily female dominated and has progressed from the time of the nursing education inception in the 1900 with the arrival of the American Missionary Association (Al Maqbali et al., 2019). The nursing profession has been in the forefront of medical and healthcare but has been observed to have slow response regarding issues involving climate change (Kalogirou et al., 2020). For this reason, it's imperative that climate be integrated in nursing particularly starting with its integration to nursing education (Cruz et al., 2018).

Nurses in particular play an important role in educating patients, the community and institutions about climate change and its effects on human health (Redulla, 2022). The study assessed the level of awareness among nursing faculty and students with regards to climate change. It was discovered that the majority of the respondents are aware that industrial agriculture, transportation emissions and deforestation are major contributors to the occurrence of climate change. Anaker (2021) claims that

nursing students believed they were significant players in the fight against climate change and sustainability. As a result, nursing education must incorporate the effects of climate change on healthcare and promote sustainability into the curriculum to help students become aware of their role in ensuring societal sustainability. In a comparable direction, nursing students are beginning to view the incorporation of sustainability and climate change in their curricula favorably. In addition, they promote formal training for environmental literacy and acknowledge the value of education about sustainability and the effects of climate change on health (Alvarez-Nieto et al., 2022). In a similar study in the region according to a survey among Saudi nursing students, there was a moderate manifestation of pro-environment sentiments, but there was also a strong emphasis on strengthening environmental sustainability ideas in the nursing curriculum (Cruz et al., 2018). Although the respondents showed high levels of awareness on climate change contributors it was observed that the majority of the respondents have a very low level of awareness on efforts to lessen their individual carbon footprint. According to Munoz (2012) nurses have a built-in responsibility to lessen our carbon footprint

and to ensure that nurses are recognized as important contributors to the development of a health care sector that is ecologically sustainable. In terms of lowering its carbon emissions and overall environmental impact, the healthcare industry has lagged behind many other industries internationally (Brand et al., 2023).

Oman and the GCC and MENA region are considered vulnerable for climate change effects (Hussein, 2022). In recent years efforts to mitigate the effects of climate change were enacted in various institutions in Oman are playing an important role in promoting research and awareness on climate change and are contributing to efforts to mitigate the impacts of climate change in Oman and beyond (Al-Balushi et al., 2015). Conversely in July 2022, the Oman College of Health Sciences in Dhofar region of Oman launched its Go Green Be Climate Positive Campaign with the aim of educating the student, faculty and community population about climate change and teaching activities to mitigate its effect. Hence this study evaluated the compliance with the program through the study. It was identified that the overall level of compliance to the Go Green Be Climate positive activity is at a moderate acceptable level. The respondents showed

excellent compliance in terms of turning their electronic items when not in use to conserve electricity, buying organically produced foods to lower carbon footprint and self-educating themselves about the current environmental issues and possible solutions. On the contrary it was identified that lessening the use of transportation has the lowest compliance. Aronsson et al. (2020) discovered that instructional sessions in undergraduate courses that emphasized the importance of climate change and sustainability to health and health care could motivate nursing students to question impractical clinical practices. However, there are various obstacles in imparting sustainability practices among staff and students such as staff resistance (Aronsson et al., 2020) and there may be a disconnection between the significance of the nursing profession in addressing the health effects of climate change and the nurses' ignorance and lack of interest in the subject (Diallo et al., 2023).

Overall, the study demonstrated a connection between responder awareness and compliance. It has been demonstrated that individuals' levels of compliance with the Go Green campaign are influenced by their level of awareness about climate change. The level of awareness and

compliance among respondents was also thought to be correlated with their age, with older respondents having higher levels of both. The future protection of public health from the harmful consequences of climate change and the reduction of climate change through efficient resource management in health services depend greatly on the environmental literacy and climate change awareness of nursing students (Incesu & Yas, 2023). It is advised that environmental health courses be included in nursing school curricula and in-service training for healthcare professionals (Cruz et al., and Aronsson, 2020). To put it briefly, a more structured curriculum is required to raise the level of knowledge, skills, and understanding of climate change and its effects among faculty members and nursing students. Furthermore, creating an ecologically sound curriculum at OCHS-Dhofar is essential for promoting environmental health sustainability and teaching students and teachers about the importance of adhering to the climate change issue. In order to give the next generation a thorough awareness of their own responsibilities in reducing the current climate change crisis, it is also imperative that climate change activities be included

into higher education, not just in nursing academe.

5. CONCLUSION

In this study, we conclude that overall climate change awareness is at a level where students and staff can understand the challenges properly. Although they are more familiar with the causes of climate change, they are far less familiar with the practical solutions that may be used to lessen its incidence and impacts. Additionally, it can be said that the compliance level is within acceptable levels, indicating that even while participants in the Go Green Program put what they have learned into practice, further reinforcement is needed before habits are formed. The study revealed a substantial positive association between civil status and gender with an r-value of 0.700 as well as a weak positive correlation between age and awareness level with an r-value of 0.237, highlighting the importance of maturity in a person's ability to fully comprehend the climate change issue. Additionally, a modestly favorable relationship between compliance and awareness levels has been shown to exist, with an r-value of 0.564. It has been demonstrated that age and awareness levels are associated, and that compliance levels are related to awareness levels.

Increased awareness leads to increased practice and adherence to the Go Green initiative.

ACKNOWLEDGMENT

We extend our gratitude and thanks to the students and faculty of Oman College of Health Sciences – Dhofar for their participation.

AUTHOR CONTRIBUTIONS

Substantial contributions to conception, data collection, analysis, and writing: Glenn Ford D. Valdez, Salma Al Amri, Wadha Al Mamari, Hassan Abbas Kazmi, Zakia Ahmed Doloolat, Simy Mathew, Noor Al Zuwameri, Maria Luisa Javier, Zaida Jo. Manuscript revisions: Glenn Ford D. Valdez.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

DATA AVAILABILITY STATEMENT

The data are not publicly available due to privacy or ethical restrictions.

REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Al Balushi, A. K., Thumiki, V. R. R., Nawaz, N., Jurcic, A., & Gajenderan, V. (2022). Role of organizational commitment in career growth and turnover intention in public sector of Oman. *Plos one*, 17(5), e0265535. <https://doi.org/10.1371/journal.pone.0265535>
- Al Buloshi, A. & Ramadan, E. (2015) Climate Change Awareness and Perception amongst the Inhabitants of Muscat Governorate, Oman. *American Journal of Climate Change*, 04, 330-336. <http://dx.doi.org/10.4236/ajcc.2015.44026>
- Al-Adawi S. (2022). Climate Projections Indicate Catastrophic Consequences in the Middle East and North Africa Region: Why healthcare workers are conspicuously absent in climate change discourse. *Sultan Qaboos University medical journal*, 22(4), 441-442. <https://doi.org/10.18295/squmj.10.2022.061>
- Al Maqbali, M. R., Al Omari, O., Slimane, S. B. A., & Balushi, N. A. (2019). The Nursing Profession in Oman: An Overview. *Nursing science quarterly*, 32(4), 322-325. <https://doi.org/10.1177/0894318419864346>
- Al-Maamary, H. M., Kazem, H. A., & Chaichan, M. T. (2017). Climate change: the game changer in the Gulf Cooperation Council Region. *Renewable and Sustainable Energy Reviews*, 76, 555-576. <https://doi.org/10.1016/j.rser.2017.03.048>
- Álvarez-Nieto, C., Richardson, J., Navarro-Perán, M. Á., Tutticci, N., Huss, N., Elf, M., Anåker, A., Aronsson, J., Baid, H., & López-Medina, I. M. (2022). Nursing students' attitudes towards climate change and sustainability: A cross-sectional multisite study. *Nurse education today*, 108, 105185. <https://doi.org/10.1016/j.nedt.2021.105185>

- Anåker, A., Spante, M., & Elf, M. (2021). Nursing students' perception of climate change and sustainability actions - A mismatched discourse: A qualitative, descriptive exploratory study. *Nurse education today*, 105, 105028. <https://doi.org/10.1016/j.nedt.2021.105028>
- Aronsson, J., Nichols, A., Warwick, P., & Elf, M. (2022). Awareness and attitudes towards sustainability and climate change amongst students and educators in nursing: A systematic integrative review protocol. *Nursing open*, 9(1), 839–844. <https://doi.org/10.1002/nop2.1134>
- Bordelon, C. J., Mott, J., McArthur, E., & MacWilliams, B. (2023). Men in Female-Dominated Nursing Specialties. *The Nursing clinics of North America*, 58(4), 617–625. <https://doi.org/10.1016/j.cnur.2023.06.005>
- Brand, G., Wise, S., Bedi, G., & Kickett, R. (2023). Embedding Indigenous knowledges and voices in planetary health education. *The Lancet. Planetary health*, 7(1), e97–e102. [https://doi.org/10.1016/S2542-5196\(22\)00308-4](https://doi.org/10.1016/S2542-5196(22)00308-4)
- Cruz, J. P., Alshammari, F., & Felicilda-Reynaldo, R. F. D. (2018a). Predictors of Saudi nursing students' attitudes towards environment and sustainability in health care. *International nursing review*, 65(3), 408–416. <https://doi.org/10.1111/inr.12432>
- Cruz, J. P., Felicilda-Reynaldo, R. F. D., Alshammari, F., Alquwez, N., Alicante, J. G., Obaid, K. B., Rady, H. E. A. E. A., Qtait, M., & Silang, J. P. B. T. (2018b). Factors Influencing Arab Nursing Students' Attitudes toward Climate Change and Environmental Sustainability and their Inclusion in Nursing Curricula. *Public health nursing (Boston, Mass.)*, 35(6), 598–605. <https://doi.org/10.1111/phn.12516>
- Diallo, T., Bérubé, A., Roberge, M., Audate, P. P., Larente-Marcotte, S., Jobin, É., Moubarak, N., Guillaumie, L., Dupéré, S., Guichard, A., & Goupil-Sormany, I. (2023). Nurses' Perceptions of Climate Change: Protocol for a Scoping Review. *JMIR research protocols*, 12, e42516. <https://doi.org/10.2196/42516>

- Hunt, A. & Watkiss, P., (2011). Climate change impacts and adaptation in cities: a review of the literature. *Climatic Change*, 104 (1), pp. 13-49. Available at: <http://dx.doi.org/10.1007/s10584-010-9975-6>
- Hussein, L., Uren, C., Rekik, F., & Hammami, Z. (2022). A review on waste management and compost production in the Middle East–North Africa region. *Waste Management & Research*, 40(8), 1110-1128. <https://doi.org/10.1177/0734242X211068236>
- Incesu, O., & Yas, M. A. (2023). The relationship between nursing students' environmental literacy and awareness of Global Climate Change. *Public health nursing (Boston, Mass.)*, 10.1111/phn.13255. Advance online publication. <https://doi.org/10.1111/phn.13255>
- Kalogirou, M. R., Olson, J., & Davidson, S. (2020). Nursing's metaparadigm, climate change and planetary health. *Nursing inquiry*, 27(3), e12356. <https://doi.org/10.1111/nin.12356>
- McNutt M. (2013). Climate change impacts. *Science (New York, N.Y.)*, 341(6145), 435. <https://doi.org/10.1126/science.1243256>
- Melillo, J. M., Richmond, T. T., & Yohe, G. (2014). Climate change impacts in the United States. *Third national climate assessment*, 52. Retrieved June 2023: available at <https://www.nrc.gov/docs/ML1412/ML14129A233.pdf>
- Muñoz A. (2012). Reducing health care's carbon footprint—the power of nursing. *Workplace health & safety*, 60(11), 471–474. <https://doi.org/10.1177/216507991206001102>
- Mushtaque, A & Choudri, B. S. (2012). Climate Change in Oman: Current Knowledge and the Way Forward. *Education Business and Society Contemporary Middle Eastern Issues*. Vol. 5. 228-236. <https://doi.org/10.1108/17537981211284416>
- Reinman, S. L. (2012). Intergovernmental panel on climate change (IPCC). *Reference Reviews*, 26(2), 41-42

<https://www.ipcc.ch/site/assets/uploads/2018/03/doc13-5.pdf>

12: 4–25.

<https://www.journals.uchicago.edu/doi/10.1093/reep/rex027>

Redulla R. (2022). Climate Change, Sustainability, And Health: What Can Nurses Do?. *Gastroenterology nursing: the official journal of the Society of Gastroenterology Nurses and Associates*, 45(6), 393–394. <https://doi.org/10.1097/SGA.0000000000000710>

Schultz, P.W. (2002) Knowledge, Information, and Household Recycling: Examining the Knowledge-Deficit Model of Behavior Change. *New Tools for Environmental Protection: Education, Information and Voluntary Measures*, National Academy Press, Washington DC, 67-82. <https://nap.nationalacademies.org/read/10401/chapter/5>

Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of social issues*, 56(3), 407-424. <https://doi.org/10.1111/0022-4537.00175>

Tol, R. S. J. (2018). Economic impacts of climate change. *Review of Environmental Economics and Policy*