



Shifa Tameer-e-Millat University

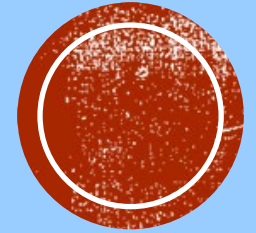
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Impact Of Climate Change On Health And Well-being Among University Students

DR. BADUR UN NISA

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SHIFA TAMEER E MILLAT UNIVERSITY PAKISTAN





Shifa Tameer-e-Millat University

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PRESENTATION OUTLINE

1. Background
2. UNESCO Chair 2018
3. Impact Of Climate Change On Health And Well-being



MY BACKGROUND

BS in Orthotics & Prosthetics



MS in Rehabilitation Sciences

PhD in Rehabilitation Sciences



Research Area: Health Promotion, Hyperbaric Oxygen, Anti-ageing, Mental Health, Medical devices





UNESCO CHAIR 2018

WHY I JOINED THE PROGRAM?



Gender
Vulnerable people
Disaster mitigation



UNESCO Chair Education Program 2023

Kobe University UNESCO Chair
"Gender, Vulnerability & Well-being in Disaster Risk Reduction Support"

Education Program 2023

Let's talk about disaster – safety and security for all

Online chance to discuss freely with
students from universities in 4 other countries



Participating Universities
National Kaohsiung University of Science and Technology (Taiwan), Mae Fah Luang University (Thailand), Gadjah Mada University (Indonesia), Tunku Abdul Rahman University (Malaysia), Kobe University (Japan), Shifa Tameer-e-Millat University (Pakistan)

Dates
2~3 December, 2023 10:30-16:30 (tentative times)

PROGRAM

Let's talk about DISASTER

MEET MY TEAM!



Hira Sakhawat



Isha Ajmal



Saad Akram



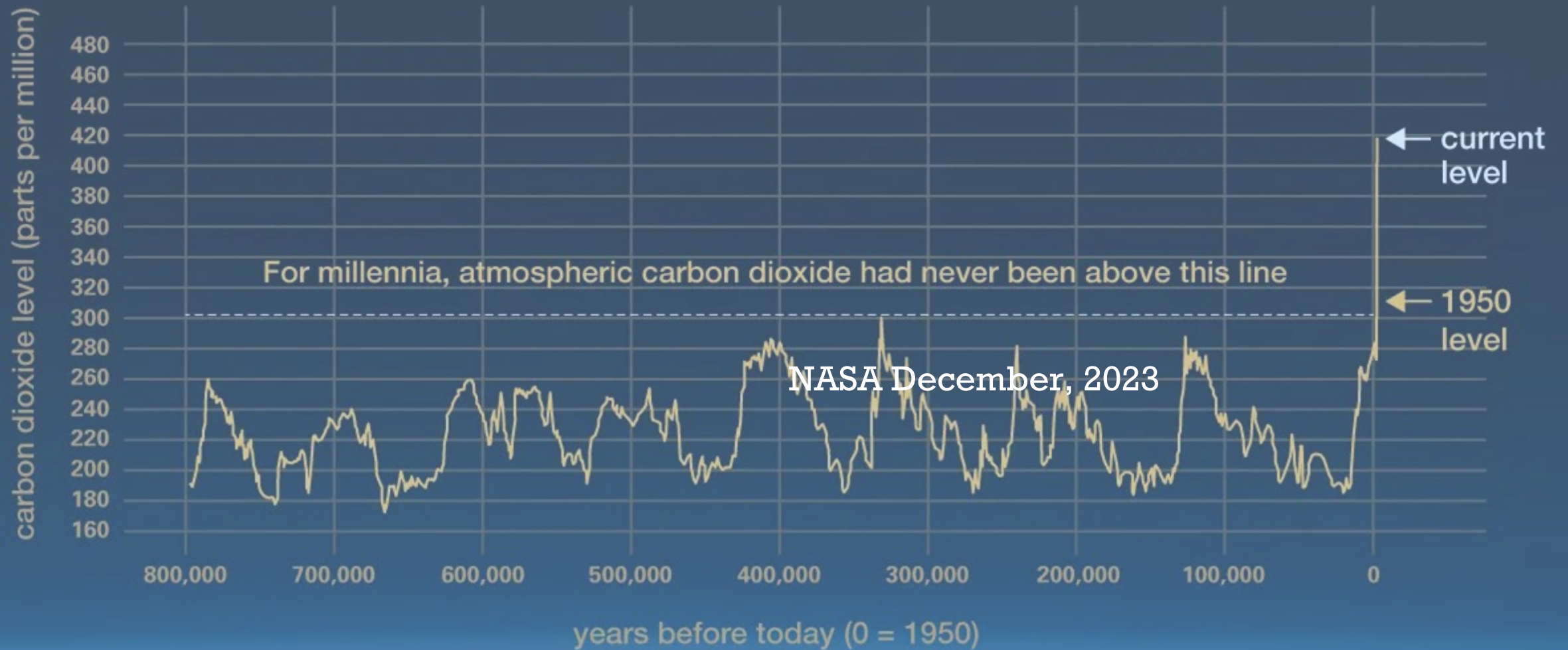
Saif Ullah Zahid



Introduction

1. Climate change is a global crisis affecting both the environment and human health.
2. Pakistan is among the most affected countries due to its geographic location, socio-economic challenges, and limited healthcare infrastructure.
3. The impacts of climate change in Pakistan include global warming, cloud bursts, unpredictable weather, frequent and intense heat waves, and recurrent flooding.
4. Climate change globally leads to the spread of infectious diseases like malaria and water-borne illnesses, increased seasonal allergies, and air pollution-related illnesses.
5. WHO's 2005 study highlighted health crises such as heat- and cold-related mortalities, diarrheal diseases, malaria, malnutrition, and cardiovascular and respiratory illnesses.
6. Women in Pakistan face higher risks due to limited access to resources, cultural norms, and socio-economic vulnerabilities, emphasizing the need for gender-sensitive strategies.





THE RISE OF CARBON DIOXIDE

SEVERE FLOODS CAUSE MASS DESTRUCTION, 2022

14 June to October 2022

- Floods in Pakistan killed 1,739 people, and caused Rs. 3.2 trillion (\$14.9 billion) of damage and Rs. 3.3 trillion (\$15.2 billion) of economic losses.
- Balochistan, Sindh, Khyber Pakhtunkhwa, Gilgit-Baltistan, Azad Kashmir and southern parts of Punjab.
- Deaths= 1,739
Non-fatal injuries= 12,867



At least 30% of the country's water systems are estimated to have been damaged.

Rationale

Climate change poses a significant threat to health and academic performance, especially for university students, yet there is limited research addressing its impact in Pakistan.

High AQI, global warming, and unpredictable weather patterns directly affect students' psychological and physical well-being, with gender-specific vulnerabilities intensifying the risks for women due to socio-economic and cultural factors.

This study is crucial to identify these challenges, guide policy development, and implement gender-sensitive strategies to mitigate climate-induced health risks, ensuring a healthier and more resilient student population.



Objectives

To find out the perceived impact of climate change on the physical, mental health and well-being of university students in Pakistan, with a gender-sensitive approach.

To determine the specific climate-related stressors (e.g., heatwaves, air pollution, extreme weather events) that university students had been experiencing.



Methodology

Research Design

- Descriptive Cross-Sectional Study

Study Duration

- Conducted over 6 months.

Sample Size

- **Total:** 232 participants
- **Calculation Tool:** RAO Soft sample size calculator
- **Confidence Level:** 95%, **Margin of Error:** $\pm 5\%$
- **Population Estimate:** 20,000 (conservative)
- **Response Distribution:** 50% assumed

Sampling Technique

- **Type:** Non-Probability Convenience Sampling
- Questionnaires distributed electronically via Google Forms.



Methodology

Sample Selection

- **Inclusion Criteria:**
 - Current university students (18-29 years old).
- **Exclusion Criteria:**
 - College students or graduates.
 - Individuals unwilling to participate.

Data Collection

Instruments

- **Self-Structured Questionnaire:**
 - 21-item tool developed based on literature and research.
 - Evaluates physical and health impacts among university students.

Procedure

1. Questionnaire distributed electronically via Google Forms.
2. Prior consent obtained from participants.
3. Responses monitored by researchers.
4. Data analyzed using **IBM-SPSS**.



Impact of Climate Change on Health and Well-Being Among University Students: Investigating the Relationship Between Climate Change and Health Outcomes Among University Students

Questionnaire on Health Impacts of Climate Change on University Students

Section 1: General Information

1. **Age:**
 - ☐ 18-21
 - ☐ 22-25
 - ☐ 26-29
2. **Gender:**
 - ☐ Male
 - ☐ Female
 - ☐ Non-binary/Other _____
3. **Year of Study:**
 - ☐ 1st Year
 - ☐ 2nd Year
 - ☐ 3rd Year
 - ☐ 4th Year

Section 2: General Health Impacts

5. **How do you perceive the impact of climate change on your overall health and well-being?**
 - ☐ Very Negative
 - ☐ Negative
 - ☐ Neutral
 - ☐ Positive
 - ☐ Very Positive
6. **Have you experienced any health issues that you believe are related to climate change (e.g., respiratory problems, heat-related illnesses)?**
 - ☐ Yes
 - ☐ No
 - ☐ Others (please specify) _____
7. **Have you experienced any difficulties in communication (e.g., speaking, understanding) that you believe are related to climate change?**
 - ☐ Yes
 - ☐ No

If Yes, please specify:

- ☐ Difficulty finding words
- ☐ Problems with articulation (speaking)

- Issues with understanding spoken language
- Others: _____

8. Have you experienced swallowing difficulties that you believe may be connected to climate-related factors (e.g., air quality, stress)?

- Yes
- No

9. On a scale from 1 to 5, how much do you believe climate change has affected your physical activity levels? (1 = Not at all, 5 = Very significantly)

- 0
- 1
- 2
- 3
- 4
- 5

10. What types of rehabilitation services do you think would be most beneficial in the context of changing environmental conditions? (Select all that apply)

- Outdoor physical therapy
- Home-based exercises
- Education on managing climate-related health issues
- Support groups for those affected by climate change
- Other (please specify): _____

Section 3: Mental Health Impacts

11. Have you experienced any mental health issues that you attribute to climate change (e.g., anxiety, depression, stress)?

- Yes
- No

12. If yes, which of the following mental health issues have you experienced? (Select all that apply)

- Anxiety
- Depression
- Stress
- Other (please specify): _____

Section 4: Reproductive Health Impacts (For Female Students)

13. Have you experienced any reproductive health concerns that you believe are related to climate change (e.g., menstrual irregularities, fertility concerns)?

- Yes
- No

14. If yes, please specify the concerns: (open-ended)

15. Have you noticed any trends or patterns in how climate change affects your reproductive health?

- Yes
- No

16. If yes, please describe the trends or patterns: (open-ended)

Section 5: Policy and Intervention

17. Do you think universities should implement policies to mitigate the health impacts of climate change on students?

- Yes
- No

18. Which of the following interventions do you think would be effective in addressing the health impacts of climate change on students? (Select all that apply)

- Increased access to mental health services
- Health awareness campaigns
- Improved campus infrastructure to deal with extreme weather
- Workshops and seminars on climate change impacts
- Other (please specify): _____

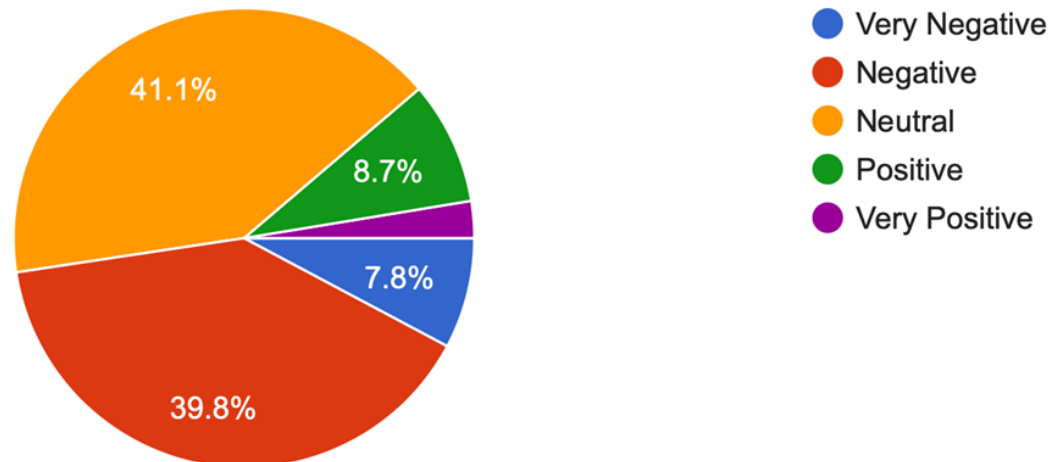
Section 6: Additional Comments

19. Do you have any additional comments or suggestions regarding the health impacts of climate change on university students? (open-ended)

RESULTS

The findings from this research showed that out of 232 participants, 66 (28.60%) were males and 163 (70.60%) were females who took part in the study and only 2 (0.9%) participants were non-binary. The mean age of the participants was between 18-21 years.

How do you perceive the impact of climate change on your overall health and well-being?



- **Responses for difficulties in communication due to climate change:**

The findings from the study showed that 27 (11.7%) participants had difficulty finding words which they believe was related to climate change. While 12 (5.2%) participants had problems with articulation.

- **Responses for swallowing difficulties among participants:**

The results showed that due to the poor Air Quality Index (AQI), swallowing difficulties were reported in 102 (44.2%) participants in our study which they believe was due to air quality and stress.



Responses for affected physical activity levels among participants:

The findings of our study showed that the physical activity levels of 28 (12.1%) of our participants were affected significantly while 22 (9.5%) participants were very significantly affected.

Responses for beneficial rehabilitation services among participants:

The results showed that 107 (46.3%) participants think that education and services for managing climate-related health issues should be integrated. 38 (16.5%) participants believed that home-based exercises would be most beneficial in the context of changing environmental conditions. While 29 (12.6%) participants thought that support groups should be organized for people affected by the climate change.

Responses for mental health impacts among participants:

The findings from our study showed that 113 (48.9%) participants experienced mental health issues that they attributed to the climate change, including anxiety, depression and stress. While 118 (51.1%) participants faced no mental health issues.



Responses for a gender-sensitive approach on mental health impacts among participants:

The findings of our study showed that 66 (29.7%) participants thought that the mental health impacts of climate change differ between male and female students, while 156 (70.3%) thought that it does not differ.

Responses for implementing policies and Intervention among participants:

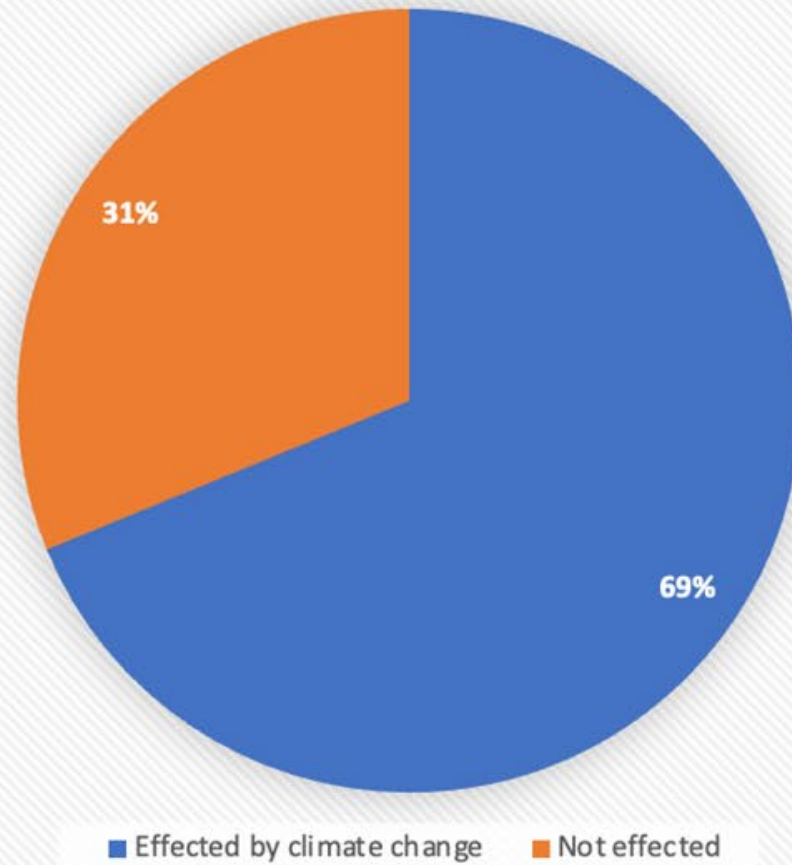
The results showed that 208 (90%) participants of our study thought that the universities should implement policies to mitigate the health impacts of climate change on students. They should come up with arranging health awareness campaigns 125 (54.1%) and 103 (44.6%) participants thought that there should be an improved campus infrastructure for dealing with extreme weather conditions, while 96 (41.6%) participants reported that there should be increased access to mental health services. 86 (36.4%) participants thought that workshops and seminars on climate change impacts should be organized at the university levels in Pakistan.

Response for implementing policies and intervention among participants:

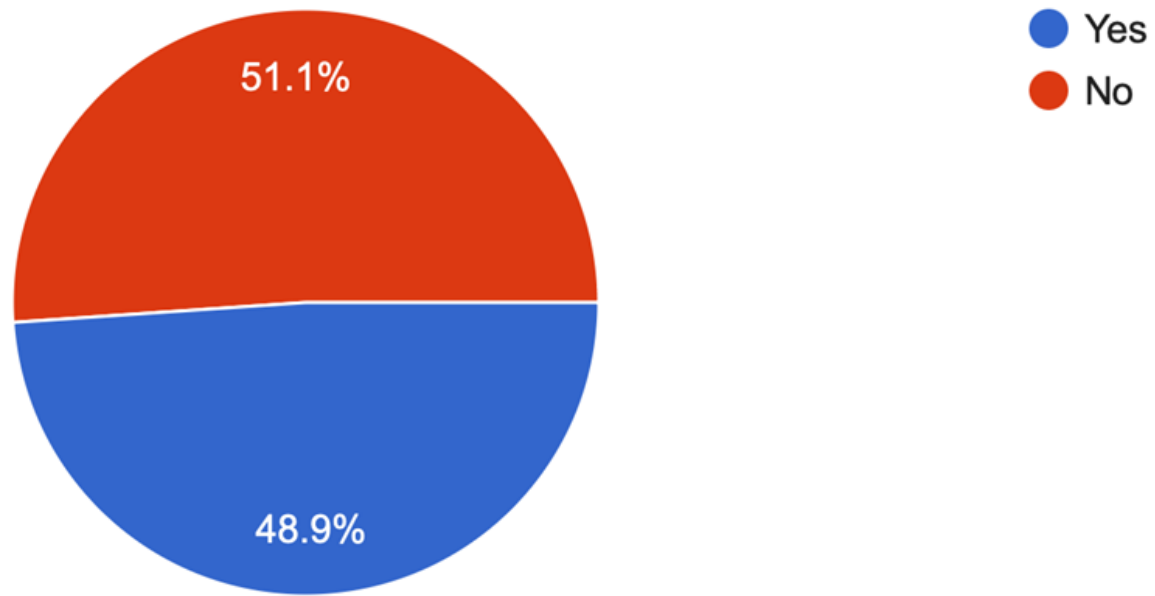
The results concluded that 58 (26.1%) participants in our study thought that the policies implemented by the universities should have a gender-sensitive approach, while 164 (73.9%) participants did not agree with the statement.



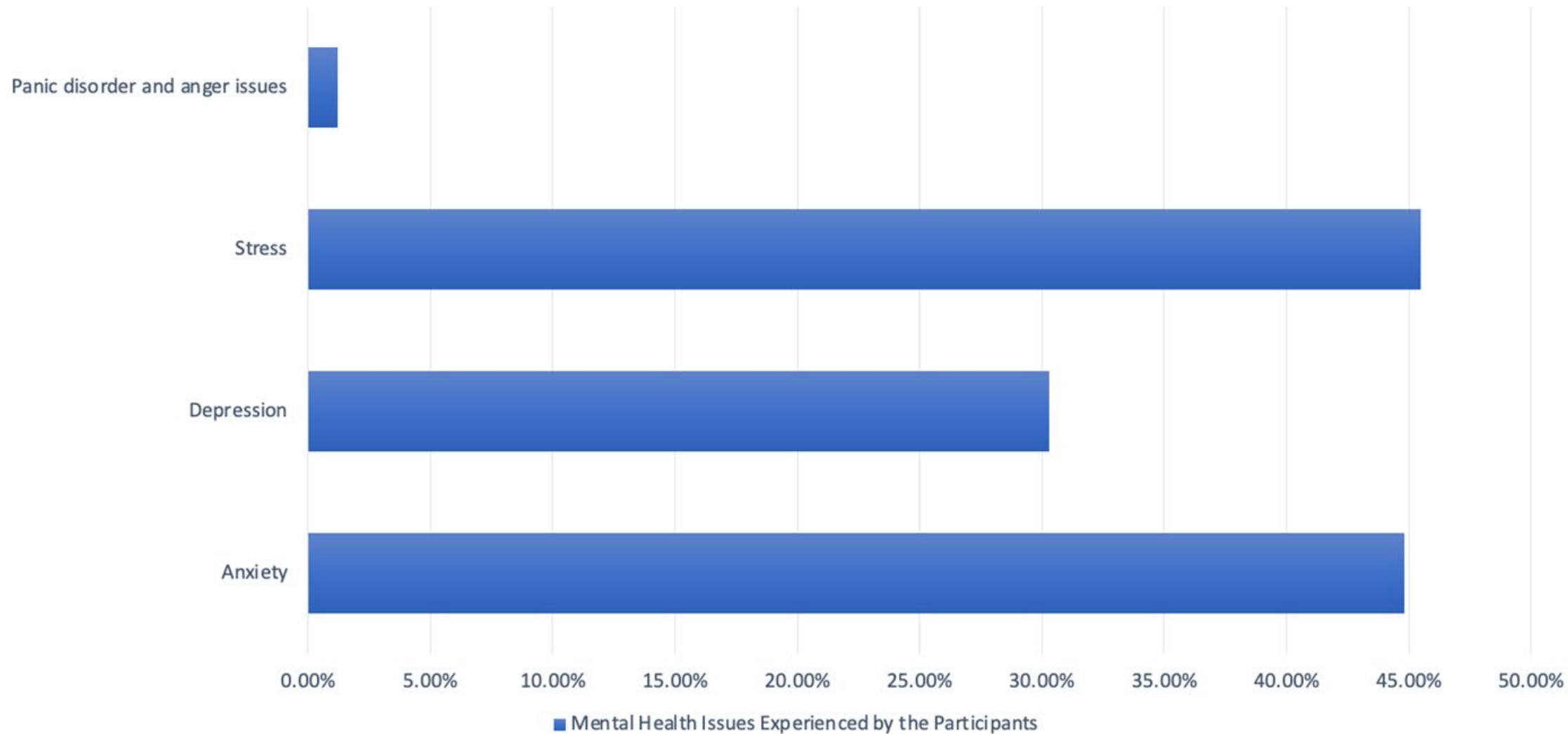
Did you experience health issue due to climate change?



Have you experienced any mental health issues that you attribute to climate change (e.g., anxiety, depression, stress)?



Mental Health Issues Experienced by the Participants



GENDER-SENSITIVE APPROACH

The study highlights the need for a gender-sensitive approach due to notable differences in how climate change impacts male, female, and non-binary university students. Despite only 26.1% of participants agreeing that university policies should incorporate gender sensitivity, several findings underscore its importance:

1. **Health Vulnerabilities:** Women are disproportionately affected due to socio-economic and cultural factors, making them more prone to health and psychological stress.
2. **Mental Health Impacts:** While 29.7% believed mental health impacts differ between genders, gender-specific needs such as anxiety and stress may require tailored interventions.
3. **Policy Interventions:** Integrating gender sensitivity into campus policies, such as improving access to mental health services and organizing support groups, could address the specific needs of women and other vulnerable groups.

By adopting a gender-sensitive lens, universities can create inclusive strategies that mitigate climate change's health impacts while addressing the unique vulnerabilities of diverse student groups.

In Pakistan, the women population is at high risk due to their denied or limited access to resources, cultural norms and accent vulnerability to health issues. this gender specific provocations make it crucial to understand how climate change impacts men and women differently.



DISCUSSION

Climate Change, Gender-sensitive, Health, Mental health, Well-being .

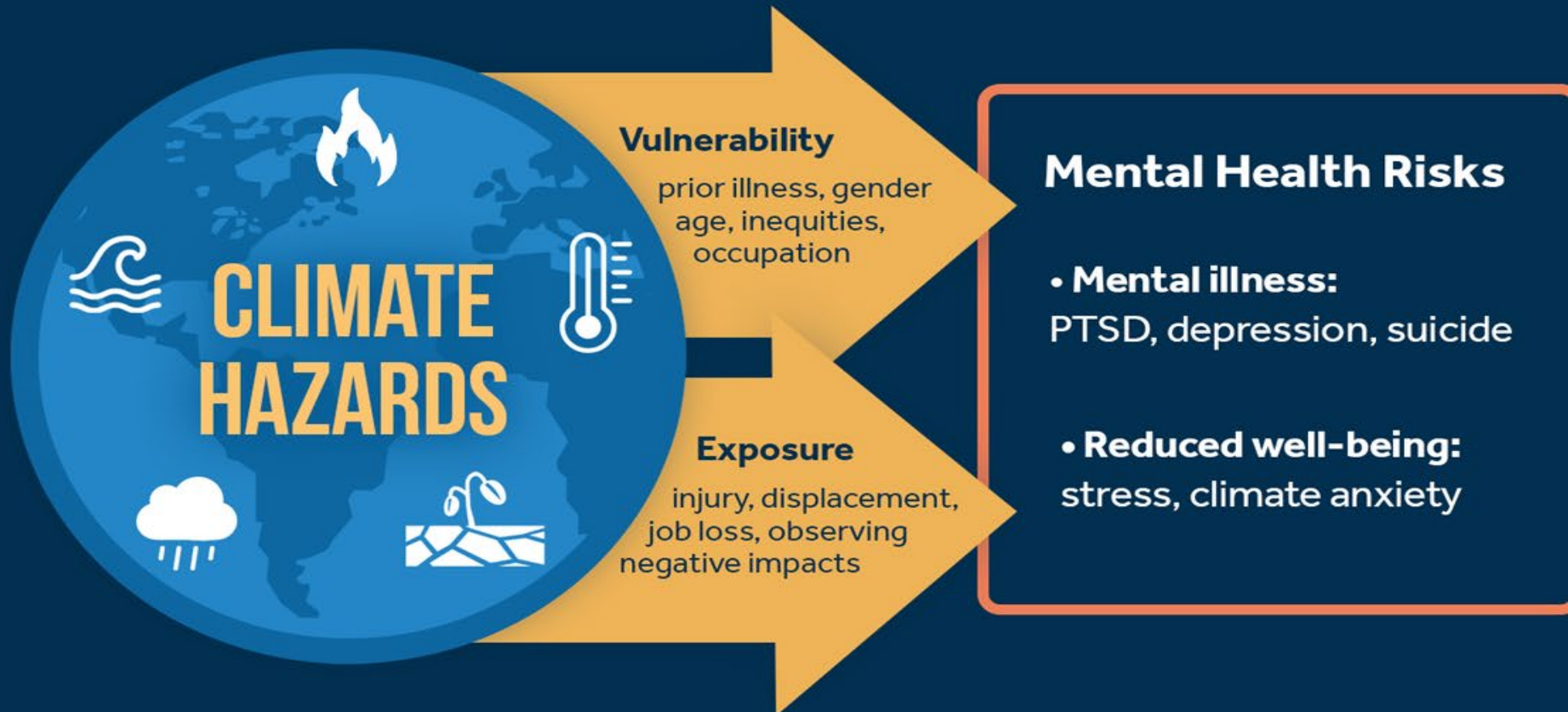
Climate change poses significant risks to human health, including increased morbidity and mortality due to extreme weather events, heat stress, and changes in air quality (IPCC, 2013). University students may be particularly susceptible to these health impacts due to their high levels of physical activity, social engagement, and academic stress.

Climate change disproportionately affects women and girls, particularly in developing countries (UNFCCC, 2017). Women are more likely to experience poverty, lack of education, and limited access to healthcare, making them more vulnerable to the impacts of climate change. In the context of university students, gender-sensitive approaches can help identify and address the unique challenges faced by female students in adapting to climate change.



DISCUSSION

Climate Change & Mental Health



POLICIES & INTERVENTIONS

Many policies and strategies that address the health impacts caused by the climate change can be implemented. Following are a few important measures for combating the consequences of climate change:

- **Enhanced infrastructure:**

Universities raise their surrounding environmental standards by providing high quality air and good ventilated environment.

- **Awareness campaigns:**

Academic programs introduce on ground strategies for adaptive climate change and aware students about its risks according to male and female requirements distinctively.

- **Preparatory plans:**

Students' health is prioritised during crisis by inculcating emergency systems. Psychological support is provided to reduce anxiety and tension caused by climate change.

- **Assistance for marginalized population:**

Females and those from economically underprivileged backgrounds require support to overcome economic obstacles.



CONCLUSION

1. This study underscores the profound and multifaceted impact of climate change on the health and well-being of university students in Pakistan, with significant gender-specific implications.
2. The findings reveal that climate change-related factors such as rising temperatures, poor air quality, and extreme weather events adversely affect both physical and mental health, contributing to stress, anxiety, and reduced academic performance.
3. The results emphasize the urgency of implementing targeted interventions to mitigate these effects.



Key Takeaways:

1. **Gender-Sensitive Challenges:** Female students face unique vulnerabilities due to cultural, socio-economic, and systemic barriers, requiring tailored support strategies.
2. **Health and Academic Outcomes:** Poor air quality and climate-induced stress negatively influence students' physical activity, communication abilities, and overall health, highlighting the need for robust environmental policies.
3. **Mental Health Support:** A significant proportion of students report mental health challenges linked to climate change, underscoring the need for increased access to mental health services.
4. **Policy and Infrastructure:** The majority of participants advocate for university-level interventions, including awareness campaigns, improved campus infrastructure, and workshops on climate resilience.



IF EVERYTHING AROUND YOU SEEMS DARK,
LOOK AGAIN, YOU MAY BE THE LIGHT.

- RUMI

