1. **Background:**

Climate change is the defining public health issue of the 21st century (Patrick et al., 2023), and impacting health in a myriad of ways, including by leading to death and illness from increasingly frequent extreme weather events, such as heatwaves, storms and floods, the, increases in zoonoses and food-, water- and vector- borne diseases, and mental health issues (Hayes et al., 2018). Recent studies have highlighted the worldwide incidence of climate anxiety among young people, with a clear association between perceived government inactivity and increased anxiety levels (Clayton et al., 2023). Pakistan, a country extremely vulnerable to impacts of climate change offers a critical setting for addressing the concerns. Pakistan is ranked as the 5th most vulnerable country to climate change according to the Global Climate Risk Index. (*Global Climate Risk Index, 2021*, 2023).

# Problem Statement and significance of the research study:

Pakistan faces severe climate change challenges, including frequent floods, droughts, rising temperatures, reduced agricultural productivity, and significant risks to public health, notably impacting students mental health. The survey addresses a critical gap by studying climate change anxiety and student perceptions of government responses in Pakistan. Across all regions, it aims to provide insights for targeted interventions and policies to enhance mental health resilience amid environmental challenges.

1. **Objectives:**
   1. To determine the prevalence of anxiety associated with climate change among undergraduate university students in Pakistan.
   2. To investigate the perceptions of undergraduate university students in Pakistan regarding government responses to climate change.

# Possible outcomes of the research:

The survey could reveal the extent to which climate change is affecting the mental health of students in Pakistan, providing valuable insights for mental health interventions and support services. Additionally, the investigation into students' perceptions of government responses may offer valuable feedback for policymakers, highlighting areas where improvements or increased action are needed to address the climate crisis effectively.

# Novelty:

The study offers a first-mover advantage, being the first nationwide survey in Pakistan to address climate anxiety among university students. This groundbreaking approach fills a critical gap in climate change research within the country, where the mental health impacts on young people remain largely unexplored in Pakistan. The dual focus on climate anxiety and government response perceptions provides a comprehensive understanding, linking mental health outcomes to governmental actions.

# Contribution of the Research Work:

This research aims to inform policymaker, enhance support systems, and guide climate action strategies by highlighting the mental health impacts of climate change on students in Pakistan. Implementing these strategies will provide students with improved mental health support, increased resilience to climate anxiety, and a stronger sense of empowerment to engage in climate action.

# MATERIALS AND METHODS:

1. **Tools**
   * Demographic and Socioeconomic Status
   * Poll Questions Lancet PH (Hickman et al., 2021)

# Experimental set-up

**Study design and participants:** A national cross-sectional quantitative Survey will be conducted among university students of all the provinces and territories of Pakistan including (Punjab, Sindh, Khyber Pakhtunkhwa, Federal, Baluchistan, Azad Jammu Kashmir and Gilgit Baltistan).

**Inclusion and Exclusion Criteria:** The survey include undergraduate students currently enrolled in Higher Education Commission (HEC) recognized universities in Pakistan, encompassing both public and private institutions, Students who are not residing in Pakistan during the survey period, and those who are currently undergoing treatment for severe mental health conditions or with comorbities will be excluded in this survey.

**Stratified Cluster sampling:** Data collection for this nationwide survey in Pakistan will use stratified cluster sampling. Data will be collected through hybrid data collection.

# Statistical analysis:

Descriptive statistics, including mean, standard deviation frequency, and percentage, will be apply to describe the characteristics of the study population. Bivariate and multivariate regression will be applied to examine relationships between dependent (climate anxiety and government responses) and independent variables (demographics such as age, gender, socioeconomic status, place of residence etc.).

# Population:

The population of this survey will be including university students both male and female.

# Questionnaire:

The quantitative method will be used to analyze the data collected from students in terms of an authentic questionnaire between August and October.

# Ethical Consideration:

Ethical approval will be obtained from Ethical Review Committee, The University of Haripur, Khyber Pakhtunkhwa.

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