Adolescent wellbeing and climate crisis: adolescents are responding, what about health professionals?

Alice McGushin and colleagues argue for recognition of the diverse ways in which climate change affects adolescent wellbeing and call for health professionals to work with them to respond to the crisis.

The world is already 1.1°C warmer than during pre-industrial levels, and we can expect further rises of between 1.5°C and 3.5°C by the end of this century, depending on the scale and speed of climate change mitigation.1 The impact of global warming is far greater for a child born today than for older generations: in comparison with someone born in 1960, a person born in 2020 will experience considerably more exposure to drought, crop failures, river floods, and four times as many heat waves throughout their lifetime.2 Adding to this, it is projected that low income countries will have the greatest increase in the number of young people aged 10-24 in the coming decades. The younger generations in these countries will experience the greatest rise in climate related exposures, with vulnerabilities compounded by continuing protracted inequity driven by colonialism, poverty, challenges of governance and conflict, and marginalisation due to gender, ethnicity, and low income.1

The climate crisis is the biggest global health threat of our century,3 destablising social, environmental, and economic determinants of health and wellbeing. Despite compelling evidence that climate change will affect the life of every child born today, an understanding of the effects on adolescents is limited. We argue that it is time for more explicit recognition by health professionals of these impacts on adolescents’ physical and mental health, and also the broader effects on their wellbeing. It is important that health professionals recognise their responsibility to support adolescents and protect their wellbeing from the climate crisis.

To analyse the effects of climate change on adolescents, we use an existing definition and conceptual framework of adolescent wellbeing.4 Adolescent wellbeing is a state in which adolescents have the support, confidence, and resources to thrive, realising their full potential and rights.4 Good health and optimum nutrition are recognised as essential for adolescent wellbeing, acting as both determinants and outcomes of four other domains: connectedness, positive values, and contributions to society; safety and supportive environments; learning, education, and employability; and agency and resilience.

Climate crisis affects all domains of adolescent wellbeing

To understand the effects of the climate crisis on adolescents’ health and nutrition, we examine the evidence of its risks to leading health concerns for adolescents. Climate change exacerbates the risk of injury, the leading cause of death and disability in this age group, by exposure to extreme weather events, with adolescents with disabilities and chronic diseases at greatest risk in disasters.5 Considering asthma, the most common chronic disease among adolescents, higher pollen levels, longer pollen seasons, worsening air quality, and increasing thunderstorms all increase the risk of acute asthma attacks.7 8

The psychological distress caused by extreme weather, climate induced forced migration, and expectation of future hazards might have lifelong consequences for the mental wellbeing of adolescents—with the effects more likely to be experienced by those in low and middle income countries.9 10 11 The climate crisis also affects adolescents’ nutrition, with downstream effects on physical and cognitive development; adolescent girls in low and middle income countries are more likely than boys, or adolescents in high income countries, to go hungry after climate related disasters.12

The climate crisis affects adolescents’ relationship with families and communities causing temporary and permanent migration and displacement, within countries and across borders. Although age disaggregated data are scarce, a high proportion of those displaced owing to climate related disasters is under 18.13 Before recent conflict, adolescents in the drought affected Tigray region of Ethiopia were forced to separate from their families because of food insecurity, loss of livelihoods, and the need to earn an income.14

A disrupted and unsafe living environment is another effect of the
climate crisis. Climate related economic shocks and low rainfall have increased the risk of armed conflict in some settings.\textsuperscript{15} The resulting effects of such conflict on adolescents can last a lifetime and be passed down generations.\textsuperscript{16} Drought and heat waves have also been found to increase the risk of intimate partner violence.\textsuperscript{17 18} Furthermore, extreme events such as the 2010–11 Horn of Africa drought increase the likelihood of child marriage, with young girls sold in exchange for livestock and other necessities, as their families struggled with scarce resources.\textsuperscript{19} Attainment of quality education, the fourth Sustainable Development Goal, is threatened by the climate crisis. In 2017, 18 000 schools in South Asia were closed owing to river flooding.\textsuperscript{20} Schools in Bangladesh remained closed a year after the destruction of the Cyclone Aila, and extreme weather events are the commonest cause of unplanned school closures in the US.\textsuperscript{21 22} Moreover, when communities face water scarcity and drought, adolescents, particularly girls, might be removed from school to support their families. Higher
temperatures are also known to affect the academic performance of both students and teachers.\textsuperscript{23, 24}

Finally, agency and resilience are threatened both by the climate crisis and the gap between actions needed and those that adolescents see being taken by global leaders. The dissonance between government responses and the prospect for the world to leave many adolescents feeling a loss of agency, apathy, and disillusionment.\textsuperscript{25} Psychological distress caused by climate change is becoming particularly prevalent among adolescents. In a recent survey of over 10,000 young people aged 16-25 in 10 countries, over 50% of respondents reported feeling anxious, afraid, and powerless in the face of climate crisis.\textsuperscript{26}

With these overwhelming threats to wellbeing, one would not blame adolescents for feeling hopeless and helpless. Nevertheless, there are many and varied examples of adolescents responding to the climate crisis with agency and resilience. We argue that many are exhibiting leadership beyond their years, sometimes beyond that which is displayed by those in positions of power.

**Adolescents showing agency and resilience**

It has often been suggested that action is an antidote to climate related anxiety and poor wellbeing.\textsuperscript{27} Young people who take part in climate action have fostered individual and interpersonal skills that contribute to youth development, such as the capacity to self-regulate emotions and behaviour, take part in teamwork, act on values such as social and environmental justice, and reduce the feeling of being alone and powerless.\textsuperscript{25, 27}

Adolescents on every continent are taking part in climate action. To combat malnutrition in their communities, adolescents in the Philippines are being trained in nutrition and environmental justice, and reduce the feeling of being alone and powerless.\textsuperscript{25, 27}

Adolescents have used the UN Conventions on the Rights of the Child, including the right to life and health, in lawsuits against governments. In a legal petition filed by 16 adolescents against five G20 members (Argentina, Brazil, France, Germany, and Turkey), claiming violation of their rights, Deborah Adegbile of Nigeria asserted that she had been repeatedly admitted to hospital for asthma attacks, triggered by rising temperatures and smog.\textsuperscript{28} Upholding their right to education, students at Santa Paz National High School in the Philippines won a campaign to have their school relocated because of the risk of a landslide.\textsuperscript{29} Adolescents are also taking what they have learnt about climate change to educate their families and communities, driving broader societal action.\textsuperscript{30}

The “Fridays for Future” movement has resulted in the largest climate protests in history, with actions in over 7500 cities around the world. As the “new ambassadors for scientific consensus and climate mitigation,” adolescents are at the forefront of the movement to hold governments and industries accountable for their emissions.\textsuperscript{31} Many young people, however, assert that their inclusion in global platforms, such as the UN Framework Convention on Climate Change conferences, has been tokenistic rather than a serious attempt to respond to their views.\textsuperscript{32}

Adolescents rarely hold the power to implement the change and transformation necessary to protect all people from the negative effects of the climate crisis. As illustrated by the Intergovernmental Panel on Climate Change Sixth Assessment Report, there is a need for “equitable sharing of benefits and burdens of mitigation” and an enhancement of the resilience of those who are most vulnerable, through a climate justice lens.\textsuperscript{3} While it is adolescents’ right to have their views taken seriously in all matters that affect them, the responsibility falls squarely on those who hold power—governments, policy makers, and the health community—to lead in responding to the climate crisis.

**How health professionals can unite with young people**

Many adults are failing young people, but we argue that health professionals have a social responsibility to join with adolescents in responding to the climate crisis. Other health leaders have argued that because of their many professional and societal roles, health professionals are in a unique and privileged position to influence change.\textsuperscript{37} Such change has been seen for other health concerns, including sanitation and hygiene, tobacco control legislation, denuclearisation, and the prevention of war. Health professionals must do the same for the climate crisis, to support the wellbeing of adolescents and their communities.

Health professionals will be on the frontline of providing climate and age sensitive health services to adolescents. Evidence is scarce, however, on both the effects of climate change on adolescents and effective interventions to be taken by health professionals to protect any age group.\textsuperscript{38, 39} To implement the most appropriate climate interventions, it is crucial that health professionals support the surveillance, analysis, and reporting of the climate sensitive burden of disease on adolescents, while being aware of other factors, such as socioeconomic disadvantage, history of exploitation, and geographical location. Furthermore, more evidence is needed for those interventions which might protect adolescent wellbeing in climate related conflict and disaster settings, and for adolescents experiencing climate related migration.

The experience and competence of health professionals at every level is essential to protecting the wellbeing of all people from the effects of climate change. The younger generation of health professionals is providing leadership, with medical students acting globally to include climate change within curriculums.\textsuperscript{40} Like adolescents, health professionals can spread awareness of the scale and effect of climate change, and its links to adolescent wellbeing, involving educators, parents, peers, and elected officials, so that they can make informed decisions about individual and collective responses to the climate crisis.

The health community can also work to decarbonise its own practice. Now almost 60 countries have committed to having low carbon resilient healthcare systems, and there will be global cooperation to support net zero healthcare efforts.\textsuperscript{41} The evidence and the action in this area are expanding rapidly, with opportunities to decarbonise also at the individual practice, health facility, and specialty level.

Health professionals should collaborate with adolescents in their advocacy efforts. Using their skills developed in training and practice and their societal influence, health professionals can take part in intergenerational dialogue and involve adolescents in climate and health related policy making processes.
Conclusions and recommendations

The Lancet Commission on Adolescent Wellbeing calls for a holistic approach to adolescent wellbeing, emphasizing the need for integrated and coordinated actions. They recommend prioritizing efforts to address the climate crisis, mental health, and non-communicable diseases. The commission highlights the importance of addressing gender inequities, improving access to education, and strengthening systems for mental health and psychosocial wellbeing. They also stress the need for policy and action to ensure that adolescents can thrive in the 21st century.
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