Adolescent well-being and climate crisis: adolescents are responding, what about health professionals?

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Word count: 2,053

References: 41

KEY MESSAGES

- Adolescents are at a unique stage of transition in their biological, emotional, and social development, but the worsening threat of climate change impacts adolescents' well-being across domains.
- The climate crisis is having clear impact on adolescents' agency and resilience, as many feel the threat to their future, are overwhelmed by the scale of the problem, and are disillusioned by inadequate action by those in power.
- Adolescents are taking matters into their own hands by acting individually, and also collectively, at different scales in both low- and high-income contexts, to reduce the negative impacts of the climate crisis.
- Health professionals and the health community are beginning to respond to the climate crisis; it is imperative that health professionals work collectively with adolescents to mitigate the impacts of climate change on adolescent well-being.

Alice McGushin *and colleagues argue for recognition of the diverse ways in which climate change impacts adolescent well-being and for how adolescents and health professionals can collectively unite to respond to the crisis.*

The world is already 1.1°C warmer than 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 someone born today than for older generations: compared with someone born in 1960, an individual born in 2020 will experience significantly more exposure to drought, crop failures, river floods, and four times as many heatwave exposures throughout their lifetime.[2] Meanwhile, in the coming decades low-income countries are projected to have the greatest increase in the number of young people aged 10-24 years. It will be the younger generations in these countries that will experience the greatest rise in climate-related exposures, with vulnerabilities compounded by ongoing intersecting factors of protracted inequity driven by colonialism, poverty, governance challenges 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] destabilizing social, environmental, and economic determinants of health and well-being. Despite strong evidence that climate change will affect the life of every child born today, there is limited understanding of the particular impacts on adolescents. We argue that it is time for more explicit recognition by health professionals of these impacts, both on adolescents' physical and mental health, but also the broader impacts on their well-being. It is also important that health professionals recognise their responsibilities in supporting adolescents and protecting their well-being in the face of the climate crisis.

To analyse the effects of climate change on adolescents, we draw on an existing definition and conceptual framework for adolescent well-being.[4] Adolescent well-being is a state in which adolescents have the support, confidence, and resources to thrive, realising their full potential and rights. Within this framework, good health and optimum nutrition are recognised as underpinning adolescent well-being, 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.

We explore how climate change threatens all aspects of adolescent well-being (Figure 1). But not all adolescents are passive victims of this crisis: we highlight examples of how adolescents around the world have taken leadership, demonstrating agency and resilience both individually and collectively. However, adolescents are a heterogenous group and their capacity to cope in a changing climate can be fostered by an enabling environment, strengthened by the presence of functioning support systems at individual, community, country, and global levels.[5] Here, we argue that there is a clear role

for health professionals and present some of the ways in which health professionals can act to support adolescents to thrive in a changing climate.

The climate crisis cuts into all domains of adolescent well-being

To understand the effects of the climate crisis on adolescents' health and nutrition, we draw on 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, through exposure to extreme weather events. With their specific needs often overlooked in disaster responses, adolescents with disabilities and chronic diseases are at greatest risk.[6] 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 events, climate-induced forced migration, and anticipation of future hazards could have lifelong consequences to adolescents' mental well-being – with the impacts more likely to be experienced by adolescents in low- and middle-income countries (LMIC's).[9–11] The climate crisis also affects adolescents' nutrition, with downstream effects on physical and cognitive development; adolescent girls in LMIC's are more likely than boys, or adolescents in high-income countries, to go hungry following climate-related disasters.[12]

The climate crisis impacts adolescents' connectedness, to families and to communities, as a result of temporary and permanent migration and displacement, within countries and across borders. While age-disaggregated data is scarce, a high proportion of those displaced in the context of climate-related disasters are under 18 years old.[13] Prior to recent conflict, adolescents in the drought-affected Tigray region of Ethiopia were forced to separate from their families due to 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.[15] The resulting impacts of armed conflict on adolescents can last a lifetime and be passed down generations.[16] Drought and heatwaves have also been found to increase the risk of intimate partner violence.[17,18] Furthermore, extreme events such as the 2010–2011 Horn of Africa drought increase the likelihood of child marriage, as young girls are sold in exchange for livestock and other primary necessities, as their families struggle over scarce resources.[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 due to river flooding.[20] Schools in

Bangladesh remained closed a year after the destruction of Cyclone Aila and extreme weather events are the commonest cause of unplanned school closures in the USA.[21,22] Moreover, when communities face water scarcity and drought, adolescents, particularly girls, may be removed from school to support their families. Higher temperatures are also known to affect the academic performance of both students and teachers.[23,24]

Finally, agency and resilience are threatened both by the climate crisis and the gap between needed actions and what adolescents see being taken forward by global leaders. The dissonance between government responses and the prospective future for the world has left many adolescents feeling a loss of agency, apathy and disillusionment.[25] Eco-anxiety and climate change anxiety are emerging phenomena that are particularly prevalent among the adolescent population. In a recent survey of over 10,000 young people aged 16-25 years in ten countries, over 50% of respondents reported feeling anxious, afraid, and powerless in the face of climate crisis.[26]

With these overwhelming threats to well-being, 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 adolescents are exhibiting leadership beyond their years, sometimes beyond that which is displayed by those in positions of power.

Adolescents demonstrating agency and resilience in the face of the climate crisis

It has often been recommended that action is an antidote to climate-related anxiety and poor well-being.[27] Young people involved in climate action have fostered individual and interpersonal skills that contribute to positive youth development, such as the capacity to self-regulate emotions and behaviours, engage in teamwork, act on values such as social and environmental justice, and reduce the feeling of being alone and powerless.[5,25,27]

Adolescents on every continent are taking part in climate action. To combat malnutrition in their communities, adolescents from youth-led organisations in Rwanda are being trained in nutrition advocacy and associated cross-cutting issues, such as environmental protection, gender, education, and the economy.[28] Adolescents surveyed in flood prone areas in Indonesia, Burkina Faso and Bolivia and in areas of drought in South Africa expressed a strong sense of duty and empathy, which they used to support their communities, for example by sharing information on ways to conserve water.[29,30] Building personal resilience to climate-related threats, Inuit youth in Canada described factors such as being on the land and connecting with Inuit culture as protective for their mental health and well-being.[31]

Adolescents have used the United Nations (UN) Conventions 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 hospitalised for asthma attacks, triggered by rising temperatures and smog.[32] Upholding their right to education, students at Santa Paz National High School in the Philippines won a campaign to have their school relocated from risk of landslide.[33] Adolescents are also taking what they have learnt about climate change to educate their families and communities, driving broader societal action.[34]

The "Fridays for Future" movement has resulted in the largest climate protests in history, with actions in over 7,500 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.[35] However, many young people 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.[36]

Very rarely (and not at all at scale) do adolescents hold the power to implement the change and transformation necessary to protect all people from the negative impacts of the climate crisis. As illustrated by the Intergovernmental Panel on Climate Change Sixth Assessment Report, there is a need for an "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.[1] Whilst it is adolescents' right to be meaningfully engaged in issues that affect them, the responsibility falls squarely on those who hold power – governments, policymakers, and the health community – to lead in responding to the climate crisis.

How health professionals can unite with young people to face the climate crisis

Whilst many adults are failing young people, we argue that health professionals have the social responsibility to join with adolescents in responding to the climate crisis. Other health leaders have argued that, as a result of their many professional and societal roles, health professionals are in a unique and privileged position to influence change,[37] and such change has been seen relating to other health issues, 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 well-being of adolescents and that of their communities.

Health professionals will be on the frontline of providing climate- and age-sensitive health services to adolescents. However, there is a paucity of evidence on both the impacts of climate change on adolescents and effective interventions to be taken by health professionals to protect any age group.[38,39] In order to implement the most effective and appropriate climate interventions, it is crucial that health professionals support the surveillance, analysis, and reporting of the climate-sensitive burden of disease among adolescents, while being sensitive to other factors, such as socio-economic disadvantage, history of exploitation, and geographical location. Furthermore, a greater evidence base is needed for those interventions which may be protective of adolescent well-being in climate-related conflict and disaster settings, and for adolescents undergoing climate-related migration.

The learning and competence of health professionals at all levels is essential to protecting the well-being of adolescents and all people from the effects of climate change. The younger generation of health professionals are providing leadership, with medical students acting globally to include climate change within curricula.[40] Like adolescents, health professionals can spread awareness of the scale and impact of climate change, and its links to adolescent well-being, involving educators, parents, peers and elected officials, so that they can make informed decisions regarding the 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.[41] The evidence and the action in this area is expanding at pace, with opportunities to decarbonise also at the individual practice, 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 supportive and solution-oriented intergenerational dialogue and promote meaningful engagement with adolescents in climate- and health-related policymaking processes.

Conclusion

As part of a holistic approach to adolescent well-being, it is clear that the climate crisis has far-reaching effects on adolescents. Despite – or because of – this overwhelming threat to their current and future well-being, many adolescents demonstrate the ability and capacity to respond; we are encouraged that the health community has recently stepped up to this challenge, although further work is necessary, across all areas we have described above. It is imperative that health professionals work hand in hand with adolescents to enable them to thrive in the 21st century.

Footnotes

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Contributors and sources

This article is part of a series of BMJ Analysis articles on the theme of adolescent well-being. Its content draws from the work of the background paper, “Adolescent well-being and the climate crisis”, which was one of a series of background papers on adolescent well-being, commissioned by the Partnership for Maternal, Newborn & Child Health (PMNCH). Alice McGushin is a public health registrar and health and climate change expert. She was Programme Manager of the Lancet Countdown: Tracking Progress on Health and Climate Change and is co-author of its reports and other research articles. Giulia Gasparri is a young climate change professional working on the intersection between climate change and women’s, children’s and adolescents’ well-being and rights. She is an advocate and researcher within climate youth networks including YOUNGO, the UNFCCC youth constituency and works as a project officer at PMNCH. Viola Graef is a young public health professional working at the interface of mental health, psychosocial well-being, and climate change. She supports research activities at the MHPSS Collaborative (hosted by Save the Children Denmark). Christophe Ngendahayo is a young Rwandan medical doctor and global health expert focusing on climate health advocacy, particularly to do with air pollution and non-communicable diseases. Shashank Timilsina is an intern doctor at Tribhuvan University Teaching Hospital, Kathmandu, with a keen interest in climate health. Flavia Bustreo is a leading physician, public health professional and advocate for the health and human rights of women, children, adolescents and the elderly, and is known for taking action on the social and environmental determinants of health. She is Vice President of Fondation Botnar and is the former Assistant Director-General for Family, Women's and Children's Health for the World Health Organization. Anthony Costello is a paediatrician and Professor of Global Health and Sustainable Development at the University College London. He is Co-Chair of the Lancet Countdown on Health and Climate Change and led the development of Children in All Policies 2030.

Competing interests

We have read and understood the BMJ policy on declaration of interests and have no interests to declare.

Provenance and peer review

Funding for this collection, including open access fees, was provided by PMNCH. The BMJ commissioned, peer reviewed, edited, and made the decision to publish these articles. Emma Veitch was the lead editor for The BMJ.

Acknowledgements

We would like to thank the following people for their expert input into this article: Shanthi Ameratunga (University of Auckland), Valentina Baltag (World Health Organization), Michelle Heys (University College London), Raúl Mercer (Program of Social Sciences and Health, Facultad Latinoamericana de Ciencias Sociales), Adesola O. Olumide (University of Ibadan), Mark Tomlinson (Stellenbosch University), David Ross (FIA Foundation), Rachael Hinton (Independent Expert), and Sophie Kostelecky, and Anshu Mohan (Partnership for Maternal, Newborn & Child Health).

Figure Legends

Figure 1. Diagram of the adolescent well-being framework, described by the H6+ Technical Working Group on Adolescent Health and Well-Being (which includes PMNCH, UNAIDS, UNESCO, UNFPA, UNICEF, UN Major Group for Children and Youth, UN Women, World Bank, World Food Programme and WHO) and adapted to include with related climate change impacts and interventions at the level of health professionals and the broader community.

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