

Recommendations on Arresting Global Health Challenges Facing Adolescents and Young Adults



Zohra S. Lassi, PhD, Rehana A. Salam, MSc, Zulfiqar A. Bhutta, PhD
Australia; Karachi, Pakistan; Toronto, Canada

Abstract

BACKGROUND The health challenges faced by young people are more complex than adults and can compromise their full growth and development. Attention must be paid to the health of this age group, yet adolescents and youth remain largely invisible and often disappear from the major global datasets.

OBJECTIVE The aim of this paper is to discuss the global health challenges faced by adolescents and youth, global legislations and guidelines pertaining to this particular age group, recommendations to arrest these challenges, and research priorities.

RESULTS Major direct and indirect global health risks faced by adolescents include early pregnancy and childbirth, femicide, honor killing, female genital mutilation, nutritional habits and choices, social media, and peer pressure. There are no standard legal age cut-offs for adulthood; rather, the age varies for different activities, such as age of consent or the minimum age that young people can legally work, leave school, drive, buy alcohol, marry, be held accountable for criminal action, and make medical decisions. This reflects the fact that the existing systems and structures are focused on either children or adults, with very few investments and interventions directed specifically to young people. Existing legislation and guidelines need transformation to bring about a specific focus on adolescents in the domains of substance use and sexual behaviors, and the capacity for adolescent learning should be exploited through graduated legal and policy frameworks.

CONCLUSION Sustainable development goals provide an opportunity to target this neglected and vulnerable age group. A multisectoral approach is needed to bring about healthy change and address the challenges faced by adolescents and youth, from modifications at a broader legislative and policy level to ground-level (community-level) implementations.

KEY WORDS adolescent, challenges, global health, young adults, youth.

BACKGROUND

The term adolescence, as literature suggests, is an indelible part of culture and it varies across settings and regions. However, it is important to recognize that adolescence (10–19 years of age) is a “gateway,” and period of youth (15–24 years of age) is a “pathway” to adult life.¹ The health challenges faced by young people are more complex than adults and can com-

promise their full growth and development. Health care behaviors such as alcohol or tobacco use, lack of physical activity, unprotected sex, or exposure to violence can endanger not only the adolescents' health but their offspring's health, as well. Attention must be paid to the health of adolescents and youth, yet this age group remains largely invisible and often disappears from major global data sets as a result of inappropriate or convenience clustering, and their data

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From the Robinson Research Institute, University of Adelaide, Australia (ZSL); Division of Women and Child Health, Aga Khan University Hospital, Karachi, Pakistan (RAS); South Australian Health and Medical Research Institute and University of Adelaide, Australia (RAS); Centre of Excellence in Women and Child Health, Aga Khan University, Karachi, Pakistan (ZAB); and Centre for Global Child Health, The Hospital for Sick Children, Toronto, Canada (ZAB). Address correspondence to Z.A.B. (zulfiqar.bhutta@sickkids.ca).

Table 1. Interventions to overcome health risks to adolescents

Health Risks	Interventions	Settings
Early Pregnancy and Childbirth	<ul style="list-style-type: none"> • School attendance improvement • Sexual and reproductive health education • Sexual health counseling • Contraceptive provision 	<ul style="list-style-type: none"> • School level • Community level
Female Genital Mutilation	<ul style="list-style-type: none"> • Community mobilization and awareness • Female empowerment strategies 	<ul style="list-style-type: none"> • School level • Community level
Food Insecurity (Micronutrient Deficiency and Malnutrition)	<ul style="list-style-type: none"> • Nutrition education and counseling • Provision of healthy and nutritious food 	<ul style="list-style-type: none"> • School level • Community level
Femicide	<ul style="list-style-type: none"> • Interventions to prevent intimate partner violence • Improving literacy and awareness 	<ul style="list-style-type: none"> • School level • Community level • National level
Peer Pressure	<ul style="list-style-type: none"> • Targeted group-based interventions and cognitive behavioral therapy 	<ul style="list-style-type: none"> • School level
Social Marketing and Media	<ul style="list-style-type: none"> • Community-based creative activities for behavioral changes, self-confidence, self-esteem, levels of knowledge, and physical activity • Legislative changes 	<ul style="list-style-type: none"> • Community level • Country level • International level
Urbanization	<ul style="list-style-type: none"> • Improve awareness to differentiate healthy and unhealthy food 	<ul style="list-style-type: none"> • School level • Community level • Country level • International level

are often merged with that of younger children or with adults.

The leading cause of death in 2013 for males aged 10-24 years was road injuries, and the leading cause of death for females aged 10-24 years was HIV/AIDS; for both these groups self-harm was the second leading cause. The leading causes of death among males aged 10-14 was road injuries, HIV/AIDS, and drowning; 15-19 years of age and 20-24 years of age was transport injuries in 2013. These are the top causes of deaths among female 10-14 years of age, self-harm, road injuries, and HIV/AIDS were the leading causes of death for females aged 15-19 years, and self-harm, road injuries, and tuberculosis were the leading causes for ages 20-24 years in 2013 (Table 1).²

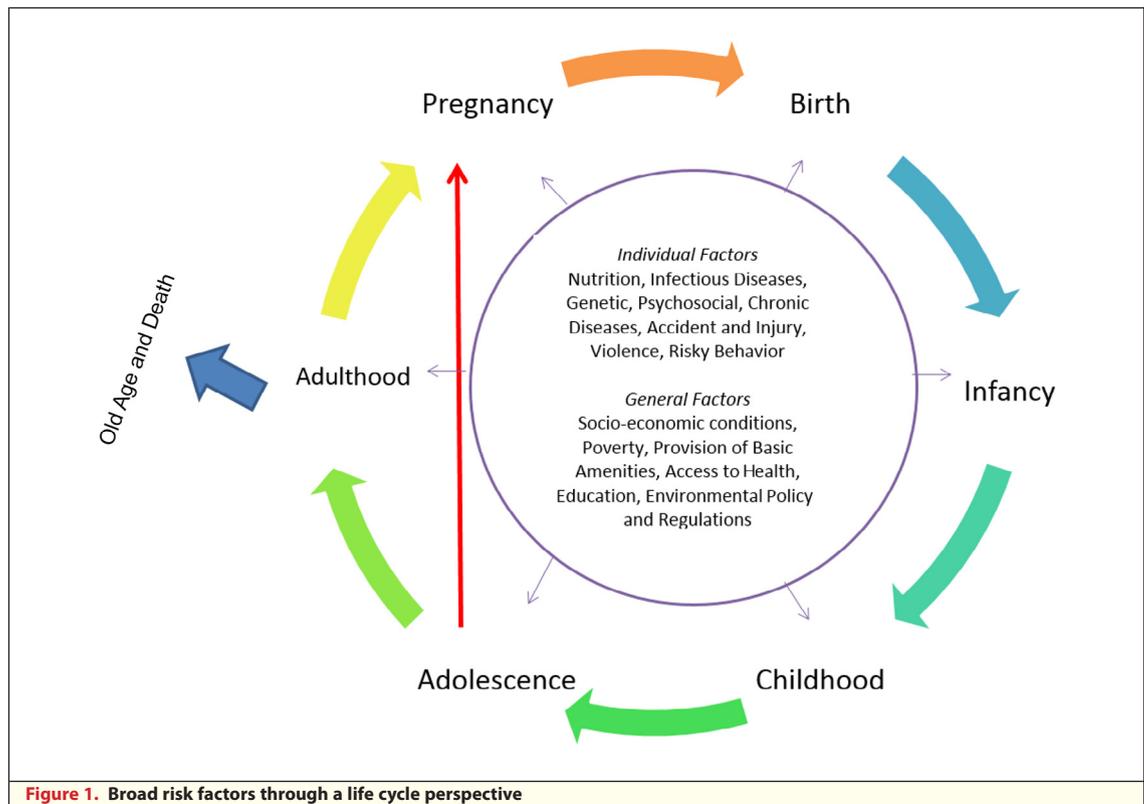
Young people are often neglected and little attention has been paid to inequalities such as age, ethnicity, gender, place of residence, disability, and socioeconomic status. Health inequalities during this phase translate into health problems in the adult years. Gender has its own implications for health; boys tend to engage more in externalizing behaviors, such as drinking or fighting, while girls tend to internalize emotions and manifest psychosomatic symptoms.³ Gender differences in adolescence increase for some health behaviors such as attempts to lose weight and psychosomatic complaints.⁴ Similarly, socioeconomic inequalities may restrict healthy behaviors such as consuming fruits and vegetables and participat-

ing in membership-based physical activity. Therefore, young people in less-affluent settings are more vulnerable to poorer health outcomes. Evidence suggests that family and peer support buffer them against the adverse consequences of several negative influences. Young people who report healthy communication with their parents are less likely to report negative health outcomes⁵ and fewer physical and psychological complaints.⁶ Similarly, peer relationships and friendships are crucial in developing social skills and self-esteem, and establishing autonomy; they can also influence negative behaviors such as smoking and drinking. Figure 1 depicts the individual and general risk factors through the life cycle perspective that can have implications at any stage of the life cycle. The various stages of the life cycle are not independent of each other, and impacts early in life are carried to the next stage of life; some can also have intergenerational effects.

The aim of this paper is to discuss the global health challenges faced by adolescents and youth, global legislation and guidelines pertaining to this particular age group, recommendations to arrest these challenges, and research priorities.

GLOBAL HEALTH CHALLENGES

Major global health risks and counterinterventions are summarized in Table 1.



Early Pregnancy and Childbirth. Today women are less likely to be married as teenagers than in the past; however, child marriage, defined as marriage prior to age 18, still persists. Nearly 1 in 3 adolescent girls in the developing world is married.⁷ One in every 3 adolescents 15-19 years of age in low- and middle-income countries (LMICs) are either married or in a relationship, compared to 1 in 14 in high-income countries.⁷ Early marriage is associated with leaving school, sometimes permanently abandoning education; early marriage and dropping out of school is also associated with higher poverty rates throughout life. Early marriage is directly proportional to early childbearing and adverse pregnancy consequences since a child is not fully developed physiologically to give birth early. About 16 million women 15-19 years of age give birth each year, and 95% of these births are in LMICs.⁸ An earlier systematic review has shown adverse outcomes of early marriage and child rearing.⁹ Young women are more likely to experience preterm labor, obstructed labor, and other complications such as obstetric fistula.⁹

Femicide Including Honor Killing. The culture and family within which a person is raised can shape behavior towards accepting violence as a norm. Norms can protect against violence but they can also support

and encourage it as routine behavior. There are different forms of intimate partner violence; honor killing is one form, in which a man's honor is linked with female sexual behavior. Here any deviation from sexual norms disgraces the entire family, which can then lead to honor killing.¹⁰ Honor-related murders involve a woman being killed by a family member for an actual or assumed sexual behavior, including sexual intercourse or pregnancy outside of marriage or even for being raped.¹¹ In 2000, the United Nations estimated that there are 5000 honor killings every year, although this is believed to be an underestimate.¹² These killings occur mainly in parts of the Middle East and South Asia, but also among some migrant communities in more affluent countries.

Another form of femicide that is directly linked to cultural norms is murder related to dowry, which is more common in South Asia. A bride is usually murdered for bringing an unsatisfactory dowry to the groom and his family.¹³ Again the true numbers of dowry-related deaths are likely underestimated, but according to India's National Crime Records Bureau Report in 2006, these range between 7000 and 25,000.¹³ Although this data is from the general population of females, it includes adolescents as well, and

this issue also applies to that age group and therefore warrants inclusion.

Female Genital Mutilation. Female genital mutilation (FGM) is a cultural practice that involves surgical procedures that partially or completely remove the external genitalia of women for nonmedical reasons. The procedure has no health benefits and causes damage to healthy genital tissue and interferes with the natural functioning of the body. This procedure is painful and mostly performed under unsterile conditions by non-health professionals with little knowledge of adverse effects.¹⁴ The procedure has been known to cause several immediate and long-term health consequences.^{14,15} This practice is common in African countries and in a few countries of Asia and the Middle East; it is also practiced in other affluent countries where these people have migrated.

Nutritional Habits and Choices

Food Insecurity (Quantity and Quality of Food) and Double Burden of Malnutrition. Food security is defined as existing when people have access to sufficient, safe, and nutritious food to live a healthy life. The absence of food security contributes to malnutrition, which in the past has been associated with undernutrition. However, mounting evidence now links food insecurity and malnutrition to obesity, or the state of overnutrition, due to the lack of a diversified, nutrient-dense diet.¹⁶ Thus, food insecurity paradoxically contributes to both undernutrition and overnutrition that is often termed the double burden of malnutrition. As poverty is a root cause of food insecurity, LMICs bear the brunt of this double burden. However, food insecurity remains a significant issue in urban, low-income communities within wealthy countries. Adolescents have been identified as a group at increased risk of food insecurity because of their greater independence over food choices and meals, particularly when away from the home environment (eg, at school). Previous research in high-income settings suggests the risk of obesity is 20%-40% higher in individuals who are food insecure compared with those who are food secure.¹⁷ However, the pathways underlying this association are not well understood. On the one hand, energy-dense foods that are high in fat or sugar are cheap and highly palatable; thus, financially constrained families may consume these foods to reduce food costs while maintaining energy intake.¹⁷ In addition, availability of these types of foods is often greater in low-income communities, due to a higher density of fast-food outlets compared with shops that sell healthy foods (so-called urban "food deserts"). Another theory is that food-insecure individuals may binge eat when

food is available, which could be a coping mechanism for stress associated with food deprivation (and other stressors associated with being poor).¹⁷ It is also possible that social and cultural beliefs and norms around food, weight, and healthy lifestyles are different among families experiencing food insecurity.

Social Media and Advertising. There are many reasons for the current epidemic of childhood obesity, and unhealthy food promotion is one important causal factor. Studies have shown that marketing fast-food outlets, beverages, and processed foods such as sugary breakfast cereals, sweets, and savory snacks is contributing to the obesity epidemic among adolescents.¹⁸ On the other hand, there is very little advertising of unprocessed and healthy foods, such as fruit and vegetables, whole grains, and milk. Previous studies have established a link between adolescents' inclination to engage with advertisements, particularly those that focus on the themes of fun, fantasy, freshness, and taste.¹⁹ Food advertisers target adolescents because they have independence over their spending and also because they can influence peers. In addition, there is evidence that marketing companies target young people as a stepping-stone into LMIC markets²⁰ where adults may be more resistant to Western diets.²¹ The careful review of evidence to determine the link between advertising and young people's food choices has shown that food advertising stimulates a preference for unhealthy foods, encourages the purchase of unhealthy and fast foods, and makes adolescents more likely to consume unhealthy foods. This unhealthy eating pattern is directly linked to obesity and related adverse health outcomes.²²

Eating Habits and Food Choices. Adolescents in many LMICs live in an environment of increasing urbanization along with growing disposable income.²³ Urbanization is reported to have an impact on lifestyle and environment that might lead to changes in risk behaviors including eating habits, peer pressure and bullying leading to mental health, and substance abuse. In several rapidly transitioning societies, the family environment has changed due to mothers entering the work force and the consequent acceptance of ready-to-eat food items to relieve them from busy work and family schedules. Alongside, fast-food culture encourages parents to take family to those outlets to try new tastes. Studies have also recognized that having a meal in those fast-food outlets is considered to be fashionable, and many times people don't like the taste but make a visit as a fashion statement. Research in recent years has shown that this social norming is particularly common in LMICs

where sophisticated media communications and mass marketing are relatively new.²³ Adolescents in LMICs are thought to find Western packaged commodities attractive and desirable, and this pattern is more prevalent among those living in urban areas and from affluent families, given their higher disposable pocket allowances.²³ A significant proportion of adolescents in LMICs access and consume processed snack foods from school cafeterias and food outlets surrounding schools.

Peer Pressure. We know that young people need particular protection, and society recognizes that they are more vulnerable to exploitation than adults. Group and peer pressure are the strongest in early adolescence and influence various developmental domains. However, peer pressure can be negative or positive. Negative influences could lead to antisocial behavior, poor working habits, neglect of schoolwork, and other types of behavior that neither parents nor the public consider acceptable, while positive influences help young people during the transition period from a dependent childhood and protection given by parents toward greater independence in thought and action. Peers play a particularly important role in shaping healthy and unhealthy eating behaviors among adolescents.²⁴ Peers can contribute to stress associated with food insecurity, through stigmatizing certain food choices as well as bullying individuals about their body size. Thus, while adolescents may have access to more resources to compensate for food insecurity (eg, as a result of employment), their social context may in fact exacerbate its effects, contributing to a greater risk of obesity as well as poorer mental health.

ADOLESCENT RIGHTS: LEGISLATIONS AND GUIDELINES

There are no standard legal age cut-offs for adulthood, as this varies for different activities including age of consent, the minimum age that young people can legally work, leave school, drive, buy alcohol, marry, be held accountable for criminal action, and make medical decisions. This reflects the fact that the existing systems and structures are focused on either children or adults, with very few investments and interventions directed specifically to young people.

Legislation and guidelines have a profound effect on various domains of adolescent health and well-being, including access to health care, drugs, consumption of alcohol, access to tobacco, age of marriage, age of labor, and so forth. In 1989, the United Nations Convention on the Rights of Chil-

dren (UNCRC) recognized children as bearers of human rights rather than parental property, with liberties and responsibilities appropriate to their age. However, there is still vast diversity in adolescent legal frameworks across various countries.²⁵ Some of the laws developed in the past half century have had significant impact on adolescent health, and these include adolescents' access to essential sexual and reproductive health care, consent requirements, confidentiality protections for adolescents' health information, statutes providing for the emancipation of minors, court decisions delineating the mature minor doctrine, regulations protecting adolescents' access to confidential family planning services in publicly funded programs, and court decisions interpreting the constitutional right of privacy.²⁶ The United Nations Program on HIV and AIDS (UNAIDS) recently released global standards for quality health care services for adolescents to assist policy makers and health service planners in improving the quality of health care services so that adolescents find it easier to obtain the health services that they need to promote, protect, and improve their health and well-being.²⁷⁻³⁰ The recent Lancet Commission on adolescent health and well-being assessed the existing legal frameworks for 6 selected countries to illustrate the differences in legal frameworks and their implementation pertaining to adolescent health and well-being.³¹ These countries included India, Lebanon, Nigeria, Peru, Sweden, and the United States, with varying wealth, geographic locations, cultures, and religions. The findings suggest that prevailing legal frameworks in these selected countries are not adolescent friendly in terms of how these are framed as well as in terms of their implementation. The commission summarizes that these legislations are not a true reflection of UNCRC principles; neither do they reflect a thorough assessment of the capacities of adolescents but rather are generally based on the priorities of the state and cultural and traditional assumptions.³¹ Close evaluation of the legislations in these selected countries also suggests that laws often do not exist in some areas where legislation has a proven role in protecting health such as minimum age to smoke tobacco and to work. There is a lack of consistency between and within countries regarding the age of marriage, access to contraception, and availability of safe abortion. Despite the internationally recognized laws against child marriage, 34 countries permit girls to marry before 18 years, while some still permit marriage before 15 years, and a few specify no minimum age. Even in countries where there are existing laws against child

marriage, at least 40 countries allow customary or religious law to override legislation regarding specific age of marriage.³² This situation clearly depicts the fact that despite global recognition of certain legislations, traditions get in the way.

A few researchers have focused on evaluating the impact of state laws and legislation on adolescent health but in very limited domains. A review evaluating the impact of bicycle helmet legislation on head injuries and helmet use suggests that bicycle helmet legislation was effective in increasing helmet use and decreasing head injury rates in the populations for which it was implemented.³³ Another review assessing the effects of interventions to reduce underage access to tobacco by deterring shopkeepers from making illegal sales suggests that interventions with retailers led to large decreases in the number of outlets selling tobacco to youths; however, the impact was not sustained, and the compliance got low over a period of time.³⁴ One review evaluated the impact of graduated driver licensing (GDL) programs for reducing crash rates among young drivers. Findings from this review suggest that GDL is effective in reducing crash rates among young drivers, although the magnitude of the effect varies. Stronger GDL programs (ie, more restrictions or higher quality based on Insurance Institute for Highway Safety classification) appear to result in greater fatality reduction.³⁵

One large study evaluating the relationship between US state laws that permit marijuana for medical purposes and adolescent marijuana use assessed 24 years of national data. Findings suggest that passage of state medical marijuana laws does not increase adolescent use of marijuana. However, overall, adolescent use is higher in states that ever passed such a law than in other states. State-level risk factors other than medical marijuana laws could contribute to both marijuana use and the passage of medical marijuana laws, and such factors warrant investigation.³⁶ Another study evaluating the legalization of recreational marijuana use in Washington and Colorado in 2012 and the subsequent perceived harmfulness and use of marijuana by adolescents suggested that among eighth and tenth graders in Washington, perceived harmfulness of marijuana use decreased and marijuana use increased following legalization of recreational marijuana use.³⁷

Existing legislation and guidelines need transformation to bring about a specific focus on adolescents in the domains of substance use and sexual behaviors, and the capacity for adolescent learning should be exploited through graduated legal and policy frameworks.

CONCLUSION

Adolescence and young adulthood accompanies key changes in health and its determinants later in life and hence is an optimal time to target health-related interventions to maximize the benefits over the future years of life. The WHO organized a study group for adolescent health and development along with United Nations Children's Emergency Fund (UNICEF) and United Nations Framework for Population Activities (UNFPA) in 1995.³⁸⁻⁴¹ More recently, there has been consensus on investing in adolescent health and development for the success of the post-2015 developmental agenda and the Lancet commission on adolescent health.^{31,42}

A recent series on adolescent health and well-being summarizes the existing body of knowledge on a range of interventions targeting adolescent sexual and reproductive health, nutrition, immunization, unintentional injuries, mental health, and substance abuse.⁴³⁻⁵⁰ Findings from this series of papers highlighted effective interventions in various domains along with research gaps and priorities. Evidence suggests that interventions to promote sexual and reproductive health, physical activity and healthy lifestyle, mental health and well-being, safe and hazard-free environments, improving access to nutritious and healthy foods, and minimizing exposure to substance abuse can improve health outcomes in young adolescents.⁵¹ However, as highlighted in the last Lancet series on adolescent health, adolescents are more exposed to substance abuse, sexually transmitted infections, and other risks than in the past, in addition to facing other emerging challenges such as social media,^{38,40,41,52} and it is difficult to target these adolescents. School-based delivery strategies appear to be the most highly evaluated for improving adolescent health; they have been used to deliver interventions related to sexual health, substance abuse prevention, and nutritional interventions. Multicomponent school-based interventions, for example, including school policy changes, parent involvement, and work with local communities, are effective for promoting sexual health and preventing bullying and smoking. There is less evidence that such interventions can reduce alcohol and drug use. Economic incentives to keep girls in school can reduce teenage pregnancies. School clinics can promote smoking cessation. There is little evidence that, on their own, sexual-health clinics, antismoking policies, and various approaches targeting at-risk students are effective.⁵³

Community-based delivery platforms have been widely utilized for the promotion of maternal, newborn, and child health and can also be used to target adolescents to improve their health. Some examples of community delivered programs targeting adolescent age groups include Children's Aid Society Carrera Program, which was carried out in multiple community centers and comprised of educational and vocational support, sex education, medical care, sports and arts, free testing for sexually transmitted infections, and condom provision.⁵⁴ Another example of a community-based program focused on youth development through community service and personal development.⁵⁵ Another example are the multicomponent, community-wide initiatives of the Teenage Pregnancy Prevention Program initiated in 2010 by the Office of Adolescent Health and the Centers for Disease Control and Prevention. The purpose of the initiatives was to use a community-wide, multicomponent approach to reduce teen pregnancy and birth rates in communities with rates exceeding the national average. The pillars for the intervention are evidence-based interventions and clinical services, while the supporting elements include community mobilization, stakeholder education, and working with diverse communities to enhance the likelihood that the evidence-based intervention and clinical services elements will have the desired impact on teen birth rates and ensure all strategies within each component are culturally appropriate and tailored to the needs of the community.⁵⁶

In recent years, communication, information technology, and mass media have rapidly evolved into a platform that provides innovative opportunities for engaging youth, including disadvantaged and hard-to-reach youth and those turned off by traditional health education approaches. Besides the Internet, mobile technology and text messaging are also potential avenues, since texting has become the preferred channel of communication among adolescents and their peers, especially in developing countries. Some examples of the use of media platforms include comprehensive eHealth websites and development of interactive web-based systems for youth, which include online teen clinics, behavior-change interventions, and a wide range of health promotion topics.⁵⁷⁻⁵⁹ Use of social media and information technology appears to be a promising strategy; however, there is a need for rigorous evaluations of media-based interventions. Use of social media and information technologies, cash transfers, social protection, and micro-finance initiatives are promising strategies; however, given the

lack of rigorous evaluations, there is a need for further research.⁵¹

The 1994 Common Agenda for Action by the World Health Organization supports the implementation of a package of interventions tailored to meet the special needs and problems of adolescents, which includes the provision of information and skills, the creation of a safe and supportive environment, and the provision of health and counselling services. A review on young people's perspectives on health care with a view to defining domains and indicators of youth-friendly care suggested 8 domains that stood out as central to young people's positive experience of care. These were 1) accessibility of health care; 2) staff attitude; 3) communication; 4) medical competency; 5) guideline-driven care; 6) age-appropriate environments; 7) youth involvement in health care; and 8) health outcomes. Staff attitudes, which included notions of respect and friendliness, appeared universally applicable, whereas other domains, such as an appropriate environment, including cleanliness, were more specific to particular contexts.⁶⁰ These 8 domains provide a practical framework for assessing how well services are engaging young people. Measures of youth-friendly health care should address universally applicable indicators of youth-friendly care and may benefit from additional questions that are specific to the local health setting.⁶⁰ Unfortunately, little evidence is available, since many of these initiatives have not been appropriately assessed. Appropriate controlled assessments of the effect of youth-friendly health-service models on young people's health outcomes should be the focus of future research agendas.⁶¹

ADOLESCENT HEALTH RESEARCH PRIORITIES

Despite the recent focus on adolescent health, there is still lack of evidence on adolescent health interventions from LMICs, marginalized populations, and differences of effects according to gender.⁴³⁻⁵⁰ Activities to promote young people's participation in sexual and reproductive health interventions have not been evaluated adequately, and there is very little knowledge about the optimal level of intensity and duration of efforts to bring about sustained behavior change.⁶² Future research should target adolescents in LMICs and marginalized subgroups and evaluate the difference in effectiveness by gender.⁴³ Furthermore, there is a need to evaluate the relative effectiveness and cost-effectiveness of various delivery platforms to target interventions via specialized

health services (such as clinics, health posts, health centers, and district hospitals), school-based delivery, youth organizations, community-based delivery, information communication technology, and mass media.^{45,51}

To conclude, it is important to target adolescents and youth for the betterment of future generations.

Sustainable development goals provide an opportunity to target this neglected and vulnerable age group. This would require a multisectoral approach from modifications at a broader legislation and policy level to the ground-level (community-level) implementations to bring about a healthy change and address the challenges faced by adolescents and youth.

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