Today's adolescents more exposed to harmful alcohol consumption, STDs, and other risks than in the past

April 24 2012

There are some 1.8 billion adolescents (those aged 10-24 years) in the world today, comprising more than a quarter of the world's population. However, the first paper in *The Lancet* Series on Adolescent Health says that the health status of this age group has improved far less than that of children aged under 10 years in the past 50 years. Indeed, evidence suggests that adolescence is not the healthiest time in life, as is often assumed. With longer periods in education, and significant delays to marriage or settling down, the period during which young people are exposed to the risks of adolescence has extended significantly. Such behaviours include harmful alcohol consumption and illicit drug use with peers, and sex with more casual partners, increasing the risk of sexually transmitted infections.

In this first paper, Professor Susan M Sawyer and Professor George C Patton (Murdoch Children's Research Institute, Melbourne, and University of Melbourne, Australia) and colleagues say: "The present generation of young people will take a different path through adolescence from previous generations and will face new challenges to their health and wellbeing along the way."

Programmes to promote maternal, newborn, and child health across countries of all incomes have led to more children surviving and the current adolescent population boom, known as the 'youth bulge'. But while programmes that promote maternal, newborn and child health will

also have a positive effect when these young people become adolescents, there is little focus on the specific challenges faced by adolescents while they are actually adolescents. While a healthy, educated workforce has the potential to shape a country's economic prospects, the authors say that poverty, inadequate education, mass unemployment, migration, natural disasters, and war result in social environments that can have devastating effects on the health of young people. Over the same period, digital media, industrialisation, globalisation, and urbanisation have changed traditional family and community influences, resulting in less 'social scaffolding' of adolescents.

A lack of focus on adolescent health could be described as a missing link in the lifecourse approach to health. The impact of health-related behaviours that start in adolescence continue to resonate across the lifecourse. The authors point out that many health-related behaviours that usually start in adolescence (tobacco and alcohol use, obesity, and physical inactivity) contribute to the epidemic of non-communicable diseases in both adolescents and adults (such as heart disease, cancer, diabetes and lung disease).

Despite its widespread legal significance, the age of 18 years clearly no longer signifies adulthood in many parts of the world. Half a century ago people at and just over this age would be marrying in high-income countries and settling down to have families; today, these milestones are commonly delayed, with a longer period spent in higher education and often several years in employment before marriage or settling down. In developing regions such as West Africa and Asia, high costs of marriage and housing have also increased the age at which people marry. An earlier onset of puberty coupled with these delayed transitions into adult social roles mean that the window of risk associated with adolescence has substantially increased.

Previous generations of parents viewed the physical changes of puberty

as being of greatest significance with 'raging hormones' being blamed for much adolescent 'bad behavior'. Puberty is increasingly recognised as a significant physiological event that catapults adolescents into higher risk for a range of health-related behaviours and states in adolescence such as mental disorders and substance use. However, contemporary researchers view the impact of brain maturation as being as relevant as hormonal maturation. The authors describe major advances in our understanding of brain maturation across adolescence, which is now recognised as continuing to at least 24 years. For example, adolescent brain and behavior research suggests that despite rational assessment of risk in the 'cold hard light of day', adolescents are more prone to 'hot cognitions', meaning they are more affected than adults by exciting or stressful situations when making decisions. Increased activity in the nucleus accumbens (a reward and pleasure centre) seems linked to this. As injury is the largest cause of death in adolescents across the globe, such scientific knowledge provides a sound basis for policy decisions such as limiting the number of adolescent passengers allowed in a car with a young driver.

While under-5 child mortality has declined by 80% or more in many countries in the past 50 years, adolescent mortality has only marginally improved. A notable example is Brazil, where more adolescents die from violence than do children younger than 5 from infectious diseases. The major causes of disability-adjusted life years (DALYS-a measure that combines burden of mortality and disease) in adolescents are alcohol use (7%), unsafe sex (4%), iron deficiency (3%), lack of contraception (2%), and illicit drug misuse (2%). Mortality rates in adolescents vary widely between countries, but are generally four times higher in low-income and middle-income countries than in high-income countries. The leading causes of death globally are injuries (both unintentional, such as road traffic accidents, and self-inflicted, such as suicide); maternal causes; communicable (eg, tuberculosis, meningitis, and HIV/AIDS), nutritional, and perinatal diseases; and non-communicable diseases.

Injuries caused 40% of deaths in 10-24 year olds compared with 10% of the general population: thus injuries should be a major target for adolescent health advocacy. The authors say: "Irrespective of region, most adolescent deaths are preventable and thus strongly justify worldwide action to enhance adolescent health." The authors also point out the staggering contribution of mental disorders to the non-fatal burden of disease, which rises sharply throughout adolescence and is the largest contributor to the burden of disease in young people aged 10–19 years (45%), ahead of unintentional injuries (12%), which are the largest cause of death.

New drivers of adolescent health are emerging. Marketing of unhealthy products and lifestyles (tobacco, foods high in sugar, fat, and salt) targets young people. The authors say: "Analogous to an infectious disease epidemic, mass media can be viewed as a vector that carries attitudes and products to an increasing number of hosts, resulting in outbreaks of previously uncommon behaviours." While adult men are currently 4 times more likely than women to smoke globally, boys aged 13-to 15 years are only 2.3 times more likely to smoke than girls that age, due to aggressive targeting of girls by the tobacco industry. The substantial rise in tobacco use in low-income and middle-income countries will have a devastating impact on health in those countries in years to come.

The one exception where adolescents have been a focus in global thinking is sexual and reproductive health. However, given that there are more than 1 million new HIV infections in the 15-24 yr old age group each year, which account for 41% of all new infections in those aged 15 years or over, the authors suggest that even in this traditional area of adolescent health, there has been insufficient policy and programming attention. These authors suggest we now recognise many wider ways in which the health of adolescent girls affects the health of the next generation. Influences range from maternal malnutrition and micronutrient deficiency, obesity, and gestational diabetes to health risks

associated with alcohol, tobacco, illicit and psychotropic drug use, as well as viral infections such as rubella and HIV.

Also discussed in the first paper is the explosion in social media such as Facebook and Twitter, which has both good and bad points. While it allows access to information and enables young people to be catalysts for community change, as happened in the uprisings of the Middle East and North Africa, it also exposes adolescents to new risks such as cyber-bullying, and sexting (the act of sending sexually explicit or pornographic messages by mobile phone).

The authors call for establishment of an international agenda on adolescent health, which they regard as central to the success of most existing global health agendas. This would include proper reporting of mortality and morbidity for the 10-24 years age group. They conclude: "In view of their dynamic and challenging health profile, the contribution of adolescent health to the global burden of disease, and the important effect of adolescents and their health across the life course, adolescents should be more prominent within future global public health policies and programming."

Provided by Lancet