

ORIGINAL RESEARCH

Adolescent and Young Adult Injuries in Developing Economies: A Comparative Analysis from Oman and Kenya



Abdulgafoor M. Bachani, PhD, MHS, Niloufer Taber, MPH, MPA, Amber Mehmood, MBBS, FCPS, Yuen Wai Hung, PhD, Isaac Botchey, MPH, Ammar Al-Kashmiri, MD, FRCP, FACEP, Adnan A. Hyder, MD, MPH, PhD
Baltimore, MD; and Muscat, Oman

Abstract

BACKGROUND Adolescence is a distinct period of rapid and dramatic biological, cognitive, psychological, and social development. The burden of injuries among young people (aged 10–24) is both substantial and maldistributed across regions and levels of economic development.

OBJECTIVES Our objective was to compare sociodemographic correlates of injury cause, intentionality, and mortality between Kenya and Oman, 2 countries with different levels of economic development and position in the demographic and epidemiologic transitions.

METHODS Data on 566 patients in Oman and 5859 in Kenya between 10 and 24 years old were extracted from 2 separate multicenter trauma registries. Multivariable log binomial and Poisson regressions were used to evaluate social and demographic factors associated with injury cause, intentionality, and mortality. Literature on adolescent development was used to parameterize variables, and Akaike information criteria were used in the final model selections.

FINDINGS The trauma registry data indicated a substantial burden of adolescent and young adult injury in both Oman and Kenya, particularly among males. The data indicated significant differences between countries ($P < .001$) in age category, gender distributions, level of education, occupation, cause of injury, and place where injury occurred. Consistent with other literature, road traffic injuries emerged as the most common type of injury as well as the most severe and fatal, with interpersonal violence also resulting in severe injury across contexts. Both road traffic injuries and interpersonal violence were more common among older adolescents and young adults. Education and being in school were protective against injury, after controlling for gender, age category, occupation, and country.

CONCLUSIONS A rising burden of injuries among young people has been documented in every region of the world, irrespective on income status or level of development. Cost-effective injury control measures targeting this age group exist, including involvement in educational, vocational, and other prosocial activities; environmental alterations; and road safety measures.

KEY WORDS adolescent injuries; Africa; Kenya; LMIC; Oman; trauma registry.

INTRODUCTION

Adolescence is a distinct phase of development through the life course, a period of rapid and dramatic biological, cognitive, psychological, and social development marking the transition between childhood and adulthood. As a transitional phase, its boundaries are not consistently defined across cultures or societies or through history.¹ The social and environmental contexts in which young people grow and develop are particularly complex as a result of adolescence being a transitional stage of life: Family of origin gives way to family of formation; peers assume an increasing influence; school contexts change and then give way to work environments; and legal contexts are fraught with tensions between protection and personal responsibility.¹ Adolescence is therefore a fluidly defined period characterized by the progressive adoption of adult roles, legal responsibility, autonomous decision making, and social and financial independence from one's family of origin.¹

Injuries, including unintentional injuries, intentional violence, and intentional self-harm, are among the major causes of death among young people and contribute significantly to loss of disability-adjusted life years, particularly among older adolescents and young adults.^{2,3} Road traffic injuries are the leading cause of death among adolescents worldwide, with intentional self-harm and interpersonal violence the third and fifth leading causes.⁴ Cognitive and psychosocial development factors unique to young people contribute to this disease burden because adolescence is characterized by present bias, poor risk evaluation, and susceptibility to peer influence.¹ However, almost all deaths among young people—97%—occur in low- and middle-income countries (LMICs), with those deaths further unequally distributed across world regions.² This extreme maldistribution of morbidity and mortality among young people demands attention to the socioeconomic factors and the social determinants of health.

Africa and the Eastern Mediterranean have the first and third highest rates of mortality among young people, but profiles of disease burden differ greatly among regions and national contexts.² Kenya, a lower-middle income country in East Africa, is classified as a *multiburden country* in which disability-adjusted life years and deaths for young people are due not only to diseases of poverty, such as infectious disease, nutritional deficits, and maternal mortality, but also to noncommunicable diseases, such as mental disorders or substance abuse, as well as injuries.^{1,5} The Sultanate of Oman, by contrast, is a high-income

country in the Eastern Mediterranean classified as an *injury excess country*, with the greatest number of deaths caused by high levels of injury, and in which other sources of morbidity and mortality have decreased.^{1,5} Injuries often affect young, economically productive individuals, leading not only to untimely death but also lifelong disability. Nonfatal injuries therefore can have consequences that extend beyond the individual, affecting entire families. In addition to medical costs, there may be loss of wages or productivity of the patient or of household members who have to change roles to care for the patient. For adolescents and young adults, injury and disability may impede continuing education.⁶ Injuries may not only affect work and education but can be affected by them. Road traffic injury, intentional self-harm, and intentional violence are among the most common mechanisms of injury in this age group, but the nature and direction of associations between each of these types of injuries and sociodemographics are difficult to tease out.

In this study we compared the injury and trauma profiles among young people in Kenya and Oman to compare and contrast these 2 contexts. Although *adolescence* is often recognized as the period between 10–19 years old—the World Health Organization, for example, refers to the “second decade of life”—this paper will follow a more expansive definition for *young people* to include the period of young adulthood, up to age 24, to facilitate comparisons across contexts.^{7,8}

METHODS

The data for this study were collected from 2 separate multicenter trauma registries in Kenya and Oman, details of which have been described elsewhere.⁹ In Kenya, to ensure a diverse representation of the population, 3 major county hospitals and a tertiary hospital were selected to participate in trauma registry data collection (Table 1). Meru, Thika, and Machakos are all level 5 secondary county hospitals, whereas Kenyatta National Hospital is an academic and national referral hospital in the capital city, Nairobi. These hospitals serve both residents of the cities where they are located, as well as the populations of the surrounding towns and villages. Two regional hospitals in Oman participated in a pilot study of the implementation of an electronic trauma registry, enrolling participants between November 1, 2014, and April 30, 2015. Khoula Hospital, a tertiary care hospital in the Sultanate's coastal urban capital of Muscat, hosts the national trauma referral center, whereas Nizwa Hospital is a regional trauma referral center

Download English Version:

<https://daneshyari.com/en/article/8753377>

Download Persian Version:

<https://daneshyari.com/article/8753377>

[Daneshyari.com](https://daneshyari.com)