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1

Musculoskeletal health conditions among older populations in urban slums in sub-Saharan Africa

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A B S T R A C T

Background: Debate on the burden of musculoskeletal (MSK) conditions in lower and middle income countries is intensifying; yet, little knowledge so far exists on patterns and impacts of such conditions among general or older adult populations in sub-Saharan Africa (SSA). The objectives of this study are to examine the prevalence, potential predictors, and sequelae of MSK among older adults residing in two low resource informal urban settlements or "slums" in Nairobi Kenya.

Methods: Data on older adults aged 60 years and over from two unrelated cross-sectional surveys on the older slum populations are used: a 2006/7 survey on the social, health, and overall well-being of older people (sample N = 831), and a 2016 survey on realities and impacts of long-term care and social protection for older adults (sample n = 1026). Uni and multivariate regressions on the 2006/7 data are employed to examine relationships of back pain and symptoms of arthritis with sex, age, wealth, unemployment, diagnoses of hypertension, and diabetes; and with indicators of subjective well-being and functional ability. Descriptive frequencies and chi-squared tests of association are used on 2016 data to identify the overall prevalence and locations of activity limiting MSK pain, and sex differences in these.

Results: Prevalence of past month back pain and past 2 week symptoms of arthritis was 44% and 42.6%, respectively. Respective prevalence of past month activity limiting back pain and joint pain was 13.9% and 22.7%. A total of 42.6% of slum residents

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with a current health problem report MSK as the most severe problem. In multivariate regressions, female sex, unemployment, and diagnosis of hypertension are predictive of back pain and symptoms of arthritis. Both conditions are associated with raised odds of having lower quality of life, poorer life satisfaction, and depressive symptoms, and with mobility impairments and self-care difficulties.

Conclusions: MSK conditions are salient, and a likely key cause of impaired subjective well-being and functioning among older slum populations in SSA. Further research on determinants and consequences of such conditions in older slum populations is required to inform debate on responses to MSK as part of efforts to reorient SSA health systems to aging and to improve slum health.

Introduction

Musculoskeletal disorders (MSK) comprise a spectrum of conditions including back and neck pain; osteoarthritis, most frequently in the joints of the hand, foot, knee and hip; and rheumatoid arthritis. Risk of osteoarthritis has been associated with age, obesity, and lack of physical activity [1,2]. Back and neck pain have been associated with occupational exposures such as heavy quantitative workloads, frequent lifting or vehicle driving [3], or psychosocial factors. Causes of rheumatoid arthritis – an autoimmune disorder – remain poorly understood [2,4]. Female sex has been associated with risk of both back and neck pain and osteoarthritis [1,5–7]. Individual-level impacts of MSK include acute and chronic pain, functional limitations, and disability – consequent loss of independence and ability for social participation, including in the labor force, and reduced mental well-being [1,8–11]. MSK-related costs for societies and economies in developed world contexts are seen as arising from expanded demands on health and social care systems and absence from work and resultant loss of productivity [11]. Amid intensifying debate on MSK as a major cause of morbidity, mortality, and disability, and thus threat to well-being worldwide [11–18], focus is mounting on the burden of such conditions in low and middle income countries (LMIC) [1,11,19].

Concerns center, for one, on the scale of MSK, and its potential sequelae, already affecting developing world settings, where pervasive occupational and social exposures – such as heavy, physical agricultural labor or domestic work, and a dominance of informal sector work without due health and safety frames – likely heighten risk of such disorders, specifically back pain [11,19,20]. A second concern regards the expected further rise in the occurrence of MSK, specifically osteoarthritis, in tandem with a rapid aging of low- and middle-income populations, and a mounting prevalence of sedentary lifestyles and obesity fueled by a developing world nutrition transition [11,19,21].

Recent data from the Global Burden of Disease study (GBD) underscore both the magnitude of and increase in the burden of disability caused by MSK in the developing world. In 2016, such disorders were the third largest cause of years lived with disability (YLD) at all ages in LMIC, a rise from their fourth rank in 1990. Lower back and neck pain emerged as the most salient individual MSK conditions, constituting the third largest cause of YLD overall – a position unchanged from 1990. In the same time span, osteoarthritis increased from 25th to the 14th single largest cause of YLD [22]. The disability burden related to MSK in developing countries is even more pronounced in older populations, reflecting, among others, the aforementioned association of age to an increasing risk especially of osteoarthritis [1,11]. MSK emerge as the single most important cause of YLD among adults aged 50–69 years, and the second largest cause above age 70 years and above in LMIC. Lower back and neck pain (rank two for both age groups) and osteoarthritis (rank nine and seven, respectively) are the chief individual MSK conditions causing disability in these cohorts [22].