

LETTER TO THE EDITOR

Jeremy Morris as a pioneer of behavioural epidemiology, social medicine and public health

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Abstract

Seventy years ago, the Scottish epidemiologist Jeremy Morris published his seminal papers in exercise epidemiology, providing evidence of the positive relationship between physical activity levels and reduced mortality. Today, we may remember Morris's pivotal role in establishing physical activity as a key factor in preventive medicine and public health. The roots of the role of behavioural epidemiology in modern public health lay in Morris's research on the association of coronary heart disease with physical activity at work. In consequence, a new focus for public health emerged, with an emphasis on chronic disease as well as modification of lifestyle and individual behaviour. While the immense value of his research on the health benefits of exercise is widely recognised, his influence on the teaching of social medicine is generally less well-known. Morris was involved in the pioneering course of MSc in Social Medicine at the London School of Hygiene, which was emblematic of the redefining of public health in the late 1960s. Morris gave legitimacy to a wide range of issues regarded at that time as soft and second class, including health promotion, sociology and the care of people with disability and chronic conditions. In consequence of his observation of a relationship between socioeconomic status and individual behaviour patterns in regard to exercise, nutrition and smoking, Morris urged that greater attention be paid to inequalities.

In 1953, the Scottish epidemiologist Jeremy Morris published his seminal papers in exercise epidemiology, providing evidence of the positive relationship between physical activity levels and reduced mortality. Today, 70 years later, we may remember Morris's pivotal role in establishing physical activity as a key factor in preventive medicine and public health. While the immense value of his research on the health benefits of exercise is widely recognised, his influence on the teaching of social medicine is generally less well-known.

Morris's studies of London transport workers initiated modern epidemiological investigations of the role of physical activity in the pathogenesis of coronary heart disease. Morris and his co-workers were able to show that the sedentary drivers of London's red double-decker buses were more likely to die suddenly from 'coronary thrombosis' than the conductors, who climbed the stairs to the upper deck.

Furthermore, they found that government clerks who served sitting behind counters suffered more often from rapidly fatal cardiac infarction than postmen who delivered the mail on foot or by bicycle [1–3]. Based on these observations, Morris concluded that men in physically active jobs have a lower incidence of coronary heart disease than those in physically inactive jobs, with the disease being not so severe in physically active workers, tending to present as relatively benign forms and having a lower early mortality rate [1–3].

The roots of the role of behavioural epidemiology in modern public health lay in Morris's research on the association of coronary heart disease with physical activity. In consequence, a new focus for public health emerged, with an emphasis on chronic disease as well as modification of lifestyle and individual behaviour [4]. The quantitative methodology of chronic disease epidemiology formed the underpinning of a new

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approach to public health, with Morris's textbook *Uses of epidemiology* [5] as a foundation of future public health strategies. This textbook had a major influence on public health education and the development of policies for the prevention of non-communicable diseases worldwide.

Sedentary lifestyles have undeniably become one of the most important public health challenges of the 21st century. Since the publication of Jeremy Morris's work on London transport workers, numerous studies published over the past 70 years have confirmed the importance of regular physical activity in promoting health, improving quality of life, preserving functional capacity during ageing and extending lifespan. Tackling the threats to health resulting from sedentary lifestyles is fundamental for the future of effective and affordable health systems worldwide. Given the well-documented significance of physical activity, and, by extension, the adoption of an active lifestyle, in the context of disease prevention and health promotion [6–8], the efficacy and cost-effectiveness of exercise interventions regarding enduring enhancements in health should be further investigated. In particular, the methods by which behaviour change in sedentary populations can be induced to sustainably alter their physical activity levels over the long term remain to be elucidated.

Epidemics of the 19th century, such as tuberculosis and rickets, were closely related to poverty and malnutrition and resulted from failures of the social system [9]. These societal failings could be mitigated and eventually overcome by social progress. In view of these developments, Jeremy Morris together with Richard Titmuss, a pioneer of the post-war welfare state in Britain, published three papers in the 1940s, which addressed the influence of social and material factors on different health outcomes of various medical conditions. This work was highly influential and hailed as a first example of practical social medicine, leading to funding for the Social Medicine Unit of the Medical Research Council. Morris's teaching may have been at least as important as his research. He was involved in the pioneering course of MSc in Social Medicine at the London School of Hygiene, which was emblematic of the redefining of public health in the late 1960s [10]. Morris gave legitimacy to a wide range of issues regarded at that time as soft and second class, including health promotion, sociology and the care of people with disability and chronic conditions. He also played a key role in the foundation of the Faculty of Community Medicine (now Faculty of Public Health Medicine) and served on numerous committees on health education, social medicine and public health, which helped inform the

British Labour Governments' policies on inequalities of health in the 1960s and 1970s [11]. In consequence of his observation of a relationship between socioeconomic status and individual behaviour patterns in regard to exercise, nutrition and smoking, Morris urged that greater attention be paid to inequalities [12].

Morris's work on exercise epidemiology shifted the focus of public health from infectious to non-communicable diseases. Morris was an ardent practitioner of his own research findings, still walking and swimming until his death from pneumonia at age 99 in 2009.

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