

REVIEWS

Lifestyle transitions and the developing world: Reflections on the implications for health, well-being and wealth

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Abstract

Context: The past few decades witnessed significant economic growth in many developing countries of the world. These economic changes towards increasing gross domestic product (GDP) brought with it several other transitions in these countries: demographic, epidemiological, technological, and nutritional. These resulted in improving the living standards as well as life expectancy in many of these countries. However, of public health concern is the fact that these transitions paradoxically have their negative consequences on the health, well-being and wealth of the populace in these countries.

Objectives: This review therefore assesses the evidence of the extent to which these changes have affected the living patterns in many developing countries and the epidemiological implications besides others issues on the populace in these countries.

Methods: By using key words, the author involved a broad search of literatures on lifestyle changes, economic growth, nutrition, urbanization, smoking and alcohol, communicable and non-communicable diseases in countries termed low and middle income.

Findings and conclusion: The review identified discernible evidence base about the implications of these changes on health, well-being and wealth of these nations. Accordingly, as lifestyle transitions now come to bear, it thus necessitates an all inclusive approach that will include proactive and pre-emptive interventions as well as consistent participation from governments, multilateral institutions, research-funding agencies, donors, and other players in health systems. This is because it will provide the global community with great opportunities in uniting high, middle, and low-income countries in a common purpose, given the shared interests of globalization and economic burdens worldwide.

Key words

Developing countries, Globalization, Lifestyles, Economic growth, Health

1 Introduction

The past few decades witnessed significant economic developments in many developing countries of the world^[1]. These economic transitions towards increasing gross development product (GDP) brought with it several other transitions: demographic (younger to older population distribution and urbanization), epidemiological (infectious diseases to non-

communicable diseases); technological (from low to high mechanization); and nutritional (local diets to highly processed energy-dense foods) ^[2-7]. Findings from the World Bank reveals that by the turn of 2010 most developing economies had average growth rates of between 5.3% to 6.5%, with projections of up to 7% ^[8]. Besides, there have being increased life expectancy at birth in these countries following the Alma Ata declaration on primary health care in 1978 ^[9, 10]. Evidence from the United Nations population division reveals that life expectancy at birth has increased globally particularly in developing countries in the past fifty years ^[11]. It has it that while women and men who were born in these countries at the beginning of the 1950s could live an average of at least 46.6 years, those born between 2005 and 2010 may reach an age of 67.6 years. In fact, these trends now reveal that populations in developing countries have very clearly seen their life expectancy grow by over 20 years, from 41 years in the 1950s to over 65.6 years ^[10]. This increased life span followed the industrialization, urbanization and economic growth in many of these countries in the past few decades ^[11, 12].

Although these transitions do come to bear, it has not all been economic boom for these countries hitherto. However, this doesn't call for a diminution of the "evolutionary" trends in these countries in the past decades. The paradigm of globalization which started in the 1980s, intensified in the 1990s with the removal of barriers to international trade, foreign direct investments led to unprecedented growths in many of these countries ^[13]. Evidence reveals that there have being remarkable changes as seen in China were there was an unprecedented 8.3% growth in the 1990s ^[14]. Other revelations show that between 1950 to the early 2000s, many countries moved from low income to upper and lower middle income countries ^[15]. Equally, there have being positive growth rates in human developmental indices (HDI) and GDP per capita in India, Indonesia, Malaysia, Latin America and South Africa amongst others ^[16]. These, in no doubt have had its toll on the living standards, with significant changes on the overall life styles of populations in these countries. Nevertheless the global "economic crunch" of the late 2000s caused a dip in growth for many developing countries ^[17]. Notwithstanding, the impact of this crisis varied widely across these countries, with countries in Latin America avoiding big collapses and the region's efforts to reduce macroeconomic and financial vulnerabilities after previous crises has being paying off ^[17]. In fact, there have been some signs of a recovery since the second quarter of 2009 in many developing countries from sub-Saharan Africa to South and South East Asia and the Pacific Islands ^[18].

Accordingly, the obvious has being the rise in the use of technological tools and scientific research to inform policy in many of these countries ^[19, 20]. These have led to advances such as in the area of nutrition and agriculture, housing, urbanization, health care delivery, amongst others ^[20]. This situation reflects in health systems, with findings showing increase in the coverage of low-cost lifesaving public health programmes and the spread of knowledge about health, nutrition, and hygiene among households ^[13]. It could be said that the health gains in China, Costa Rica, the East Asian "tiger economies" and Viet Nam can be attributed in part to their growing access to global markets and technology ^[13]. Nevertheless, there is the rising occurrence of non-communicable diseases alongside communicable diseases in epidemic proportions besides others challenges in these countries. These therefore pose a big challenge to achieving the health targets of the millennium development goals. Consequently, like climate change, the relentless spread in life style transitions should be considered as a critical issue offering an opportunity for global health policy makers to join forces in addressing a major challenge that threatens health and economies alike. This review therefore assess the evidence of the extent to which economic growth, demographic changes, *inter alia*; have affected the living patterns and the implications of these on populations in these countries.

2 Methods for review

As literature reviews are summaries of research evidence that address research questions by using explicit methods to identify, select, critically appraise relevant research studies and analyses data from the studies that are included for the review, the author made this study as inclusive as possible.

2.1 Search methods

By using key words, the author involved a broad search of literatures on lifestyle changes, economic growth, nutrition, urbanization, smoking and alcohol, communicable and non-communicable diseases in countries termed low and middle income. Via broad criteria online search engines and databases including Pubmed, Medline, Embase and Google Scholar were searched, websites and online resources of international organizations as well as hand searches of bibliographic records. However, the author did not contact experts or universities. Original searches were conducted initially between February-April, 2013 and then July to Mid-October, 2013 for documents that were included for the review.

2.2 Selection criteria

To generate evidence for the review, studies between 1990-2013 were considered and findings included were from literature reviews, expert commentaries, cross sectional studies, panel discussions as well as grey literatures that reported an objective measure of at least one of the following outcomes: economic growth, nutrition, urbanization, environmental degradation, smoking and alcohol, communicable and non-communicable diseases, as well as the health outcomes in these countries.

2.3 Data collection, analysis and results

The findings generated from all included studies formed the themes used to critically analyze lifestyle changes and the implications in these countries. There was no detailed data synthesis and quality assessment as the study is not a systematic review. Three main issues emerged from included studies and these were: (i) Nutritional considerations, (ii) Urbanization and the built environment, (iii) Smoking and alcohol consumption. The review identified discernible evidence base about the implications of these changes on health, well-being and wealth of these nations, while suggesting an all inclusive approach that will include proactive, pre-emptive interventions and consistent participation from governments, multilateral institutions, research-funding agencies, donors, and other players in health systems.

3 Critical considerations

As economic growth, urbanization etc are important to bring about development and a reduction in poverty; however, higher levels of GDP does not always translate into greater levels of well-being for citizens^[7]. Of concern is that these transitions now tally with epidemiological trends that are referred to as the “Double Burden of Diseases”: where there is the occurrence of communicable diseases and non-communicable diseases in epidemic proportions in these countries^[21]. Regrettably, this leads to loss in productivity of the populace, effects on national income and strain on health care systems. Interestingly, the threat of the consequences of these transitions has led some of these countries to find solutions at the levels of policy and health care delivery^[22]. On the contrary, many of these countries particularly those in sub-Saharan Africa and parts of south Asia still face the problems of inadequate resources, poorly constructed health systems which in many instances are characterised by general lack of expertise to address the rising burden posed by the epidemiologic transitions^[22]. Accordingly, it is important to critically reflect on issues such as nutritional patterns, urbanization and the built environment, as well as tobacco smoking and alcohol consumption as these cut across existing life style paradigms in these countries and contribute significantly to the health of populations.

3.1 Nutritional considerations

Currently the world is facing an energy crisis, a “food crisis”, financial crisis and a climate that has begun to change in ominous ways. Notwithstanding, the recent past decades brought about transitions in life styles across many developing countries. These transitions are inextricably linked to the economic and socio-demographic changes as well as globalization prior to the global economic “meltdown”^[23, 24]. Many developing countries now leverage on the global partnership for development, for economic growth and co-operate development. Amongst the many was the signed bilateral trade agreement (BTA) that allows for free flow of trade among the Pacific Islands countries and their industrialized neighbours of Australia, New Zealand as well as the United States^[25]. Of interest is that it created a channel

of flow for more processed, affordable and effectively marketable foods within the Pacific Islands countries. These can largely explain the obvious nutritional shifts. The situation now reveals documentations of marked shifts in the structure of the food systems in many of these countries, which now produce more processed, affordable and effectively marketable food than ever before^[26-28]. Local and traditional diets are rapidly giving way to more “convenient” meals such as pastries, fried foods, refined alcoholic and non-alcoholic beverages^[25]. Evidence have shown an accelerated change in the nutritional patterns in many societies in developing countries such as in Brazil, Indonesia, India, Malawi, Nigeria and even among the Polynesians in the Pacific^[26]. Populations in these countries now converge on diets high in saturated fat, refined sugar and processed foods that are low in fibre and natural nutrients^[27-30].

Although, the recent “economic crunch” of the late 2000s caused a marked increase in food prices in developing countries, where the average household now spend as much as 80% of its disposable income to buy food^[31] on the contrary it further strengthens the reasons for higher consumption of processed foods, full of fat and sugar and low in essential nutrients which have now become the staple foods, unlike healthy foods which are almost always the most expensive, like fruits and vegetables and sources of high quality protein. Equally is the fact that many citizens in countries such as Brazil, China and South Africa spend considerable sums of money on “unhealthy” foods of which there is now increased access to^[32]. Anecdotes reveals that, besides the increased income per capita, the other reasons for these new paradigms-dietary shifts-includes convenience and leisure. The drivers of these dietary trends are in the food system: the rising supply of palatable, energy-dense foods; with improved distributing systems to make food much more accessible and more convenient^[33]. More so, is the fact that the trend is compounded by the presence of many transnational food companies which have launched aggressive marketing campaigns to penetrate consumer bases in these nations, precisely because of the favourable socio-economic trends in the past few decades^[32, 34]. The situation is responsible for the increased calorie intake by populations in these countries^[35]. Facts have shown that the average calorie intake in countries in parts of Asia, Latin America and some pacific Island countries is at par with what is obtainable in Western Europe and North America (*i.e* between 3000 kcal/day-3600 kcal/day)^[35]. For instance, a study in urban areas of China showed that in a recipe containing pork and egg there was a noticeable increase in the amount of pork and egg in the dish within three years^[35]. The same also revealed that the amount of pork increased by 9.7 grams and the amount of egg increased by two grams within the same period. As it were, many settings in Asia, Middle East, the Pacific, North Africa and Urban areas of sub-Saharan Africa are now experiencing dietary-shifts which is fuelling the rise in overweight and non-communicable disease epidemics^[26-28].

The epidemiologic consequence of these shows the rising prevalence of overweight with elevated incidence of degenerative diseases^[36, 37]. These findings have also tallied with reports of increasing incidence of childhood obesity in some of these countries^[38] and this can't be mutually exclusive from the rise in consumption of processed foods. The trends in childhood obesity is of concern to health professionals because childhood obesity is the likely precursor to a rise in cases of some childhood disease such as paediatric metabolic syndrome and the consequences of these on the health systems and health care delivery cannot be underestimated^[38]. Additionally, in Brazil facts from repeated cross-sectional surveys of body mass index (BMI) reveals that obesity rates increased rapidly amongst middle- aged women of all social strata^[39, 40]. By 2004, the disability attributed to overweight and obesity was calculated at more than 36 million disability-adjusted life years globally with this accounting for up to 6% of total health care costs in many of these developing countries^[41, 42]. Diseases like diabetes, coronary heart disease and many cancers such as colorectal cancers are rising in these countries^[41, 43]. Evidence from a meta-analysis showed increasing trends in the prevalence of hypertension and its complications in India between the late 1950s and 1990s^[44]. More so, the prevalence of hypertension in Nigeria - a sub-Saharan African country - increased from 8.6% in the late 1970s to as high as 22.5% by 2011^[42]. While, the global prevalence of diabetes among adults (aged 20 years-79 years) is expected to increase to 7.7% by 2030, there will be a 69% increase in numbers of adults with diabetes in developing countries^[43]. These issues do call for a deep reflection on the implications for many in these countries; the sad fact is the economic implications it will have, most notably of which is the loss in productivity of the populace, effects on national income and the economy as well as the strain on health care systems.

3.2 Urbanization and the built environment

The effect of these changes has seen large scale urbanization and socio-demographic changes in these countries^[15]. There have been wide scale improvements in housing, social service sectors such as roads, and growth of cities and megacities^[15]. Nevertheless, as urbanization is needful for improved living standards; paradoxically, it “marginalizes” the health of population in these countries. As it were, the socio-demographic changes witnessed in many developing countries have culminated in the problems of environmental degradation and man-made disasters^[15]. Projections have it that by 2030, Africa for instance will be severely affected from issues relating to climate change, water shortage, *etc*^[45]. It is expected by then, that the greatest stress from lack of water will affect between 75 million and 250 million Africans^[46]. This will increase the challenges of emerging and re-emerging diseases; rising prevalence of the neglected tropical diseases such as schistosomiasis and guinea worm infection, epidemics of dysentery, diarrhea and cholera. The roll back malaria programme may be jeopardized as water scarcity will cause many to store water within household which amplifies the risk of malaria and dengue fever spread by mosquitoes^[47]. There will also be the challenges of food insecurity with the impacts of malnutrition. Needless to say is the impact poor urbanization and environmental degradation will have outside the African Continent. Sadly, developing countries face greater urbanization challenges than developed countries. While developed countries urbanized at a much leisure pace the same can't be said for many developing countries. Notably, the United States was 70% urbanized in 1960s and 75% in 1990^[48]. This pace is in contrast with that in many developing countries. The Republic of Korea for example was 40% urbanized in 1970 and by 1990 it was 78%^[49]. What took the United States 90 years to accomplish took Korea 20 years and Brazil 30 years. It is possible that this rapid urbanization combined with the relatively increased GDP has not allowed for enough reasonable form of urbanization and the needed quality of life by most of the populace in these countries. The import being that for rapidly urbanizing developing countries, the needed cultural change to adapt rural life style to urban one has become a “crash course”. Besides, nearly fifty percent of the populations in developing countries now live in areas classified as urban^[50].

Equally, the other critical challenge is that these changes now contribute to what is referred to as the “built environment”^[51]. This constitutes such an environment within the home or workplace that promotes physical inactivity, weight gain, and is not conducive for weight loss^[51]. In fact, it provides the “template” for increased consumption of energy, resources, transport, land and industrial growth in the face of the spread of the sedentary automobile-and-television culture^[52]. The observable impact of the built environment is largely due to modernization of social infrastructures and industrialization in these countries over the years^[53, 54]. The built environment complicates efforts aimed at addressing the existing health burden in these countries as seen in its negative effect in increasing physical inactivity by promoting a sedentary culture among human populations in many societies in developing countries and the attendant increased prevalence of overweight with the sequelae of noncommunicable diseases^[49, 55]. Evidence show that overweight is now an issue in many of these countries as it does correlate positively with urbanization^[19, 62, 67]. Revelations from a study showed that two indicators (GDP and urbanization) were positively associated with the prevalence of overweight^[56]. By collecting and analyzing data on BMI of women aged 29 years-49 years from 36 developing countries spread across Asia, Latin America and sub-Saharan Africa, the study showed that overweight exceeded underweight in well over half of the countries: the median ratio of overweight to underweight was 5.8 in urban and 2.1 in rural areas. These epidemiological transitions now come to bear. The import is the rising incidence of the epidemiological sequelae: hypertension, cardiovascular diseases such as stroke, and cancers such as colorectal cancers^[43]. This has implications for attaining the health related millennium development goals in these countries.

3.3 Smoking and alcohol consumption

Interestingly, these are inextricably linked and yet some of the most controversial life style issues bothering scientists and health policy makers alike. Tobacco smoking has been linked with a number of related cancers of which include cancers of the lungs, oropharyngeal cancers and some gastrointestinal cancers^[57]. Smoking, is associated with physical inactivity, greater consumption of alcohol and lower consumption of fruits, vegetables and dietary fibres^[58]. Likewise, tobacco smokers are some of the major consumers of alcoholic beverages in various forms^[59, 60]. Concurrent use of these

substances poses a significant public health threat as tobacco smoking and alcohol consumption have been shown to be synergistic in creating many adverse health conditions ^[61, 62]. What is important to policy makers is the rising trend in tobacco smoking in developing countries ^[62, 63].

While there may be assertions that smoking and alcohol consumption do not have direct bearing with economic growth, chiefly is the fact that, of the 1.22 billion smokers globally, one billion of them live in developing or transitional economies ^[64]. In fact, while the rate of tobacco smoking has declined in the developed world, in developing countries tobacco consumption has been on the rise and by 2002 reached 3.4% increase per year ^[63]. The sad fact is that projections have it that by the year 2025, 1.9 billion people will be smokers with most of them living in developing countries ^[64]. Sadly, anecdotes reveal that social activities in developing countries are now a “haven” for smoking and consumption of alcoholic beverages at rapacious levels which prior to now may have been considered as an anathema.

Additionally, the public health challenges of consuming alcoholic beverages come to bear. While there are measurements for tobacco smoking, it is however difficult to ascertain those for alcohol consumption ^[65]. Estimates of per capita alcohol consumption may be derived from production, trade and/or sales figures. However, these figures are rarely available even in developed countries much less developing countries. For instance, detailed studies which estimated the size of unregistered consumption in East Africa yielded estimates of the total consumption of alcohol where that for Tanzania and for Kenya were about 90% and 85% respectively of the proportion of total alcohol produced and these were anecdotal. More so, many of these countries such as in those in Asia (with the exception of Japan), Latin America and Africa, recorded per capita consumption increase between 1961 to the late 1990s ^[65]. It is believed that the reasons behind this trend is both political and economic. Facts reveal subtle political and economic mechanics favouring the growth of the alcohol, tobacco and allied industries in many developing countries at the expense of health ^[66, 67]. Systematic approaches by local firms to remain attractive to public policy makers include; portraying themselves as a mainstay in the economy considering that they provide jobs and revenue through taxation ^[67]. More so, it appears that policy actions in many of these countries have paved the way for increased access to and consumption of these products in the recent past, as the revenue generated from taxation policies on their sales have kept these industries afloat over the decades ^[68]. However this argument, particularly by the tobacco industry has been rebuffed by global international institutions such as the World Bank, as there are calls for a rapid attention on these amidst the so-called robust economic inputs ^[69]. These therefore necessitate reflections on the impacts of these on health, health systems and paradoxically the economy.

4 Further reflections

Although, communicable diseases still continue to be important causes of death in many of these countries, the global burden of disease is now shifting from communicable diseases to noncommunicable diseases particularly diseases arising from lifestyle transitions, with chronic conditions such as cardiovascular diseases: hypertension and stroke as well as cancers being the chief cause of disability and death (or disease burden) with epidemic proportions occurring in these countries ^[70, 71]. This shifting health trends indicate that leading infectious diseases – diarrhea, HIV/AIDS, tuberculosis, and malaria – will become less important causes of disease burden in these countries over the next 20 years that is by 2030 ^[71]. Importantly, as globalization and the proliferation of life style changes continue, it is becoming increasingly common to observe in these countries the perennial battle with century old issues of communicable diseases and noncommunicable diseases. Issues of environmental degradation and man-made disasters which results in water scarcity (economic and physical) in regions like sub-Saharan Africa should be critically considered. While these countries continue to develop besides life style changes, paradoxically, the impacts of this on health, agriculture, education, *etc.* do come to bear.

Additionally, is the projection for costs of treatment and the deleterious effects on individual productivity as diseases of life style will take catastrophic tolls on the economic life of individuals, families, and societies in many of these countries. It follows that, the 2009 World Economic Forum’s report proposes that diseases of life style changes are among the most

severe threats to global economic development, more likely to be realized and potentially more “detrimental” than fiscal crises, natural disasters, or pandemic influenzas^[72]. Its projections show that in the next 10 years-15 years, China and India alone will lose approximately \$558 billion and \$237 billion respectively in national income as a result of largely preventable diseases-cardiovascular diseases, diabetes and cancers^[72]. For 5.6 billion people in countries of low and middle income, more than half of all health spending is covered by direct payments^[73]. This health financing system is very inefficient and necessitates policy reforms that will reduce the regressive burden of out-of pocket expenditure and at the same time overdependence on government budgetary allocation to health. Although, the threat of the consequences of these transitions has led some of these countries to find solutions at the levels of policy and health care delivery^[71], however; many of these countries particularly those in sub-Saharan Africa and south Asia still face the problems of inadequate resources, poorly constructed health systems which in many instances are characterized by general lack of expertise to address the rising burden posed by the epidemiologic transitions^[72]. Ultimately, these challenges now offer opportunities for regional and global integration and cooperation.

5 Conclusion

As life style transitions now come to bear, it thus necessitates an all inclusive approach that will include proactive and pre-emptive interventions as well as consistent participation from governments, multilateral institutions, research-funding agencies, donors, and other players in health systems^[71]. There is the need to increase the sense of urgency regarding the implications of these transitions that are “communicated” by means of economic, social and demographic changes, lest they insidiously undermine the health, wellbeing and wealth of these nations. This is because it will provide the global community with great opportunities in uniting high, middle, and low-income countries in a common purpose, given the shared interests of globalization and economic burdens worldwide.

Competing interests

This paper clearly expresses the views of the author as there are no competing interests. For enquires on the views of this document please contact the author.

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