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Healthy ageing through healthy living style

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Abstract:
Ageing is not necessarily a burden, and it does not necessarily decrease a person's ability to contribute to a society. Older people play a valuable role in society and can also enjoy a high quality of life .This depends on treating "ageing" as an opportunity rather than a burden. Research has shown that healthy lifestyles are more influential than genetic factors in helping seniors avoid the deterioration traditionally associated with ageing. The development of healthy ageing provides an overview and evidence to support priority issues such as healthy eating, physical activity, mindful meditation, regular exercise, injury prevention, tobacco cessation, social connectedness and positive thinking. A healthy lifestyle in advanced age is positively related to a reduced mortality risk and delay in the deterioration of one's health status. In Tanzania, only 2.9 percent of the population is aged 65 and above. However, as the country develops more people will live beyond 65 and, thus, there is a need to promote practices and policies that support ad sustain life for increasing number of older population. This article describes some health policies practised in India and explores the possibilities of promoting them in Tanzania.

Introduction

This article discusses the ways to develop and maintain healthier patterns of living in old age. It consists two sections, with the first section further divided into three sub-sections. Towards the background, theoretical and conceptual framework provides a scenario of ageing, consequences of ageing and easing the negative impacts of ageing. The study tried to establish the relationship between motivation and life's outlook. The second section, which is also divided into two sub-sections, explores issues of nutritional diet, mindful exercises, and proportionate food elements as required in old age. The focus of the second sub-section is on demonstrating some Indian practices that can contribute to promoting healthy ageing.

Ageing in the global context

The world is facing a situation without precedence. We will soon have older people than children. Research data shows that in 2010, an estimated 524 million people, or eight percent of the world's population were aged 65 or older. By 2050, this number is projected to nearly triple to about 1.5 billion, hence representing 16 percent of the world's population. Moreover the most rapidly ageing populations are in less

developed countries such as China, India and Indonesia. China, the world's largest population had 122 million people aged 65 and above in 2012 followed by India with 67 million. For Tanzania, it is estimated that the number of older persons will increase from 1.95 million in 2005 to 7.16 millions in 2050. The percentage of older people in the population of Tanzania is currently the highest in the East African region (2.9% in 2005) and will rise to 10.7 percent in 2050 (Aboderin and Gachuhi 2007; UN Population Division 2007). This begs the question regarding whether the soaring number of ageing population will be accompanied by a longer period of good health. A better understanding of the changing relationship between health and age is, therefore, crucial if we are to create a future that takes full advantage of powerful resource inherent in the older population.

There are various demographic characteristics that are relevant to facilitating effective services to this population, with the issue of food insecurity being one that needs to be addressed on a larger scale. Food insecurity has varying definitions. However, the one of which states that food insecurity is limited or restricted access to nutritious food that meets the USDA's dietary guidelines, or, simply defined as "hunger" (Ahn, Smith, Hendricks, &Ory, 2014; Hooyman*et al.*, 2015). Hooyman*et al.* (2015) state that over five million older adults experience some type of food insecurity and 2.5 million of this number is at risk of hunger. Additionally, those who experience food insecurity are three times more likely to skip their medication dosages or stop taking them altogether. National Health Bureau Statistics(NHBS) reveals that members of households containing older people tend to experience some of the highest poverty rates. In fact, the basic needs poverty rate amongst members of the 23.2 per cent of households which contain someone aged 60 years or above stands at almost 41 percent. This compares with a national poverty rate of 33.4 percent. This suggests that old age poverty is having significant effect on a large segment of the Tanzanian population and being transmitted across generations, thereby affecting Tanzania's future as well as present development prospects.

On the whole, global efforts are required to understand the physical and economic needs of the elderly citizens along with the prevention of age-related diseases such as Alzheimer, dementia and frailty in addition to implementing the existing knowledge on the prevention and treatment of heart disease, diabetes, stroke and cancer. Intervention trials have shown that reduction of blood pressure by 6 mm Hg reduces the risk of stroke by 40 percent and of heart attack by 15 percent. Similarly, a 10 percent reduction in blood cholesterol concentration will reduce the risk of coronary heart disease by 30 percent. Dietary changes seem to affect risk-factor levels throughout life and may have an even greater impact in older people. Relatively modest reductions in saturated fat and salt intake, which would reduce blood pressure and cholesterol concentrations, could have a substantial effect on reducing the burden of cardiovascular disease. Increasing the consumption of fruit and vegetables by one to two servings daily could cut cardiovascular risk by 30 percent (Laura&Hartel, 1947). In many countries, most deaths now occur in people over the age of 65 years (McCracken & Phillips, 2012). In Britain, 91percent of all deaths in 2012 were among the older population (Age UK, 2015).

In Tanzania, the elderly figure is not very high as compared to other countries. Only 1.98 million people are aged over 65 and the life expectancy is also very low compared to other countries (Table-1,3).The reason behind this is not hidden, Tanzanian's traditional arch enemies are ignorance, poverty and disease. A research report on the elderly shows that half of the older people sample over 60s (48 %) declared that they were entitled to free medical treatment but they were ignorant and not availing the facility (Poverty and Human Development Report of 2007).In Tanzania, the majority of the older people, especially in rural areas, belong to the poorest and most vulnerable groups. Their capacity to satisfy their basic needs declines as age increases. Though substantial progress has been made in recent years, Tanzania remains one of the poorest countries.

Despite the economic growth achieved since the mid-1990s (GDP grew from 1.4% in 1994 to over 6% in 2002) and the reduction in inflation, there has only been limited improvement in the income poverty status. In a study on the situation of older people in the context of Tanzania, Forrester found that the elderly feel the increasing need to stay economically well to access services. They lack basic needs that are also connected to a decline in support. Moreover they experience a lack of willingness by medical staff to treat them. The difficulties older people experience in meeting their basic needs coupled with lack of support tends to affect their health. In fact, the current health care offered to the older people is problematic. The majority of the older people cannot afford to pay for the health services (Labour Force Survey 2014). There are just over two million older people in Tanzania—4.64 percent of the population. Older people are more likely to experience ill-health and disability than other age groups and constitute about 30 percent of the disabled population nationally. Older people—particularly older women—frequently experience discrimination, rights abuse and social exclusion. Poor households with older people are often unable to take advantage of livelihood promotion services and other public services due to income constraints. In this context, a universal pension scheme can only promote social accountability.

Table 1: Elderly Population in selected countries (above 65)

Countries	**Elderly Population (%)**
China	9.6
India	6.5
United States	14.5
Indonesia	6.5
Tanzania	2.9

Source: CIA World Fact Book (updated 8th October, 2016)

Table 2: Proportion of people aged 65 and above in Selected countries for 2010 & 2050

Countries	2010	2050
China	8.3	23.9
India	5.1	12.7
United States	13.1	21.4
South Africa	5.2	10.5
Kenya	2.6	6.3

Source: UN Department of Economic and Social Affairs, World Population Prospects (2012 Revision, June 2013, Pew Research Centre)

Table 3: Life expectancy of population aged in selected countries [65 years and above].

Countries	% of Life Expectancy
China	75.30
United States	74.27
Indonesia	72.45
India	68.13
Tanzania	60.85

Source: The World Life Expectancy (2015-Geoba.Se)

In Tanzania, the population of aged 65 accounts for only2.9 percent of the total population; however, according to the Integrated Labour Survey (2014), 86.7 percent of this population aged 65 and above is economically active. Only a few persons in the 65+ age group (125,710) are reported to be unemployed. This means in the next 20 years there will be more unemployed senior citizens living under social security benefits with others having to rely on their own. Generally, the aged people are assets to the nation, which prompts some societies to develop a comprehensive welfare programmes to cater their old generation.

Negative Impacts of Ageing

Ageing is increasingly viewed in social sciences from the perspective of the life course, which can be described in stages based on the biological and cognitive development, such as childhood, adulthood and old age (Larkin, 2013). However, in sociological terms, the life course considers ageing to be a social construction that varies both culturally and historically (Larkin, 2013). Although lifelong biological and cognitive development cannot be denied, ageing is equally a social phenomenon, the experience of which is affected by social, political and economic factors. It is also important to note that people aged over 65 also experience a range of health problems including the following:

- Increased body fat
- Increased blood pressure

- Increased susceptibility to mood disorders such as anxiety and depression
- Increased risk of various diseases such as stroke, gastro, cardiovascular, sleeps disturbances, etc
- Decreased co-ordination and balance
- Decreased strength and physical endurance
- Decreased mobility
- Reduced cardiovascular and respiratory functions
- Reduced bone strength, etc.

In this regard, a research from Canada illustrates that the main long-term health problems for those over 65 include mobility, arthritis, cognitive impairment, declining vision and heart problems (Griffith *et al*., 2010).

There are also some social and psychological impacts of ageing. Social isolation is one of them. It can develop when living at home and occasion a lack of communication with others. This results in the senior feeling lonely due to the loss of contact or companionship, as well as a deficit of close and genuine communication with others. It also can also result in the self-perception of being alone even when one is in the company of others. The causes of social isolation are numerous. They include retirement, death of a spouse or the significant other, health problems and even reduced income can create situations where one is separated from social contacts. One study established that twenty-eight percent of Americans aged above 65 live alone (Cornell Institute for Translational Research on Ageing, Research Review, March 2007). Thus seniors and caregivers should be aware of potential social isolation. Indeed, social isolation is an issue that should be considered by anyone who is considering remaining in their home as they age.

Burden of disease and injuries for Coastal regions in Tanzania 2008-2011 gives a distribution of major causes of death among the elderly (60+):

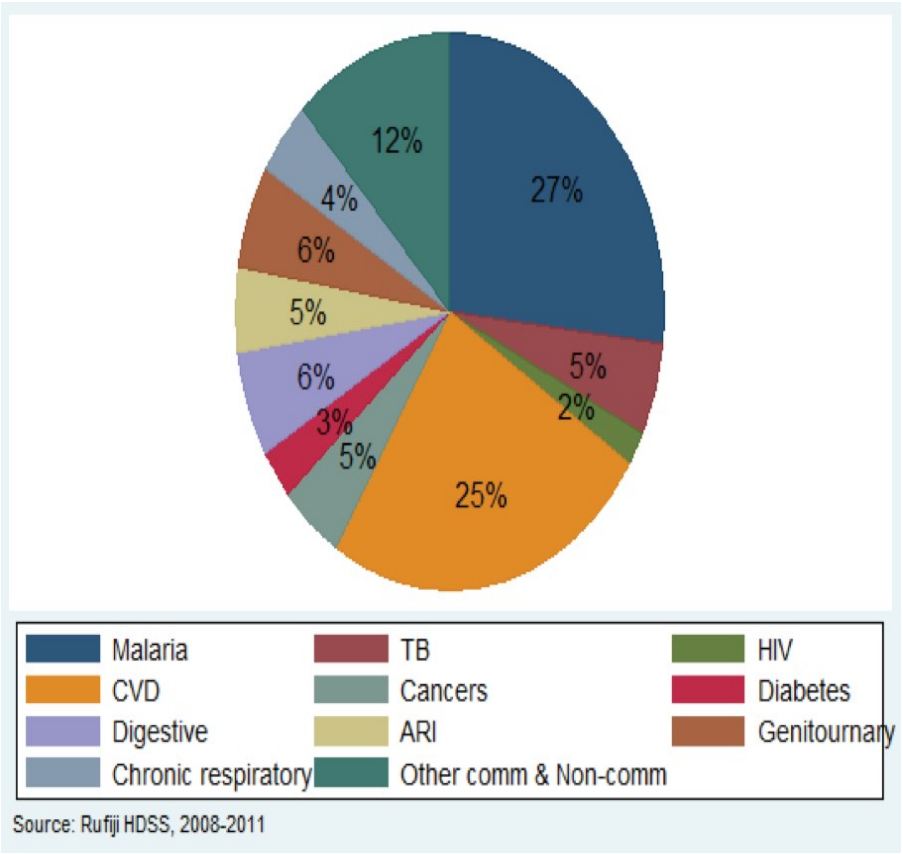

Figure 1: Distribution of causes of death for aged, N=1004

Malaria is a major cause of death among older ages. Along with the physical changes that occur as people get older, changes to their sleep patterns are also a part of the normal ageing process. Many older adults also report being less satisfied with sleep and more exhausted during the day. Sleep needs changes over a person's life time. Children and adolescents need more sleep than adults and older adults need about the same amount of sleep as younger adults. A study of adults over 65 found that 13 percent men and 36 percent of women take more than 30 minutes to fall asleep.

Mitigating Against the Negative Impacts of Aging

Getting people to develop and maintain healthier patterns of living involves the issue of motivation." Motivation and life outlook play an important part in an older adult's ability to recover from illness or disabling events and to maintain and/or adopt health-promoting behaviours," says Kerri Clough-Gorr (Institute of Social and Preventive Medicine, ISPM). How do you get people to perform and maintain

behaviours that are in their own best interests but that can be bothersome or difficult to accomplish, such as eating properly, exercising, moderating bad habits, and following through on doctors' directives? More broadly, how do you motivate people to strive for goals that are realistic and adaptive as well as to modify those goals in response to new challenges and opportunities (e.g., for older adults, retirement, relocation, loss, illness)? The need for change is constant throughout life, as people seek new opportunities, they try to improve their lifestyles, enter new relationships, and control undesirable behaviours. Such behaviours carried out in early and mid-life have profound effects on well-being throughout the life span. Life-span theory (Goulet &Baltes, 1970; Featherman, Lerner, &Perlmutter, 1994) provided a conceptual framework for the psychological and sociological study of human development across a full life-span. As the empirical literature grew and fed back into theory, general conclusions about aging began to crystallise (Baltes, 1991). One reliable observation is that the balance between gains and losses—albeit weighted increasingly toward loss—continues to include growth in old age (Heckhausen, Dixon, & Baltes, 1989). Social relations and emotional well-being appear to be areas typified by growth. Indeed, self-knowledge, well-honed skills in self-regulation, and stable social relationships may represent the very resources that people draw on to face the challenges of ageing.

It remains unknown whether older people are more or less likely than younger ones to initiate change; however, it is clear that ageing often entails the need to make changes and that the types of changes older people must consider are particularly pressing. Many older adults need to watch their diets not only for aesthetic reasons or general physical health but also because of immediate consequences such as cardiovascular functioning, blood sugar regulation, or other health-related problems; failing to take medications may be imprudent and risky when one is in middle age, but downright disastrous in old age because of disease progression. Likewise, exercise can profoundly reduce the likelihood of falls in older people, the consequences of which are far more likely to result in death than in any other age group (Greenhouse, 1994).

Behavioural science also plays a crucial role in understanding the best strategies for motivating change, for example, a better scientific understanding of the factors that promote change and factors that maintain change. In the fields of social and personality psychology, two distinct conceptual approaches are relevant. First, many psychologists focus on self-regulation, which is concerned with personal efforts to initiate and maintain change. This process allows people to control or alter their thoughts, emotions, and behaviours. At its core, self-regulation involves overriding existing habits or contextually-triggered impulses and sustaining efforts over time until a specified goal has been reached. It involves the capacity to project oneself into the future, form adaptive attitudes, make plans, choose from available alternatives, focus attention on pursuing goals, inhibit competing thoughts, and detect discrepancies between one's current states and goal states (Bandura, 1997, 2001; Baumeister& Heatherton, 1996; Carver &Scheier, 1982; Gollwitzer, Fujita,

&Oettingen, 2004; Leventhal, Leventhal, &Contrada, 1998; Mischel, 1996; Muraven&Baumeister, 2000).

Although humans have the capacity to delay gratification, control appetites and impulses and persevere to attain goals, people of all ages face difficulties when it comes to self-regulation. Indeed, failures of self-regulation constitute one of the most important and perplexing problems modern society faces, which poses serious difficulties for older people.

On the other hand, repeated acts of self-regulation can lead to greater self-regulatory capacity, which this may be especially important among older adults. In this regard, Park *etal*. (1999)reported that older adults were more adherent in taking medication than middle-aged adults, in part because of lower levels of environmental demands. The increased regularity and predictability of everyday life for older adults may promote habit and self-regulation with age. The issue of self-regulation must be addressed at multiple levels of analysis: from neurochemistry, neuroanatomy, brain systems, cognition, and emotion; to such familial and societal contexts as socio-economic status, including gender, race, culture, and ethnicity. At each level, attention is needed to encourage people to inhibit or exhibit certain behaviours, thoughts, or emotions.

Self-regulation is, thus, clearly important for people of all ages, although certain aspects of self-regulation may be especially relevant for older adults, such as adherence to medical regimens, following a specified diet to control health problems, and maintaining physical activity (Balkrishnan, 1998; Brown & Park, 2003; Christmas & Andersen, 2000; Diehl, Coyle, &Labouvie-Vief, 1996; Kahana&Kahana, 1975; Schneider, Friend, Whitaker, &Wadhwa, 1991). Researchers have long been interested in examining and promoting methods that can be used to encourage people to engage in healthful behaviours (Salovey, Rothman, & Rodin, 1998). Some evidence warrants optimism regarding self-regulatory capacities among older adults (Blanchard-Fields & Chen, 1996; Hess, 1994). Research has found older adults to be better at emotional control and emotional stability (Gross *et al*., 1997; Lawton, Kleban, Rajagopal, & Dean, 1992; Thayer, Newman, & McClain, 1994) and that they may also delay gratification longer (e.g., Green, Fry, & Myerson, 1994) than younger adults. Similarly, Diehl, Coyle, and Labouvie-Vief (1996) demonstrated that older adults have greater impulse control than children and young adults, primarily because of the use of more efficacious coping strategies.

The evidence indicates that self-regulatory capacity increases over the life course, with children being the least capable and older people being the most capable. One hypothesis is that with age it becomes harder to make behavioural changes, but once those changes are initiated, older adults find them easier to maintain. There is reason to infer from the existing ageing literature that change in older adults may entail special challenges in the area of initiation. Passivity on the part of institutionalised older adults has been widely documented (Baltes, 1995, 1996), perhaps because of reinforcement processes (Baltes& Wahl, 1991). And some memory decline in normal aging directly affects self-initiated cognitive strategies (Cabeza*et al*., 2004; Logan *et al*., 2002). For somewhat different reasons, socio-

emotional selectivity theory makes similar predictions. According to the selectivity theory, perceived constraints on time result in motivational changes that favour goals related to regulating emotional states over goals associated with gaining knowledge or otherwise expanding one's horizons. In studies that use social choice paradigms, for example, older participants are reliably more likely to opt for well-known, emotionally significant partners over novel social partners (Fredrickson &Carstensen, 1990; Fung &Carstensen, 2004; Fung, Carstensen, & Lutz, 1999; Fung, Lai, & Ng, 2001). Even basic cognitive processes, such as memory and attention, appear to be affected by motivational changes. Empirical tests of the selectivity theory demonstrate that memory for advertisements are better when slogans promise emotional rewards than when they promise informational rewards (Fung &Carstensen, 2003). Thus, there is considerable evidence that, with age, people grow more interested in emotional satisfaction and less interested in seeking novelty.

Moreover, the literature on self-concept and ageing suggests that, despite objective threats to self, from physical disabilities to ageism, older people are surprisingly satisfied with their self-views (Greve&Wentura, 2003). In other words, ageing is associated with greater satisfaction with the status quo and less interest in improving the self. One experience sampling study also revealed less variability in self-descriptions in everyday life (Charles &Pasupathi, 2003). Thus, because negative affect is an important trigger of self-regulation failure, it may be that older adults succeed at self-regulation more often than younger adults because they do not experience as much dissatisfaction. A vast literature demonstrates the role that efficacious beliefs play in instigating and maintaining change in young people (Bandura, 2001). There is additional evidence to the effect that they play a similar role in older adults. Self-efficacy and personal beliefs have long been known to play critical roles in self-regulation (Bandura, 1989, 1997; Mischel, Cantor, & Feldman, 1996; Mischel, Shoda, & Rodriguez, 1989). Research also demonstrates that feelings of control over the environment are important for self-motivation across one's lifespan (Brandtstädter & Rothermund, 1994; Seeman, McAvay, Merrill, Albert, & Rodin, 1996).

The thinking continuum is particularly interesting to examine in light of ageing primarily because people tend to rely less on deliberative forms of thinking and more on intuitive modes as they grow older. It is important to note that extensive thinking does not necessarily produce better decisions than relying on gut feelings or intuition. This is because a person's extensive thinking can be biased in various ways, and intuition can be a proxy for a person's expertise. Nevertheless, if older adults are less motivated or less able to seek and process information than younger adults, attitude modification processes that rely more on heuristics and intuitions might be more effective than strategies that rely on high amounts of information processing and thinking. Thus, older people may be more likely to base evaluations on the first information presented (primacy effect), or on a smaller number of information dimensions, or on simple inferences, shortcuts, and associations (e.g., if it makes me feel good, I like it, see Schwarz &Clore, 1983). Although decades of

research studies have examined how to change people's more conscious explicit attitudes, attention has only recently begun to turn to modifying implicit attitudes. Yet, such understanding is of potentially so great an importance for older people that automatic processes do not decline with ageing as much as the deliberative processes. That is, if older adults are more prone to rely on automatically-activated evaluations rather than on deliberately-considered ones, understanding how to produce desirable automatic attitudes in older people can reap considerable benefits.

Some common practices for maintaining good health at old age

In this sub-section, we explore some affordable food, mindful exercises and appropriate proportion of food elements as required in old age to make old people healthy. As everyone knows ageing is inevitable but by following a healthy life style—that is eating a nutritious diet, and staying active throughout—we can help slow down the ageing process and, perhaps, even stave off age-related chronic diseases such as osteoporosis, diabetes, and heart diseases. Healthy ageing entails optimising opportunities for good health, so that older people can take an active part in society and enjoy independent and high quality life. The development of healthy ageing provides an overview and evidence to support some key priorities that researchers have identified as crucial to healthy ageing, as Figure 2 illustrates:

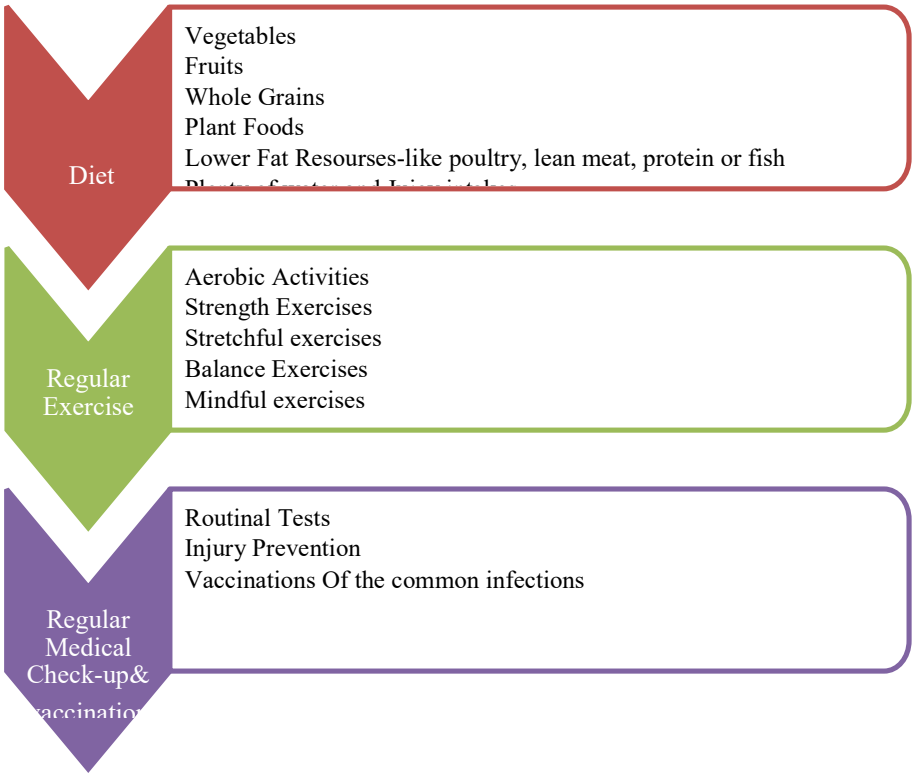

Figure 2: Development of healthy ageing

People, who are physically active, eat a healthy diet, do not use tobacco and exhibit other healthy behaviours that reduce their risk of contracting chronic diseases have a much reduced rate of disability compared to those who do not. On the other hand, unhealthy lifestyle habits such as smoking, having a low quality diet, and being physically inactive were slightly related to an increased mortality risk (Annemien Haveman, 2003). Having people engage in healthy lifestyle can prevent, minimise, or even reverse frailty and poor health in old age.

Basic nutrition needs remain pretty constant throughout life; requirement for specific nutrients may increase or decrease. Slightly as we get older, caloric needs drop, hence making it ever more important to pack our diet with good stuff—vegetables, fruits and whole grains i.e. plant-based foods. Plant foods are the rich sources of photochemical, beneficial compounds that may help protect against age-related conditions such as heart diseases, high blood pressure, and muscular degeneration, which is a leading cause of blindness. At least two-thirds of the plate

should be filled with vegetables, fruits, whole grains, beans and the remaining one-third should be lower fat nutrition such as poultry, lean meat, protein or fish (WHO-Nutritional Guidelines For Older People)

Manahan *et al*. (2011) suggest that the daily recommended intakes (DRIs) for energy for adults can be used to calculate the energy requirement of older persons, provided an adjustment is made for increasing age. For example, the DRI for energy for adults aged 18 years is 12,830 kJ/day (3,067kcal/day) for men and 10,060 KJ/day (2,403 Kcal/day) for women. To compensate for the reduced energy due to ageing, these authors suggest that we subtract 42KJ/day (10 kcal/day) for men and 29Kj/day (7kcal/day) for women for each years of age older than 19 years. In other words, a healthy man who is aged 80 years would require about 2,500 KJ less energy everyday than when he was 19 years old. Kilocalorie ("kcal") and kilojoule ("kJ") appear on nutrition labels as Kcal-1/1,000. KJ calorie measures food energy.

According to the dietary guidelines for Americans—key recommendations for older age healthy aging throughout the life should include the following:

- Limiting our intake of sodium
- Limiting our intake of sodium fats
- Limiting our intake of added sugar
- Limiting the intake of refined grains

An increase in starchy, fibre, providing nutritious foods and a reduction in fatty and sugary foods are likely to be beneficial, particularly for individuals who are overweight. But a low fat, high fibre diet is not appropriate for all the elderly, especially those with repeated infections, or generally poor health. Fat is not good but the truth is that, in older age there is also a need for some fat in a given diet for one to stay healthy. However, the amount of fat generally recommended for such an advanced age ranges from 20 to no more 30 percent of the daily calorie intake—stay pretty much the same throughout adulthood. Fat is the most concentrated source. Trans-fat (a type of unsaturated *fat*) should be avoided as it raises low density lipoproteins (bad cholesterol).The proportion of 14 percent fat, 14 percent protein, 71 percent carbohydrate and one percent of fibre is recommended for healthy ageing (National Research Council US, 2010)] as Figure 3 illustrates.

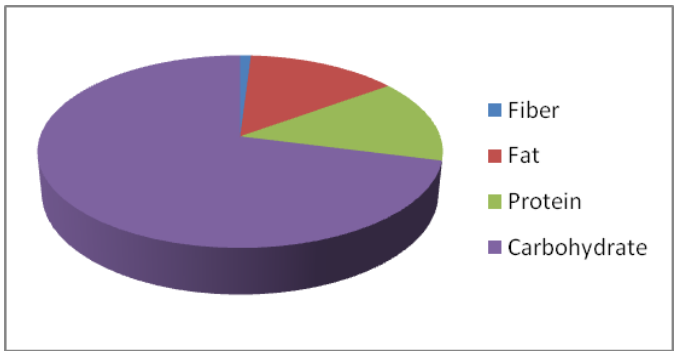

Figure 3: Recommended diet for healthy ageing

Sufficient water intake is also needed in old age as dehydration is a major problem among the elderly. Water recommended for adults is 1-1/2 OZ/KG (**oz↔kg** 1 kg = 35.273968 ozoz↔lb 1 lb = 16 oz) of the actual body weight. The daily need for water in old age is between six t and eight glasses. Plenty of fluid intake is also a requirement of the elderly because fluid loss in average person is usually 2.5 litres per day whereas in an older person it is 2 litres per day. Fluid loss also increases in hot weather, during exercises, vomiting, etc. For calculating the minimum amount of fluid per day, a formula based on the body weight was recommended in a study of fluid intake in institutionalised elderly people in 1997. The study found that 1,500 ml is the minimum water intake with 15 ml fluid per kg to be added for the actual weight minus 20kg. This formula can be used for older adults who are of normal weight, overweight or underweight. An elderly person can achieve higher fluid intake with juices, milk, and tea. Some food also includes water—soups, yogurt, watermelon, orange and tomatoes and vegetables like lettuce, carrot, and cucumber. Juices helpful in healthy ageing can be suggested on the basis of nutritional researches:

- Anti-ageing juice—grapes, blackcurrant and apple juice.
- To restore iron level—carrot, cabbage leaves and cucumber juice.
- Digestion—pineapple juice, plain yogurt.
- To control blood pressure—spinach with blackcurrant juice.
- Constipation—tomato, spinach and carrot juice helps to remove constipation.
- Carrot, garlic and parsley—the anti-oxidant and anti-viral properties help to prevent the cold.

Intakes of healthy foods and packed diets as well as regular physical activity constitute a primary requirement of the greying population. In fact, about half of the

physical decline associated with ageing may be due to the lack of physical activity without regular exercise.

On the whole, physical activity (exercise) can help elder people get a better sleep, maintain independence, recover from illness and reduce their risk of disease. The exercises that can help in overcoming sleep and other age related problems in old age are:

- Aerobic activities—such as walking, swimming, or riding a bike—increase the heart rate and breathing circulatory system.
- Strength exercises build muscle tissue and reduce age-related muscle loss.
- Stretching exercises keep the body flexible.
- Balance exercises build leg muscles to reduce the chances of muscle loss.

Strength exercises reduce age-related muscle loss. A study shows that people aged over 60 years need to lift weights more often to maintain muscle mass (Cruz Jentoft et.al.,2004). Study reveals that preventing Sarcopenia—muscle loss that occurs as we get older—is one of the most pressing challenges of biomedicine in our ageing society. Training such as lifting weights is the best means for preventing Sarcopenia.

Best exercises for ageing are mindful meditation, which helps seniors to relieve loneliness and is useful in integrating mind and body. The resultant loneliness is linked to emotional stress and declines in physical health. Indeed, feeling lonely has been linked to increased risk of heart diseases, Alzheimer diseases, depression, and even premature death. Social relationships have potentially health-promoting and health-damaging effects. Positive mental and physical health effects are associated with social interactions among older adults, including better recovery after disease onset. Critical or overly demanding social ties have, however, been correlated with increased stress or risk of depression among the elderly (Seeman, 2000). A National survey conducted by Australian Bureau of Statistics in 2001 found rates of mental and behavioural problems and levels of psychological distress were higher amongst adults who lived alone compared with adults living in households with at least one person. Thus it is necessary for the elderly to relieve loneliness.

Indian Practices/Experiences that can be adopted by the ageing in Tanzania

India is facing the challenge of demographic change in which the elderly make an increasing share of the population. India is facing a challenge with about eight percent of the population aged above 60, with the number projected to reach the 20 percent mark in 2050.With such a high share of the elderly, there is a growing demand for welfare services, healthcare services, social care, and the care of the elderly. Apart from accessing these welfare services, Indians are practising certain remarkable traditional practices.

"Yogasadhana" or Yoga is one of the practices which have had contributed positively to healthy ageing. Yoga is now regarded in the Western world as a holistic approach to health and is classified by the National Institute of Health as a form of Complementary and Alternative Medicine (CAM) (Williams et.al. 2003). The word "yoga" comes from a Sanskrit root "yuj" which means union, or yoke, to join, and to direct and concentrate one's attention. Regular yoga practice promotes strength,

endurance, flexibility and facilitates characteristics of friendliness, compassion, and greater self-control, while cultivating a sense of calmness and well-being (Collins, 2008). Sustained yoga practice also leads to important outcomes such as changes in life's perspective, self-awareness and an improved sense of energy to live life fully and with genuine enjoyment Yoga is recognised as a form of mind-body medicine that integrates an individual's physical, mental and spiritual components to improve aspects of health, particularly stress-related illnesses like Atkinson .

Evidence shows that stress contributes to the aetiology of heart disease, cancer, and stroke as well as other chronic conditions and diseases. Mental health problems such as depression, anxiety, stress, and insomnia are among the most common reasons for individuals to seek treatment with complementary therapies such as yoga (Pilkington et. al.2005). Yoga encourages one to relax, slow the breath and focus on the present, shifting the balance from the sympathetic nervous system and the flight-or-fight response to the parasympathetic system and the relaxation response (McCall, 2007).The latter is calming and restorative; it lowers breathing and heart rate, decreases blood pressure, lowers cortical levels, and increases blood flow to the intestines and vital organs.

One of the main goals of yoga is to achieve tranquillity of the mind and create a sense of well-being, feelings of relaxation, improved self-confidence, improved efficiency, increased attentiveness, lowered irritability, and an optimistic outlook on life (Arora & Bhattacharjee, 2008).The practice of yoga generates balanced energy, which is vital to the function of the immune system. Improved flexibility is one of the first and most obvious benefits of yoga (McCall, 2007). With continued practice comes a gradual loosening of the muscles and connective tissues surrounding the bones and joints; this is thought to be one of the reasons behind yoga being associated with reduced aches and pains. Moreover, yoga helps to build muscle mass and/or maintain muscle strength, which protects from conditions such as arthritis, osteoporosis and back pain. Numerous studies indicate that asana, meditation or a combination of the two, reduced pain in people with arthritis, Carpel Tunnel syndrome, back pain and other chronic conditions. Yoga also increases proprioception and improves balance (McCall, 2007). Many studies show yoga lowers the resting heart rate, increases endurance, and can improve the maximum uptake and utilisation of oxygen during exercise (Bharshankar *et al*., 2003). Consistently getting the heart rate into aerobic range lowers the risk of heart attack (McCall, 2007). Although not all yoga is aerobic, even yoga exercises that do not increase the heart rate into the aerobic range can improve cardiovascular functioning.

Having this healthy sense of acceptance is especially important for individuals dealing with life-threatening illnesses, as it decreases the stress they can experience from unpleasant symptomology. Initially, cancer patients likely benefit from the poses themselves which are designed to exercise each and every muscle, nerve and gland throughout the body. The postures address the tension, holding, and blockage of energy in any particular joint or organ. As this tension is released, energy flows more readily throughout the body and allows patients to experience a sense of increased well-being and strength as well as a balance of mind, body and spirit.

Yoga is the best mindful exercise for the elderly for them to steer clear of anxiety and loneliness. Basically, yoga is a process of unification that allows for various systems that exist in human beings—emotional, physical, mental, and spiritual systems, for example—to remain calm and composed. Simple yoga poses waves off neck pain and thyroidal problems. A recent study compared the impact of yoga, including physical postures, relaxation techniques and voluntary regulated breathing ,and Ayurveda (an herbal preparation) on sleep in geriatric population(Manjunath ,2005) . Sixty-nine seniors living in the same residence were stratified based on age and were randomly assigned to three groups: yoga, Ayurveda and wait list (no intervention of any sort).The sleep patterns were evaluated and after three and six months of their respective interventions, the results for the yoga group showed a significant decrease in the time it to took to fall asleep (an approximate average decrease of 10 minutes) and an increase in the total number of hours slept (an approximate increase of 60 minutes). Yoga and *asana* like *kapalbharti*, *sukhasana*, *ardhamatsyendra asana,salabh asana*, *pawanmuktasana*, and *savasana* are fruitful in old age. Asana can be defined as a physical Yoga posture or position that is designed to help master the body and enhance the body's functions. Some important poses are:

- Substitute warm-up—ups with brisk walking and joint movements.
- Standing yoga poses—Triangle pose (*Konasana* series) and standing spinal twist.
- Sitting yoga poses—Butterfly pose, cat stretch, and child pose.
- Lying on back and stomach—such as cobra pose (*Bhujangasana*), the Locust pose (*Shalabhasana*) or the knee to chin press (*Pawanmuktasana*).
- Yoga Nidra—It is a very essential part of any yoga practice and as age progresses, it becomes even more essential to help assimilate the effect of the *asana* practice into our system.

Through the yoga-*Patanjali*yoga sutras, we can avoid the misery that has not yet come. As our age advances, the efficiency of our bodies and immune system seems to deteriorate, hence raising the possibility of various diseases. Regular practice of yoga techniques, such as *asana*, *pranayama*, and meditation can help to avoid these conditions, and lead to the happier and more fulfilling life. A favourable thing is that this is how to prevent and cure disease at no cost. The older person can do yoga at home in easy way; the only thing is to follow the steps in proper way so the proper knowledge is necessary for the better results.

The United Nations declared June 21st as International Yoga Day, just three months after India's newly-elected prime minister, Narendra Modi, practised during his address to the UN General Assembly to introduce it with an unprecedented 177 countries signing, including the United States, China, France, the UK, and Russia. There are many forms of yoga today and in the US alone, there are 155 yogic practices and over 60 million practitioners. India has historically been known for its mysticism, yoga and meditation. Yoga interventions on elderly packages appear to improve the quality of life and sleep quality of the elderly. Studies on the elderly reported that six months of yogic programme in the elderly involving physical

postures, relaxation techniques, voluntarily regulated breathing, and lectures on yoga philosophy had improved sleep latency, feeling of being rested in the morning. Studies shows the yoga programmes in the elderly helped to improve muscle strength, active range of motion, gait and balance, mobility, physical and emotional well-being. Yogic techniques also improve bodily physiological functions, such as cardiovascular and respiratory efficiency.

The universal and utmost form of reassurance and support to keep anxiety free is the prayer. Developing habits of daily prayer, not only the elders but also for all ages, chanting or singing devotional songs, fill us with positive energy and also help to keep the mind steady. Aldo, more time should be spent with positive-minded people because only a positive mind can breed joy, peace and relaxation.

Whereas most of the seniors rate their health as either excellent or very good, a significant proportion of senior population is not physically active, a potential health issue for the entire population but which require special consideration for seniors. The ageing process in human is associated with a decrease in immune function (*immunosenescence*) and an increase in co-morbid disorders. When combined with environmental factors, this can increase the risk and severity of infectious diseases. Diseases in older adults [>70] tend to be more severe and have a greater impact on health outcomes such as morbidity, disability, quality of life and mortality. However, some of more common infections such as influenza and pneumococcal infections are vaccine preventable. Vaccination of the adult population needs to be a key component of a healthy ageing strategy. Infectious diseases such as seasonal influenza, pneumococcal diseases (including pneumococcal meningitis, pneumococcal pneumonia and invasive pneumococcal disease), pertussis, herpes zoster, measles, diphtheria and tetanus continue to place a significant burden on individuals of all age groups and on Europe's ageing society. These diseases threaten the life or the quality of life of patients: older adults may suffer more frequently than younger people from these severe infections, and their impact is often greater, with poorer outcomes noted in the older population (Michel, 2010).

Conclusion

A healthy lifestyle at older age is positively related to a reduced mortality risk and to delayed deterioration in health status. The health promotion at the older age can contribute to healthy ageing. In conclusion, we can say that, as people get older, psychological changes occur in their body as a natural part of ageing as well as physical changes due to ageing can that can occur in almost every organ and can affect seniors' health and lifestyle. Some of the diseases and conditions become more prominent in the elderly. Considering all these outcomes, a balanced diet and regular exercise are strongly linked to better health outcomes in seniors. Ageing often entails the need to make significant lifestyle modifications, from taking new medications to relocation, and to developing new social networks. Unlike younger adults, who may not experience any negative effects from their lifestyles for many years, the consequences for older adults of failing to commence or sustain healthy habits are often immediate and potentially life-threatening. Generally, the literature on self-

regulation among older adults is sparse, and focuses primarily on emotional regulation or adherence to specific medical directives. Interestingly, the literature suggests that older adults may be less likely to initiate behavioural changes, but more likely to maintain any changes that do occur. A major factor that prompts efforts to change, but also sabotages those efforts, is emotional distress. As older adults are generally satisfied with their lives and that they avoid negative information, it is possible that the factors that prompt and support change are different for older adults from those of younger ones. However, it remains unclear whether self-regulatory differences observed as a function of age are due to changes in cognitive skills, functional neurological capacities, degree of experienced negative effect, or some other factors. Thus, understanding self-regulation among older people is not only important for bettering the lives of older adults but also provides a unique opportunity for scholars to examine theoretical models. People live longer in part because of advances in medicine, but also because they have quit smoking, watched their diets, and generally are motivated to look after themselves. Many of the most common causes of mortality are related to behaviours that people should be doing more often (e.g., eating healthfully and exercising) or avoiding (e.g., excess alcohol consumption, smoking). Motivating change often entails the communication of persuasive messages to change people's attitudes to engaging in these behaviours. On the other hand, very little is known about persuasion processes in older people—and how they might differ from those of younger adults—or about the roles of racial, cultural, or ethnic preferences in those processes over the life course. The older adults should be motivated to avoid processing negative information and, perhaps, are more likely to use heuristic processing than younger adults; it is possible that framing or tailoring messages to older audiences might be an especially efficacious means of encouraging long-term change. On the whole, the role that socio-emotional processes play in self-regulation and persuasion holds great promise for developing methods to motivate older adults towards making the necessary and important adjustments in their lives.

Notes

K j - Kilojoules (measurement of energy level)

Kcal- Kilocalorie (1 kilocalorie symbol 1kcal)

DRI- Daily Recommended Intake

OZ - ONZA (kg)

Ib - Libra (1pound or 16 ounces)

Sarcopenia - Loss of muscle tissues as a natural part of ageing process

Atkinson -Atkinson *disease* is a *disorder* that occurs when your body produces insufficient amounts of certain hormones produced by your adrenal glands.

Immunosenescence - Gradual deterioration of the immune system brought about by natural age advancement

Genitourinary System - System of reproductive organs and the urinary system

Neurochemistry - Study of neuron—chemicals which influence the function of neurons

Neuroanatomy - Study of Anatomy and organisation of the nervous system

Photochemical - A chemical reaction relating to or caused by the chemical action or light

Trans-fat - Unsaturated fat

Parasympathetic system - *Parasympathetic* nervous *system*: The part of the involuntary nervous *system* that serves to slow the heart rate, increase intestinal and glandular activity.

Carpel Tunnel Syndrome - *Carpal tunnel syndrome* (CTS) is a common condition that causes a tingling sensation, numbness and sometimes in the hand and fingers.

Pertusis -Pertusis is a highly contagious bacterial disease similar to those of the common cold with a runny nose and mild cough.

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