Movement and the African child: A practice going astray

O. L. ¹Dominic and J. ²Adu

Abstract

Movement is life and the power for growth and development for healthy lifestyle. Poor motion or inactivity is the basis for poor development in children and morbidity and mortality in adulthood. As children grow, it is expected that certain developmental dimensions such as physical, socio-emotional and cognitive will develop. These dimensions form a very important aspect of the human life and need to be nurtured to develop appropriately. One of the means through which these dimensions could be nurtured is through body movement involving locomotive and non-locomotive motions. For proper development children need to be taken through conscious steps that will help their all-round development which primarily has been part of African communal settings for cultural integration and development. Era of technology has brought several challenges facing the active lifestyle of African Children thereby predisposing them to sedentary living and its disease risks. Some of these include mass movement from rural setting to urban settlements, use of technology and also social media, fear of the environment and security issues amongst others. There is the need to appraise the cultural effect of technology on active lifestyle of African children and reactivate a balance between technology and re-integration of cultural mediums of training and development in children's education. To promote adequate physical movement among children, curriculum should integrate healthy cultural/physical activities in the school, and parent should encourage their children to do domestic activities and reduce the use of electronic gadgets such as electronic games, TV and labour saving devices.

Keywords active living, balanced education, the African child, technology and social media, cultural integration

Introduction

Movement is part of heritage of man and is integrated into man's lifestyle. From waking up to taking care of oneself in preparation for the whole day assignments require movement. However, correct movement like any other skill learning requires good foundation of coordination and strength of the body systems like the central nervous system to establish the movement pathways integration, the bones for flexibility and coordination, muscles to generate the force working with the two other systems for good neuro-muscular functions. The better the muscles, bones and the central nervous system adapt to basic movement, the better for the child's all round development through adulthood.

Children develop and grow in a range of situations and context that includes their daily activities through movements. As children grow they develop natural movement which is one of the most

¹Dr. Olufunmilola Leah Dominic is a visiting Associate Professor in the Department of Health Physical Education and Recreation, Faculty of Science and Technology Education, University of Cape Coast. Email: lolafunmidom@gmail.com; +2348036584850

²Justina Adu, works in the Department of Early Childhood Education, Faculty of Educational Studies. University of Education, Winneba. Email: titurks@yahoo.com

important aspects of every young child's life (Davis, 1987). It offers a great chance for them to connect their thoughts to actions and to learn through experimentations and error. Most movements have to do with physical activity which has health effect on both children and adult. As children grow and mature, engaging in movement becomes purposeful unlike previously when they enjoyed moving without any purpose.

Movement actually involves physical activity which can help children develop in the various aspects which help children's level of maturity and strength physically, socially, mentally and psychologically. Developing movements in children help promote a healthy life style, learning and over all well-being of the child. It also helps increase memory, perception language, attention, emotion and decision making and should not be taken for granted (Davis, 1987).

In recent years, physical inactivity in childhood has been steadily rising (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010; Ogden, Flegal, Carroll, & Johnson, 2002) as a result of the introduction of technology, parents and schools' concentration on academic work makes children rarely move enough. This led to the Global Report of World Health Organisation (WHO, 2011) recommending physical activity levels for children between ages 5-17 years. It is expected that children and youth of this age bracket be assigned at least 60 minutes of moderate - to vigorous - intensity physical activity daily. While additional physical movement is an added advantage for health benefits especially bone-loading activities which can be performed as part of playing games, running, turning or jumping. Furthermore, the children's physical activity needs to include play, games, sports, transportation, chores, recreation, physical education, or planned exercise in the context of family, school, and community activities as necessitated by current technology-based lifestyle. Until recently, in Africa, children used to move freely to visit friends and engage in physical activities such as football, hide and seek games, pee-lolo and so on, which help in their natural development. Moonlight plays were a common feature of the African clans and family units with the practice of extended family integration. It is now difficult to find children moving to friends' homes to engage in such activities as parents prefer children to stay at home to complete homework, academic pursuits and for the fear of their children being misled by other children with bad habits. Most children were also made to help with certain home chores, where they were engaged in cleaning of cooking utensils, grinding vegetables, searching for fire wood, fetching water, pounding, scrubbing and so on; providing beneficial health physical activity which also helped with their developments. All these household chores are now being replaced by labour saving devices and house helps. However, some children due to their low socio economic environment still engage in household chores and visiting of friends to play, making those from low socio-economic background likely accumulating enough physical movement necessary for health maintenance and future healthy lifestyle through labour.

Consequently, the sedentary lifestyles of African children which affect their developments such as the physical, social, emotional and cognitive developments are leading causes of childhood obesity, heart diseases and other health issues (Davison & Lawson, 2006). This paper argues that African children are losing certain aspects of their development due to lack of vigorous and healthy movements and calls for immediate re-integration of plays and games for optimal development of African children education.

Essence of Child development and Physicality

Child development is all the expected changes or growth that occurs in children which starts with infancy and continues to adulthood. It focuses on the changes that take place in humans as they

mature from birth to about the age of adulthood (*Dance-Schissel, 2017*). As children grow, it is expected that certain developmental dimensions such as physical, socio-emotional and cognitive will develop. These dimensions form a very important aspect of the human life and need to be nurtured to develop accordingly. One of the means through which these dimensions could be nurtured is through body movements. Movement is the act or the process of moving that brings about change of place, position or posture. It basically deals with motor developments which help us to develop certain skills which are needed in our everyday life.

There are two major aspects of movement classified as the locomotive and the non-locomotive movement. The locomotive movement deals with movement where the body travels from one location with the help of the feet. Such movements are walking, hopping, dancing, and galloping among others. While the non-locomotive are the kind of movement which causes the body to move but the body does not move from one space to the other this involves twisting, turning, shaking, stretching, bending and so. As children play they engage themselves in the locomotive and non-locomotive movements but for proper development children need to be taken through conscious steps by parents, teachers, family and community members that will help them develop.

Dimensions of child's development

Dimension of child's development has been identified to include the physical development, socioemotional development and cognitive development among others and these create a balanced child who will be able to influence his environment. Movement lifestyle of a child is well documented to influence all these development stages.

Physical development dimension

Physical development has to do with physical activity which deals with any body movement that works your muscles and requires more energy than resting (Caspersen, Powell, & Christenson, 1985). Physical development deals with motor development which involves the fine and gross motor developments. The gross motor is the aspect of developing the big muscles which involves bicycling, walking, dancing, skipping and so on. The fine motor skills deal with the use of the small muscles which also involves writing, gazing, buttoning, lacing, and so on. Physical activities therefore help neurological development for the function of the brain and needs to be encouraged in children, since the continuous practice and use of the body parts is needed for development as lack of use may lead to cardiovascular diseases (Davison & Lawson, 2006).

Naturally, children involve themselves in activities such as walking, running, dancing, swimming, gardening and so on and the continuity of these lifestyle activities develop healthy bones and better ossification which are beneficial in ageing process by serving as protective measures against neuromuscular disorders such as osteoporosis, sarcopenia and fractures. According to researchers, apart from adequate nutrition, healthful living habits and lifestyle and safe environment prevent cardio-vascular and carbometabolic diseases (Adebayo, 2015). Contrarily, poor body composition and physique(overweight and obesity) results from behavioural patterns which include overeating, sedentary living, unhealthy lifestyles, sleep habit, non-utilization of preventive health services, lifestyle choices and other activities which have observable implication on health (Dominic, Seidina, Williams, Oyerinde, Olaitan & Onifade, 2014; WHO, 2010).

Being physically active is one of the best ways to keep the heart and lungs healthy. Physical activity uses biological consequences such as energy outflow and high levels of cardio respiratory function. This is highly accepted and beneficial for health and fitness and needs to be encouraged among

children based largely on the assumption that the behaviour will become a life style which will lower chronic diseases (Davison & Lawson, 2006). The child's physical development therefore has implication for proper mental and emotional pathways for his/her optimal health and wellness.

Children in Africa in recent years have lost their sense of movement which deals with physical activity in terms of movement in playing. The African child therefore needs to move to perform physical activities to develop his or her motor skills. Just as special attention is given to some aspect of life in the African home such as acquisition of certain cherished values and norms, which is expected of every child and when overlooked society frowns. So also should the lack of physical activities and movements in children in Africa be looked at so that children can adopt a healthy lifestyle which will improve their adult life. Research shows that children these days have become less physically active and making recent children becoming obese than their counterparts years ago (Pidley & Olds, 2008). A lot of African brilliant children who are being nurtured to take up the roles of most adults in the future may probably die before their time due to lack of movements. Children therefore need to be encouraged to take up natural physical activities which are beneficial for health and fitness, which will latter, become a life style (Davison & Lawson, 2006).

Socio-emotional development in children

Socio-emotional development involves learning the values, knowledge and skills that enable children to relate to others effectively and to contribute in positive ways to the family, the school and the community. According to Gilbert (2008) Whitlock (2009) children learn a great deal about themselves, others, their community, and living a meaningful life through social and emotional interactions and assume social roles when they start moving. Movement helps the child to adjust socially and emotionally because it provides them with successful experiences as they move and relate to other people and these make them confident to move and explore. Through exploration, they gain experiences which help them to learn. When children move they become aware that there are other people in their environment and they learn to cooperate with them. As they cooperate with them, they learn tolerance which will eventually help in their future playing together and working together. Furthermore, through their relationships with others and their growing awareness of social values and expectations, children build a sense of who they are and the social roles that are available to them. As children move and interact with the environments they also become excited which help them to build their confidence. Most parents, teachers and psychologists begin to show concern when children do not show signs of socio-emotional development because it is seen as hallmark features of autism (Gerber, 2003). Socio-emotional development is therefore very important in the child's development and useful in adulthood role assumptions. Social Development translates the complex relationship between societies and states into operations (World Bank, 2017). Play opportunities and group interactive motor skills enable the child develop social competence and emotion regulation (The Urban Child institute, 2018).

Every human is a social being and so is the African child. Social interrelatedness has to do with the lifestyle of the African and not be left unattended to, if our children are drifting away gradually. As children move and participate in games and other social activities they learn to develop their character and also learn certain norms and values which is a core value to the African society as a whole. The African child has to be encouraged to move out to engage in outdoor plays and sporting activities, visit friends and learn together so that their sense of social living, dynamism, nationalism and patriotism will not be lost. If this is not rejuvenated into the African child development to redirect from major lifestyle of drifting towards sedentariness and isolation as a result of technology and increase in watch time and computer games; the future African child might find

solace in isolated life dangerous for mental health, thus predisposing him/her to crime and development of mental disorders illness.

Cognitive development of children

Cognitive development refers to the advance and continuous growth of perception, memory, imagination, conception, judgment, and reason; culminating into intellectual ability and adaptation to the child's environment (Nicolosi, Harryman, & Kresheck, 1989). Cognition also involves the mental activities of comprehending information and the processes of acquiring, organizing, remembering, and using knowledge (Owens, 2008) the basis of intellect. One aspect of dealing with children's cognitive development is through movement.

Movement in children is one of the joyous moments in their life and it is very essential for helping children to put their ideas together to accomplish a goal. Physical activities stimulate the connection between the mind and body. As children engage in physical activities, they are thinking, recalling and they are focusing. Most children move with the idea of getting something done or complete a task and so on. Most educational psychologists agree that movement is one of the conditions in today's educational system in order to properly access information. Due to this idea, decades ago Montessori, a visionary at her time saw this need and integrated movement into every lesson (Lillard, 2005).

Most African parents desire that their children acquire cognitive development and so they put in a lot of efforts to make their children successful in school. However, the African child is believed to waste his/her time when involved in vigorous plays and games thus, limiting the child from gaining the academic benefits of physical movement. Research tells us that physical activities increase academic performance. There is evidence that physical activities can improve academic performance in schools (Trudeau & Shephard, 2008). African children should therefore be encouraged to engage in physical activities.

The African home and the whole-child development

Historically, as the African child grows the family takes the child through domestic, school duties, outdoor plays, and activities that give the child total development. A typical African child is a strong, bold and elegant respectful being that is fearless and prepared for life challenges until recent search for affluence and white man collar job. The education of the African child starts from home until he is matured enough to fend for him/herself in the larger society. Let us briefly look into some of the African child training and development processes.

The African child and domestic activities

As the African child grows the family gets the child involved in most house hold activities which deals with movements such as fetching water, gardening, washing, pounding and helping with cooking and so on till the child matures where he or she is given the opportunity to do things on his or her own.

On a regular day for an African child, physical activity is normal from morning till he or she retires to bed. The African Child starts the day with sweeping where he or she swings the arms to and fro, flexes the body joints, collects the rubbish and sends it to the incinerator. On his/her way back gets some fire wood for the day's meal. Depending on the kind of home, the females get involved with their mothers in the kitchen cooking while the males get involved in activities that need more energy before going to school. After school the child moves to the mum's work place to take food

items for the supper. Where the mum works from the house, the child helps with the cooking which either involves pounding or grinding amidst washing of dishes and being sent on errands. On weekends the African child is found washing, scrubbing and cleaning of the house which involves physical activities.

The African child at school

At school, the African child helps with the morning cleaning of the school compound, before the morning assembly. At break they engage themselves with all manner of play activities which involves vigorous physical activities. They do ampe in Ghana or tente in Nigeria (an activity that involve high impact jumping facing each other and a rhythmic hand clapping in order to score points with predicting the foot to be extended forward by the attacker), football, run and catch, and other minor games as embedded in the traditional practice of each ethnic group which keeps them strong and active. According to Isenberg and Jalongo (2010) as reported in Play and Playground Encyclopaedia, "during play, children increase their emotional maturity and social competence and by interacting with other children practice their communication skills as they negotiate roles and appreciate others' feelings and being able to express and cope with theirs allows them to think out loud about their experiences and feelings". Through play they also learn to share, wait their turn, and handle conflicts while playing with others". Most schools have gardens where the children work in and use for the school work. After school most African children walk home amidst playing and these help their total development.

The African child at home and out- door activities

The African child has time to engage in play as an active child within a community where safety of one is safety of all. The communal and extended family relationship provided avenues for active living and recreational opportunities to meet up with daily physical activity for fitness and wellness. Special exercise and recreational facilities and planning were not required because they are naturally provided in the family compounds and settings. Most of all these plays either deal with locomotive movement and non-locomotive. They move in search of fruits from friends' homes, climb trees, cut palm branches to build a play hut, and engage themselves in sporting activities such as peer group wrestling, dancing competition among others - now a missing gap in the contemporary African setting.. As they play, they build the physical, cognitive and socio emotional abilities which is essential for their developmental lives.

The recognition and initiation/acceptance of the African child into his/her age-groups also serve as a means of building strength, endurance, flexibility and prowess to face challenges of life and self-defence. This promotes communal integration, mutual respect for rules of law, self-worth, spirit of responsibility for others; safety and protection without use of force. The African ceremonies, festivities and religious practices all involve vigorous physical movements which provides for sufficient and efficient movements for whole-man development. The process of learning of the African child from neonate to adulthood provides the bedrock for lifetime fitness and wellbeing and prevention and delay in onset of hypokinetic diseases that would have been a menace due to sedentariness.

Challenges facing the movement lifestyle development of the African Child

The modern African child is leading increasingly sedentary lives, with physical activity frequently displaced by television viewing, Internet surfing, and video gaming (Myers, Strikmiller, Webber, & Berenson, 1996). The modern African child does not help at home any longer except for some

weekends because he or she needs time to learn and concentrate on other academic works which will earn him/ her a better white collar jobs in future. Researchers have shown that movement from rural setting to urban settlements have reduced activity of the African child reducing physical movement and increasing inactivity as a result of commuting in buses and cars, mental development to the detriment of other aspects and lack of space for other social and physical activity. Use of social media in communicating with friends has also reduced physical interaction thus reducing the degree of the benefits derived from physical contacts and interaction through social interactions and communal integration activities.

Fear of the environment and security issues have further led to the African children not engaging themselves in any vigorous physical activities. Furthermore, football games which initially were played physically are played through technology and at play stations on phones and internet. Ways of making friends - done on social media has further reduced group activities' event, where visitations are done, they are no longer exciting as children are seen playing with their tablets and iPads. All these have negative effects on the child's development. Children have become antisocial. Making friends is a thing of the past, the African society is losing its cultural norms and values as most children are not even aware of their roles as a child. Most children lack confidence relating physically with friends and as such turn to flout the societal norms and regulations and copy foreign cultures blindly.

Physically most children are becoming obese leading to heart diseases and losing their lives at an earlier age than before. Others become sick due to lack of physical activities and become burden on their families. According WHO's Report, childhood obesity is one of the most serious and global public health challenges of the 21st century and it is steadily affecting many low- and middle-income countries, particularly in urban settings at alarming rate. Globally, in 2016, a quarter of the over 41 million estimated overweight children under the age of five lived in Africa (WHO, 2018). These overweight and obese children are likely to remain obese into adulthood and more likely to develop preventable non-communicable diseases like diabetes and cardiovascular diseases and the related diseases at a younger age therefore making prevention a high priority (WHO, 2018).

Psychologically, lack of movement has made most African children- lonely. They are always stressed and depressed which leads to constant ill health increasing the threat to lifetime productivity and high mortality. This in effect, affect their intellect which affect cognition in their school work which eventually lead to low productivity both at home and the society as a whole. There are multifarious studies and events which have proved that active lifestyle relates to health, social and psychological benefits (Dominic, Onifade & Ogidan, 2012). A study conducted by Dominic et al on university students revealed many of them were vicarious participants because they were never active in their growing years and saw physical activity as a waste of time when there are academic pursuits. It concluded that when motivating provisions are made at ones reach for recreation and physical activity, students as well as others will be refined towards positive socialization through which their health and wellness will be promoted.

The way forward for the African child

Poor physical activity and fitness levels are associated with chronic diseases such as obesity, heart diseases and diabetes (Martyniuk & Tucker, 2014). This could be preventable by putting in place settings for lifestyle habits integration to build up attitudes in children in Africa that will help them

to engage in physical activities through regular household chores, social group's integration to promote social interaction activities and healthy competition. Participating in regular activity through diverse movement can lead to increased metabolic health, muscular strength, bone health, and cardio respiratory fitness for young children.

African children should be encouraged to engage in playful attitudes which will help in their developments. This is because as they play they build their physical abilities which help in their physical, social, and cognitive developments. Parents should help children to minimize the use of electronic gadgets such as video games and other games that will prevent them from moving and taking part in physical activities.

There is the need for rejuvenation of Planned Movement/Physical Activity for the African Child in Early childhood education. The curriculum should integrate healthy cultural/ physical activities in the school for a typical child through the different subject areas with African bias or mindset. African Curriculum planners and policy makers should encourage teachers and all those who are into the education of children to take children through comprehensive activities that will help them with their total development. Furthermore, there should be restoration of early childhood minor games (such as 'who is in the garden, a little fine girl, fire on the mountain run; traditional rhymes and movement) dancing and singing after the days' work.

Parent and children's leisure time activity and plays in the African community and home setting; storytelling should be based on African heroes and heritage rather than promoting foreign heroes and culture, (the demise of the upbringing of our children cultural mindsets and physical prowess). Story-books usage should be encouraged for children's hearing and reading to encourage activities that promote mental and physical prowess to build their physical resilience. Nationalism is not build through academic learning but through family-communal living and integration that provide healthy social interactions and mutual respect. Parents' involvement in Toddlers and Pre-school children Physical movement at home and Domestic activities will also help children to be physically active.

Within the school context, incorporating physical activity or fitness training is a likely means to improve the physical health status of children (Haskell, 1994). Physical activities should be made an integral part of early childhood schools programs, meetings, and events. Each lesson could start with an interactive physical activity to break the boredom of sitting done for a long time. The breaks should not only be for snacking, extra lessons or doing assignments, but also should give room for various movement and minor games. The overall purpose in life for most people is to be successful. Research shows that lack of movements will lead to diseases that will prevent children from living healthy and achieving their purpose in life. Parents, the school and the society as whole should come together to help the African to move both at school, home and in the community at large.

References

Adebayo, D. (2015). Watch out, prolong sitting kills.wwwpunchng.com Retrieved on 2/3/2015.

Capersen, C. J., Powells, K.E., Christenson, G. M. (1985). Physical activity, exercise and Physical fitness definitions and distinctions for health-related research. *Public Health Rep*ort, 100:126-131.

- Dance-Schissel, D. (2017). What is child development, definitions and theories. Retrieved from <u>http://study.com/academy/lesson/what-is-child-development-definition-theories-</u> stages.html 07/12/2017.
- Davis, K. (1997). The value of movement activities for young children. The Reporter 2(3),1-3,//www.iidc.indiana.edu/the value of movement activity(retrieved on 17th November, 2017).
- Davison, K. K. & Lawson, C.T. (2006). Do attributes in the physical environment influence children's physical activity? A review literature. *International Journal of Behavioural Nutrition and Physical Activity*, 3(19), 1-17.
- Dominic, O. L, Seidina, I., William, D., Oyerinde, O., Olaitan, L., & Onifade, O. (2014). ICT use and sedentariness implication for sustainable physical education and sports programmes in tertiary institutions. *Journal of Research and Development* 1(9), 1-11.
- Dominic, O. L., Onifade, O. A. & Ogidan, R. J. (2012) Empowering University Students through fitness lifestyle for a lifetime productivity. *Makerere Journal of Higher Education. The International Journal of Theory, Policy and Practice, 93-100.* http://ajol.info/majohe. DOI: http://dx.doi.org/10.4314/majohe.v411.3.
- Finkelstein, E., Fiebelkorn, I., & Wang, G. (2004). State level estimates of annual medical expenditures attributable to obesity. *Obesity Research*, 12:1824.
- Gerber, S. (2003). A developmental Perspective assessment and intervention for Children on the Autistictrum. *Topics In Language Disorders*, 23(2)74-94.
- Haskell, W. L. (1994). J.B. Wolffe memorial lecture. Health consequences of physical activity:Understanding and challenges regarding dose-response. *Medicine & Science in Exercise Science*, 9, 113-125.
 <u>http://www.who.int/dietphysicalactivity/publications/recommendations5_17years/en/Wor</u>ld
- Martyniuk, O. J. M., & Tucker, P. (2014). An exploration of early childhood education students' knowledge and preparation to facilitate physical activity for preschoolers: A crosssectional study. *BMC Public Health 14*, 727. Retrieved on November 15, 2017 http://www.biomedcentral.com/1471-2458/14/727
- Montessori, M. (1946). Movement and character Lecture, London. *The NAMA Journal*, 38, 2. Spring 2013.
- Myers, L., StrikmiUer, P. K.. Webber, L. S. & Berenson, G. S. (1996). Physical and sedentary activity in school children grades 5-8: The Bogaiusa heart study. *Medicine & Science in Sports & Exercise, 28,* 852-859.
- Myers, L., Strikmiuer, P. K.. Webber, L. S.. & Berenson, G. S. (1996). Physical and sedentary activity in school children grades 5-8: The Bogaiusa heart study. *Medicine and Science in Sports & Exercise, 28,* 852-859.k.l/.
- Nicolosi, I., Harryman, E., Krecheck, (1989). Terminology of communication Disorders: Speech- language – Hearing, 3rd .ed. Baltimore: William &Wikins.
- Ogden, C. L., Carroll, M. D., Curtin, L. R., Lamb, M. M., & Flegal, K.M. (2010). Prevalence of high body index in U.S. children and adolescents, 2007–2008. *Journal of the American Medical Association*, 303, 242–249.
- Ogden, C. L., Flegal, K. M., Carroll, M. D., & Johnson, C. L. (2002).Prevalence and trends in overweight among US children and adolescents, 1999-2000. *Journal of the American Medical Association*, 14, 1728–1732.

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- Owens, R. E. Jr. (2008) Language Development: An Introduction, 7th. Ed. New York: Pearson Education.
- Shephard, R. J. (1997). Curricular physical activity and academic performance. *Pédiatrie, Reviews, 54*, S32-S36.
- Shephard, R. J. (1996). Habitual physical activity and academic performance. *Nutrition Sports & Exercise*, 26,649-660.
- The Urban Child Institute (2018). Social and emotion development in early childhood. <u>http://www.urbanchildinstitute.org/resources/publications/good-start/social-and-</u> emotional-development. Retrieved 0n 10/02/2018.
- Trudeau, F. & Shephard, R. (2008). Physical education, school physical activity, school sports and academic performance. *International Journal of Behavioural Nutrition and Physical Activity*, *5*(10), 1-12.
- WHO (2011) Global Strategy on Diet, Physical Activity and Health.
- WHO (2018) Global Strategy on Diet, Physical Activity and Health-Childhood overweight and obesity. http://www.who.int/dietphysicalactivity/childhood/en/ Retrieved on 02/02/2018.
- World Bank Report (2017). Social Development. Retrieved from http://www.worldbank.org/en/topic/socialdevelopment/overview 03/02/2018.
- World Health Organization (2010)._2008-2013 Action plan for the global strategy for the prevention and control of non-communicable diseases.