European Journal of Biology and Medical Science Research
Vol.4, No.6, pp.30-47, December 2016
Published by European Centre for Research Training and Development UK (www.eajournals.org)

CONTINENTAL INEQUITIES IN LIFE EXPECTANCY

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ABSTRACT: *This investigation adopted documentary analysis research design that guarantees authenticity, accuracy, validity and reliability to ascertain the life expectancy of countries and continents in the world; and to determine whether statistically significant continental inequities exist in the globe. Six continents and 216 countries were randomly sampled from a population of 7 continents and 253 countries world-over for this study. Descriptive Statistics, Analysis of Variance and Bonferroni Multiple Comparisons with IBM SPSS were used for data analysis to test tenability of the null hypothesis at 0.05 alpha. Results showed that a significant continental inequities in life expectancy exist between continents in the world. Life expectancy in Africa is significantly lower than in each of all the other continents. There is an overwhelming preponderance of the statistical evidence that life expectancy in Europe is higher than in Oceania and Asia which are in turn better significantly than in Africa. Europe, North America, and South America do not differ significantly in their life expectancy. Aptly, how long are humans expected to live on each continent? The world has a mean of 72.24 life expectancy; the means for Africa is 61.14; Asia is 73.26; Europe is 78.99; North America is 76.23; South America is 74.40; and Oceania is 74.24. Every necessary measure should be taken to radically improve life expectancy in each continent, particularly in Africa.*

KEYWORDS: Life expectancy; Continental inequities; Documentary analysis research design; Continents in the world; Countries; Africa; Asia; Europe; North America; South America; Oceania.

INTRODUCTION

Could the world have been a better place if humans were, on the average, living 200 years before dying? If the great philosophers, inventors, and scientists who have made indelible marks on earth lived 3, 4 or 5 times longer than they did and made proportionally greater contributions to scientific and technological advancement; how happy could the world, have been currently? This study focused on the question of life expectancy, the varying degree of life expectancy from one region to the other, the reason humans get old and how long humans are expected to live. It highlighted the socio-economic determinants that might impact positively and or negatively on life expectancy in the various regions of the globe. Could it possibly be that continents significantly differ in their life expectancy?

Age, like the physical self, is a constituent of any living organism identical with duration. The length of time that an organism lives is measured according to chronological time that flows evenly and also according to a physiological time scale that flows unevenly. Recent studies highlight that there exists a widening inequality between the rich industrialized/developed

ISSN 2053-406X(Print) ISSN 2053-4078(Online)

countries and the poor developing countries which tends to explain the principle cause of seeming inequity in life expectancy (Robine & Ritchie, 1991; Infoplease, 2016). Although all societies worldwide experience aging but at different pace and stage of demographic transition, and the context within which it occurs, however, the life expectancy of each region varies to an extent from those of other continents. Whether such difference is statistically significant (Kpolovie, 2011) is what has not been established; and the current study is set to determine and resolve this issue.

Life expectancy in the various regions of the world has been underlined by a host of risk and lifestyle factors that might include diseases, inactivity, smoking, and drinking. However, poverty, income deprivation and lack of education (Kpolovie, 2014; 2012a; 2012c; Kpolovie & Iderima, 2013; 2016; Kpolovie & Obilor, 2014; 2013) have influenced the changing demographics of the continents (WHO, 2015). This change has created gaps in the standard of living between rich and poor countries. In most areas of the South, there is a lack of education, health and social security for the vulnerable (Eurostat, 2013).
Despite the significant advances in medicine, which has seen the incidence of several communicable diseases drop drastically, it is yet to translate into the slowdown of deaths in poor countries, (WHO, 2016b). Income inequality in Third World economies has been directly linked to the lack of medical care for many (Kpolovie, 2012; Ololube & Kpolovie, 2012). More so, the pandemic of HIV/AIDS has added severe strain on the health institutions, unlike the Organisation for Economic Co-operation and Development (OECD) that enjoys fair distribution of income, education and health access for its citizens, (OECD, 2016; Kpolovie, 2014a).

What exactly does Life Expectancy in this study mean? Life expectancy is a statistical or theoretical measure of the length of time or years an average human in a given country and continent is supposed to live on earth after experiencing the rates of death that occurred during the time of their birth. In order words, the calculation of the number of deaths of infants born in the year a person was born plus the current age, sex, and demographic factors is the measurement for life expectancy. Furthermore, it is the age-standardized measure of Mortality to be lived further by individuals at a particular age based on the relevant mortality data as well as by geography and era. Life Expectancy of a country is simply the average age at which individuals in or the citizenry of that country are expected to die. In other words, it is the average length of years that the citizens of the country live before their death as measured by CIA (2016).

Theories on life expectancy provide us with the frameworks for understanding how humans gradually approach aging and also provide the definition that will best describe and explain the constant change that occur with time to specific organisms living under specific conditions (Darwin, 1817; 1998; Weissman, 2013; Weismann, 1914; Programmed Aging, 2009; Williams, 1957; Kirkwood, 1977; Medawar, 1952; World Bank, 2006; Pogge, 2008). Most of the observations which would have been dismissed as unimportant and less meaningful are like loose pieces of puzzles articulated into meaningful patterns. Many theories have been adopted to enquire into the meaning of life expectancy and also to explain why living things weaken and die with age. While the findings by the theorists fundamentally remain an unsolved problem in biology, scientists have continued in their empirical quest for an explanation of the reason living bodies/biological similar organisms dramatically experience different life span, and also the reason they succumb to age-related damage (death) at a given time in adulthood.

ISSN 2053-406X(Print) ISSN 2053-4078(Online)

The evolution theories of aging and longevity have been used to explain the remarkable differences in observed aging rates by following an important observation of the life span of some biological species (Darwin, 1871; 1998). They found that aging and lifespan of living bodies do evolve in subsequent generations of similar species in a theoretically predicted direction depending on a particular living condition that even shapes intelligence of the organism (Kpolovie, 2016b; 2016; 2016a; Kpolovie & Awusaku, 2016). Another theorist, August Weismann, interpreted Darwinian evolution that aging was part of life's program; therefore, it is an inevitable result because there exists a particular death mechanism designed by natural selection to eliminate the old, for the purpose of cleaning up the living spaces and to free up resources for younger generations, because a vacuum needs to be created in the theatre of life, by older generations, so as to make room for the younger generations (Weissman, 2013; Weismann, 1914; Programmed Aging, 2009). He further explains that when one or more individuals have provided a sufficient number of successors, they as consumers of nourishment in a continually increasing degree becomes an injury to those successors. Consequently, they get weeded out via death as a necessary end in the cycle of natural selection (Kpolovie, 2016b; 2012). This death program, however, was backed up by a biological mechanism that the somatic cell of every individual has a limit it can go (Weismann, 1914).
In a nutshell, Weismann postulated that deterioration and death is a purposeful result of an organism's evolved design. In order words, aging developed to the advantage of the species by replacing worn out individuals with younger ones (Weissman, 2013; Weismann, 1914; Programmed Aging, 2009; World Bank, 2006; Bibcode, 1977).

On the contrary, Medawar (1952) suggests that aging was a matter of neglect, while George C. Williams proposed his own Antagonistic Pleiotropy Theory that aging was a side effect of necessary functions (Williams, 1957). This means that there are genes that are beneficial and detrimental at given times. These genes offer benefits in early life but exact a cost later on (Williams, 1957). Thomas Kirkwood based his own theoretical argument on Diet and Nutrition (Kirkwood, 1977). He posits that the body must make a budget for the amount of food energy available to it for metabolism, reproduction, repair and maintenance. But when there is a limited supply of food energy, the body begins to compromise by not allocating energy enough as it should. Consequently, the body gradually begins to deteriorate and age (Kirkwood, 1977; Kirkwood, 2002). It showed that dietary restrictions had not been shown to increase lifetime productive fitness, because when the availability of food is lower, the reproductive output will also become low and then, the vulnerability of the individual to ultimate in death is increased.
In our view, Kirkwood's postulation best describes the case of the third world countries whose life expectancy may primarily be affected by a weak economic standard, unhealthy environment, geographical locations, inadequate health care and a sheer number of older persons whose population far outstrip those in the developed world and is drastically unfolding within a context of poverty, economic strain and constricted public resources. Whereas the industrialized societies' aging population and life expectancy may have influenced positively by increased employment opportunities, rising living standards of families and an overall expansion of state resources.

However, for countries to be said to have made progress in increasing life expectancy, the normative acts of wellbeing, access to education, income distribution and affordable health care are only regarded as tangibles only when they are realized (Andina, 2014). The state is said to have achieved distributive justice when the wants of the larger population have been realized. This situation is far from being attained in developing nations, as a result of

ISSN 2053-406X(Print) ISSN 2053-4078(Online)

insufficient resources, which leaves their health and social institutions in a state of decadence. There is so much economic injustice in such climes, as many people are deprived of the equal opportunity to better their life and meet basic needs. It presupposes that bad governance could largely be responsible for the high degree of lack noticeable in many Third World Countries (World Bank, 2006; Pogge, 2008).

Some scholars have argued that the cause of poverty in the South is found in the unjust structure of the global economic systems. That what is obtainable in the OECD countries, with regards to the better life and increased longevity in the area, is as a result of the division in the world economic systems, where one region enjoys an economic surplus, the other suffers the pangs of hardship, (Pogge, 2008).

Consequently, the income inequities in developing countries may have had a direct correlation with the worsening health conditions and probably been responsible for the limited progress made in increasing life expectancy (Reddy & Pogge, 2007). Deaton (2002) is of the opinion that income inequality is a health risk. This is in view of its impact on the well-being of the people. Health institutions in some continents, Africa and Asia for instance, are passing through severe economic strains because of inadequate funding and the inability of patients to pay for medical care (Pogge, 2007; World Bank, 2006). This may be responsible for the lagging position of the continents in life expectancy. Though, it made limited life expectancy compared to the past when global life expectancy average was 46.6 and 67. Present indices show that the life average is between 50 and 70 years within a thirty year period. Sub-Saharan Africa accounts for the lowest life expectancy of barely over 50 years, while Europe and North America accounts for the highest average of about 70 years. Life expectancy in the continent of Africa might have been affected by a host of factors, such as the prevalence of HIV/AIDS, which has claimed several millions of lives. According to Henry J. Kaiser Foundation (2016), Africa accounts for 24.7 million out of the 36.7 million people living with Hiv/Aids in the world. Leigh believes that income inequality is primarily responsible for an increase in maternal and child mortality, (Leigh, 2007).

People in developing nations such as the United States (Alamieyeseigha & Kpolovie, 2013) respond to material and social deprivations in their life style and behavioral patterns. This might have significantly impacted their psychosocial circumstances. Many diseases ranging from diabetes, stroke and depression have been associated with unhealthy lifestyles as it is believed that low incomes lead to poor health conditions (WHO 2010). The Wilinkinson theory further espouses inequality cause to the severance of the link between social cohesion and capital; the outcome of which is social anxieties and a divide in social hierarchies, (Mackenbach, 2002).
Several factors could be responsible for the seeming inequities experienced in Life expectancy in the globe. Such factor could range from poverty, infectious diseases, infant mortality, genetic disorder, accidents, family history, and individual characteristics, to lifestyle (WHO, 2016b).
Poverty might be primarily responsible for low life expectancy in many regions of the world (UNICEF, 2016; United Nations News Center, 2015). It is the cause of underweight children and deaths associated with malnutrition in many developing countries. According to UNICEF, 22,000 children die daily from poverty induced conditions in South Asia and Africa. Investment in medical care has significantly dropped as a result of funding challenges. Many people cannot afford basic health care and this has spiked resurgence in infectious diseases in the underdeveloped world (Kpolovie & Obilor, 2013). Non-infectious diseases are on the rise because people find it difficult to meet their basic health checks and needs, leading to poor

ISSN 2053-406X(Print) ISSN 2053-4078(Online)

health lifestyles among the population. Poverty has affected the investment of resources in health care negatively. The only Third World country that has made strides in reducing poverty and increasing life expectancy in the last decade has been China, due to its growth in GDP. Some African countries have dipped beyond the 60 years life expectancy mark due to increasing in communicable diseases and a lack of a corresponding increase in health investment (Kpolovie, 2012).

Infectious diseases have significantly impacted on life expectancy in developing countries, unlike in the West where there is a drop in infections like HIV/AIDS, malaria, and tuberculosis. This is evident in the fact that the developed countries are investing heavily in their health systems. Recent reports reveal that Western Europe, America, Japan, and Europe are one of the best places to give birth to a child because of their life expectancy levels; though kidney, liver, heart, cancer and obesity-related diseases are still rife in many of the OECD countries (OECD, 2015; 2016; 2014).

One of the major factors undermining life expectancy in many South Asia and African countries has been infant mortality. It is believed that malaria and the lack of access to portable water and sanitation are primarily responsible for infant mortality in these regions. Globalissues.org (2016) revealed that the reduction in the survival rates of children in developing countries is associated with the lack of access to portable water, sanitation, and safe shelter. This has reduced the quality of life of children. It reported that 1.8 million children die every year as a result of diarrhea. It is believed that about half of the world's health problems are caused by lack of drinkable water and sanitation. Many children have also died due to the non-immunization from killer diseases. About 2.2 million children go without immunization yearly, and a greater percentage of this population is in the developing world. HIV/Aids are another drawbacks, leading to more deaths, having left about 15 million children orphans (Kpolovie, 2016).

Poor lifestyle in many developing countries is taking a toll on life expectancy. Diseases such as kidney failure, heart and lung and cancer are on the increase. The changing lifestyle of the people has been adduced to the increase in non-communicable disease. More and more people are leaving the farm dwelling for jobs in the urban centers, leading to a lack of exercises. Poverty is affecting the feeding habits of many people. There is a reduction of individuals who visit the hospitals for a medical check-up. Consequently, sudden and unexplainable deaths are on the rise, but post-mortem has revealed that most of the deaths were related to the non-infectious disease that has grown terminal without the victims knowing due to poor medical check-up (UNDP, 2015). Excessive drinking and accidents have also contributed substantially to a drop in life expectancy in most developing countries (Denzin & Lincoln, 2011).

METHODOLOGY

This investigation employed documentary analysis research design (Kpolovie & Obilor, 2013) that guarantees reliability, validity, authenticity, and accuracy to ascertain the Life Expectancy of countries and continents in the world as objectively measured by the Central Intelligence Agency (CIA) (CIA, 2016). In the 21st century, documental analysis has become a very crucial research design that allows for gathering of both secondary and primary data qualitatively and quantitatively from the World Wide Web through internal and external criticisms for authenticity, accuracy, validity and reliability of the online data source (Kpolovie, 2010; 2016;

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Kpolovie & Obilor, 2013). The universally valid and reliable online index global life expectancy as unquestionably reported by CIA (2016) was used as the data source of the current investigation. The CIA data on global life expectancy was validly and reliably generated over the required time from each country on the basis of excellent research works that adequately covered the various indicators of life expectancy estimated for the year 2016. This investigation examined the relative obtained life expectancy data from the different countries in the world and compared those of each continent with the life expectancy indexes of each of the other continents in the world. Thus, life expectancy indexes of the seven continents in the world (Africa, Asia, Antarctica, Australia, Europe, North America, and South America) were quantitatively compared for the establishment of the relative position of each continent and determination of all pairwise comparisons that statistically differ significantly. Authentication of the life expectancy for each country and every continent can easily be done by anybody via this relevant functional link websites: https://www.cia.gov/library/PUBLICATIONS/the-world-factbook/rankorder/2102rank.html. Keenly interested persons may also wish to know the life expectancy of the year 2015 from these links as published by Infoplease (2016): http://www.infoplease.com/world/statistics/life-expectancy-country.html**.**

Population

The population of this investigation consists of the 253 countries in the seven continents in the world as tabulated.

Table 1: Population of the study

S/No	**Countries**	**Continents**
1	Africa	57
2	Asia	54
3	Europe	50
4	North America	41
5	South America	14
6	Oceania	33
7	Antarctica	4
Total		**253**

Table 2: Countries in each Continent

S/No	**AFRICA**	**ASIA**	**EUROPE**	**NORTH AMERICA**	**OCEANIA**	**SOUTH AMERICA**	**ANTARCTICA**
1.	Algeria	Afghanistan	Albania	Anguilla	American Samoa	Argentina	Bouvet Island
2	Angola	Armenia[2]	Andorra	Antigua and Barbuda	Australia	Bolivia	French Southern Territories
3	Benin	Azerbaijan [2]	Austria	Aruba	Baker Island	Brazil	Heard Island and McDonald Islands
4	Botswana	Bahrain	Belarus	Bahamas	Cook Island	Chile	South Georgia and the South

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							Sandwich Islands
5	Burkina Faso	Bangladesh	Belgium	Barbados	Fiji	Colombia	
6	Burundi	Bhutan	Bosnia and Herzegovina	Belize	French Polynesia	Ecuador	
7	Cameroon	India	Bulgaria	Bermuda	Guam	Falkland Island	
8	Cape Verde	Brunei	Croatia	British Virgin Island	Howland Island	French Guiana	
9	Central African	Cambodia	Czech Republic	Canada	Jarvis Island	Guyana	
10	Chad	China	Denmark	Cayman Island	Johnston Atoll	Paraguay	
11	Comoros	China	Estonia	Clipperton Island	Kingman Reef	Peru	
12	Congo D. R. (Kinshasa)	Christmas Island[4]	Faroe Islands	Costa Rica	Kiribati	Suriname	
13	Congo R (Brazzaville)	Cocos	Finland	Cuba	Marshall Islands	Uruguay	
14	Cote d'Ivoire (Ivory Coast)	Cyprus[2]	France	Dominica	Micronesia	Venezuela	
15	Djibouti	Georgia[2]	Germany	Dominican Republic	Midway Atoll		
16	Egypt	Hong Kong	Gibraltar	El Salvador	Nauru		
17	Equatorial Guinea	India	Greece	Greenland	New Caledonia		
18	Eritrea	Indonesia	Guernsey	Grenada	New Zealand		
19	Ethiopia	Iran	Hungary	Guadeloupe	Niue		
20	Gabon	Iraq	Iceland	Guatemala	Norfolk Island		
21	Gambia	Israel	Ireland	Haiti	Northern Mariana Islands		
22	Ghana	Japan	The Isle of Man	Honduras	Palau		
23	Papua New Guinea	Jordan	Italy	Jamaica	Palmyra Atoll		

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24	Guinea-Bissau	Kazakhstan	Jersey	Martinique	Papua New Guinea		
25	Kenya	Korea, South	Kosovo	Mexico	Pitcairn Islands		
26	Lesotho	Korea, North	Latvia	Montserrat	Samoa		
27	Liberia	Kuwait	Liechtenstein	Navassa Island	Solomon Islands		
28	Libya	Kyrgyzstan	Lithuania	Netherlands Antilles	Tokelau		
29	Madagascar	Laos	Luxembourg	Nicaragua	Tonga		
30	Malawi	Lebanon	Former Yugoslav Republic of Macedonia	Panama	Tuvalu		
31	Mali	Macau	Malta	Puerto Rico	Vanuatu		
32	Mauritania	Malaysia	Moldova	Saint Barthelemy	Wake Island		
33	Mauritius	Maldives	Monaco	Saint Kitts and Nevis	Wallis and Futuna		
34	Mayotte	Mongolia	Montenegro	Saint Lucia			
35	Morocco	Myanmar	Netherlands	Saint Martin			
36	Mozambique	Nepal	Norway	Saint Pierre and Miquelon			
37	Namibia	Oman	Poland	Saint Vincent and the Grenadines			
38	Niger	Pakistan	Portugal	Trinidad and Tobago			
39	Nigeria	Palestinian Territory	Romania	The Turks and Caicos Islands			
40	Reunion	Philippines	Russia[6]	United States			
41	Rwanda	Qatar	San Marino	The United States			

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				Virgin Island			
42	Saint Helena	Saudi Arabia	Serbia				
43	Sao Tome and Principle	Singapore	Slovakia				
44	Senegal	Sri Lanka	Slovenia				
45	Seychelles	Syria	Spain				
46	Sierra Leone	Tajikistan	Sweden				
47	Somalia	Thailand	Switzerland				
48	South Africa	Timor-Leste	Ukraine				
49	Sudan	Turkey	United Kingdom				
50	Swaziland	Turkmenistan	Vatican City				
51	Tanzania	United Arab Emirates					
52	Togo	Uzbekistan					
53	Tunisia	Vietnam					
54	Uganda	Yemen					
55	Western Sahara						
56	Zambia						
57	Zimbabwe						
Total	**57**	**54**	**50**	**41**	**33**	**14**	**4**

Sampling technique and sample

A large representative sample of 216 which constitutes 85.38% of the entire population was randomly drawn proportionally with the aid of Table of Random Numbers (Kpolovie, 2017; 2011) from the population for this investigation. The spread of the sample across the continents is as shown in **Tab. 3**.

Table 3: Sample drawn for the study

S/No	Countries	Continents
1	Africa	52
2	Asia	48
3	Europe	47
4	North America	36
5	South America	12
6	Oceania	21
7	Antarctica	00
Total		**216**

ISSN 2053-406X(Print) ISSN 2053-4078(Online)

METHOD OF DATA ANALYSIS

Data obtained in this investigation were subjected to One-Way Analysis of Variance (ANOVA) with the aid of IBM SPSS Version 24 for testing the null hypothesis at 0.05 level of significance (Kpolovie, 2017). Beyond the ANOVA, Post Hoc Pairwise Multiple Comparisons were done, using Bonferroni for determination of the pair of continents that statistically differ significantly (Kpolovie, 2017; 2012a) in their Life Expectancy at 0.05 alpha (Kpolovie, 2011; 2011b).

RESULTS

The research question of "What is the Life Expectancy of the various continents in the world?" is answered with descriptive statistics that give the mean and standard deviation of life expectancy in each continent as shown in Tab 4.

Table 4: Descriptive for answering the research question

Descriptives

LIFE EXPECTANCY

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
AFRICA	52	61.14	7.66	1.06	59.00	63.27	49.81	76.71
ASIA	48	73.26	6.22	.90	71.45	75.07	50.87	84.74
EUROPE	47	78.99	3.80	.56	77.88	80.11	70.42	89.52
NORTH AMERICA	36	76.23	4.01	.67	74.87	77.58	63.51	81.76
SOUTH AMERICA	12	74.40	3.38	.98	72.25	76.55	68.09	78.61
OCEANIA	21	74.24	4.76	1.045	72.07	76.41	65.81	82.15
Total	216	72.24	8.61	.59	71.09	73.40	49.81	89.52

It can be discerned from Table 4 that life expectancy in Africa where the N (number of cases or countries) is 52, has a mean of 61.14, standard deviation of 7.66, 1.06 standard error, 59.00 lower bound, 63.27 upper bound at 95% Confidence interval of means, and 49.81 and 76.71 minimum and maximum scores, respectively. Asia with 48 N has a life expectancy mean of 73.26 and standard deviation of 6.22, standard error of .90, the lower bound of 71.45, the upper bound of 75.07, minimum and maximum of 50.87 and 84.74 respectively. A similar explanation goes for each of the other continents. Europe with 47 countries has 78.99 mean and 3.80 standard deviation of life expectancy. North America with 36 countries has a life expectancy mean of 76.23 and standard deviation of 4.01. South America with 12 countries has a life expectancy mean of 74.40 and standard deviation of 3.38. The life expectancy mean of 74.24 and standard deviation of 4.76 represent Oceania with 21 countries. Generally, the six continents with 216 countries have a total life expectancy mean of 72.24 and 8.61 standard deviations. The total standard error is .59, the lower bound is 71.09, the upper bound is 73.40, the minimum is 48.81 and maximum is 89.52.

ISSN 2053-406X(Print) ISSN 2053-4078(Online)

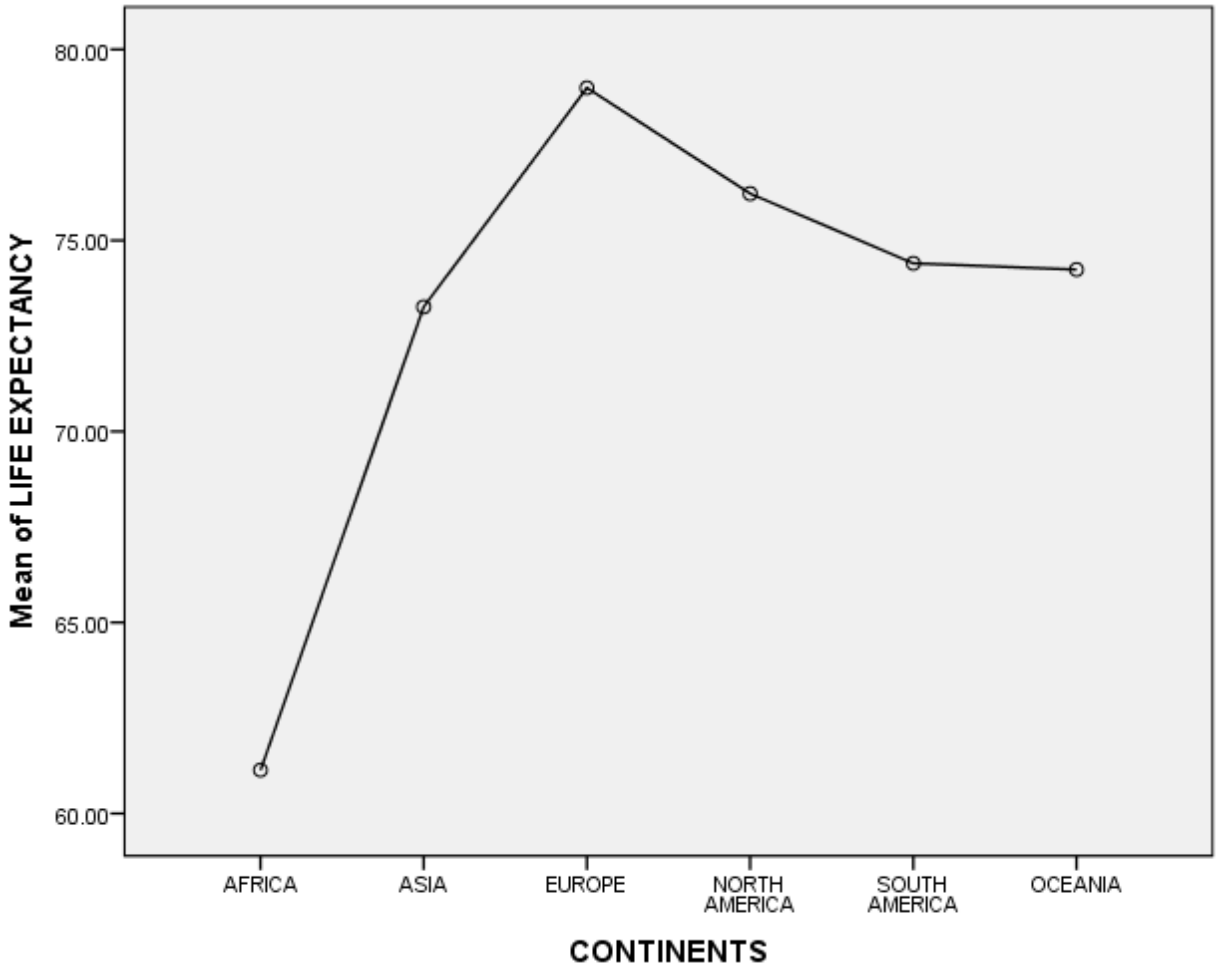

Figure 1: Graphical presentation of continental difference in Life Expectancy

The graphical presentation of continental difference in life expectancy as illustrated in Figure 1 has simply revealed that Africa has a mean of 61.14, Asia has a mean of 73.26, and Europe has an average of 78.99. The means of life expectancy for North America, South America, and Oceania are 76.23, 74.40 and 74.24, respectively.

Table 5: One-Way ANOVA for testing the Null Hypothesis

ANOVA
LIFE EXPECTANCY

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9315.839	5	1863.168	59.081	.000
Within Groups	6622.472	210	31.536		
Total	15938.311	215			

The ANOVA in Table 5 shows that for between groups, the sum of squares is 9315.839, with 5 degrees of freedom, and 1863.168 mean square. For within groups, the sum of squares is 6622.472 and the degrees of freedom is 210 with 31.536 mean square. The total has 15938.311 sum of squares and 215 degrees of freedom. The computed F is 59.081, which is statistically

ISSN 2053-406X(Print) ISSN 2053-4078(Online)

significant at 0.05 alpha, even at significant at 0.001 alpha. Therefore, the null hypothesis that "there is no significant difference in life expectancy of continents in the world" is rejected; F (5, 210) = 59.081, p < .05. In other words, there is a statistically significant difference in the life expectancy of continents in the world. To ascertain the pairs of continents that significantly differ in their life expectancy, a Post Hoc Multiple Comparison was done as shwon in Table 6.

Table 6: Multiple Comparisons of continents' life expectancy, using Bonferroni

Multiple Comparisons

Dependent Variable: LIFE EXPECTANCY

Bonferroni

(I) CONTINENTS	(J) CONTINENTS	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
AFRICA	ASIA	-12.12409*	1.12403	.000	-15.4615	-8.7867
	EUROPE	-17.85644*	1.13023	.000	-21.2123	-14.5006
	NORTH AMERICA	-15.08902*	1.21756	.000	-18.7041	-11.4739
	SOUTH AMERICA	-13.26346*	1.79845	.000	-18.6033	-7.9236
	OCEANIA	-13.10060*	1.45195	.000	-17.4117	-8.7895
ASIA	AFRICA	12.12409*	1.12403	.000	8.7867	15.4615
	EUROPE	-5.73235*	1.15237	.000	-9.1539	-2.3108
	NORTH AMERICA	-2.96493	1.23814	.263	-6.6411	.7113
	SOUTH AMERICA	-1.13938	1.81244	1.000	-6.5208	4.2421
	OCEANIA	-.97652	1.46925	1.000	-5.3389	3.3859
EUROPE	AFRICA	17.85644*	1.13023	.000	14.5006	21.2123
	ASIA	5.73235*	1.15237	.000	2.3108	9.1539
	NORTH AMERICA	2.76742	1.24377	.407	-.9255	6.4604
	SOUTH AMERICA	4.59298	1.81630	.183	-.7999	9.9858
	OCEANIA	4.75584*	1.47400	.022	.3793	9.1324
NORTH AMERICA	AFRICA	15.08902*	1.21756	.000	11.4739	18.7041
	ASIA	2.96493	1.23814	.263	-.7113	6.6411
	EUROPE	-2.76742	1.24377	.407	-6.4604	.9255
	SOUTH AMERICA	1.82556	1.87188	1.000	-3.7324	7.3835
	OCEANIA	1.98841	1.54197	1.000	-2.5899	6.5668
SOUTH AMERICA	AFRICA	13.26346*	1.79845	.000	7.9236	18.6033
	ASIA	1.13938	1.81244	1.000	-4.2421	6.5208
	EUROPE	-4.59298	1.81630	.183	-9.9858	.7999

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	NORTH AMERICA	-1.82556	1.87188	1.000	-7.3835	3.7324
	OCEANIA	.16286	2.03216	1.000	-5.8709	6.1966
OCEANIA	AFRICA	13.10060*	1.45195	.000	8.7895	17.4117
	ASIA	.97652	1.46925	1.000	-3.3859	5.3389
	EUROPE	-4.75584*	1.47400	.022	-9.1324	-.3793
	NORTH AMERICA	-1.98841	1.54197	1.000	-6.5668	2.5899
	SOUTH AMERICA	-.16286	2.03216	1.000	-6.1966	5.8709

*. The mean difference is significant at the 0.05 level.

The Multiple Comparisons in Table 6 have shown the 30 possible pairwise comparisons of the life expectancy means across contents in the globe. While there is significant mean difference in 14 of the pairwise comparisons, 16 of the multiple comparisons do not have a significant difference. Each of the 14 pairwise multiple comparisons that differ significantly at the chosen alpha, 0.05, is marked with an asterisk in Table 6. For instance, the life expectancy in Africa is significantly lower than the life expectancy in each of all the other continents in the world. That is, life expectancy in Africa is lower significantly than the life expectancy in Asia (with a mean difference of -12.12409); Europe (with -17.85644 mean difference); North America (with -15.08902 difference in mean); South America (with a mean difference of -13.26346); and Oceania (with a -13.10060 difference in in mean). Asia has significantly lower life expectancy than Europe, -5.73235 is the mean difference on the one hand; and a significantly higher life expectancy than Africa (with a mean difference of 12.12409). Europe has significantly higher life expectancy than Africa (17.85644 mean difference); Asia (5.73235 difference in mean); and Oceania (4.75584 mean difference). Similar explanations are applicable to the other pairwise comparisons that have an asterisk in Table 6. Recall that the descriptive statistics has earlier shown that life expectancy mean in Africa is 61.14, in Asia is 73.26, in Europe is 78.99, in North America is 76.23, in South America is 74.40, and in Oceania is 74.24. The average life expectancy of the various continents in the world is 72.24.

DISCUSSION

From the findings of this investigation, there is overwhelming preponderance that life expectancy is significantly highest in Europe and lowest in Africa. Every continent in the world is significantly better than Africa with regards to life expectancy. While Europe has significantly higher life expectancy than Africa, Asia, and Oceania; there is no significant difference in life expectancy between Europe, North America, and South America. Though Asia and Oceania do not differ significantly in life expectancy, each of these two continents has life expectancy mean that is statistically and significantly higher than that of Africa.

Life expectancy has soared over a thirty year period across the regions of the world. While some continents have only recorded marginal increases, others have made great improvements (OECD, 2015; 2016; 2014). Africa has experienced some movement in its life expectancy average from forty to an average of fifty within a thirty year period. Low employment, lack of access to good education and health facilities, poor housing and an unhealthy lifestyle are slowing down life expectancy in developing countries like those in Africa. HIV/AIDS

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pandemic and the increasing occurrence of other communicable diseases; and an increase in diseases such as cancer, liver, and kidney problems have further impacted on life expectancy in poorer countries like those in Africa.

Poor labor in Africa has been directly linked to the poor health systems in the continent. There is an absence of a pooling fund to ensure social security and health coverage. Getting it right entails the development and practical implementation of policies that would address rising health inequalities in Africa.

Differences in life expectancy that exist between continents may probably be caused by differences in economic clustering circumstances which reflect factors such as diet, medical care, public health, marital status, periods of historical existence of war, family history, quality of life, diseases, and so on. Granados and Roux (2009; 2009a) in their study suggest that when people are working extra hard, they undergo more stress, greater exposure to pollution, and the likelihood of injury among other long-life limiting factors. It is driven by the unequal distribution of income.

Earlier works have shown that Africa is the continent with the lowest income in the world (Pew Research Center, 2015). The significant variation in life expectancy across continents found in the current study might be represented by the causal effect of the lower the income, the higher the mortality. It is evidence also that the higher the income, the more the decrease in mortality. It may not be out of place that the significantly lower life expectancy in Africa vis-à-vis other continents could be associated with the significantly lower income that is typical of Africa and other developing economies (Ololube & Kpolovie, 2012) in comparison with other continents in the globe. In other words, it is proven that income tends to be the major determinant factor in life expectancy in the various regions throughout the world. Interventions, such as health check and promotional campaigns, social security and health insurance coverage are only achievable by an increase in economic resources.

CONTRIBUTION TO KNOWLEDGE

That the world has become a global village with science and technology, particularly Information and Communication Technology (ICT) is evident in this investigation that with the aid of ICT, gathered enormous data globally, analysed them with IBM SPSS, and successfully reached a valid and dependable comparison of life expectancy across all continents in the globe. Addressing continental inequities in life expectancy, the investigators very strongly offer the data-based recommendations that health interventions should profoundly be scaled up globally, and most particularly in Africa, Asia, and Oceania; to improve life expectancy. African governments should be urged to pull resources together for and invest heavily in health insurance coverage of their citizens, given the fact that most cases of mortality are health related. The intrinsic connection between income and health care cannot be overemphasized. The peripheral nature of African economies will continue to expose its people to the vagaries of poor health because the increase in income has a positive correlation with good health and life expectancy. There is a need for distributive justice in income distribution. The hallmark that could lead to sharp improvement in life expectancy in Africa is perhaps the promotion of good governance with the ultimate goal of meeting the greatest needs of the greatest majority of the citizenry in each African country. Africa should learn from other continents and massively invest in those things that serve as indicators of longer life

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expectancy. Emphatically, there is an inexorable need for radical improvement of life expectancy in every continent globally. The world could have been much better if great thinkers, inventors, scientists and technologists had lived much longer and continued with their contributions to knowledge advancement.

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