

Reasons for High Life Expectancy at Birth with Males in Hambantota District in Sri Lanka

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ABSTRACT:

Introduction: It has been proven twice that the Hambantota District has the highest life expectancy in male population. This study focused to find and identify reasons for Hambantota District people to have high life expectancy at birth.

Methodology: Research was carried out in both qualitative and quantitative phases in five MOH (Medical Health Officer) divisions in Hambantota District. Study focused on 3 age categories, 55-65 Years, 66-75 Years, and above 76 Years. Main objectives and key information areas are Life Style and Social Behaviors, Food Consumption and Diet, Familial Trait and Physical and Mental Health.

Findings: Majority of the male population have educated up to grade 5 and most are engaged in the agriculture while others engaged in fishery and self-employment etc. Almost everyone reach their workplaces by foot or by bicycle. Many of them work less than six hours. They spend their free time with their family members and watch TV. Most of them do not consume alcohol and smoke. Almost everyone take part in social activities. Majority eat red rice for all three meals. Almost everyone eats fish every day. They have a high salt intake. Their parents and ancestors have also had a high life expectancy. Only a minority suffer from chronic illnesses. They all have a good physical and mental health condition. They spend happy and relaxed lifestyle.

Conclusion: Healthy diet, low alcohols consumption and smoking, high iodine intake, physical activeness and their social wellbeing effect for high life expectancy within the male population of selected five MOH divisions in Hambantota District. They have a free and happy life. Genetics of these people also may contribute for high life expectancy. Abundance of neem trees in this area also may effect on their high life expectancy.

KEY WORDS: Life Expectancy, Quantitative, Qualitative, MOH

ABBREVIATIONS: WHO- World Health Organization; F2F- Face to Face; MOH- Medical Health Officer; PHI- Physical Health Instructor; SPSS- Statistical Package for the Social Sciences; GCE O/L- General Certificate of Education Ordinary Level; GCE A/L- General Certificate of Education Advanced Level; TV- Television; TBS- Table Spoons; No. of- Number Of.

I. INTRODUCTION

High life expectancy is the one of the comprehensive and important topics to discuss. According to United Nations Development Programme, Life expectancy at birth defined as average number of years that a newborn is expected to live if current mortality rates continue to apply [1]. Sri Lanka rank a high position in life expectancy within South Asian Countries [2].

Sri Lanka has an average life expectancy of 72 years for male and 78.6 years for female [3]. Nevertheless, it has been proven twice that the Hambantota District has the highest life expectancy in the male population. Surveys that used to collect this data are Life tables for Sri Lanka & Districts (200-2002) done by Department of Census & Statistics [4] and Life tables for Sri Lanka 2011-2013 by district & sex done by Department of census and Statistics [3].

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Reports of these studies state that it is beyond the scope of it to provide causes behind it and further research should be done for it.

Hambantota District is in the Southern province of Sri Lanka. It occupies an area of 2609km². Hambantota accounts for 3.97% of the country's total surface area. Hambantota is termed as a dry semi-arid region according to its climatic condition [5].

Several studies that have taken place in other countries reveal that some factors affect the high life expectancy at birth. This study aims to correlate the findings of the study with already established data to bring up similarities that cause for high life expectancy in males in Hambantota District.

1.1 Goals and Objectives

Key objectives and Scope of the study are; Life Style & Social behaviors, Food Consumption & Diet, Familial traits, and Physical & Mental health.

This would be the first survey done in Sri Lanka to find reasons behind high life expectancy. Life styles of all people can be adhering to the results of this study in order to increase the life expectancy at birth & quality of life.

II. METHODOLOGY

Study was conducted in both qualitative and quantitative phases in five MOH divisions in Hambantota district.

2.1 Research Sample

Table 1 shows the qualitative Phase Respondents Profile.

Table 1. Qualitative Phase Respondents Profile

Category	No. of Interviews
Physicians	3
Ayurvedic Doctor	1
MOH (Medical Health Officers)	1
PHI (Physical Health Instructor)	1
Total	6

Table 2 shows the quantitative Phase Respondents Profile.

Table 2. Quantitative Phase Respondents Profile

Category	Age limit			Total
Male	55-65 Years	66 – 75 Years	76 and above	
Total	20	20	20	60

2.2 Random Sampling

Five MOH divisions were selected among the twelve MOH divisions in the Hambantota District using Research Randomizer Software.

2.3 Geographical coverage

In the Hambantota District quantitative research is conducted following 5 MOH divisions as shown in Table 3.

Table 3. MOH Divisions in Hambantota District

No.	MOH Division	No.	MOH Division
1	Katuwana	7	Angunukolapellessa
2	Walasmulla	8	Ambalantota
3	Okewela	9	Suriyawewa
4	Wiraketiya	10	Hambantota

5	Belliata	11	Lunugamwehera
6	Tangalla	12	Tissamaharama

2.4 Data Analysis

Data analyzing of the survey was done by the SPSS version 16.0 Analytical Software.

III. RESULTS

3.1 Age Category and Distribution

Three age categories, namely age 55-66 years, 66-75 years, and above 76 years were targeted. 20 Face to Face (F2F) interviews were done for each age category. Hence a total of 60. Therefore each age category encounter for 33.33% of the total.

3.2 Life Style and Social Behaviors

3.2.1. Education Level – Age Wise

Education levels of males were assessed under 5 Categories such as up to Grade 5, Grade 6-8, Grade 9-10, up to GCE (O/L) and up to GCE (A/L).

Table 4. Education level –Age wise.

Educational Level	55-65 Years		66-75 Years		Above 76 Year	
	Count	%	Count	%	Count	%
Up to Grade 5	3	15%	2	10%	16	80%
Grade 6 - 8	2	10%	8	40%	3	15%
Grade 9 - 10	2	10%	3	15%	1	5%
GCE (O/L)	9	45%	4	20%	0	0%
GCE (A/L)	4	20%	3	15%	0	0%
Total	20	100%	20	100%	20	100%

3.2.2. Livelihood and Occupation

Table 5 indicates the main livelihood of the male population age wise distribution with the percentage of the population.

Table 5. Livelihood and Occupation – Age wise

Occupation	55-65 Years	66-75 Years	Above 76 Years
Agriculture	45%	35%	30%
Fishery	5%	15%	30%
Animal Husbandry	0%	0%	0%
Government Servant	5%	30%	5%
Private Sector	15%	0%	5%

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Self Employment	30%	20%	30%
Total	100%	100%	100%

3.2.2.1. Mode of travel to work- Age wise

Age wise mode of travel to work describes majority go by foot or by bicycle. In case of age 55-65 years majority go by foot (45%), in the age category of 66-75 years almost the same population go by walking and use buses (35% each). Above 76 Years 65% go by the foot.

3.2.2.2. Working Hours per day- Age wise

Working hours per day assessed under three groups. Such as Less than 6 hours, 6-8 hours and more than 8 hours per a day. Most of the population in all age categories work less than 6 hours per a day. Hence, in the age 55-65 years, 75% work less than six hours. In the age 65-75 years, 55% and age 76 and above, 55% work for less than six hours. Therefore, they have a more leisure time.

3.2.3. Leisure Time and Entertainment

Table 6 elaborates how they have spent free and leisure time as a percentage. They have followed the same methods in their middle ages as well.

Table 6. Leisure time sending method Age wise.

No.	Description	55-65 Years	66-75 Years	Above 76 Years
1	Watch TV	48%	40%	62%
2	Spend time with Friends	16%	15%	23%
3	Party and Socialize	3%	6%	4%
4	Gardening	14%	19%	0%
5	Trips and Journeys	0%	8%	0%
6	Radio	16%	8%	11%
7	Societies and Social Work	3%	4%	0%
	Total	100%	100%	100%

3.2.4. Smoking and Drinking Habits

Majority of the population do not smoke. In age category of 55-65 years 75% do not smoke, in age category of 66-75 years 60% do not smoke and in the agecategory of 76 and above 70% free from smoking.

In the age category of 55-65 mostly drink Arrack, Other than Arrack they also drink Cassia. Cassia is more common with the people who are engaged in the Chena Cultivation. Because Cassia is cheaper than Arrack and more accessible. They prefer to drink because of aches and pains.

3.2.5. Social Behaviors

All most every male is engaged in Social Activities and has memberships in Societies. Namely Farmer's Society, Fishery Societies, Funeral Societies and Religious societies, and different Organizations. Some play active roles in politics. Some of them held positions of these societies such as President, Secretary, and Treasurer, while many of them have positions in Organizing Committee.

Everyone lives happily with their family members as a percentage about 99% include in this category. They are very happy and satisfied with the help and look after the contribution of their family members. They are happy and satisfied with their neighbors and friends in the society.

They are very satisfied with duties and responsibilities that they carried out and believe that they have done a better contribution to the family and society.

3.3. Food Consumption and Diet

Most of them consume rice as their breakfast while others consume cereals, bread etc. They consume these with Fish, Sambol, Coconut Milk Gravy, Jack fruit, Breadfruit curries etc. In addition, they have consumed almost the same diet plan in their 35-45 years, in which they consumed Rice, Cereals, Kurakkanthalapa, Maize etc.

100% of the population consumes rice as Lunch. They take Green leaves that they cultivate at home garden, Vegetables, and Fish with their Lunch frequently. They prefer both Marine and Freshwater Fish. In addition, they have taken the same sort of Lunch at age 35-45 as well.

In dinner, most of them consume rice as their dinner while a minority consumes bread. They take mostly curries left after the Lunch. They have taken the same sort of dinner at age 35-45 as well.

Other foods that they consume and prefer include, Fruits Cultivated at homes such as Banana, Papaya, Mango, Guava, Pineapple, Wood-apple etc., Corn, Yogurt, and Biscuits.

Many consume tea without sugar for 3-2 times a day. They prefer plain tea. Tea with milk is taken once a day or some take only on special occasions. Because price does not compromise with the economical standards.

Their coffee consumption is as they drink a cup of coffee once or twice a week. However, some of them drink coffee rarely when they are sick or have the fever.

They take other dinks such as Belimal(*Aegle marmelos*), Ranawara(*Senna auriculata*) and Polpala(*Aervalanata*)frequently. People engaged in Chena Cultivation drink Polpala (*Aervalanata*)2-3 times a day, because it is cheap and accessible.

Male population in Hambantota district prefers to take a high salt intake with their food. Most of them prefer 2-3 tablespoons of salt per a day.

Their egg consumption is quite low. Majority of the population consume 4-6 eggs per a week. All the people in Hambantota district consume fish in their diet. They eat both marine and fresh water fish. Majority consume 500gms per a week.

3.4. Familial Trait

Fathers of this population have a mean life expectancy at birth of 78.5 years but some have lived about 100 years. Mothers of this population have a mean life expectancy at birth of 80 years but some have lived 102 Years. Grandfathers of these males have an average life expectancy at birth of 90 Years and some have lived for 101,103, and 105 years. Grandmothers of this population have an average life expectancy at birth of 97 Years and some have lived for 101,102,103,and 104 years.

3.5. Physical and Mental Health

Table 7 shows the Chronic Illnesses as a percentage of the male population and high percentage of the population suffer from arthritis and blood pressure.

Table 7. Chronic Illnesses as a percentage of the male population

No.	Description	Percentage %
1	Diabetes	12%
2	Cholesterol	2%
3	Blood Pressure	22%
4	Asthma	5%
5	Arthritis	23%
6	Kidney Diseases	5%

7	Heart Problems	5%
8	Eczema	10%

IV. DISCUSSION

4.1. Life Styled and Social Behaviors

4.1.1. Education Level – Age Wise

Education in the male population was in different levels, such as up to grade 4, Grade 6-8, Grade 9-10, up to GCE O/L and up to GCE A/L. Majority of the Age 55-65 years have studied up to O/L. Most of the people of age 66-75 years have studied until grade 6-8 and the higher number of people above 76 years have been schooled up to grade 5.

4.1.2. Livelihood and Occupation

The main livelihood in the Hambantota District is Agriculture. Other than that Fishery, Self-employment, Government sector and Private Sector Jobs are done. Some of them may engage in Animal Husbandry in this area.

Livelihood and occupation that they engaged is always their main income source. Majority of the population monthly income is remaining less than Rs. 50,000.00.

Livelihood and occupation satisfactory levels are, 22% of the male population extremely satisfied, 70% of the male population satisfied, while 8% is not satisfied. Reasons for not satisfaction about the job are the low income, weather conditions that effect for fishery and incase of farmers they sometimes lack water for their fields and cultivation.

Working hours in this population depending on their occupations. However, most of them work less than 6 hours comparing the percentages of working hours in these age categories can assume that they prefer more leisure time. Most of the male population does not have any stress in their working environment and they are happily engaged and enjoy their works.

4.1.3. Leisure Time and Entertainment

Majority of the people spend their time after work and leisure time with their family and children. Other than that, they have high tendency to watch Television.

They are involved in the same kind of activities to entertain their life as well. Most of the population prefers to watch Television, 55-65 Years 48%, 66-75 Years 40% and Above 76 Years 62%. Considerably these age groups population interested to watch Teledramas and News on Television with family members. They are interested in building up a strong religious background. They attend village level social activities like Shramadana. Most of the population spend their time in their livelihood and in the free time, they meet friends, walk around the village and spend the time with family. At age 35-45, they have enjoyed the time by traveling and visiting religious places, and by hanging out with friends. Most of them have been attended in sports activities in their young and middle age.

4.1.4. Smoking and Drinking Habits

Most of the population does not smoke. In male population who smoke, a High number of male population smoke Cigarettes, 55-65 Years 80%, 56-75 Years 52% and Above 76 Years 51%. Some smoke Beedi and Cigars. Among the population that smoke cigars some smoke marijuana cigars that are made from marijuana cultivated by themselves. The Male population that engaged in Chena cultivation smoke Olborous. This is a type of cigar that is reusable few times; hence it is low cost, more accessible and made by them.

Most of the male population is not addicted to the drink of alcohol. When considering about their usage behavior of Alcohol they drink alcohol only in special. This is also very low among the people above 76 years. Because of less accessibility and they feel more responsible when their children are growing up.

4.1.5. Social Behaviors

They are really interested to participate and have membership in village level societies. These societies conduct programs and events such as religious, health, social work, and annual tours etc. Their family members always help to their day-to-day activities. They are also very happy about their cultural events and ceremonies. They are very satisfied with their family environment.

They have educated their children well, helped them to be settled and to build houses. They are still willing to lend their help at any time needed. They prefer to advise their children and grandchildren with their life experience.

Based on this survey findings, Life Style in the male population in Hambantota district is very simple, free and relaxed. These people do not have high future targets, big hopes, and goals about their life. Their life is not stressful and they prefer self-freedom. They have strong social relationships. They play an active role in society and engaged in many social activities and organizations. This population has healthy bonds with their family members. They have been taken care of their family members which leads to a peaceful mind set. Everyone is free, happy and satisfied with what they have. Comparing to age groups; 66-75 Years male population and above 76 Years male population work fewer hours than age group 55-65 Years males. Therefore, they have less working hours more leisure time. All these factors help for a good mental health condition, which leads to a high life expectancy. Hence, this social wellbeing and mental wellbeing leads to high life expectancy at birth [6].

This population is hardworking and the majority of them travel to work places by foot or by bicycle. Therefore, they obtain many exercises daily which leads to a good physical health condition. This physical activeness effect for a longevity[7].

The majority is free of alcohol usage and smoking; this is also another advantage for high life expectancy. Even though they used alcohol in their middle age due to hard work and tiredness, this situation changes in old age due to low accessibility. This attribute for high life expectancy[8].

4.2. Food Consumption and Diet

Food consumption and diet are very important for the high life expectancy. Majority of these age categories eat rice and curry for all, three main meals. They prefer to eat Red Rice (*Oryzapunctata*) because it is healthy nutritious. It contains antioxidant that counteract with free radicals.Red rice contains vitamin B1, B2, B6[9].

They have a low meat intake because of that majority of them are free from cholesterol. Previous studies have proven that life style pattern with low meat consumption contributes for longevity [10].They also consume food like jack, breadfruit, Kurrakanthalapa frequently. They have followed same kind of healthy dietary habits in their young and middle age as well. This healthy early life diet also does contribute to a high life expectancy [3,11].

They cultivate Polpala (*Aervalanata*) along with their other cultivations in their own field so that they prepare it themselves at Chena. This is good for Kidney [12].

Males who live near the coastal area have a high intake of Marine fish.35% of the population between ages 55-65 years consumes 500g of marine water fish per a week. 45% of the population between ages 66-75 years consumes 500g of marine water fish per a week. 30% of the population in above 76 years consume 250g and 20% within this age category consumes 500g.Hence the majority of the population consume 500gof marine fish per s week.

Males who live in areas such as Lunugamwehera and areas that are far from cost line have a high Fresh water intake. 15% of the population between ages 55-65 years consumes 1kg of fresh water fish per a week. 15% of the population between ages 66-75 years consumes 1kg of fresh water fish per a week. 15% of the population of above 76 years consumes 2kg of fresh fish per week. In case of fresh waterfish they prefer coral, which has a high energy intake [13].

4.3. Familial Trait

Their familial trait also helps for high life expectancy. Their parents and ancestors have had the high life expectancy as well. Most of the ancestors in these people have lived more than 100 years. It has been proven in previous studies that genetics account for 20-30% of life expectancy [14].

4.4. Physical and Mental Health

Physical and Mental Health of this population is in a very good condition due to their life style, food habits and genetic. Only a minority suffer from chronic illnesses.

In this male population, 23% of the people suffer from arthritis due to their Hard-Heavy work. Hence their bones and cartilages tend to worn-out more quickly. Very less amount of people attend for Monthly clinics for arthritis and other conditions.

22% suffer from blood pressure this may because of the high iodine intake. Because previous studies have proven that high sodium intake predisposes to high blood pressure. Sodium involves in auto regulation of fluid and water in the body, high salt intake leads the kidney to excrete a large amount of salt administered [15].

10% suffer from eczema this may because most of the population depends on the agriculture and farming. Several studies that took place throughout the world have proved that uses of pesticides are related to contact dermatitis [16].

The minority of the population suffer from diseases such as Cataracts, Gastritis, Appendicitis and Hernia. While only a plenty of them suffers from Mental illness due to witnessing the Tsunami disaster.

About 60% of the population prefers Ayurvedic medication and treatments because it is natural and has fewer side effects. About 40% prefer Allopathic medication because of the accessibility and because it is user friendly.

Everyone drinks Coriander seeds (*Coriandrum sativum*) and Tree Turmeric (*Coscinium fenestratum*) and other ayurvedic health boosters frequently. This also may affect their immunity.

Since the Hambantota district is in the coastal belt see breeze carriers a high content of iodine, they also have a high iodine intake in the food as well because of the marine fish. Iodine is an essential element need for thyroid hormone synthesis. It also has antioxidant and has anti-proliferative properties that lead to prevention of cardiovascular diseases and cancer [17].

V. CONCLUSION

Hence according to this study results can conclude that the Healthy Diet, Low alcohols consumption and smoking, high iodine intake, physical activeness and their social wellbeing effect for high life expectancy within this male population. Genetics in these people may also contribute to life expectancy. Above all these people believe that their free and relax life style which relates to their mental wellbeing enormously contribute for high a life expectancy at birth.

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