

PREVALENCE OF DISEASES IN THE HIGH POPULATED AREA: A STUDY BASED IN KATTANKUDY DIVISIONAL SECRETARIAT DIVISION OF BATTICALOA DISTRICT

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Received: 14 March 2020 Revised and Accepted: 8 July 2020

ABSTRACT

The health and well-being of human beings are very important to lead a peaceful and the happiest life. The ill-health of disease brings only the sorrow and burden to the patients and the family members. This study was conducted to identify the diseases and the reasons for increasing diseases in the study area. Primary and secondary data collection methods were used for this study. Interview and focused group discussion methods were used as the primary data collection methods. Reports, records, research articles and reliable web sources were utilised as the secondary data collection methods. Kattankudy is a small area which possesses high population density. People from this area are living in a congested environment with close residents. This high population density issue has become a challenge of initiating and improving the medical and health facilities in the study area. The increases in the number diseases and patients and spreading of the communicable diseases have created a fear among the people. Though, Kattankudy is considered as a place of adequate infrastructure facilities and wealthier people with good health condition in the eastern province of Sri Lanka, the available statistics pointed out that the disease and the number of patients identified in Kattankudy had increased till 2014 and has been declining since 2015. However, it has high chances of increasing the number of patients in near future. This study has discussed about the communicable diseases and non-communicable diseases such as dengue, diarrhoea, hepatitis and typhoid fever and the reasons behind it. Congested environment, poor food habit, heat and air pollution, the change in the water usage and poor drainage conditions were found to be the reasons for the expansion of diseases.

KEYWORDS: Communicable disease, Food habits, Health, Illness behaviour

1. INTRODUCTION

The health and well-being of human beings are considered to be the highest achievement of all development phenomena. Health is defined as not only living without diseases but also living with physical and psychological well-being. It is simply the well-being of human in all situations. Health of a person is commonly viewed as the state of being free from the disease or injury. The physical and mental well-being of the individuals is important to construct healthier societies. According to World Health Organization (2020), "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." The attainment of the highest standard of health is one of the fundamental rights of every human being without any discrimination based on religion, race, politics, economy or social conditions. Promotion of health and well-beings of the human beings is the highest priority of all the states. However, unequal development and improper development in the living spaces has brought great danger of challenging the health and well-being of the people. Especially, controlling the disease like communicable disease has become a problem today.

However, the health of individuals and populations of the particular area is affected by the environment in which they reside. The environment and the living condition have caused numerous diseases among the people. This has influenced of transmitting disease from one person to another. The built environment has also affected the lives of people and their health (Wollman, Jelić, & Well, 2018). Disease is a disorder of structure or function in a human being. It is an abnormal condition affecting the living organism, understood by the medical

experiments with specific set of symptoms (Scully, 2004). “The decline or the mutation in physical, psychological, spiritual and social condition is considered as the situation of having disease. Disease is a condition where the normal functions of the body, mind and cognition become malfunctions due to the infections. Disease is an abnormal condition that has negative effects on the structure and the functions of all parts of the body. The disease brought numerous changes in our body and the functions of human beings. The disease changes the social, economic and cognitive condition of the human beings into abnormal condition (Medical Dictionary, 2012). The doctors naturally categorize the disease into two as organic and functional diseases.

Studies had been conducted in connecting the living environment and the health of the people. The health and well-being of the people have close connection with the people’s environment and their health seeking behaviour. Wollman, Jelić, & Well, (2018) conducted a study on the impact of the built environment on health behaviours and disease transmission in social systems. Here, the study mentioned that environment is important in determining the health of individuals. Especially, communicable diseases have great chances of spreading in the crowded environment and congested life setting. Phung , Nguyen, Nguyen, & Lu (2018) conducted a study on the effects of socio-ecological factors on variation of communicable diseases. Here, the study presented that the population density has the biggest influence on the risk of communicable diseases. This study examined the relationship between socio-ecological factors of multiple communicable diseases such as diarrhoea, shigellosis, amebiasis, chickenpox, mumps, influenza, dengue, malaria, and rabies and found out that the population density has the biggest contribution breeding diseases.

In this regard, this study was conducted to understand the current situation of the diseases that found in the Kattankudy divisional secretariat division and its associated factors.

2. RESEARCH METHODOLOGY

The study was conducted in the Kattankudy Divisional Secretariat Division of Batticaloa district, Sri Lanka. Kattankudy is a town area near the city of Batticaloa which is dominated by Muslims (98%). It is said that Kattankudy is one of the most densely populated city in Sri Lanka with nearly 50,000 residents (calculated at 6,276 inhabitants per square kilometre in 2012). People of this area are engaged in business, industries and fisheries. The boundaries of the Kattankudy Divisional Secretariat Division are Manmunai North divisional secretariat in north, Bay of Bengal in East, Manmunaipattu Divisional Secretariat in south and Batticaloa lagoon in the West (Resource Profile and Statistical Report of Kattankudy Divisional Secretariat, 2017).

Both primary and secondary data collection methods were applied to this study. Interview (60) and focused group discussion (03) methods were used to collect primary data. Records and reports of the Kattankudy Divisional Secretariat Division, MOH office annual reports, research articles and reliable web sources were used as the secondary data for this study. Descriptive data analysis method is used for this study. The analysed data were summarized and presented in texts and figures.

3. RESULTS AND DISCUSSION

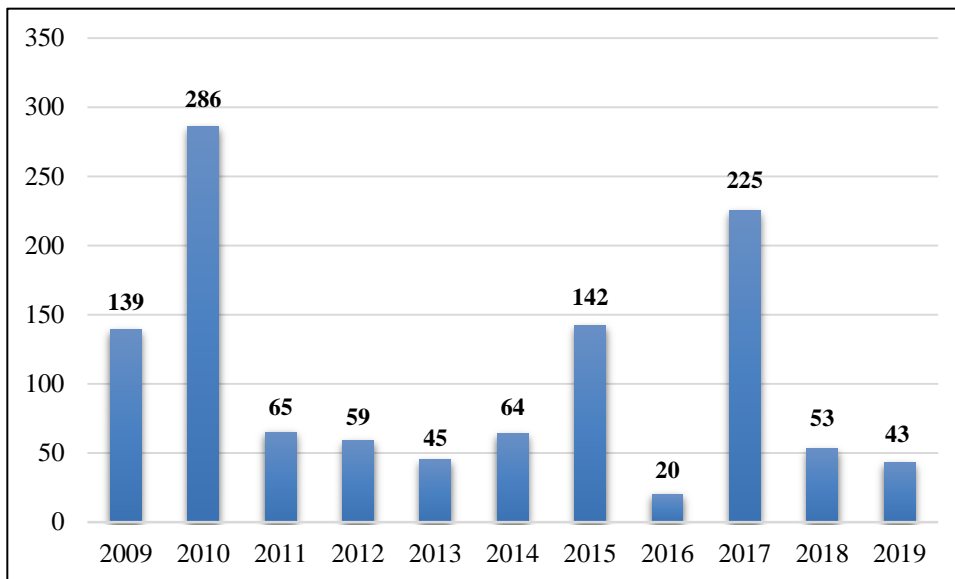
3.1 Diseases and the Reasons behind the increases of Diseases

Diseases are classified into two categories as communicable diseases and non-communicable disease. The high intensity of the population has become one of the prominent reasons for the increased expansion of communicable diseases in the society. On the other hand, the non-communicable diseases are increasing because of the environment, food habits, behaviours and the unhealthy behaviours of the people.

3.1.1 Dengue

Dengue has been identified as the most influenced communicable disease in the study area. 615 dengue patients were identified from 1996 to 2010. The identified dengue patients of 139 in the year 2009 had rapidly increased as 286 in the year 2010. The following figure 01 shows the details of dengue patients from 2009 to 2019.

Figure 01: Details of the Dengue Patients



Source: Annual Report, MOH office, Kattankudy-2019

According to the figure 01, 139 dengue patients were identified and got treatment in the year 2009. Totally, 286 people were affected because of the dengue in the year 2010. 233 dengue patients were identified in between the years of 2011 to 2014. A dengue patient was died in the year 2013 and another one in the year 2014. In the year 2015, 142 dengue patients were identified and one patient was died in the same year. 20 dengue patients were identified in 2016 and it was dramatically increased to 225 in the next year 2017 that included two deaths. However, it is identified that 53 dengue patients were recorded in year 2018 and 43 dengue patients were identified in 2019. Compare to the previous years, the number of dengue patients identified and treated in 2018 and 2019 were lower and it shows the improvement of the health and health seeking behaviour of the people.

Improper water stagnation, improper drainage system, the pollution that was created by contamination of garbage into the water and unutilised well water has been identified as the reasons behind the expansion of dengue in the study area. The high intensity of the people and the houses is another prime reason for the transition of disease which was severely affected the people. The activities on cleaning the dengue breeding places and awareness programmes on prevention from dengue have been carried out in the study area. Particularly, the relevant officers give alert to the public in the rainy seasons.

The Public Health Inspector (PHI) of the study area has emphasised about the challenges in the overcoming the dengue disease as follows.

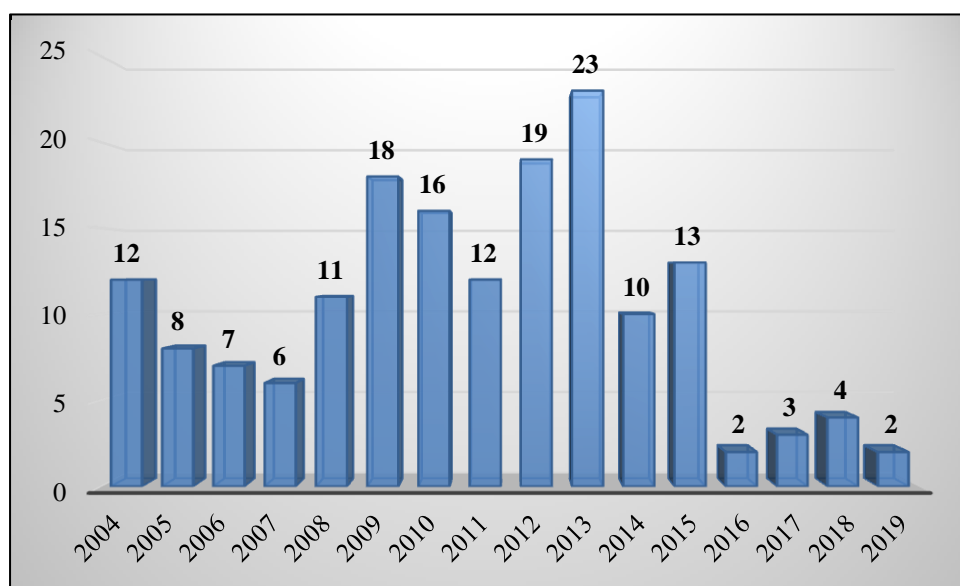
“Dengue is not always a stable disease and it is highly spread in rainy seasons. The support and the contribution of the public are very significant in preventing and controlling the dengue. There is no use of rushing to get treatment after the seriousness of the dengue. The reason for the expansion of this disease is the high intensity of the people and houses in the study area. People have only started to clean the houses and the surroundings and act like they are very perfect after they had received the news of the inspection of the officers. The prevention of the communication disease with these kinds of human behaviours is impossible”.

By considering about the above facts, the officers and their services are not being blamed in preventing the dengue disease. The social structure, environmental conditions and the improper behaviours of the people are found to be the expansion of dengue disease in the study area. Therefore, it is proven based on the statistics that the highest numbers of dengue patients were recorded in the year 2010 and the lowest number was in 2016, which was sudden fall compared to the previous year 2015 (142). Again, the numbers of the dengue patents were increased dramatically in 2017. Then it has reduced in the years of 2018 and 2019. It is difficult to find a pattern of the increasing and decreasing amount of dengue patients based on the statistics here.

3.1.2 Diarrhoea

Diarrhoea is a common disease caused by drinking water and food allergy. People used pure water from the well for their drinking purpose at the beginning. However, the usage of well water has been declined due to urbanization and building constructions. Then people have started to use bore well instead of well water. This has created a situation of water scarcity in the study area. Then people have started to use water that has been supplied from Water Supply and Drainage Board of Sri Lanka since 2005. The Tsunami in 2004 is also another reason for the scarcity of water in the study area where the tidal waves hit the coastal region and damaged most of the water wells and bore wells. The figure 02 emphasises the details of the diarrhoea patients from 2004 to 2019 as follows.

Figure 02: Details of the Diarrhoea Patients



Source: Annual Report, MOH office, Kattankudy-2019

According to the figure 02, the numbers of diarrhoea patients have been increased after the year 2004 in the study area. 12 diarrhoea patients were identified in 2004, 08 diarrhoea patients were identified in 2005, 07 diarrhoea patients were identified in 2006, 18 diarrhoea patients were identified in 2009 and 19 diarrhoea patients were identified in 2012. In between the years from 2014 to 2019, 34 diarrhoea patients were identified. The above information is only the details of recorded cases on diarrhoea. Based on the information of the Public Health Inspector (PHI) of the study area, there is more number of diarrhoea patients who get treatments from private clinics and medicine from pharmacies.

An interview was carried out with one of the doctors of Kattankudy Base Hospital about the reasons behind the increases in diarrhoea patients in the study area. He mentioned as follows.

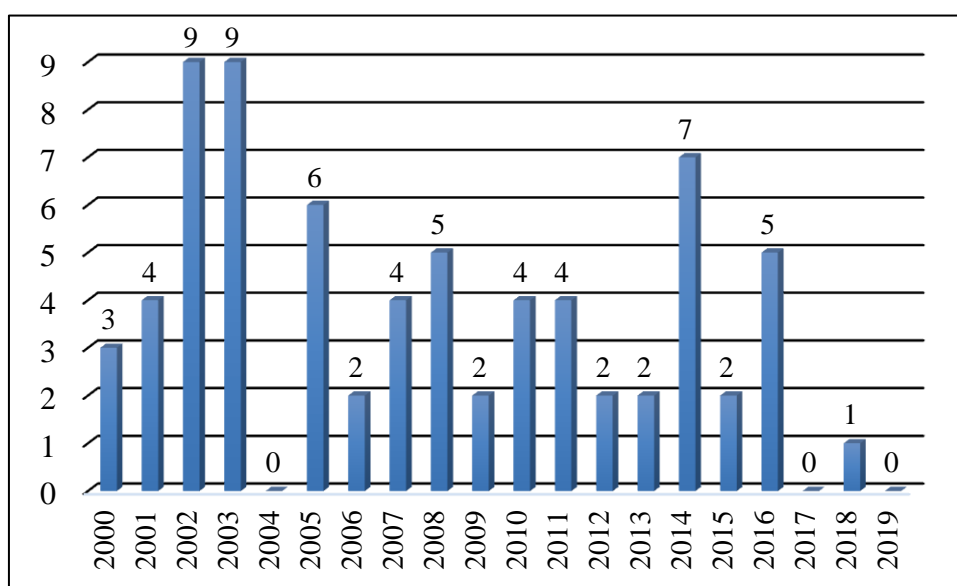
“The basic for this situation of diarrhoea is improper food habits of the people which are not included a balanced diet. The people have the habits of not eating balanced diet with all nutrition and their children also not be trained by the parents of having good meals cooked at home. Particularly, they buy food from the hotels and restaurants that are famous in the Fridays. They enjoy those junk foods with the family. These from the hotels contain polluted ingredients. Mostly, the oil is used again and again to cook the food. Numbers of awareness programs and discussions have been conducted among the people in order to change the people towards eating organic natural foods cooked at home. But there have been no changes in the people’s behaviour and thoughts. This has become a barrier in maintaining good health condition of people. Further, he emphasised this food culture of the people with an example. Buryani was served in a private restaurant on a Friday in 2015. The people who ate that food were admitted in the Kattankudy hospital because of the diarrhoea. The reasons were identified as the used oil and stored chicken led to this problem. Then the particular restaurant was ordered to close permanently under the instruction of the general physicians of the doctor.”

Based on these matters, it is clear that the food culture of buying foods from the hotels and restaurants have been increased among the people that cause numerous health related problems to them. However, people have become addicted to these new food culture and they used to live in such environments.

3.1.3 Typhoid Fever

Typhoid fever is one of the communicable diseases. It is a type of enteric fever along with paratyphoid fever. Typhoid fever is spread by the eating or drinking food or water of an infected person contaminated with the aeces. The close contact with the infected person is found to be very dangerous here. High fever, headache, abdominal pain and constipation are the signs and symptoms of this disease. This disease is caused by the bacterium called “Salmonella” that invade the small intestine and enter the bloodstream of the person after eating or drinking the contaminated food or water. And then, white blood cells carry these bacteria to the important parts of the body such as liver, spleen and bone marrow. Later they multiply and re-enter the bloodstream and become a challenge and difficult to control. The following figure 03 shows the details of patients infected by typhoid fever from 2000 to 2019.

Figure 03: Details of patients infected by Typhoid fever



Source: Annual Report, MOH office, Kattankudy-2019

The figure 03 illustrates about the percentage of the patients affected from the typhoid fever from 2000 to 2019. Compare with other years, the typhoid fever was increased in the years 2002 and 2003. 06 typhoid fever patients were identified in 2005. 14 typhoid fever patients were identified in 2009 to 2013. 07 typhoid fever patients were identified in 2014.

By observing the above details, it is very clear that the patients of typhoid fever have been identified every year in the study area and they got treatment too. The study conducted interviews in order to identify the risk of typhoid fever and its current situation, the general physician of the study area states as follows regarding issue of typhoid fever among the people here.

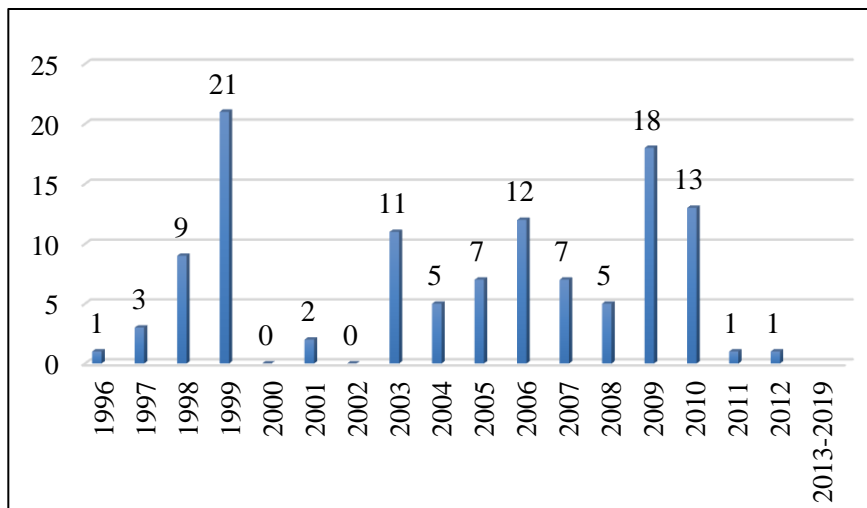
“Typhoid fever is one kind of communicable diseases in the world. This is spread through the infected person to others by absorbing the contaminated food and drinks. Because of the untreated patients and the usage of public toilets are the main ways of spreading this disease. The close relation of bacteria infected patients can easily have affected by the same typhoid fever. The congested life and living area of the people where their residences are very close to one another has the high risk of spreading such disease to more number of people here. However, the relevant authorities and medical sector have been providing instruction and proper awareness to the people of the study area.”

Focusing on the above explanation on the typhoid fever from the general health physician, the people should be responsible to overcome the health related issues though the awareness programs are carried on. There is no any guarantee on preventing the total disease through awareness programs. The high density of the people and congested life in a small has become major threats of increasing communicable diseases in the study area.

3.1.4 Hepatitis

Hepatitis is considered as an inflammation of the liver and it is caused by viruses in most of the cases. People have been identified in every year of infected by the viruses that lead to hepatitis in the study area. Hepatitis A, hepatitis B and hepatitis C are the types of hepatitis. The poisons of the drugs and alcohol usage are found to be the causes for hepatitis. Loss of appetite, vomiting, diarrhoea, stomach pain, dark-coloured urine and yellowing of skin and eyes are the major symptoms of the hepatitis and some people who have hepatitis have no symptoms too.

Figure 04: Details of patients infected by Hepatitis



Source: Annual Report, MOH office, Kattankudy-2019

The above figure 04 explains the details of the patients impacted by the hepatitis from 1996 to 2019. Most of the people got treatment for hepatitis in the year 1999. 11 patients on hepatitis were identified in 2003, 07 patients on hepatitis were identified in 2005 and 12 patients were identified and got treatment in 2006. 18 patients and 13 patients on hepatitis were identified in 2009 and 2010 respectively. There were no patients identified between the periods of 2013 to 2019 on hepatitis. Though, the general physician of Kattankudy hospital mentioned that the hepatitis disease has not fully vanished from the people and it has more chances to spread again in the study area.

An interview was carried out with one of the doctors of Kattankudy Base Hospital about the reasons behind the increases in hepatitis patients in the study area. He mentioned as follows.

“Hepatitis is caused by unhygienic and poor living condition of the people. If one individual is infected by hepatitis it will spread to other people. This disease particularly occurs because of the close contact of the infected patient, having the contaminated food and drinks, transferring the blood of the patient, sexual relationship with the infected patient and physical contacts.”

Identifying the disease within a short period is difficult. However, getting the immediate treatment for hepatitis after identifying the relevant symptoms is very crucial to cure the disease. The Dean of the Kattankudy hospital emphasised that, generally psychological stress, economic crisis, destruction of the social condition and sleeplessness are found to be the significant reasons for the increasing numbers of diseases among the people. Further, he emphasised as follows.

“According to the situation of the Kattankudy people, the food and drinks that are consumed by them are not in good condition and hygiene. Therefore, ill-health among the people is not a surprising matter in the study area.

Table 01: Details of the Patients getting treatment in Kattankudy

Clinic	2013	2014	2015	2016	2017	2018
OPD patient	100801	127095	138590	146097	162048	153491
In patient Admission	6712	9921	11077	13603	17122	19463
Medical clinic	30631	39421	40671	42775	46214	40769
Surgical clinic	-	-	-	220	1620	3446
Skin clinic	-	-	-	1231	2112	2466
Paediatric clinic	-	-	-	218	450	624
ANC clinic	1358	1619	1209	450	642	3078
Eye clinic	170	1045	1471	2126	1928	3062
Family planning	19	336	398	438	463	424
Mental health clinic	76	2220	2984	3283	3925	3821
Dental	4827	5246	5428	5911	6097	5055
In patients day	17292	22980	17582	17901	26483	24388

Source: Management division, Kattankudy Hospital, 2019

The Table 01 clearly shows the details of the treatment received by the people in Kattankudy. People who have been fall in illness such as fever, cold, cough, stomach pain, vomiting and headache was recorded as 17,292 in the year 2013. It has been increased as 24,388 in the year 2018. The numbers of patients of eye clinics has also increased that was recorded as 170 in the year 2013 and 3062 in the year 2018, tuberculosis and counselling services have been increasing every year in the study area. It is important to mention here that not only for the physical problems, but also people seek treatment for the mental health problems too. The number of patients for mental health clinic in the study area has been increased. Only 76 patients got treatment in the year 2013 and it was suddenly increased as 2220 in the year 2014. There has been no any reduction of the patents went for the mental health clinic and it reached to 3821 in the year 2018. The stressful, congested life and modern lifestyle have been greatly influenced in the numbers of patients seek for medical help in the study area.

The health seeking behaviour has become a challenge to the people in the study area because of this increasing situation of diseases. The complete changes in the environmental condition, high heat, high intensity of the people, increased number of building and the changes in the food culture of the people are found to be the reasons for these increased condition of diseases in the study area. The expansion of diseases, the control of the diseases and its spreading are on the people's hand. People are the sole responsibility of occurrence of diseases and control of it.

Based on the statistical reports and the records of the Kattankudy hospital and MOH office, It is clear that the identified number of dengue patients has been declining since 2017, identified number of diarrhoea patients has been declining since 2015, identified number of hepatitis patients has been declining since 2010 and identified number of typhoid patients has been declining since 2016 in the study area. Generally, the numbers of patients identified for each disease that have mentioned above have been decreasing after 2015, which had been severe in the previous years. The study also found out the reasons for this decline in the number of patients. Awareness programmes conducted by the government and relevant authorities, the laws related with the causes of the disease such as the fine and arresting the people those who pollute the environment in the cases of dengue breeding places, the regular visits and monitoring activity of the Public Health Officer (PHI) and the rules and regulations of running a food shop with cleanliness, the influenced of the media campaigns and the news and information related with the disease and its seriousness and the people's realization about the current scenario of the expansion of diseases are found to be the reasons behind the decline in the identified number of patients of particular diseases in the study area recently. The study also emphasised that if the diseases and the number of patients increase in the study area, it will create a challenging situation in to everyone. Kattankudy is having high population density and it is very difficult to admit and treat the patients here. The hospital facilities and

infrastructural facilities are limited in the hospital; it is hard to admit huge number of patients at a time. Therefore, preventing the causes of disease and treat the particular disease at the earlier stages is essential here. People should be more cautious and behave with full responsibilities which ensure the safety of them and others.

4. CONCLUSION

The study found out the situation of increased communicable and non-communicable diseases and the reasons for it in the study area. The study identified the communicable diseases and non-communicable diseases and the reason from the increased situation of the diseases through observing the behavioural patterns of the people and their living condition in the study area. Though, the health seeking behaviour of every individual is different from one to another. The non-communicable diseases are influenced through the food habits, body structure, heredity and health seeking behaviour of the people. But the communicable disease is spread because of the influence of the behaviour and the environmental condition of the people. Though, the number of patients identified with having dengue, diarrhoea, hepatitis and typhoid fever has been decreasing since 2015, there are chances for increasing in the number of patients here. People could lead a healthy life if they strictly follow the prevention methods, which could save everyone from the deadliest diseases. If not, the negative effects of the diseases will kill the individuals one by one. The activities and planning of the government and non-government organizations would help the people to prevent from the diseases and its impacts. Through the support and responsible behaviours of the public in order to control the expansion of diseases would be strength of creating a society free from diseases with good health conditions.

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