

Original Research Article

A STUDY ON PREVALENCE OF LIFE STYLE DISEASES AND ITS ASSOCIATION WITH BEHAVIOURAL PRACTICE AMONG DIFFERENT OCCUPATIONAL GROUPS IN MARAIMALAI NAGAR

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**Abstract**

**Introduction:** Lifestyle diseases are health problems that react to changes in lifestyle. They are emerging in India due to economic transition, westernization, adopting unhealthy behavioral practices such as smoking and alcohol consumption, change in diet pattern due to availability of cheaper junk foods, lack of awareness and sedentary lifestyle. India is projected to experience more deaths from non-communicable diseases in the next few decades. **Aim:** To estimate the prevalence of lifestyle diseases among different occupational groups and its association with their behavioral practices. **Methodology:** A cross sectional comparative study using Stratified random sampling was conducted with 495 subjects. Questionnaire was self-administered and interviewed in few subjects. Data was analyzed using SPSS 17. **Results:** Among the Teachers (79), IT professionals(89), Industry workers (78), Shopkeepers (92), Drivers (99), Retired persons and housewives (58), the overall prevalence of Diabetes 18.8%, Hypertension 6.6%, Obesity 7%, Heart disease 5.5%. We found significant association between lifestyle diseases and smoking and alcohol (p- 0.01, 0.001). Lifestyle disease was common among drivers with frequent alcohol intake (p-0.01). Retired personnel and housewives who did not exercise regularly suffered from lifestyle diseases (p-0.01). There was significant association between the shopkeepers, drivers and IT professionals who consumed junk food on a daily basis and lifestyle diseases. Higher BMI was recorded among them (p-0.005). Of the 39% population with lifestyle diseases, 37.5% has positive family history. 47% lacked awareness about lifestyle diseases and 40% of them were not interested in any awareness program. 46% exercised regularly and walking was the most commonly employed exercise. **Conclusion:** This study shows unhealthy behavioral practice, lack of physical activity and consumption of junk food are risk factors for diseases, especially between the ages of 20 and 50 years, where lifestyle changes can be easily implemented for disease prevention and reduction of complications.

**Keywords:** Lifestyle diseases, behavioral practices.

**Introduction:**

Lifestyle diseases are health problems that react to changes in lifestyle. They are emerging in India due to economic transition, westernization, adopting unhealthy behavioral practices such as smoking and alcohol consumption, change in diet pattern due to availability of cheaper junk foods, lack of awareness and sedentary lifestyle. India is projected to experience more deaths from non-communicable diseases in the next few decades. Non Communicable diseases (NCD) contributed to 53% of all deaths in 2011<sup>(1)</sup>. More than one-third of all the mortalities worldwide are due to several threatening behaviors resulting from inappropriateness of individual

and social lifestyle most of them are inappropriate diet, low physical activity, smoking and inappropriate sexual behavior. Challenges are more in tackling lifestyle diseases, research shows that social and cultural differences influence women's day to day physical activities<sup>(8)</sup>. Increase of NCD is due to lifestyle changes and growing prosperity, hence there should be more research related to lifestyle diseases at community level and state level to target the prevention activity at all levels. Community need based assessment is necessary for delivering quality care in treatment and to deliver the health education programs. Studies have shown that there is a positive relationship between health promotion activities and quality of life<sup>(10)</sup>. Hence the present study

was performed to estimate the baseline data on the prevalence of lifestyle diseases and its association with behavioral practice, in the population covered by Urban Maraimalainagar primary health center (PHC).

**Objectives:**

This study aims to estimate the prevalence of lifestyle diseases among different occupational groups and to determine the association between lifestyle diseases among them and their behavioral practices.

**Methodology:**

**Study population:** Population belonging to different occupational groups in Maraimalainagar was the target population. 100 subjects each from School, Industry, IT professionals, Shopkeepers, Drivers, Retired personnel and housewives were included in the study.

**Study design:** A cross sectional comparative community based study. Target population were divided into 6 groups school industry,IT professionals, shopkeepers, Drivers, general public(retired person and housewives) sample was collected using Stratified random sampling technique 100 subjects from each group. Keeping prevalence rate as 40% and 5% error sample size were calculated, 495 subjects belonging to different occupations between December 2016 and February 2017 in the field practice area of Department of Community Medicine i.e. Urban health training center, Maraimalainagar of SRM Medical College Hospital and Research Institute, Kattankulathur, Kancheepuram district. Questionnaire covered questions on demography, chronic illness, family history, behavioral practices, stress cope up activity, recent health evaluation. Questionnaire was interviewed after obtaining consent. Out of the 600 issued pre tested questionnaires, 105 questionnaires were incomplete.

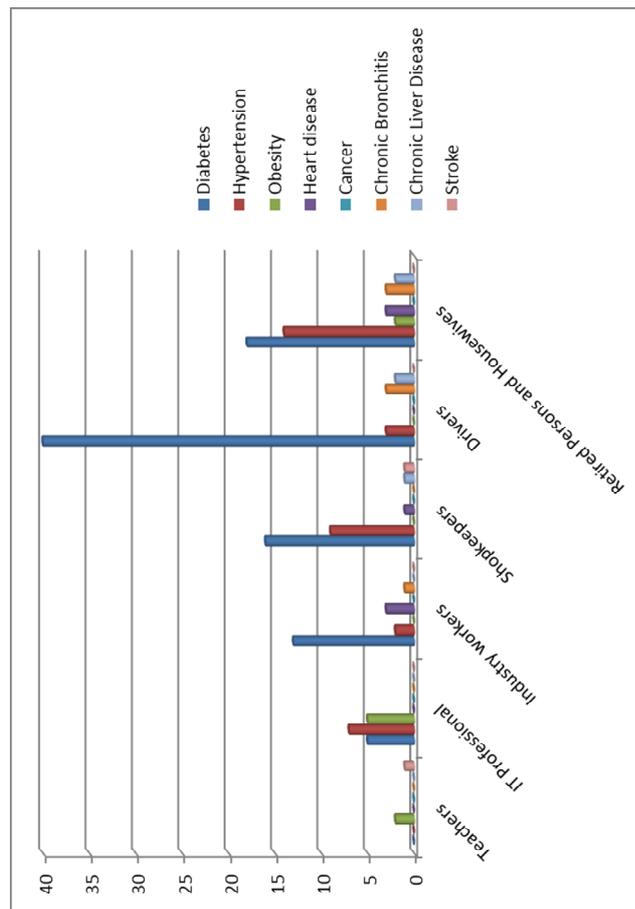
**Study Analysis:** Data entry and analysis was done using Statistical Package for Social Sciences (SPSS) version 17.0. Frequency distribution and Chi square analysis was used and  $p < 0.05$  was considered statistically significant.

**Results:**

Mean age of the population was ~40 years and 73% were married. Among the Teachers (79), IT professionals (89), Industry workers (78), Shopkeepers (92), Drivers (99), Retired persons and housewives (58), the overall prevalence of lifestyle diseases was 41% with the following distribution. Diabetes was 18.8%, Hypertension 6.6%, Obesity 7%, Heart disease 5.5%, Chronic Bronchitis 1.3%, Cancer 1.2%, Chronic Liver disease

0.9%, and Stroke 0.4%.11% of subjects had more than one disease.

Figure 1.Lifestyle diseases among participants



And 24.7% of our study population were smokers, 5.2% of smokers had 20 pack years and 12.2% had 10 pack years smoking history. 5% of subjects used tobacco in other forms mainly betel nut and hans. 30.5% of this study population was chronic alcohol consumers. 4.1% of subjects gave history of daily alcohol consumption. . We found significant association between lifestyle diseases and smoking and alcohol ( $p < 0.01, 0.001$ ). Lifestyle disease was common among drivers with frequent alcohol intake ( $p < 0.01$ ). 42.2% of subjects exercised regularly. Walking was the most commonly employed exercise followed by cycling and yoga.Prevalence of obesity of 7%, we found significant association between BMI and smoking ( $p < 0.017$ ) and lack of exercise ( $p < 0.002$ ). There was significant association between the shopkeepers, drivers and IT professionals who consumed junk food on a daily basis and lifestyle diseases. Higher BMI was recorded among them ( $p < 0.005$ ).

Of the 39% population with lifestyle diseases, 37.5% had positive family history with single parent diseased and 4.5% both parents diseased.

Table 1: Distribution of Behavioural practice, Occupation and Life style disease

Occupation	Behavioural practice( N)	Lifestyle Diseases(N)
Teachers	Smoking(0) Alcohol(0) Lack of exercise-55(70%) Junk foods-35(44.3%)	Obesity-2(2%) Hypertension(0) Diabetes(0) Heart disease(0) Cancer(0) Chronic bronchitis(0) Chronic liver disease(0) Stroke-1(1%)
Industry workers	Smoking-27(35%) Alcohol-30(38.4%) Lack of exercise-48(62%) Junk food-30(38.4%)	Obesity(0) Hypertension-2(2%) Diabetes-10(12%) Heart disease-3(3.8%) Cancer(0) Chronic bronchitis-1(1%) Chronic liver disease(0) Stroke(0)
IT Professional	Smoking-19(21.3%) Alcohol-30(34%) Lack of exercise-48(54%) Junk food-30(34%)	Obesity-5(5.6%) Hypertension-7(7.8%) Diabetes-5(5.6%) Heart disease(0) Cancer(0) Chronic bronchitis(0) Chronic liver disease(0) Stroke(0)
Drivers	Smoking-28(28.2%) Alcohol-79(80%) Lack of exercise-42(42.2%) Junk foods-16(16.1%)	Obesity(0) Hypertension-3(3%) Diabetes-40(40%) Heart disease(0) Cancer(0) Chronic bronchitis-3(3%) Chronic liver disease-2(2%) Stroke(0)
Shop keepers	Smoking-8(8.6%) Alcohol-8(8.6%) Lack of exercise-42(46%) Junk foods-23(25%)	Obesity(0) Hypertension-9(9.7%) Diabetes-16(17.3%) Heart disease-1(1%) Cancer(0) Chronic bronchitis(0) Chronic liver disease-1(1%) Stroke-1(1%)
Retired persons and housewives	Smoking-10(17.2%) Alcohol-20(34.4%) Lack of exercise-27(47%) Junk food-7(12%)	Obesity-2 (3.4%) Hypertension-8(13.7%) Diabetes-11(18%) Heart disease-2(3.4%) Cancer(0) Chronic bronchitis-2(3.4%) Chronic liver disease-1(1.7%) Stroke(0)

Table 2: Distribution of family history and lifestyle diseases

Diseases	Family history	Lifestyle diseases
Diabetes	19.80%	18.80%
Hypertension	9.30%	6.60%
Obesity	1.40%	7%
Heart disease	7.70%	5.50%
Chronic bronchitis	0.40%	1.30%
Cancer	1.80%	1.20%
Stroke	0.40%	0.40%

Table 3: Association of family history with life style diseases

Lifestyle disease	Chi square	P- value(p<0.05)
Diabetes	14.047	0.000178
Hypertension	1.875	0.1707
Obesity	20.5218	0.000006
Heart disease	23.0059	0.000002
Chronic bronchitis	60.624	0
Cancer	53.666	0
Stroke	60.624	0

44% of subjects underwent recent health evaluation. 10.7% had blood glucose level checked, 13.7% blood pressure, 1.4% blood cholesterol, 0.8% Master health check-up and 17.4% of subjects had other investigations done.

Table 4: Distribution of stress cope up activity

Stress Cope up Activity	Percentage
Listening to music	34%
Reading books	22.40%
Meditation	20%
Yoga	10%
Playing games	6.80%
Gym workout	3.70%
Dancing	3.50%
Watching television	3.20%
Alcohol consumption	0.60%
Painting	0.20%

47% of our study population lacked awareness about lifestyle diseases and 40% of them were not interested in participating in any awareness program.

## Discussion:

24.7% of our study population were smokers which is similar to the findings of Smoking prevalence and attributable disease burden in 195 countries and territories, 1990-2015: a systematic analysis from the Global Burden of Disease Study 2015, which showed that worldwide, the age-standardized prevalence of daily smoking was 25.0%.<sup>(2)</sup>

The prevalence of lifestyle diseases and unhealthy behavioral practice was significantly lower among the teachers. Though there was lack of regular exercises, the avoidance of unhealthy behavioral practices may be attributed to the fact that the sensitive role of teachers as effective human forces in development and evolution of our society and also considering that students follow their patterns and lack of necessary information from teachers as described by a study Charkazi et al (2009).<sup>(3)</sup>

42.2% of subjects exercised regularly. Walking was the most commonly employed exercise followed by cycling and yoga. This is much lower than the study by Sadeghi et al (2000) where the results showed that 70% of the study subjects somehow had physical activity and exercise, most common of which were walking and morning exercises.<sup>(4)</sup>

Prevalence of obesity of 7% is higher than a study by Thomas et al in 1995 which showed obesity of 2.2%, which further highlights that changing behavioral practices are affecting lifestyle diseases in the 21st century<sup>(5)</sup>. There was significant association between the shopkeepers, drivers and IT professionals who consumed junk food on a daily basis and lifestyle diseases. Higher BMI was recorded among them (p=0.005). This correlates with findings from study by Arjun Lakshman et al where Age > 35 years, being married, supporting more than 4 family members, taking main meals from restaurants on most working days, eating egg on most days, BMI  $\geq$  23 kg/m<sup>2</sup>, and longer duration of employment as bus driver were strongly associated with HTN<sup>(6)</sup>.

Retired personnel and housewives who did not exercise regularly suffered from lifestyle diseases (p=0.01). Combined, overweight and obesity contributed to 30% of morbidity. Bhadra et al in 2004 showed 17.6% obesity among Bengali women.<sup>(7)</sup> However they describe a difference in obesity prevalence in north and south India with higher rates in north. This may be attributed to different cultural practices and different ethnicity affecting day to day activities in women.<sup>(8)</sup>

In this study overall prevalence of lifestyle disease were assessed and we tried to list out the unhealthy behavior of the study population which can directly or indirectly be related to lifestyle disease, and we found there is a significant relationship between their behavioral practices

and lifestyle disease. The community is in an acute need to change their unhealthy lifestyle, hence promoting healthy behavior among their population.<sup>(10)</sup> This can be carried out through health education and proper care in management of lifestyle disease and complication prevention. Limitation of the study was information collected for the study was based on self-reporting. Verification of the behavior and diagnosis of the disease were not done.

**Conclusion:** This study shows unhealthy behavioral practice like smoking and consumption of alcohol, lack of physical activity and consumption of junk food are high and these are the risk factors for diseases, especially between the ages of 20 and 50 years. So awareness programmes on lifestyle changes which include change in eating food pattern, physical activity, avoiding of alcohol and smoking has to be implemented among them for prevention of disease and reduction of complications in future.

**Recommendations:** Lack of awareness of lifestyle diseases and lack of motivation to change the lifestyle behavior among people at risk are the greatest challenges we face in managing these lifestyle diseases. Awareness programs at a wide scale regarding lifestyle diseases will be a stepping stone towards control of this epidemic. Structured programs regarding diet and exercise for each occupation can be publicized<sup>(11)</sup>. By following some preventive measures like eating healthy foods (rich in omega 3 fatty acids and antioxidants), maintaining a healthy weight, with good physical activity, quit smoking and drink only in moderation, controlling stress with proper relaxation and adequate sleep can improve this downward spiral of lifestyle diseases affecting us<sup>(12)(13)</sup>. Encouraging people to walk or use bicycle for short distance travelling as an additional means of exercise can be employed.

**Conflict of interest: Nil**

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