Prevalence of Lifestyle Factors and Lifestyle Diseases among Working Adult Urban Population in Hyderabad City

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ABSTRACT

Important preventable lifestyle factors or risk factors contributing to Non Communicable Diseases (NCDs) are unhealthy diet, physical inactivity, exposure to tobacco smoke or the harmful use of alcohol. Lifestyle risk factors predict the future of Lifestyle diseases and underlie most NCDs. These lifestyle factors are increasing as diets shift to foods high in fats and sugars, while work and living situations become more sedentary. Besides, tempting marketing of alcoholic beverages and tobacco products have also increased risk factors exposure, cumulating in an increased future diseases burden. Lifestyle diseases are becoming major health problems in India, especially working urban population who are supposedly more prone to lifestyle factors due to nature of working environment. Lifestyle diseases are a major risk in Telangana & Andhra Pradesh, and experts say that the major threats in the two states are cancer, cardio-vascular diseases (CVD), diabetes and chronic respiratory diseases, which account 80 per cent of all known NCD cases and lead to loss of productivity in terms of debilitating the young working population. The research was carried to assess knowledge of urban working population about lifestyle diseases and their risk factors and to find distribution of lifestyle risk factors among urban population of Hyderabad city. Study type was Cross-sectional, Descriptive & Exploratory study, Duration of the Study was 3 Months (5th Feb. 2018 TO 5th May 2018), Study Area was Urban areas of Hyderabad city with Special Reference to professionals working in service sector. A pretested Structured self-administered questionnaire was asked from 348 respondents, from both male and female population in Hyderabad city. Data regarding socio-demographic profile, history of tobacco smoking, alcohol consumption, regular physical activity, junk foods and history of hypertension, diabetes mellitus, cardiovascular diseases, Lower backache, Asthma/COPD and stroke was collected. Height and weight was measured using the standard techniques. BMI was calculated and classified according to WHO classification. The data was entered in MS Excel spreadsheet and analyzed using mean and proportion. Chi-square test was used as test of significance with the help of advanced excel. The p-value of <0.05 was considered as significant.

The result of the study was that among the study participants 140 out of 348 had knowledge about lifestyle factors and lifestyle diseases. Among the study subjects 85 subjects had one or more type of lifestyle diseases making the prevalence of 24.42 percent. Lower back pain was the most common ailment with 10.8 percent of population suffering from the same followed by Hypertension (9.48%), Diabetes (6.03%) and Asthma/COPD (1.7%). Only two out of total study population gave history of stroke. There was a significant association between lifestyle factors like tobacco and cigarette consumption, alcohol consumption, consumption of junk food and overweight and obesity with presence of lifestyle diseases.

Keyword: Lifestyle Factors, Non-Communicable Diseases (NCDs), Smoking, Tobacco, Alcohol, Obesity, Diabetes, Hypertension, Asthma, Backache.

1. INTRODUCTION

Lifestyle, was originally coined by Austrian psychologist Alfred Adler in 1929 which means the way a person lives, A lifestyle is a characteristic bundle of behaviors that makes sense to both others and oneself in a given time and place, including social relations, consumption, entertainment, and dress. Lifestyle Behaviors, the behaviors and

practices within lifestyles are a mixture of habits, conventional ways of doing things, and reasoned actions. Surrounding social and technical systems can constrain the lifestyle choices available to the individual and the symbols she/he is able to project to others and the self. [1]"

Lifestyle diseases or Non-communicable diseases (NCDs) also known as chronic diseases, are long duration diseases, like cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes. These are because of a combination of genetic, physiological, environmental and behavioral factors. However, important preventable lifestyle factors or risk factors contributing to NCDs are unhealthy diets, physical inactivity, exposure to tobacco smoke or the harmful use of alcohol. [1]"

People of all age groups, regions and countries are affected by NCDs. These conditions are often associated with older age groups, but evidence shows that majority of deaths attributed to NCDs occur between the ages of 30 and 69 years. Of these "premature" deaths, over 80% are estimated to occur in low- and middle-income countries. [2]

According to recent WHO report nearly 61% of deaths in India are attributed to non-communicable diseases, including heart disorders, cancer and diabetes. According to published reports it has been observed that occurrence of NCDs like hypertension and diabetes are becoming more common the urban areas, mainly metros, in India. [3]

World Health Organization (WHO) has estimated that NCDs may cost India approximately US \$3.55 trillion by 2030 in terms of lost economic output. In 2012, WHO had claimed that NCDs contributed to 5.9 million deaths in India. Non-communicable diseases are a major risk in Telangana & Andhra Pradesh, and experts say that the major threats in the two states are cancer, cardio-vascular diseases (CVD), diabetes and chronic respiratory diseases, which account 80 per cent of all known NCD cases and lead to loss of productivity in terms of debilitating the young working population. [4]"

2. RATIONALE OF STUDY

Lifestyle risk factors predict the future of Lifestyle diseases and underlie most non-communicable diseases. The most common Lifestyle risk factors for most NCDs are tobacco use, physical inactivity, unhealthy dietary behavior, and the harmful use of alcohol. These lifestyle factors are increasing as diets shift to foods high in fats and sugars, while work and living situations become more sedentary. Besides, tempting marketing of alcoholic beverages and tobacco products have also increased risk factors exposure, cumulating in an increased future diseases burden. Lifestyle diseases are becoming major health problems in India, especially working urban population who are supposedly more prone to lifestyle factors due to nature of working environment.

Hence there was need to carry out study to assess the lifestyle factors and lifestyle diseases and to know the prevalence of lifestyle diseases among urban working population in metro cities.

3. AIM OF THE STUDY

- 1. To assess the awareness about abnormal lifestyle and knowledge about associated lifestyle diseases in Hyderabad city.
- 2. To find the prevalence of lifestyle factors and lifestyle diseases in Hyderabad city.

4 RESEARCH QUESTIONS

- 1. What is the knowledge about lifestyle factors and lifestyle diseases in Hyderabad city?
- 2. Is there any association between lifestyle factors and lifestyle diseases?
- 3. What is the prevalence of lifestyle factors among urban population of Hyderabad city?

5. OBJECTIVES

5.1 General Objective

To assess the prevalence of Lifestyle factors and lifestyle diseases among working adult urban population in Hyderabad city.

5.2 Specific Objectives

- 1. To assess knowledge of urban working population about lifestyle diseases and their risk factors.
- 2. To find distribution of lifestyle risk factors among urban population of Hyderabad city.
- 3. To find the association between lifestyle factors with lifestyle diseases.

6. HYPOTHESIS

H₁: that the Lifestyle factors are associated with lifestyle diseases.

7.RESEARCH METHODOLOGY

Study Design: Cross-sectional, Descriptive & Exploratory study

Duration of Study: 3 Months (5th Feb. 2018 TO 5th May 2018)

Study Population: Adult Male and Female Population working in urban areas of Hyderabad in the age group of 21-59 Years.

Sampling & Sample Size

Study Area: Urban areas of Hyderabad City with Special Reference to professionals working in service sector.

Sample Size: Sample size was determined using G*Power Version 3.1.9.2, Germany

χ² tests - Goodness-of-fit tests: Contingency tables

Analysis: A priori: Compute required sample size

Input: Effect size w = 0.2385 α err prob = 0.05

Power (1- β err prob) = 0.95

Df = 5

Output: Noncentrality parameter λ = 19.7950230

Critical χ^2 = 11.0704977 **Total sample size** = **348** Actual power = 0.9501616

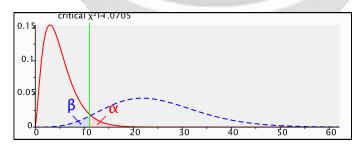


Chart 1: Central & Non-Central Distributions, G*Power output

Sample Size using Sample size determining formula: $n = \frac{z^2 p (1-p)}{d^2}$

Where n = Sample Size z = 1.96 for 95 % Confidence Interval (CI). $p = \text{proportion of prevalence of lifestyle diseases} [= 65 % or 0.65 from previous studies}]$ 1 - p = 0.33 d = Margin of Error [taken as 5% or 0.05] n = 1.96*1.96*0.65*0.35/(0.05*0.05)n = 348

Hence the Sample size was taken as 348.

Sampling Technique: Convenient Sampling.

Data Collection Technique: Structured Self-Administered Questionnaire.

Data Analysis Procedure: Data regarding socio-demographic profile, history of tobacco smoking, alcohol consumption, regular physical activity, junk foods and history of hypertension, diabetes mellitus, cardiovascular diseases, Lower backache, Asthma/COPD and stroke was collected. Height and weight was measured using the standard techniques. BMI was calculated and classified according to WHO classification. The data was entered in MS Excel spreadsheet and analyzed using mean and proportion. Chi-square test was used as test of significance with the help of advanced excel. The p-value of <0.05 was considered as significant.

Ethical Consideration: Informed consent was taken from the respondents regarding confidentiality, respect and dignity of data in the study.

8.LITERATURE REVIEW

Rural –urban differences reveal that differences reveal that risk factors obesity, hypertension, high cholesterol, low HDL cholesterol and diabetes are more in urban areas. The INTERHEART -South Asia study identified that eight established coronary risk factors-abnormal lipids, smoking, hypertension, diabetes, abdominal obesity, psychosocial factors, low fruit and vegetable consumption, and lack of physical activity-accounted for 89% of the cases of acute myocardial infarction in Indians [6]

Over the past fifty years prevalence of obesity, hypertension, hypercholesterolemia, arthritis and backpain and diabetes have increased significantly in urban (R2 0.45-0.74) and slowly in rural areas (R2 0.19-0.29) Prevalence of hypertension has increased in both urban and rural subjects and presently is 25 40% urban and 10-15% among rural adults. [7]

Diabetes it has more than quadrupled in the last 20 years from <1 - 3% to 10 - 15% in urban and 3 - 5% in rural areas [8]

Studies have reported increasing obesity as well as truncal obesity, due to sedentary lifestyles and psychosocial stress in the country [9]

Risk factors such as obesity, sedentary lifestyle, stressful working conditions, consumption of fried food, etc. for heart diseases are increasing in urban areas. [10]

Deaths due to chronic heart diseases in India will increase to 2.03 million annually by 2010 and 2.58 million by 2020 (it was 1.59 million in 2000). The already high number of people with diabetes — 41 million — is expected to rise by 170 per cent in the next 20 years. One in every three urban Indians has high blood pressure, which is expected to increase by 60 per cent in the next 20 years. [11]

Some Southern Indian studies showed a 40% increase in prevalence over a period of 6 years in diabetes [11]. In a National Urban Diabetes Survey in 2000 it was found that Hyderabad 16.6% of diabetes .In most of metros and cities of India presently 10-15% of population is having diabetes.

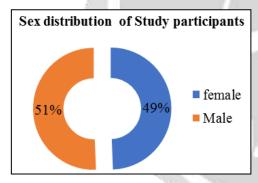
National representative data for obesity in India is unavailable, however available studies in Chennai and Delhi has shown prevalence of 6.2% and 7.4% respectively [12]. Diabetes cuts 7.5 years of life in males and 8.2 years of life in females if diagnosed at 50 or more years of age [13].. Mortality data from the Registrar General of India shows that cardiovascular diseases are-a-major cause of death in India now. Current prevalence rates are 10-12% in urban and 4-5% in rural [9]

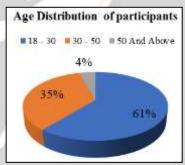
In India 47% of male and 14% of the female population use tobacco in some form, resulting in nearly 1 million premature deaths annually. Projections to the year 2020 show that 61 million DALYs are likely to be lost due to cerebrovascular disease each year, with more than four-fifths occurring in the developing countries [14]. Stroke burden in India has been rising in the last few decades, in contrast to developed countries where it has plateaued or decreased. The average annual incidence rate of stroke in India currently is 145 per 100,000 population which is higher than some of the western countries.

Recent studies using revised criteria (BP > or =140 and/or 90 mmHg) have shown a high prevalence of hypertension among urban adults .Men 30%, Women 33% in Jaipur 1995), men 44%, women 45% in Mumbai (1999), men 31%, women 36% in Thiruvananthampuram_(2000), 14% in Chennai (2001), and men 36%, women_37% in Jaipur_(2002). Hypertension diagnosed by multiple examinations has been reported in 27% male and 28% female executives in Mumbai (2000) and 4.5% rural subjects in Haryana (1999). There is a strong correlation-between-changing lifestyle factors and increase in hypertension in India. Pooling of epidemiological studies shows that hypertension is present in 25% urban and 10% rural subjects in India. In another study conducted on 4608 women it was found that 39.2% (32% in rural and 48% in urban). The awareness about hypertension was 42.8% (24.6% rural and 56.8% urban). Of these 38.6% of the women were on treatment and of those treated, controlled blood pressure was observed in 21.5% .At an underestimate, there are 31.5 million hypertensives in rural and 34 million in urban populations.[15]"

9.RESULTS & FINDINGS

Out of the 348 study participants, 176 (51%) were male and 172 (49%) were females. There was almost equal distribution of both sex. Mean age of the participants was 31.8 years. Age range of the study participants was 23-57 years. 61 percent of population were in the age group of 18-30 years, 35 percent of population was in the age group of 30-50 years while only four percent of population was 50 and above. There was almost equal distribution of both sexes. Education Status of 59 percent of population was graduate or below, 40 percent of population were post graduate while only one percent of population was post doctorate. These are displayed in the charts below:





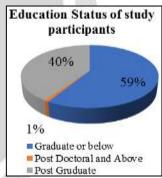


Chart 2: Sex Distribution of respondents

Chart 3: Age distribution

Chart 4: Education Status

Table 1- Sex Distribution

Tuole I Dex Distribution		
Sex	Subjects	
female	172	
Male	176	
Grand Total	348	

Table 2: Age distribution

* 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	pa-
Age-group	Subjects
18 - 30	212
30 - 50	121
50 And Above	15
Grand Total	348

Table 3: Age distribution

Education Status	Subjects
Graduate or below	204
Post-doctoral & above	3
Post graduate	141
Grand Total	348

Tobacco consumption status

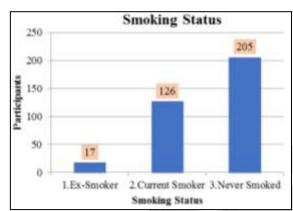


Chart 6- Cigarette (Tobacco) Consumption status

 Table 2- Cigarette (Tobacco) Consumption status

Smoking Status	Tobacco Use
1.Ex-Smoker	17
Female (< 5 cigarettes/day)	5
Male (5 – 10 cigarettes/day)	12
2.Current Smoker	126
Female	46
< 5 cigarettes/day	24
5-10 cigarettes/day	11
More than 1 packet/day	11
Male	80
< 5 cigarettes/day	40
5-10 cigarettes/day	17
10-20 cigarettes/day	6
More than 1 packet/day	17
3. Never Smoked	205
Female	121
Male	84
Grand Total	348

Table 3-Alcohol consumption of study participants

Alcohol Status	Subjects
1.Never Consumed	180
Female	114
Male	66
2. Moderate/Occasional	129
Consumption	
Female	50
Male	79
3.Frequent Consumption	39
Female	8
Male	31
Grand Total	348

Include Healthy food in Diet and avoid High-Fat food

145

1.Never/Almost never
2.Occasional
3.Often
4.Very Often
5.Always
8

Chart 7: Healthy diet

Table 4- Regular Physical activity

Variable	Regular physical activity outside work
1.Never/Almost never	32
2.Occasional	152
3.Often	80
4.Very Often	65
5.Always	19
Grand Total	348

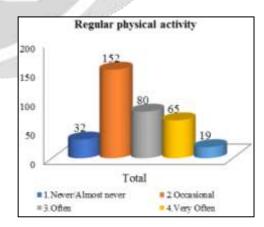


Chart 8: Regular Physical activity

Table 5-BMI According to WHO formula

BMI Index	Subjects
Normal	265
Obese	13
Overweight	70
Grand Total	348

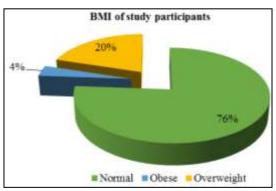


Chart 9: -BMI of the Study Participants

Table 6-Prevalence of lifestyle factors in participants

Lifestyle factors	Variables
Overweight and Obesity	83
Tobacco and Cigarette Consumption	143
Alcohol consumption	168
No Regular Physical Activity	32
Junk Foods	207

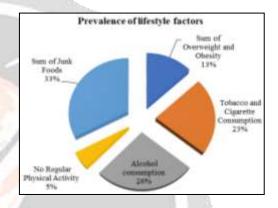


Chart 10: prevalence of lifestyle factors

Among the study participants 140 out of 348 had knowledge about lifestyle factors and lifestyle diseases.

Table 7-Knowledge about lifestyle factors and lifestyle diseases

Knowledge about	Subjects	
lifestyle factors and	1974 2001 1	
lifestyle diseases		
No	208	
Yes	140	
Grand Total	348	

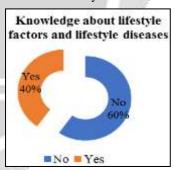


Chart 11: Knowledge about lifestyle factors and lifestyle diseases

Table 8-: Prevalence of lifestyle disease in study population

Lifestyle disease	No of respondents
Hypertension	33
Bronchial Asthma	6
Lower Back Pain	37
Stroke	2
Diabetes	21
No lifestyle disease	263

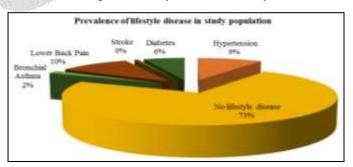


Chart 12: Prevalence of lifestyle disease in study population.

It was observed that 273 out of 348 study participants (78.4%) had one or more lifestyle risk factors .Regular physical activity was not seen in 75.8 percent of subjects, 41.1 percent of subjects were consuming tobacco or cigarette, 48.3 percent alcohol consumption and 59.4 percent junk food consumption. 24 percent of study participants were overweight or obese according to WHO Classification of BMI. Only 75 out of 348 participants (21.5%) used to have healthy food and exclude high fat content food from their diet.

Among the study subjects 85 subjects had lifestyle diseases making the prevalence of 24.42 percent .Lower back pain was the most common ailment with 10.8 percentof population suffering from the same followed by Hypertension (9.48%), Diabetes (6.03%) and Asthma/COPD (1.7%). Only two out of total study population gave history of stroke."

There was a significant association between lifestyle factors like to bacco and cigarette consumption, alcohol consumption, consumption of junk food and overweight and obesity with presence of lifestyle diseases. Coefficient of multiple determination or R squared is 5%. F value for ANOVA is 4.70 which is higher than Critical f value of 0.001. P value is greater than .05, Hence Null hypothesis is rejected and Alternate hypothesis is accepted."

Table 9- Association Between Lifestyle Factors And Lifestyle Diseases

LIFESTYLE FACTORS	LIFESTYLE D	ISEASES	Chi Square test
107.1	YES	NO	1.7.7
Tobacco and cigare	tte consumption		>0.05
YES	48	95	- A /
NO	37	168	
Alcohol Consumpti	on	1 1 10	>0.05
YES	43	125	
NO	42	138	
Regular Physical A	ctivity	1//	< 0.001
YES	20	12	
NO	65	251	
Junk Food Consum	ption		>0.05
YES	43	164	7/3
NO	42	99	
Overweight and Ob	esity		>0.01
YES	31	52	
NO	54	211	2 J. A. G.

10. CONCLUSION

This study revealed that more than $3/4^{th}$ of the urban population in Hyderabad city had one or more lifestyle risk factors and also significant $1/4^{th}$ of population happens to have some type of lifestyle diseases. From the above results it is interpreted that presence of lifestyle factors is associated with lifestyle diseases. Hence there is a need for population based programme at primary level on lifestyle modification in the prevention and intervention of lifestyle diseases. Emphasis should be given on primordial prevention strategies in advocating healthy lifestyle. Early detection and tracking of risk factors can reduce the occurrence of lifestyle diseases. High quality research and development should be promoted for the prevention and control of non-communicable diseases.

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APPENDIX-1

QUESTIONNAIRE

The current research focuses on prevalence of lifestyle factors and lifestyle diseases and to know if there is any association between lifestyle factors and lifestyle diseases. The data collected is purely for academic research purpose and will be kept confidential.

\mathbf{P}^{A}	ART A - PERSONAL DETAILS	
1)	NAME (Optional) :	The same of the sa
2)	AGE (in years):	
3)	SEX- MALE □	FEMALE□
4)	EDUCATION STATUS-	
	(1) Up to 12^{th}	
	(2) Graduate	
	(3) Post Graduate	
	(4) Post Graduate and above	
5)	Weight (Kg)of Respondent:	<u></u>
6)	HEIGHT (FT):	
PA.	RT – B	

PREVALENCE PROFILE OF NCDs BEHAVIOURAL RISK FACTORS AS SELF ACKNOWLEDGED BY STUDIED ADULT POPULATION

7) STATUS OF TOBACCO USE

7.1 Do you /have you ever Smoke tobacco products? If Yes then,		icts?	Y	'es □	No □]
	What is the frequency of chewing gutka	or smoking	tobacco in a day?)		
	7.1.1 Less than 5 cigarettes a da	y				
	7.1.2 Up to 10 cigarettes in a da	.y				
	7.1.3 A packet of cigarette or m	ore in a day				
7.2	Do you or have you ever chewed tobacco par 7.2.1 How many do you/did you chew?	n, gutka and	supari? Y	'es □	No □]
	7.2.1.1 One packet a day					
	7.2.1.2 Two packet a day					
	7.2.1.2 More than two pac					
8) AL	COHOL INTAKE		and the			
,	What is your frequency of alcohol intake?					
	8.1.1 Never Used					
	8.1.2 Moderate/ Occasionally			State of the last		
	8.1.3 High					
		_		1. 12		
cor	r the following questions, please circle tresponding statement. ysical Activity Question	Never	Occasionally	Often	Very	Always
		or Almost Never			Often	or Almost Always
9.1	Do you engage in moderate physical activity outside of work for at least 20 to 30 minutes at least 5 days of the week.?	1	2	3	4	5
9.2	Does your physical activity include stretching, aerobic activity, and strength conditioning?	1	2	3	4	5
9.3	Do you use alternative modes of transportation whenever possible to and from various locations (i.e. stairs instead of elevator, biking or walking instead of driving).?	R	2	3	4	5
9.4	Do you consider the health benefits of physical activities and their lasting impact seriously?	1	2	3	4	5
9.5	Do you enjoy sedentary activities more than physical activities?	1	2	3	4	5

Nutrition	Question Never Occasionally Often Very				Always	
		or Almost Never			Often	or Almost Always
9.6	Do you eat fruits and vegetables every day?	1	2	3	4	5
9.7	Do you eat at fast food restaurants less than three times per week?	1	2	3	4	5
9.8	Do you include foods that are high in fiber in your diet ona daily basis (i.e. whole grain breads and cereals, beans, etc.)?	1	2	3	4	5

9.9	Do you maintain a healthy weight within the recommendations specified by a health care professional?	1	2	3	4	5
9.10	Do you avoid eating foods that are high in fat such as whole milk, fried foods, fatty meats, etc.?	1	2	3	4	5

10) Knowledge about lifestyle diseases

	Question	Yes	No
10.1	Do you know heavy tobacco consumption and alcohol abuse are responsible for cardiovascular diseases, stroke and hypertension?		
10.2	Are you aware that low physical activity is one reason for high chances of cardiovascular diseases and arthritis?		
10.3	Are you aware that high intake of fast food and soft drinks are responsible for diabetes?		

11) Are you having any of the following Non-communicable diseases?

	Question	Yes	No
11.1	Hypertension/ history of cardiovascular diseases like stroke, heart attack, Arteriosclerosis		
11.2	Diabetes		
11.3	Low Back Pain/Arthritis		
11.4	Bronchial Asthma/COPD		
11.5	Obesity		

