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Original Research Article

A study on lifestyle diseases and lifestyle risk factors among known cases in women, urban field practice area Mysuru, Karnataka

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ABSTRACT

Background: Lifestyle diseases are diseases caused by one's lifestyle. Sedentary lifestyle, inappropriate eating, alcohol, substance use disorders and tobacco use are all variables that contribute to heart disease, stroke, obesity, type 2 diabetes and hypertension (HT).
Methods: A cross-sectional study was conducted among the 329 participants in the urban field practice area of the department of community medicine, JSS medical college, Mysore, with a study duration of 6 months. A house-to-house survey was performed to recruit study participants using convenient sampling. Participants were interviewed by using the pre-designed, pre-tested and structured questionnaire which included socio-demographic profile, dietary patterns, physical activity, type of personality, history of stress, history of tobacco and alcohol consumption, family history of lifestyle diseases like HT, DM.
Results: The results show that high cholesterol, moderate-intensity work of the participants was statistically significant for blood pressure with $p<0.05$ whereas waist hip ratio and high cholesterol of the participants was statistically significant for CVD with p value of 0.04 (<0.05).
Conclusions: Healthy practices need to be subsidized with the aid of using the dependent periodic medical exam. There needs to be an emphasis on incorporating bodily workout withinside the day by day routine, consumption of healthful diet, and decrease/cessation of alcohol and tobacco consumption.

Keywords: Lifestyle diseases, Lifestyle risk factors, Hypertension, Diabetes, NCD's, CVD

INTRODUCTION

Lifestyle diseases caused partly by unhealthy behaviours and partly by other factors causes like a person's habits, behaviours and practices. There are two types of risk variables that are used to classify lifestyle diseases: factors that can be controlled like diet and body weight, engage in physical activities, sunlight exposure, abuse of tobacco and alcohol; factors that are uncontrollable like age, gender, heredity.[1]

Continuous infections of the way of life, particularly HT, diabetes and cardiovascular disease (CVD), account for a large number of deaths each year around the world.[2] CVDs, which include respiratory failures and stroke, account for 17.7 million fatalities each year, making it the world's deadliest infection.[3] Many diseases have similar modifiable risk factors such as cigarette use, alcohol consumption, hyperlipidaemia, real latency, weight and so on, recognising and changing these risk variables has been proposed as methodology for the prevention and control in various situations.

Non-communicable diseases (NCDs) kill nearly 41 million people each year, accounting for roughly 71 percent of all deaths worldwide. NCDs are permanent in nature and they cannot be passed down from one person to the next.[4] NCD's caused to a vast degree by four social danger factors, tobacco abuse, undesirable eating regimen, actual preliminary work and destructive utilization of the alcohol. According to the WHO, low and centre pays nations and more unfortunate individuals in all countries were most exceedingly terrible influenced by deaths because of NCDs. As a result, such infections may have a significant role in driving individuals and their families into poverty.[5]

METHODS

Study area

The present study was conducted in the urban field practice area, department of community medicine, JSS medical college, Mysore.

Type of study design

The study design was a cross-sectional community-based study.

Study duration

The study duration was for 6 months.

Sample size

Considering the prevalence from previous study by 10.44% using the formula,

$$n=\frac{Z^2 1-\frac{\alpha}{2}(1-P)}{\varepsilon 2P},$$

95% CI with 80% power; the sample size was calculated 329,

Where,

n is the sample size,

1-α is the confidence level,

Z (1-α/2) represents the number of standard errors from the mean (Z (1-α/2) is the function of confidence level),

p is the anticipated population proportion,

ε is the relating precision.

Sampling technique and study population

The sampling technique used was convenient sampling. House to house survey was done. Wherever the lifestyle diseases were there that women was included in the urban field practice area.

Study setting and method of collection of data

Line listing of subjects with lifestyle diseases was done. All of the participants was interviewed using a pre-designed, pre-tested and structured questionnaire. The questionnaire asked about sociodemographic characteristics, dietary habits, physical activity, personality type, stress history, cigarette and alcohol usage history and family history of lifestyle diseases such as HT and DM. Various physical measurements were taken including height, weight, BMI and clinical size such as blood pressure. Oil, salt and sugar intake in gm/day/person was determined based on overall consumption of the contents by the complete family either weekly/monthly/as needed and then translated to daily intake in gm/day/person and then divided by total family members in the dietary habit.

Data analysis

The data will be entered into MS excel and then SPSS version 22 was used to analyse it (licensed to JSSAHER). Age, gender, literacy and other demographic variables will be represented using arithmetic mean, standard deviation and percentages. Bar diagrams and pie diagrams were utilised if needed. Percentages was used to show the prevalence of lifestyle risk factors and diseases. The factors linked to lifestyle diseases was determined using Chi-square test/Fischer's exact test. The unadjusted/adjusted odd's ratios was displayed, respectively, using simple logistic regression and multiple logistic regression. The p value of <0.05 was considered statistically significant.

RESULTS

Socio-demographic features among 329 study participants shows 115 (35.0%) were in the age group between 51-60 years, 230 (69.9%) has a BMI of 18.5-25.5, 267 (81.2%), 267 (81.2%) were housewife, 151 (45.9%) were illiterates, 320 (97.3%) were married and 122 (37.0%) were lower middle in their socio-economic status (Table 1).

Among 329 study participants 163 (49.5%) had a waist-hip ratio of 1.0 whereas 3 (0.9%) had a waist-hip ratio 4.0, 323 (98.2%) had no cholesterol whereas 6 (1.8%) had cholesterol and 307 (93.3%) had no habit of chewing tobacco whereas 22 (6.7%) had a habit of chewing tobacco (Table 2).

In study 329 study participants 259 (78.7%) had blood pressure, 8 (2.4%) has CVD and 186 (56.5%) has diabetes (Table 3).

Table 1: Socio-demographic characteristics (n=329).

Variables	N	Frequency	Percentage
Age (in years)	<30	1	0.3
	30-40	30	9.1
	41-50	97	29.5
	51-60	115	35.0
	61-70	72	21.9
	>70	14	4.3
BMI (in kg/m^2)	<18.5	2	0.6
	18.5-25.5	230	69.9
	25.5-30	92	28.0
	30-35	5	1.5
Occupation	Labourer	29	8.8
	Own business	3	0.9
	Service	30	9.1
	House wife	267	81.2
Education status	Illiterate	151	45.9
	Primary	96	29.2
	Secondary	29	8.8
	Higher secondary	36	10.9
	Graduation and above	17	5.2
Marital status	Single	9	2.7
	Married	320	97.3
Socio-economic status	Upper	9	2.7
	Upper middle	53	16.2
	Lower middle	122	37
	Upper lower	67	20.4
	Lower	78	23.7

Table 2: Distribution of lifestyle risk factors among women.

Lifestyle risk factors	N=329	Frequency	Percent
Waist-hip ratio	1.0	163	49.5
	2.0	127	38.6
	3.0	36	10.9
	4.0	3	0.9
High cholesterol	Yes	6	1.8
	No	323	98.2
Chewing tobacco	Yes	22	6.7
	No	307	93.3

Table 3: Distribution of lifestyle diseases among women.

Lifestyle diseases	N=329	Frequency	Percentage
Blood pressure	Yes	259	78.7
	No	70	21.3
CVD	Yes	8	2.4
	No	321	97.6
Diabetes	Yes	186	56.5
	No	143	43.5

Among the study participants it was noted that high cholesterol of the participants was statistically significant for blood pressure with p value of <0.001 (<0.05), it was noted that moderate intensity work out of the participants was statistically significant for blood pressure with p value of 0 (<0.05), it was noted that waist hip ratio of the participants was statistically significant for CVD with p value of 0.04 (<0.05) and it was noted that high cholesterol of the participants was statistically significant for CVD with p value of <0.001 (<0.05) (Table 4).

Table 4: Association between lifestyle diseases and lifestyle risk factors among women.

Risk factors	BP			CVD			Diabetes		
	Present (%)	Absent (%)	Fisher's exact test	Present (%)	Absent (%)	Fisher's exact test	Present (%)	Absent (%)	Fisher's Exact test
BMI (in kg/m^2)									
<18.5	2 (0.6)	0 (0.00)	P=0.120	0 (0.00)	2 (0.6)	P=0.132	1 (0.3)	1 (0.3)	P=0.870
18.5-25	175 (53.8)	55 (16.7)		6 (1.8)	224 (68.1)		132 (40.1)	98 (29.8)	
25-30	77 (23.4)	15 (4.5)		1 (0.3)	91 (27.7)		51 (15.5)	41 (12.5)	
30-35	3 (0.9)	2 (0.6)		1 (0.3)	4 (1.2)		2 (0.6)	3 (0.9)	
Waist-hip ratio									
1	124 (37.7)	39 (11.9)	P=0.116	5 (1.5)	158 (48.0)	P=0.046	94 (28.6)	69 (21.0)	P=0.276
2	101 (30.7)	26 (7.9)		1 (0.3)	126 (38.3)		75 (22.8)	52 (15.8)	
3	33 (10.0)	3 (0.9)		1 (0.3)	35 (10.6)		15 (4.6)	21 (6.4)	
4	1 (0.3)	2 (0.6)		1 (0.3)	2 (0.6)		2 (0.6)	1 (0.3)	
High cholesterol									
Yes	6 (1.8)	0 (0.00)	P≤0.001	5 (1.5)	1 (0.3)	P≤0.001	2 (0.6)	4 (1.2)	P=0.331
No	253 (76.9)	70 (21.5)		3 (0.9)	320 (97.3)		181 (55.0)	142 (43.1)	
Chewing tobacco/snuff									
Yes	21 (6.5)	1 (0.3)	P=0.235	0 (0.00)	22 (6.7)	P=1.000	9 (2.7)	13 (4.0)	P=0.181
No	238 (72.3)	69 (20.9)		8 (2.4)	299 (90.9)		177 (53.8)	130 (39.5)	
Smoking same room (in mins)									
>15	225 (68.3)	64 (19.6)	P=0.296	7 (2.1)	282 (85.7)	P=0.650	163 (49.5)	126 (38.3)	P=0.196
15-30	28 (8.5)	4 (1.2)		1 (0.3)	31 (9.4)		19 (5.8)	13 (4.0)	
30-45	5 (1.5)	0 (0.00)		0 (0.00)	5 (1.5)		1 (0.3)	4 (1.2)	
45-60	1 (0.3)	2 (0.6)		0 (0.00)	3 (0.9)		3 (0.9)	0 (0.00)	
Vigorous activity									
Yes	115 (35.0)	28 (8.8)	P=0.884	2 (0.6)	141 (42.9)	P=0.474	85 (25.8)	58 (17.6)	P=0.371
No	144 (43.8)	42 (12.4)		6 (1.8)	180 (54.7)		101 (30.7)	85 (25.8)	
Moderated intensity									
Yes	259 (79.1)	70 (20.9)	P=0	8 (2.4)	321 (97.6)	Nil	186 (56.5)	143 (43.5)	
Walking/cycling									
Yes	259 (78.8)	69 (20.9)	P=0.213	8 (2.4)	320 (97.3)	P=1.000	185 (56.2)	143 (43.5)	P=1.000
No	0 (0.00)	1 (0.3)		0 (0.00)	1 (0.3)		1 (0.3)	0 (0.00)	

DISCUSSION

Lifestyle diseases and lifestyle risk factors

In the study majority of the study participants was of age group between (51-60) years 115 (35.0%) with a BMI between 18.5-25.5, 230 (69.9%). It was compared with Gupta et al 56 (16.0%) were in age group between 51-60 years and BMI 217 (61.8%).[7] In this study, among 329 study participants, 267 (81.2%) were housemakers not doing any work staying at home was compared with the survey by Yu et al were about 545 (35.0%).[8] Among the study participants, 151 (45.9%) were illiterates. Discorded results were obtained in the study done by Manjekar et al showing that 110 (55.0%) were illiterate.[9] In the study, among 329 study participants, 320 (97.3%) were married. It was compared with the study done by Phaswana was 777 (36.6%).[10] In the present study, women's socioeconomic status mainly was in lower-middle-class 122 (37.0%) compared with the study done by Gupta where it was 64 (23.5%).[11] In the study, the study participants' waist-hip ratio was 163 (49.5%) was 1.0. Compared with Wing et al it had a waist-hip ratio of 114.1±4.9 of mean and standard deviation.[12] The study showed that 320 (97.3%) among 329 study participants has no cholesterol. In this study, 22 (6.7%) had a habit of tobacco chewing compared with the study done by Mishra et al observed that 22.30% of females have the habit of chewing tobacco (smokeless tobacco use in urban Indian women: prevalence and predictors).[12] The study shows that among 329 study participants, 329 (100%) never smoked. Discorded result was observed in the study by Baik 106 women never smoked.[13] 329 participants 289 (87.8%) 15-30 min were in the exact room/vehicle with another person who was smoking, 32 (9.7%) 30-45 min, 5 (1.5%) 45-60 min whereas 3 (0.9%) were above >60 min.[14] Out of 329 participants, 242 (73.6%) had no history of substance abuse, 28 (8.5%) had history of substance abuse, 23 (7.0%) had history of substance abuse, 16 (4.9%) had history of substance abuse, 12

(3.6%) had history of substance abuse, 5 (1.5%) had history of substance abuse and 2 (0.6%) had history of substance abuse. In comparison to Taplin et al 51 (58.6%) of participants said they had a close long-term personal association with the mother. In comparison, just 26 (29.9%) of individuals thought the same thing about fathers. Only 7 (8.0%) of individuals lived with their families, while 13 (14.9%) spent the most of their time alone.[15] In the present study, 143 (43.5%) did vigorous-intensity activity and not done by 186 (56.5%). Moderate-intensity activity was done by 329 (100%) walking/cycling done by 328 (99.7%) and 1 (0.3%). In a study by Franco, women were found to be more prevalent in the low and moderate activity groups (63%, 62% respectively) than the increasing physical activity group (46%).[15] In the present study, the depression scale was regular in 323 (98.2%) and highly severe in 1 (0.3%). The anxiety scale was average in 276 (83.9%), mild in 31 (9.4%) and highly severe in 1 (0.3%). The stress scale was normal in 324 (98.5%) and highly intense in 1 (0.3%) and the study by Tran had 26/221 (11.8%) women were identified with the depression; 24/221 (10.9%) with anxiety disorder, 7/221 (3.2%) with co-morbid depression and the anxiety disorder.[16]

Association between lifestyle diseases and risk factors

In the present study, it was noted that the age of the participants was statistically significant for blood pressure with p value of 0.05 (<0.05), it was noted that the education status of the participants was statistically significant for blood pressure with p value of 0.02 (<0.05). It was noted that age of the participants were statistically significant for CVD with an p value of <0.001 (<0.05). It was compared with the study by Aminisani according to the results of the age and sex-adjusted GEE analysis, age, ethnicity, living alone, obesity, hypertension and having one chronic condition at baseline were all significant predictors of MM development. Higher education, money, physical activity and regular alcohol consumption were all protective variables. In a fully adjusted model, marital status (OR, 1.18; 95 percent CI, 1.01 to 1.37; p=0.039), hypertension (OR, 1.23; 95 percent CI, 1.02 to 1.48; p=0.032), and having one chronic condition at baseline (OR, 2.92; 95 percent CI, 2.33 to 3.67; p=0.001) were all still significant.[18] In this study, it was noted that the high cholesterol of the participants was statistically significant for blood pressure, an p value <0.001 (<0.05). It was pointed out that moderate-intensity work out of the participants was statistically significant for blood pressure with an p value of 0 (<0.05). In study by Franco, the effect of physical activity on death and cardiovascular illness was significant (2-sided p value 0.05) for a high level of physical activity with all transitions (incident cardiovascular disease, no cardiovascular illness). Physical activity had been demonstrated to reduce the risk of heart disease. In the group with a moderate level of exercise, the transition from no cardiovascular disease to death was significant, but not for the other two changes.[19]

Among study participants, it was noted that the high anxiety of participants were statistically significant for CVD with p value of 0.007 (<0.05); it was compared with the study by Christopher 11% point prevalence and 26% lifetime prevalence.[20]

CONCLUSION

Lifestyle diseases have been discovered to be the principal reasons for morbidity in several study participants. HT, diabetes mellitus and overweight/weight problems were not unusual to place comorbid situations introduced out using the observe. These situations were related to elements inclusive of age, socioeconomic status, BMI, high cholesterol records of tobacco chewing/snuff/snus. The observation reveals the overarching need for IEC sports to sensitize the commercial employees regarding the fitness dangers of converting lifestyle and its prevention. Healthy practices need to be subsidized with the aid of using the dependent periodic medical exam. There need to be an emphasis on incorporating bodily workout withinside the day by day routine, consumption of healthful diet and decrease/cessation of alcohol and tobacco consumption.

Recommendations

In this study potential look at women, low-hazard mixtures of the modifiable way of life elements consisting of upkeep of an everyday BMI, consuming a weight loss program excessive in fruits, vegetables, low-fat dairy merchandise and occasional in sodium, conducting full of life bodily exercising on day by day basis, consuming a modest quantity of alcohol, averting nonnarcotic analgesics and taking supplemental folic acid have been related to dramatic discounts withinside the occurrence of high blood pressure at some point of follow up. Although speculative, if those which have been causal and independent, then a way of life change should have the capability to save you a massive share of new onset of lifestyle diseases happening amongst younger women.

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