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Assessment of Lifestyle and Food habits disparity in male and female individuals

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Abstract

Background: Non-communicable disease (NCDs) is the major public health challenge across the globe. The major origin of NCDs lies in the unhealthy lifestyle adopted by most of the young individuals. Since there exists a significant difference in the physiology of male and female individuals, lifestyle habits need to be analyzed and tackle in a gender specific approach. **Objective:** Present study aim to analyze the disparity in male and female gender in terms of lifestyle and food habits so that gender specific approach could be adopted for unhealthy lifestyle. **Methodology:** Total 100 participants with equal ratio of male and female (50 male and 50 female) were randomly enrolled in the study. Personal particulars like age, sex, address, religion, eating habit, and sleep pattern was analyzed using the prestructured proforma. Only adult participants of both genders were enrolled in the study. Completed questionnaire was collected from the subject. Questionnaire was then scrutinized for any error in it. Compilation of data was done based on sex of the subject, anthropometry method, and food habits. **Results:** Most of the participants belongs to the age group of 20-40 years. It has been found that most of participants skip their breakfast 1 time in a week, eat vegetables 2 times per day, eat meals 6 times per day, eat sweet beverage and other sweets once a day, eat fried food 1 to 2 times a week, eat high salty snacks such once a week, consume sugar once daily, eat fruit and salad once daily, eat junk food items once a month, eat nonveg once daily, and eat out of the house once in month. There was no significant difference between male and female group for most of food habits. **Conclusion:** Lifestyle habits of the participants were found to be equally affected for both male and female subjects and need to be addressed to tackle on priority basis.

Keywords: Lifestyle, Nutrition, gender, disease, health.

Introduction

Lifestyle is a unique geographical, economic, political, cultural, and religious framework that shapes the way of life that individuals, communities, and nations adopt (1). Several research has been conducted and many are going to establish lifestyle as a key determinant in

public health. According to the WHO, lifestyle is linked to 60% of variables that affect a person's health and quality of life. There are millions of people that live unhealthy lives. As a result, individuals experience disease, incapacity, and even death. An unhealthy lifestyle can contribute to diseases including metabolic disorders, joint and bone issues, cardiovascular diseases, hypertension, obesity, aggression, and more. The lives of all people have undergone significant shifts in recent times. Malnutrition, an unhealthy diet, smoking, drinking alcohol, abusing drugs, stress, and a variety of other behaviors are all examples of unhealthy lifestyles that are used as the norm (1).

Junk foods have almost replaced healthy nutritious foods. Main reason this is that they are easily available, low in cost, does not require much of preparation time so can be consumed anytime of the day and also are available in all different form and flavors which are liked by people of all age groups. These junk foods can affect one's health by clogging arteries, developing different types cancers, increasing risks of non-communicable diseases like hypertension, obesity etc (2). It is well known that a healthy diet and regular exercise are important lifestyle choices that influence lifelong health by enhancing body composition, musculoskeletal health, physical and mental performance, and preventing metabolic diseases such as obesity, diabetes mellitus, and cardiovascular disease. Although the health advantages of nutrition and exercise are frequently researched separately, it is becoming clear that methods combining the two have the potential to be more effective than those concentrating only on one or the other (3).

Numerous studies demonstrate that engaging in regular physical activity, maintaining a healthy weight, quitting smoking, and adhering to appropriate dietary guidelines and other health-promoting practices have a significant impact on health. As a result of the fact that a variety of aspects of a patient's lifestyle play a role in the prevention of chronic diseases, the concept of Lifestyle Medicine can be utilized to support the reduction of risk associated with lifestyle factors (4). The purpose of this study was to draw attention towards the effects of lifestyle and nutrition on health of an individual. This study analysed target group's health based on their lifestyle and nutrition. Factors that were considered while making questionnaire was based on socioeconomic factors, physical activity, past medical history, any ongoing treatments, eating habits, level of stress (based on sleep disturbances), medication abuse, substance abuse (smoking, drinking, illegal drugs), environmental factors, application of modern technologies, recreation, etc.

Methodology

Study design: Present research was conducted at the Satwari, Jammu, India and department of nutrition and dietetics Chandigarh university, Punjab, India. Present study was a prospective, observational, descriptive study. Total 100 participants with equal ratio of male and female (50 male and 50 female) were randomly enrolled in the study.

Preparation of questionnaire: Personal particulars like age, sex, address, religion, eating habit, and sleep pattern was analyzed using the prestructured proforma. Only adult participants of both genders were enrolled in the study. Completed questionnaire was

collected from the subject. Questionnaire was then scrutinized for any error in it. Compilation of data was done based on sex of the subject, anthropometry method, and food habits.

Statistical analysis: The data captured on the physical proforma was entered into the excel sheet to make a masterchart. SPSS software was used to analyze the data. Fraction of total and percentages was calculated for the quantitative data. Mean and standard deviation was calculated for quantitative data. Chi square test was used to compare the qualitative variables. A p value <0.05 was considered significant.

Results

There was total 100 participants enrolled in this study among 50 participants were male and 50 participants were female. Female participants significantly found to belong to younger age group compared to the male participants. Food habits indicate that among total participants, 13 male and 17 female were vegetarian, 35 male and 26 female were non-vegetarian, and 2 male and 7 female were eggetarian. There was no significant difference between male and female group. Physical activity indicates sedentary behaviour in 40 male and 32 female, moderate activity in 9 male and 18 female, heavy working finds in 1 male and no female. There was no significant difference between male and female group. Sleeping habit revealed <6 hours sleep in 14 male and 8 female, 6–10-hour sleep in 34 male and 38 female, and 8–10-hour sleep in 2 male and 4 female. There was no significant difference between male and female group. Weight loss in last 3 months was ≤3 Kg in 7 male and 11 females and was >3kg in 4 males and 2 females. There was no significant difference between male and female group. BMI indicate that 1 male and 4 female were underweight, 27 male and 29 female were normal weight and 22 male and 17 female were overweight. There was no significant difference between male and female group (Table 1).

Variable	Subdomain	Male	Female	Total	P value
Age	20-30 Year	18	28	46	0.012* □2=10.89
	30-40 Year	19	13	32	
	40-50 Year	6	9	15	
	50-55 Year	7	0	7	
Food habits	Vegetarian	13	17	30	0.098 □2=4.63
	Non-vegetarian	35	26	61	
	Eggetarian	2	7	9	
Physical activity	Sedentary	40	32	72	0.087 □2=4.88
	Moderate	9	18	27	
	Heavy worker	1	0	1	
Sleeping habit	<6 hours	14	8	22	0.283 □2=2.52
	6-10 hours	34	38	72	
	8-10 hours	2	4	6	
Weight loss in last 3	≤3 Kg	7	11	18	0.265

months	>3kg	4	2	6	□2=6.45
BMI	Underweight	1	4	5	0.285 □2=2.51
	Normal Weight	27	29	56	
	Overweight	22	17	39	

Table 1: Sociodemographic and lifestyle habits of enrolled participants.

About the regularity in taking breakfast, it has been found that 18 male and 19 female skip their breakfast 1 time in a week, 8 male and 8 female skip their breakfast 2 times in a week, 3 male and 6 female skip their breakfast 3 times in a week, 2 male and 5 female skip their breakfast more than 3 times in a week, and 19 male and 12 female never skip their breakfast. There was no significant difference between male and female group. About servings of vegetables per day, it has been found that 8 male and 5 female eat vegetables 1 time in a day, 19 male and 26 female eat vegetables 2 time in a day, 21 male and 19 female eat vegetables 3 time in a day, and 2 male and no female eat vegetables more than 3 times in a day. There was no significant difference between male and female group. About eating meals in a day, it has been found that 5 male and 2 female east meal >6 times, 20 male and 14 female east meal 6 times, 10 male and 8 female east meal 5 times, 8 male and 15 female east meal 4 times, and 7 male and 11 female east meal 3 times. There was no significant difference between male and female group. About drinking sweetened beverage, it has been found that 17 male and 10 female drink sweetened beverage at least once daily, 1 male and 4 female drink sweetened beverage 3 to 6 times a week, 10 male and 15 female drink sweetened beverage 1 to 2 times a week, 5 male and 3 female drink sweetened beverage 2 to 3 times a month, and 17 male and 18 female drink sweetened beverage Once a month or less. There was no significant difference between male and female group (Table 2).

Variables	Subdomains	Male	Female	Total	P Value
How often do you skip breakfast?	1 time in a week	18	19	37	0.421 □2=3.893
	2 times in a week	8	8	16	
	3 times in a week	3	6	9	
	More than 3 times in a week	2	5	7	
	Never	19	12	31	
How many servings of vegetables do you eat in a day?	1 time in a day	8	5	13	0.275 □2=3.881
	2 time in a day	19	26	45	
	3 time in a day	21	19	40	
	More than 3 times in a day	2	0	2	
How often do you eat meals in a day (including tea, coffee, fruits, salads, snacks)?	> 6times	5	2	7	0.232 □2=5.586
	6 times	20	14	34	
	5 times	10	8	18	
	4 times	8	15	23	
	3 times	7	11	18	

How often do you drink sweetened beverages like soft drinks, juices, shake etc.?	At least once daily	17	10	27	0.273 □2=5.143
	3 to 6 times a week	1	4	5	
	1 to 2 times a week	10	15	25	
	2 to 3 times a month	5	3	8	
	Once a month or less	17	18	35	

Table 2: Daily food habits of the enrolled participants.

About eating sweets, it has been found that 11 male and 9 female eat sweets at least once daily, 2 male and 2 female eat sweets 3 to 6 times a week, 21 male and 17 female eat sweets 1 to 2 times a week, 2 male and 6 female eat sweets 2 to 3 times a month, and 14 male and 16 female eat sweets once a month or less. There was no significant difference between male and female group. About eating fried food, it has been found that 4 male and 9 female eat fried food at least once daily, 3 male and 2 female eat fried food 3 to 6 times a week, 20 male and 17 female eat fried food1 to 2 times a week, 3 male and 6 female eat fried food 2 to 3 times a month, and 20 male and 16 female eat fried food once a month or less. There was no significant difference between male and female group. About eating high salty snacks, it has been found that 16 male and 15 female eat salty snacks at least once daily, 4 male and 4 female eat salty snacks3 to 6 times a week, 13 male and 12 female eat salty snacks1 to 2 times a week, 1 male and 6 female eat salty snacks2 to 3 times a month, and 16 male and 13 female eat salty snacks once a month or less. There was no significant difference between male and female group. About consuming sugar and honey, it has been found that 39 male and 31 female consume sugar at least once daily, 3 male and 2 female consume sugar3 to 6 times a week, 3 male and 7 female consume sugar1 to 2 times a week, 2 male and 4 female consume sugar2 to 3 times a month, and 3 male and 6 female consume sugar once a month or less. There was no significant difference between male and female group (Table 3).

Variables	Subdomains	Male	Female	Total	P Value
How often do you eat sweets such as Laddu, Barfi, Jalebi, Kulfi, Chocolate, Halwa, Rice pudding, etc.?	At least once daily	11	9	20	0.600 □2=2.754
	3 to 6 times a week	2	2	4	
	1 to 2 times a week	21	17	38	
	2 to 3 times a month	2	6	8	
	Once a month or less	14	16	30	
How often do you eat fried foods such as Puri, Parathas, Kachori, Tikki, Bhature, Pakoras, Samosas etc.?	At least once daily	4	9	13	0.432 □2=3.811
	3 to 6 times a week	3	2	5	
	1 to 2 times a week	20	17	37	
	2 to 3 times a month	3	6	9	
	Once a month or less	20	16	36	
How often do you eat high salty snacks such as Namkeen, Bhujia,	At least once daily	16	15	31	0.412 □2=3.954
	3 to 6 times a week	4	4	8	
	1 to 2 times a week	13	12	25	

Pickles, Chutney, Papad etc.	2 to 3 times a month	1	6	7	
	Once a month or less	16	13	29	
How often do you consume sugar and honey in tea, coffee, curd, lassi, etc?	At least once daily	39	31	70	0.357 □2=4.381
	3 to 6 times a week	3	2	5	
	1 to 2 times a week	3	7	10	
	2 to 3 times a month	2	4	6	
	Once a month or less	3	6	9	

Table 3: Salt and sweet food habits of the enrolled participants.

About eating fruit and salad, it has been found that 12 male and 9 female eat fruits every time in the main diet, 20 male and 16 female eat fruits at least once a day, 5 male and 9 female eat fruits at least once a day, 8 male and 8 female eat fruits 1 time a week, and 5 male and 8 female eat fruits less than once a week. There was no significant difference between male and female group. About eating junk food items, it has been found that 4 male and 4 female eat junk food at least once daily, 2 male and 3 female eat junk food 3 to 6 times a week, 10 male and 14 female eat junk food 1 to 2 times a week, 7 male and 6 female eat junk food 2 to 3 times a month, and 27 male and 23 female eat junk food once a month or less. There was no significant difference between male and female group. About eating non vegetarian food, it has been found that 10 male and 1 female eat nonvegetarian food at least once daily, 5 male and 3 female eat nonvegetarian food 3 to 6 times a week, 9 male and 12 female eat nonvegetarian food 1 to 2 times a week, 8 male and 11 female eat nonvegetarian food 2 to 3 times a month, 7 male and 10 female eat nonvegetarian food once a month or less, and 11 male and 13 female never eat nonvegetarian food. There was no significant difference between male and female group. About eating out of the house, it has been found that 1 male and 3 female eat outside food more than 3 times a week, 2 male and 3 female eat outside food more than once a week, 6 male and 5 female eat outside food 2 times in a month, 10 male and 12 female eat outside food 1 time in a month, and 31 male and 27 female eat outside food less than 1 time in a month. There was no significant difference between male and female group (Table 4).

Variables	Subdomains	Male	Female	Total	P Value
How often do you eat fruit and salad?	Every time in the main diet	12	9	21	0.608 □2=2.708
	At least once a day	20	16	36	
	At least once a day	5	9	14	
	1 time a week	8	8	16	
	Less than once a week	5	8	13	
How often do you eat junk food items like burgers, pizza, pasta, samosa, noodles etc.?	At least once daily	4	4	8	0.868 □2=1.264
	3 to 6 times a week	2	3	5	
	1 to 2 times a week	10	14	24	
	2 to 3 times a month	7	6	13	

	Once a month or less	27	23	50	
How often do you eat non vegetarian food like mutton, chicken, pork, beef, egg, fish etc.?	At least once daily	10	1	11	0.092 □2=9.462
	3 to 6 times a week	5	3	8	
	1 to 2 times a week	9	12	21	
	2 to 3 times a month	8	11	19	
	Once a month or less	7	10	17	
	Never	11	13	24	
How often do you eat out of the house (such as wedding, party, family function etc.)?	More than 3 times a week	1	3	4	0.782 □2=1.749
	More than once a week	2	3	5	
	2 times in a month	6	5	11	
	1 time in a month	10	12	22	
	Less than 1 time in a month	31	27	58	

Table 4: Junk food and non-vegetarian food habits of enrolled participants.

About eating rice, it has been found that 35 male and 34 female eat rice 1 time in a day, 10 male and 5 female eat rice 2 time in a day, 4 male and 5 female eat rice 1 to 2 times in a week, and 1 male and 6 female eat rice 3 to 4 times in a week. There was no significant difference between male and female group. About eating high chapati or roti, it has been found that 7 male and 4 female eat chapati 1 time in a day, 29 male and 39 female eat chapati 2 time in a day, 11 male and 6 female eat chapati 3 time in a day, 3 male and 1 female eat chapati 2 to 3 times in a week, and no male or female eat chapati 4 to 5 times in a week. There was no significant difference between male and female group. About eating pulses, it has been found that 27 male and 33 female eat pulses 1 time in a day, 21 male and 15 female eat pulses 2 time in a day, 2 male and 1 female eat pulses 1 to 2 time in a week, and 0 male and 1 female eat pulses 3 to 4 times in a week. There was no significant difference between male and female group. About eating preferred pulse, it has been found that 39 male and 28 females eat chana, 32 male and 20 females eat moong, 20 male and 19 females eat arhar, 21 male and 13 females eat rajma. There was no significant difference between male and female group for arhar and rajma but male was found to eat chana and moong significantly more than female (Table 5).

Variables	Subdomains	Male	Female	Total	P Value
How often do you eat rice?	1 time in a day	35	34	69	0.147 □2=5.364
	2 time in a day	10	5	15	
	1 to 2 times in a week	4	5	9	
	3 to 4 times in a week	1	6	7	
How often do you eat chapati/rotis?	1 time in a day	7	4	11	0.190 □2=4.759
	2 time in a day	29	39	68	
	3 time in a day	11	6	17	
	2 to 3 times in a week	3	1	4	
	4 to 5 times in a week	0	0	0	

How often do you eat pulses?	1 time in a day	27	33	60	0.402 □2=2.933
	2 time in a day	21	15	36	
	1 to 2 time in a week	2	1	3	
	3 to 4 times in a week	0	1	1	
Which type of pulses do you prefer to eat?	Chana	39	28	67	0.019* □2=5.47
	Moong	32	20	52	0.016* □2=5.76
	Arhar	20	19	39	0.083 □2=0.04
	Rajma	21	13	34	0.091 □2=2.85

Table 5: Rice and pulses food habits of enrolled participants.

Discussion

The highest number of participants in the present study belongs to the age group of 20-40 years. In the previous study by Pal and Gosh, the most of the participants were in the age group of 40-50 years which is similar to the present study (5). Most of the participants in present study were of Hindu religion, graduates, with nonvegetarian food habits. Majority of participants were married, social, and worked in government sector. Similar to present study, Pal and Gosh reported that the most of the male participants (22.44%) were from the service sector (5).

About the regularity in taking breakfast, it has been found that most of participants skip their breakfast 1time in a week, eat vegetables 2 times per day, eat meals 6 times per day, eat sweet beverage and other sweets once a day, eat fried food 1 to 2 times a week, eat high salty snacks such once a week, consume sugar once daily, eat fruit and salad once daily, eat junk food items once a month, eat nonveg once daily, and eat out of the house once in month. There was no significant difference between male and female group for arhar and rajma but male was found to eat chana and moong significantly more than female. In the study by Khanna et al. 2.23% subjects skipped their breakfast. When compared across genders females skipped breakfast more often (60.3%) as compared to males (33.3%) (6). Mathiyalagen et al. highlight that 60% and 24% of the undergraduates skip breakfast at least once/week and thrice/week respectively (7).

Outcome of the study by Ali et al. indicate that 46% of study population strongly agreed and 36% agreed to the fact that eating an unhealthy food was an important risk factor for various diseases (8). Ali et al. also reported that main barrier towards healthy eating was breakfast skipping and craving for the junk foods (47.7%) (8). Another Study conducted by Bano R et al. showed that total breakfast skipping was more common among the non-nutrition students (9).

Sleeping habit revealed 6–10-hour sleep in most of participants in present study. The National Sleep Foundation (NSF) recommends 8 hours sleep daily for 18–25-year-olds. In the study by Al-Mahrouqi 79% of the 18-year-old girls slept less than 8 hours (10).

No significant weight lost was observed in participants. Most of participants are either normal weight or overweight. Similar to present study, Pal and Gosh reported that the most of the participants were of normal weight (63.26% male and 64.91% female) (5). In the study by Ali et. al. 74.8% of the students found to had normal weight, 10.3% were overweight, 11.1% were underweight which also supports the finding of this study (8).

Conclusion

The highest number of participants in the present study belongs to the age group of 20-40 years. Sleeping habit revealed 6–10-hour sleep in most of participants. Most of participants are either normal weight or overweight. About the regularity in taking breakfast, it has been found that most of participants skip their breakfast 1 time in a week, eat vegetables 2 times per day, eat meals 6 times per day, eat sweet beverage and other sweets once a day, eat fried food 1 to 2 times a week, eat high salty snacks such once a week, consume sugar once daily, eat fruit and salad once daily, eat junk food items once a month, eat nonveg once daily, and eat out of the house once in month. There was no significant difference between male and female group for arhar and rajma but male was found to eat chana and moong significantly more than female. Lifestyle habits of the participants were found to be equally affected for both male and female subjects and need to be addressed to tackle on priority basis.

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