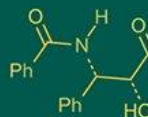


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A cross-sectional analysis of dietary intake, lifestyle patterns and chronic disease prevalence in young adults (21-45 years)

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Abstract

Early adulthood (21-45 years) is a critical period for establishing dietary and lifestyle behaviors that influence long-term health outcomes. The increasing consumption of unhealthy foods, sedentary habits, and substance use has contributed to a rising burden of non-communicable diseases among young adults. The present study aimed to assess dietary intake, lifestyle patterns, and their association with chronic disease prevalence in this age group. A cross-sectional study was conducted at Dr. Rajendra Prasad Central Agricultural University, Pusa, Bihar, among 100 participants selected through purposive sampling and categorized into normal ($n = 15$), diabetic ($n = 25$), CHD ($n = 25$), hypertensive ($n = 25$), and risk group ($n = 10$). Data were collected using a structured questionnaire, Food Frequency Questionnaire, and three-day 24-hour dietary recall, and analysed using frequency and percentage. The findings revealed that chronic diseases were more prevalent in the 37-45 years age group, with a higher predominance among males (68% diabetics, 84% CHD, and 88% hypertensive). Dietary patterns indicated high consumption of non-vegetarian foods, sweets, oily foods, and junk foods, along with low fruit intake, particularly among hypertensive and risk groups. Notably, 100% of the risk group did not consume fruits, while extra fat consumption was highest in this group (100%) compared to 34% in normal subjects. Junk food consumption was reported by all individuals in diabetic, CHD, and risk groups, with 56% of CHD subjects consuming it daily. Lifestyle assessment showed that none of the risk group engaged in exercise, while only 44% of diabetics and 60% of hypertensive individuals reported physical activity. Short sleep duration (≤ 5 hours) was common, affecting 70% of the risk group and over half of diseased groups, with insomnia reported by 88% of hypertensive and 100% of risk group participants. Additionally, unhealthy habits such as smoking (60% diabetics, 56% CHD, 40% hypertensive, and 70% risk group), tobacco chewing, and alcohol consumption (highest at 80% in the risk group) were prevalent. In conclusion, the study demonstrates that unhealthy dietary habits and adverse lifestyle behaviors, including high intake of fats, sugars, and junk foods, low fruit consumption, physical inactivity, inadequate sleep, high stress, and substance use, are strongly associated with the early onset and progression of chronic diseases among young adults. These findings emphasize the need for early preventive interventions focusing on balanced nutrition, regular physical activity, stress management, and reduction of harmful habits to mitigate the growing burden of non-communicable diseases.

Keywords: Dietary intake, lifestyle patterns, non-communicable diseases (NCDs), physical activity, young adults

Introduction

Early adulthood refers to the stage of human development after adolescence, typically lasting from the ages of 20 to 40, although some researchers extend it into the early 30s or mid-40s, depending on social and cultural environment. This stage of life is characterized by gaining personal and professional independence, forming long-lasting relationships, starting a family, building a career, and strengthening health and lifestyle practices. Early adulthood is also a crucial time for setting long-term patterns related to nutrition, physical activity, stress management, and chronic disease risk (Arnett, 2000) ^[1].

Young people consume the least number of fruits and vegetables and derive the majority of their energy from snacks, candies, and beverages with added sugar. The fact that eating habits linked to weight gain in young people (ages 18 to 34) are linked to an increased risk of being overweight at this age is especially concerning.

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People are easily influenced by their peers during the fast-paced developmental stages of adolescence and early adulthood (Nagar *et al.*, 2025) [7, 8]. These include consuming more high-fat takeout (fast food) and sugar-sweetened beverages while consuming fewer fruits and vegetables (Hebden *et al.*, 2013) [4]. Individual variations in taste perception may therefore have an impact on eating patterns, which may raise nutritional status and the risk of chronic diseases linked to nutrition. Understanding how food affects the body's health is crucial given the rising prevalence of nutrition-related chronic illnesses such as obesity, cardiovascular disease, type 2 diabetes (T2DM), and some types of cancer (Farvid *et al.*, 2016; Takale *et al.*, 2024) [3, 13]. It fosters this positive correlation between eating habits and physical health. The idea of a balanced diet emphasizes the value of portion control and moderation in addition to the benefits of eating a range of food groups. A varied diet lowers the risk of chronic diseases including obesity, diabetes, and cardiovascular problems, promotes growth and development, and helps prevent nutrient deficiencies. Therefore, the food we eat has a direct effect on how our bodies work and how our health turns out (Dhaked *et al.*, 2025) [2].

The forms and characteristics of diseases are changing alarmingly in India. According to WHO projections, India would have one of the highest rates of lifestyle-related illnesses in the future. India is already regarded as the global center for diabetes. Obesity, hypertension, and heart disease are the most prevalent illnesses associated with inactive lifestyles (Senapati *et al.*, 2015; Jana and Chattopadhyay, 2022) [11, 6]. The four main behavioural risk factors that raise the risk of chronic non-communicable diseases (chronic NCDs) are physical inactivity, smoking, alcohol abuse, and poor diet, according to the World Health Organization (WHO) (Onishchenko *et al.*, 2024; Patel *et al.*, 2020) [9, 10]. About 60% of deaths globally are caused by chronic non-communicable diseases (NCDs), with about 80% of these deaths taking place in poorer nations. In 2016, chronic non-communicable diseases accounted for 55% of disability-adjusted life years (DALYs) lost in India, the second most populous country in the world (Shaikh and Khan, 2021). Data from the National Family Health Survey (NFHS-5) shows that young people aged 21-45 in India face a double burden of malnutrition, including rising overweight and obesity (approximately 18-24%, higher in urban areas) and persistent malnutrition, especially among rural populations. More than 50% of women are affected by anemia. Lifestyle

risk factors include tobacco use (20-30% among men) and alcohol consumption (10-15% among men), while urban populations tend to be more sedentary. Chronic diseases are emerging early, with approximately 10-13% of young people affected by hypertension and 3-5% by diabetes. Nearly one in five is overweight or obese, and 4-6% have multiple chronic diseases, especially in the 31-45 age group. Overall, NFHS-5 demonstrates the growing link between poor nutrition, unhealthy lifestyles, and the early onset of non-communicable diseases in India.

The aim of this study was to explore dietary and lifestyle patterns among young people aged 21-45 years and examine their association with the occurrence of chronic diseases such as diabetes, coronary heart disease (CHD), and hypertension. The study aimed to identify unhealthy eating habits, physical inactivity, sleep patterns, stress levels, and drug use that contribute to the early onset and progression of non-communicable diseases, to provide evidence for targeted preventive interventions.

Methodology

A cross-sectional study was conducted to assess dietary intake and lifestyle patterns among young adults aged 21-45 years at Dr. Rajendra Prasad Central Agricultural University, Pusa, Bihar, India. The study included 100 participants, both working and non-working, categorized into Normal (n = 15), Diabetic (n = 25), CHD (n = 25), Hypertensive (n = 25), and Risk group (n = 10). Purposive sampling was used, and individuals with severe illnesses, pregnant or lactating women, or unwilling participants were excluded.

Data were collected through a structured, pre-tested questionnaire, validated by experts, covering demographics, dietary habits, and lifestyle patterns. Dietary intake was assessed using a Food Frequency Questionnaire and three-day 24-hour dietary recall, and compared with ICMR (2020) RDAs. Lifestyle variables included physical activity, exercise, sleep, stress, transportation, leisure activities, and personal habits such as smoking, alcohol, tobacco, and tea/coffee consumption (Nagar *et al.*, 2025) [7, 8]. Data were coded, tabulated, and analyzed using frequency and percentage distributions, and results were presented in tables to highlight differences across groups and associations with dietary and lifestyle factors.

Results

Table 1: General Information of the respondents

Parameters	Particulars	Normal (n = 15)	Diabetic (n = 25)	CHD (n = 25)	Hypertensive (n = 25)	Risk (n = 10)
Age	Age (21-29 yrs)	4 (27%)	0 (0%)	0 (0%)	0 (0%)	3 (30%)
	Age (29-37 yrs)	5 (33%)	13 (52%)	8 (32%)	8 (32%)	6 (60%)
	Age (37-45 yrs)	6 (40%)	12 (48%)	17 (68%)	17 (68%)	1 (10%)
Gender	Male	8 (54%)	17 (68%)	21 (84%)	22 (88%)	6 (60%)
	Female	7 (46%)	8 (32%)	4 (16%)	3 (12%)	4 (40%)

The table 1 shows the overall data of the respondents in five groups namely normal, diabetic, CHD, hypertensive and risk in terms of age and gender distribution. They appear to be distributed evenly in the normal group (n = 15), 27% in the 2129 years group, 33% in the 2937 years group with a slightly larger proportion (40) in the 3745 years group. Conversely, none of the respondents with diabetes, CHD, and hypertension condition fall within the youngest age

category (2129 years), which demonstrates that the given conditions are not as common amongst younger individuals. In the diabetic respondents (n = 25) 52 and 48% of the respondents are within the age bracket 29-37 and 37 45 years respectively. Likewise, in CHD and hypertensive groups (n = 25 each) the dominant group of respondents are 68 in each category, those aged 37-45 years whereas 32 in each of these categories belong to the 29-37 years age

group. The tendency indicates that CHD and hypertension tend to be more widespread as people grow older. However, the group with risk ($n = 10$) shows another tendency whereby there are more of the young ones. The percentages of respondents in the two age groups (21-29 years, 29-37 years) are about 30 and 60 respectively, though a low percentage of respondents are represented in the 37-45 years category (10-percent). This means that the at-risk population is relatively young as compared to people who

have been diagnosed with chronic conditions. With regard to gender distribution, male is found in all groups. The percentage of males and females is almost equal (54/46) in the normal population. Nevertheless, males are more predominant within disease related categories: 68 percent to males in diabetics, 84 percent in CHD, and 88 percent in hypertensive subjects. There is also a higher proportion of males (60 versus 40) in the risk group when compared to females.

Table 2: Dietary Information of Subjects across Different Groups

Parameters	Particulars	Normal (n = 15)	Diabetic (n = 25)	CHD (n = 25)	Hypertensive (n = 25)	Risk (n = 10)
Diet Type	Vegetarian	-	12 (44%)	10 (40%)	-	-
	Non-vegetarian	15 (100%)	13 (56%)	15 (60%)	25 (100%)	10 (100%)
Frequency of non-veg	Daily	-	4 (31%)	-	-	-
	Once/week	15 (100%)	9 (69%)	15 (60%)	14 (56%)	4 (40%)
	Thrice/week	-	-	-	11 (44%)	6 (60%)
Sweets Consumption	Yes	15 (100%)	-	18 (72%)	25 (100%)	10 (100%)
	No	-	25 (100%)	7 (28%)	-	-
Frequency of Sweets	Daily	-	-	-	-	2 (20%)
	Weekly	-	-	12 (44%)	8 (32%)	8 (80%)
	Occasionally	15 (100%)	-	6 (24%)	17 (68%)	-
	Never	-	25 (100%)	-	-	-
Fruits Consumption	Yes	15 (100%)	25 (100%)	25 (100%)	20 (80%)	-
	No	-	-	-	5 (20%)	10 (100%)
Fruit Frequency	Daily	15 (100%)	25 (100%)	25 (100%)	5 (20%)	-
	Weekly	-	-	-	15 (60%)	-
	Monthly	-	-	-	-	-
	Occasionally	-	-	-	-	-
Form of Fruits	Raw	15 (100%)	15 (62%)	13 (56%)	7 (68%)	-
	Juice	-	10 (38%)	12 (44%)	8 (32%)	-
Extra Fat Consumption	Yes	5 (34%)	12 (44%)	14 (56%)	13 (56%)	10 (100%)
	No	10 (66%)	13 (56%)	11 (44%)	12 (44%)	-
Type of Fat Used	Oil	5 (34%)	12 (44%)	6 (24%)	13 (56%)	10 (100%)
	Ghee	-	-	8 (32%)	-	-
	Cream	-	-	-	-	-
	Butter	-	-	-	-	-

The table 2 provides the in-depth comparison of dietary habits in normal, diabetic, CHD, hypertensive and risk groups and shows the definite differences based on the numerical data.

The normal (100%), hypertensive (100%), and risk group (100%), diabetic group and CHD group were all non-vegetarian, but in the diabetic and the CHD group, the non vegetarian diet was 56 and 60 percent respectively with the remaining 44 and 40 percent were vegetarian. In terms of frequency, non vegetarian food was eaten once a week amongst all the normal subjects (100 percent). Ninety-six percent of the diabetics took it once a week and 31% took it daily. Among CHD group, 60 reported an intake on weekly basis. This increased rate was noted among the risk and hypertensive groups where 44 and 60 percent respectively ate non-vegetarian on a thrice per week basis and this is a relatively high intake.

The consumption of sweets was unique. All normal (100%), hypertensive (100%), and risk group subjects (100%) consumed sweets, while diabetic subjects (100%) completely avoided them. Currently, 72 percent of CHD partook in sweets and 28 percent did not in CHD group. In terms of frequency, there were no significant differences between groups, with all normal subjects (100%) who occasionally consumed sweets. Forty-four percent (CHD sample) of respondents ate sweets weekly and 24% only occasionally. Out of hypertensive subjects, the proportion of sweets eaters was 68% once a week and 32% once in a

week. The risk group had a relatively higher intake with the 20 percent of daily sweets intake and 80 percent of weekly intake reflecting high consumption compared to the other groups.

Consumption of fruits was common in normal, diabetic and CHD population (100% each). Nevertheless, 80 percent of hypertensive subjects took fruits as opposed to 20 percent who did not. Interestingly, all those in the risk group (100 percent) did not take fruits. Following frequency, fruits were consumed daily by all the subjects in the normal, diabetic and CHD group (100%). Women with high blood pressure had a low intake of fruits of just 20% in a daily basis, and 60% weekly. On the type of consumption, the majority of the normal subjects (100%) did eat the fruits in their raw form. Conversely, diabetic patients ate fruits in raw form (62 percent) and in juice form (38 percent), CHD patients ate fruits in raw form (56 percent) and in juices (44 percent) and hypertensive patients ate fruits in raw design (68 percent) and in juices (32 percent).

Consumption of extra fat was reported in 34% of the cases of normal subjects in comparison to greater percentages of diabetic (44%), CHD (56%), and hypertensive (56%). The highest level was in the risk group where 100% of them consumed additional fat. In those taking fat, oil was the most used fat source: 34% normal, 44% diabetic, 24% CHD, 56% hypertensive and 100% in the high-risk group. Moreover, ghee was used by 32% of CHD subjects but not in other groups.

Table 3: Consumption of Oily Foods across Different Groups

Parameters	Particulars	Normal (n = 15)	Diabetic (n = 25)	CHD (n = 25)	Hypertensive (n = 25)	Risk (n = 10)
Puri	Daily	12 (80%)	-	-	-	-
	Weekly	-	15 (60%)	8 (32%)	25 (100%)	10 (100%)
	Fortnightly	-	-	17 (68%)	-	-
Paratha	Occasionally	-	-	-	-	-
	Never	3 (20%)	10 (40%)	-	-	-
	Daily	4 (26%)	15 (60%)	-	-	-
	Weekly	6 (40%)	10 (40%)	17 (68%)	25 (100%)	10 (100%)
	Fortnightly	5 (34%)	-	8 (32%)	-	-
Pakodi	Occasionally	-	-	-	-	-
	Never	-	-	-	-	-
	Daily	4 (26%)	12 (48%)	-	-	-
	Weekly	-	-	11 (44%)	12 (44%)	6 (60%)
	Fortnightly	11 (74%)	13 (52%)	14 (56%)	13 (56%)	4 (40%)
Papad	Occasionally	-	-	-	-	-
	Never	-	-	-	-	-
	Daily	2 (13%)	-	-	-	-
	Weekly	2 (13%)	9 (34%)	13 (56%)	-	10 (100%)
	Fortnightly	11 (74%)	-	12 (44%)	15 (60%)	-
Carbonated Beverages	Occasionally	-	-	-	10 (40%)	-
	Never	-	16 (66%)	-	-	-
	Daily	3 (20%)	-	-	-	-
	Weekly	-	-	-	8 (32%)	10 (100%)
	Monthly	8 (53%)	9 (36%)	14 (56%)	17 (68%)	-
Type of Tea	Occasionally	4 (27%)	16 (64%)	11 (44%)	-	-
	Milk tea	15 (100%)	25 (100%)	25 (100%)	25 (100%)	10 (100%)
	Black tea	-	-	-	-	-
	Green tea	-	-	-	-	-
Tea Intake (ml)	50-100 ml	15 (100%)	25 (100%)	25 (100%)	25 (100%)	10 (100%)
Sugar in Tea	Sugarless	-	25 (100%)	-	-	-
	Little sugar	15 (100%)	-	25 (100%)	10 (60%)	-
	Heavy sugar	-	-	-	15 (40%)	10 (100%)
Tea Frequency/day	1 time	9 (60%)	-	-	-	-
	2 times	-	-	-	-	-
	3 times	6 (40%)	25 (100%)	25 (100%)	25 (100%)	10 (100%)
	>3 times	-	-	-	-	-
Extra Salt Added	Yes	-	15 (60%)	13 (56%)	10 (40%)	10 (100%)
	No	15 (100%)	10 (40%)	12 (44%)	15 (60%)	-
Junk Food Consumption	Yes	5 (33%)	25 (100%)	25 (100%)	9 (36%)	10 (100%)
	No	10 (67%)	-	-	16 (64%)	-
Type of Junk Food	Samosa	10 (67%)	-	14 (56%)	3 (12%)	10 (100%)
	Biscuits	5 (33%)	19 (76%)	-	3 (12%)	-
	Fast food	-	6 (24%)	11 (44%)	3 (12%)	-
	Manchurian	-	-	-	-	-
	Noodles	-	-	-	-	-
Frequency of Junk Food	Daily	5 (33%)	-	13 (56%)	-	-
	Weekly	-	10 (40%)	12 (44%)	5 (20%)	10 (100%)
	Monthly	-	15 (60%)	-	4 (16%)	-
	Occasionally	-	-	-	-	-

The table 3 shows the trend in consumption by the norm, diabetic, CHD, hypertensive, and risk groups of oily, beverages, tea, salt, and junk food indicating a unique difference in the diets of each of the groups. The normal group had the highest intake of puri, a deep-fried food on a daily basis with 80% of them eating puri daily and 20% never consuming it at all. Otherwise, no daily consumption was noted in the other groups. Rather, 60 percent of diabetics, 32 percent of CHD subjects, as well as all of both hypertensive and risk groups, consumed puri on a weekly basis. Moreover, CHD subjects took it twice a month (68 percent), meaning that it was moderate but regular among sick populations.

In the case of paratha, 26 percent of the normal subjects and 60 percent of diabetics reported consumption on a daily basis. There was a common weekly intake percentage 40%

in normal, 40% in diabetic, 68% in CHD, 100% in hypertensive and risk, groups respectively. A lower percentage of it was taken every two weeks (34% normal and 32% CHD), indicating paratha is a very common oily meal among all the groups. Normal subjects and diabetic ones in the case of pakodi (26 and 48 percent respectively) took pakodi daily, but this was not the case in CHD, hypertensive, and risk groups. The weekly intake was noted to be 44 percent of CHD and hypertensive subjects and 60 percent of the risk group. Pakodi was an average but regular component of the diet among the majority (74-percent) of the normal group, 52-percent of people with diabetes, 56-percent of people with CHD, 56-percent of those with hypertension, and 40-percent of the risk group.

In the case of papad, low levels of daily intake were recorded (13% in normal group alone). It was found to be

eaten weekly in 13% normal, 34% diabetics, 56% CHD and 100% risk group. Most frequent has been fortnightly consumption among normal (74%), CHD (44%), and hypertensive (60%) and 66 percent of diabetics said that they never ate papad. Besides, 4 out of 10 hypertensive participants ate papad every now and then. In the case of carbonated drinks, 20 percent of normal subjects were drinking the drinks every day. The most prevalent form of consumption was monthly in CHD (56 percent) and hypertensive (68 percent) groups and 36 percent of diabetics consumed periodically, that is, monthly. The incidences of occasional consumptions were greater in diabetics (64%), and CHD subjects (44%). It is also significant that 100% of the risk group, reported to have drunk carbonated beverages every week, meaning high consumption.

Every participant of both groups (100 percent) drank milk tea, and no one reported taking black tea or green tea. The amount of tea taken was standardized and everybody took 50-100 ml of tea per dose. Nevertheless, there were significant variations in sugar consumption in tea. One hundred percent diabetics (100) had tea without sugar and only a small percentage (100) of normal subjects used a small amount of sugar. Among CHD subjects, 100% consumed little sugar, and in hypertensive individuals, 60% consumed little sugar and 40% consumed heavily sweetened tea. The risk group was the most worrisome having 100% taking tea and heavy sugar added.

Most groups also had a high tea frequency. Although one-hundred percent of the participants of diabetic, CHD, hypertensive, and risk groups took tea three times daily compared to sixty and forty percent of normal participants, who maintained one and three times daily consumption, respectively, tea exposure to caffeine and sugar is greater. Regarding, additional salt (comparison/added salt), none of the normal subjects added additional salt (100 percent avoided it). Nonetheless, 60% of the diabetics, 56% of the CHD subjects, 40% of the hypertensive and 100 percent of the risk group were adding additional salt in their diet implying that there is a high correlation with disease risk.

The level of junk food consumption was found in 33% of normal subjects as compared to 100% of diabetics, 100% of CHD, 36% of hypertensive and 100% of the risk group. Samosa was the predominant type of junk food eaten by the normal (67%), CHD (56%), and risk groups (100%). Biscuits were the most popular (76%) vehicle among diabetics followed by fast food (24%). A higher percentage of CHD subjects were fast food consumers (44%), whereas hypertensive individuals were less and more diversified when it comes to sampling (12% samosa, 12% biscuits and fast food). On frequency, 33 percent of normal/healthy subjects and 56 percent of CHD subjects had junk food on a daily basis. The percent of those reporting taking in 40 percent of diabetics, 44 percent of CHD, 20 percent of hypertensive and 100 percent of the risk group per week. It was observed that 60 percent of diabetics and 16 percent of hypertensive subjects consumed monthly.

Table 4 shows the lifestyle trends of the subjects belonging to normal, diabetic, CHD, hypertensive, and risk groups, which remarkably differ with respect to physical activity, sleep, stress, and personal habits. In regards to the type of work, 100% of the people in the normal, diabetic, CHD, and hypertensive groups were occupied with moderate work.

The risk group, in contrast, displayed mostly sedentary lifestyle as 80 percent of them were in sedentary occupation but only 20 percent were in moderate activity reflected less physical activity.

In terms of exercise, all normal subjects (100%) reported regular exercise. Nonetheless, 44 percent of diabetics, 56 percent of CHD, and 60 percent of hypertensive patients exercised, with the others not. Importantly, all the risk group participants (100 percent) did not have any type of exercise. The most important reason among exercisers was to stay in shape (100%), when in diabetic (44%), CHD (69%), hypertensive (32) groups, the main reason to exercise was to stay in control of the cholesterol levels. In terms of the time and frequency of exercise, both normal (100%) and CHD subjects (100%) exercised in the morning but hypertensive subjects exercised in the evening (60%). Patients with diabetes had varied responses with 28% of them exercising in the morning and 16% in the evening. Normal and CHD subjects reported daily exercise (100 percent), hypertensive (60 percent), and diabetics (44 percent).

The nature of exercise was different among groups. In the control group, 80 percent (GY) and 20 percent (Yoga) did gym-based exercise and yoga respectively. The primary activity of diabetic subjects was walking (44%). CHD subjects displayed a preference towards yoga (69%) and then walking (31%). The largest proportion of hypertensive patients engaged in walking (60%), and this is a shift towards low-intensity physical activities in the disease groups. The sleep patterns showed that shorter duration of sleep (not exceeding 5 hours) occupied common patterns in all groups: 53% in normal, 56% in diabetic and CHD, 32% in hypertensive, and a high of 70% in the risk group. Few percentage got 8 hours of sleep (10% of the risk group) which showed poor sleep time in general.

Diseased and risk populations showed a high level of insomnia. It was found in 20 percent of the normal population, but it rose dramatically to 64 percent in diabetics, 40 percent in CHD, 88 percent in hypertensive and 100 percent in the risk group. Moreover, all individuals with insomnia in both groups experienced it daily, stating that it was more about chronic sleep problems. In the matter of transport, majority of the subjects used bikes: 73 percent of normal; 60 percent of diabetics and CHD; 36 percent of hypertensive; and 90 percent of risk group. There was more hypertensive (52 percent) and diabetic (40 percent) versus minor walking in car usage.

Stress levels were high across all groups, with 100% of normal, hypertensive, and risk groups experiencing daily stress. Among diabetics, 68% reported daily stress and 32% weekly stress, while in the CHD group, 56% experienced daily stress and 44% monthly stress. To cope with stress, most individuals preferred sleeping (60% normal, 72% diabetic, 44% CHD, 76% hypertensive, 50% risk), while others engaged in mobile scrolling (40% normal, 28% diabetic, 56% CHD, 50% risk). Meditation was reported only in hypertensive subjects (24%). All subjects across all groups (100%) practiced post-dinner walking, indicating a positive lifestyle habit. During free time, sleeping was the most common activity in hypertensive (56%), CHD (36%), diabetic (40%), and risk groups (60%), whereas normal subjects preferred reading (47%) and watching television (40%).

Table 4: Lifestyle Patterns of Subjects across Different Groups

Parameters	Particulars	Normal (n = 15)	Diabetic (n = 25)	CHD (n = 25)	Hypertensive (n = 25)	Risk (n = 10)
Category of Work	Sedentary	-	-	-	-	8 (80%)
	Moderate	15 (100%)	25 (100%)	25 (100%)	25 (100%)	2 (20%)
	Heavy	-	-	-	-	-
Exercise	Yes	15 (100%)	11 (44%)	13 (56%)	15 (60%)	-
	No	-	14 (56%)	12 (44%)	10 (40%)	10 (100%)
Reason for Exercise	Keep fit	15 (100%)	-	4 (31%)	7 (28%)	-
	Control cholesterol	-	11 (44%)	9 (69%)	8 (32%)	-
	Reduce weight	-	-	-	-	-
Time of Exercise	Morning	15 (100%)	7 (28%)	13 (100%)	-	-
	Evening	-	4 (16%)	-	15 (60%)	-
	Both	-	-	-	-	-
Frequency of Exercise	Daily	15 (100%)	11 (44%)	13 (100%)	15 (60%)	-
	Weekly	-	-	-	-	-
	Fortnightly	-	-	-	-	-
	Monthly	-	-	-	-	-
	Occasionally	-	-	-	-	-
Type of Exercise	Yoga	3 (20%)	-	9 (69%)	-	-
	Gym	12 (80%)	-	-	-	-
	Walking	-	11 (44%)	4 (31%)	15 (60%)	-
	Jogging	-	-	-	-	-
	Aerobics	-	-	-	-	-
Sleep Duration	≤5 hrs	8 (53%)	14 (56%)	12 (56%)	8 (32%)	7 (70%)
	6 hrs	7 (47%)	11 (44%)	13 (44%)	17 (68%)	2 (20%)
	8 hrs	-	-	-	-	1 (10%)
	>8 hrs	-	-	-	-	-
Insomnia	Yes	3 (20%)	16 (64%)	10 (40%)	22 (88%)	10 (100%)
	No	12 (80%)	9 (36%)	15 (60%)	3 (12%)	-
Frequency of Insomnia	Daily	3 (20%)	16 (64%)	10 (40%)	22 (88%)	10 (100%)
	Weekly	-	-	-	-	-
	Monthly	-	-	-	-	-
Transportation	Car	2 (13%)	10 (40%)	8 (32%)	13 (52%)	-
	Bike	11 (73%)	15 (60%)	15 (60%)	9 (36%)	9 (90%)
	Walking	2 (14%)	-	2 (8%)	3 (12%)	1 (10%)
Stress Load	Daily	15 (100%)	17 (68%)	14 (56%)	25 (100%)	10 (100%)
	Weekly	-	8 (32%)	-	-	-
	Monthly	-	-	11 (44%)	-	-
	Never	-	-	-	-	-
Combat Stress	Sleeping	9 (60%)	18 (72%)	11 (44%)	19 (76%)	5 (50%)
	Mobile scrolling	6 (40%)	7 (28%)	14 (56%)	-	5 (50%)
	Meditation	-	-	-	6 (24%)	-
Post-dinner Walking	Yes	15 (100%)	25 (100%)	25 (100%)	25 (100%)	-
	No	-	-	-	-	-
Free Time Activities	Watching TV	6 (40%)	7 (28%)	8 (32%)	5 (20%)	3 (30%)
	Reading books	7 (47%)	8 (32%)	8 (32%)	6 (24%)	1 (10%)
	Sleeping	2 (13%)	10 (40%)	9 (36%)	14 (56%)	6 (60%)
Smoking	Daily	-	15 (60%)	14 (56%)	10 (40%)	7 (70%)
	Weekly	-	-	-	-	-
	Fortnightly	-	-	-	-	-
	Monthly	-	-	-	-	-
	Occasionally	-	-	-	-	-
	Never	15 (100%)	10 (40%)	11 (44%)	15 (60%)	3 (30%)
Tobacco Chewing	Daily	4 (26%)	10 (40%)	14 (56%)	13 (60%)	6 (60%)
	Weekly	-	-	-	-	-
	Fortnightly	-	-	-	-	-
	Monthly	-	-	-	-	-
	Occasionally	-	-	-	-	-
	Never	11 (74%)	15 (60%)	11 (44%)	12 (40%)	4 (40%)
Alcohol Consumption	Daily	6 (40%)	-	-	11 (44%)	8 (80%)
	Weekly	-	-	-	-	-
	Fortnightly	-	-	-	-	-
	Monthly	-	-	-	-	-
	Occasionally	6 (40%)	10 (40%)	11 (44%)	-	-
	Never	9 (60%)	15 (60%)	14 (56%)	14 (56%)	2 (20%)
Tea Consumption	Daily	-	25 (100%)	25 (100%)	25 (100%)	10 (100%)
	Weekly	-	-	-	-	-
	Fortnightly	-	-	-	-	-

	Monthly	15 (100%)	-	-	-	-
	Occasionally	-	-	-	-	-
	Never	-	-	-	-	-
Coffee Consumption	Daily	8 (53%)	-	-	-	-
	Weekly	7 (47%)	25 (100%)	25 (100%)	25 (100%)	10 (100%)
	Fortnightly	-	-	-	-	-
	Monthly	-	-	-	-	-
	Occasionally	-	-	-	-	-
	Never	-	-	-	-	-

Unhealthy habits such as smoking and tobacco chewing were more prevalent in diseased and risk groups. None of the normal subjects smoked (100% non-smokers), while daily smoking was reported in diabetics (60%), CHD (56%), hypertensive (40%), and risk group (70%). Tobacco chewing was also higher in these groups, with 40% diabetics, 56% CHD, 60% hypertensive, and 60% risk group consuming it daily. Regarding alcohol consumption, daily intake was reported by 40% of normal, 44% of hypertensive, and a high 80% of the risk group. Occasional consumption was seen in 40% of diabetics and 44% of CHD subjects, while a majority of diabetics (60%) and CHD (56%) reported never consuming alcohol. In beverage habits, all diabetic, CHD, hypertensive, and risk group individuals (100%) consumed tea daily, while normal subjects consumed tea monthly (100%). Coffee consumption was more frequent in normal subjects, with 53% consuming it daily and 47% weekly. In contrast, all individuals in other groups (100%) consumed coffee weekly.

Discussion

The current research examined nutritional intake and life habits of young adults between the age of 21-45 years in Dr. Rajendra Prasad Central Agricultural University, Pusa, Bihar where significant differences were found among normal, diabetic, CHD, hypertensive, and risk categories. The general basic analysis showed that the incidence of chronic conditions rose with the age. Majority of CHD and hypertensive subjects (68) fell between the ages group of 37-45 years and younger subjects (21-29 years) belonged either to normal or risk category. The age range mostly included diabetic subjects within the 29-37 and 37-45 years age group, with implication of early development of metabolic disorders. It was male dominant in all disease groups with 68 percent of diabetics, 84 percent of CHD, 88 percent of hypertensive, and 60 percent of risk group subjects being male with a well-known extreme susceptibility of male to cardiovascular and metabolic diseases.

Dietary analysis revealed clear trends with disease-related risk and danger. Normal, hypertensive, and risk groups were all on non-vegetarian diets whereas 40-44% of diabetics and CHD subjects were vegetarians. The consumption of sweets was low in diabetes but high in hypertensive and risk group, with the most frequent daily consumption in the risk group (20%). There was sufficient fruit intake in normal, diabetic and CHD groups as compared to hypertensive (20% were non-fruit eaters) and high risk groups (never ate fruits) indicating inadequate intake of protective nutrients. Increasing amounts of extra fat were taken, with oil and ghee the most common fats used and ghee being uniquely used in the CHD group (normal, 34% risk, 100%). Consumption of oily food like puri, paratha, pakodi and papad and also of junk foods were common both in diseased

and risk groups with a high calorie, nutritionless dietary pattern. The tendency to consume tea with sugar and commonly additional salt were more common among people with diseases and those at risk, which supports the argument about the relationship between food and the risk of chronic diseases.

Groups were further portrayed by the patterns of their lifestyle. Although the work was moderate, 80 percent of the risk group was sedentary that is normal, diabetic, CHD, hypertensive. Regular exercise appeared most prevalent with normal subjects (100% but much lower in diabetics (44%), CHD (56%), hypertensive (60%) and none with the risk group. The types of exercise were mixed as the type of activities differentiated according to normals and CHDs on gym-based and yoga exercises whereas walking was the most popular among diabetics and hypertensives. The duration of sleep was generally short, especially in the risk group, with 70 percent sleeping 5 hours or less and there was high insomnia prevalence in both diseased and risk groups. The stress level was universal and the majority of them dealt with it by sleeping or utilizing a mobile phone and only meditation was noted in hypertensives. Diseased and risk groups were also more prone to having unhealthy personal habits. Sixty percent of diabetics, 56 percent of CHD, 40 percent of hypertensives and 70 percent of risk individuals were observed to smoke daily with equal proportions of tobacco chewing and daily alcohol consumption that resembled the risk population (80 percent daily alcohol). The above findings show that there is a cluster effect of behavioral/lifestyle risk factors such as a high level of consuming sweets, fats and junk foods, low level of consuming fruits, lack of exercise, poor sleeping, high stress, substance use, all of which are major causes of cause and has aggravated the chronic diseases.

Conclusion

The paper draws attention to the fact that early adulthood is one of the most critical phases to intervene in because their lifestyle and dieting patterns at this age have long-term effects on health. Specific public health approaches are urgently sought to center on nutrition education, advocate a balanced diet, which is rich in fruits and vegetables as well as to diminish the usage of fat, sugar and processed foods. Exercising programs and sensitization should be implemented to encourage regular body exercises. Techniques of stress management like meditation and enhanced sleep hygiene need to be encouraged to enhance well-being. In addition, stringent actions are required to cut tobacco and alcohol consumption by counselling and behavioural approaches. Just like in school-based programmes such as in high schools, institutional programs such as workplace and university based health programs can be crucial in instilling healthy behavior among the young adults. It should also focus on early screening and regular check-ups to identify and control these risk factors at an

early age and decreasing the number of chronic diseases in India in the future.

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