EXPLORATION OF THE DIETARY HABITS & EVALUATION OF SEDENTARY LIFESTYLE AMONG ADULTS AND ADOLESCENTS OF GUJARAT

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ABSTRACT

Purpose and rationale of study:. There is a dramatic increase of overweight and obese among all age groups in the last 20-30 years and around 30-50% of adult Indians are overweight or obese.All these factors are putting the generation in an increased risk of developing lifestyle disorders.Therefore, we conducted this study to explore about the dietary habits of the population and to evaluate about their Physical Activity.

METHODOLOGY: It was an observational online survey conducted in the state of Gujarat consisting of 400 participants and the data was evaluated and analysed by Microsoft Excel and SPSS.

RESULT: The total prevalence of overweight and obese in the population was found to be 57.25% and obese is 7.5%. Majority of the population did moderate intensity physical activity everyday. Majority of the population preferred healthy food but then they also depended on either carbohydrate rich or protein rich food and skipping of meals was evident in our population.

CONCLUSION: From our study we concluded that sedentary behaviour and unhealthy dietary habits were prominent amongst all the age groups.

INTRODUCTION

India is a developing country with a lot of structured transformations but health wise along with undernutrition the prevalence of obesity is increasing. The Disease burden Profile from 2016 for the state of Gujarat concludes that the deaths due to cardiovascular disease, cirrhosis,diabetes, etc. have been increased than the 1990s wherein the leading causes for death were diarrheal disease, LRTIs, TB,Preterm birth complications in the 1990s while the leading causes for death in 2016 was IHD, COPD,TB and preterm complications. Adolescents have tried to move to more sedentary lifestyle. A study by Experimental and Clinical Cardiology showed that physical inactivity in childhood leads to risk of Cardiovascular diseases. The same is for Adults. A study of Kerala wherein the age group was 18-25 concluded that 28.9% were categorized as low physically inactive group and among that 82.7 % were females. This study also showed barriers like focusing on studies and lack of time. Along with lower physical activity there are changes in the dietary habits. A study showed that students living in hostels have high fat diet and levels of calcium and iron were low. Their pattern of meal was irregular.(20)Another study was done in a school regardless of parents occupation majority of students had, "partially satisfactory eating habits"(55.5%). In Gujarat majority of the population follows Lactovegetarianism- consist of milk and its products along with vegetarian foods. Lactovegetarianism is predominantly followed in the Gujarati cuisine, and mainly food items are prepared either with sugar or jaggery. Gujarat has 5 regions mainly{North Gujarat (Patan),Central Gujarat (Ahmedabad),Saurastra (Rajkot),Kutch ,South Gujarat (Surat)}. The prevalence of overweight men was highest in Ahmedabad and similarly for females it was Rajkot.

Prevalence for men with the highest glucose levels was Surat and similarly for women it was Rajkot.(13)

A study concluded that healthy diet and active lifestyle are to be promoted among all age groups.(24). A study conducted nationally concluded that prevalence of hypertension is increased in the young adults (25) this may be due to the risk factor of having a sedentary lifestyle.

The study aims to determine the possibility of the future of the population according to their specific way of their lifestyle consisting of their physical activities and their dietary habits.

MATERIALS AND METHODS

This was a descriptive cross-sectional study that was conducted on 400 individuals from different parts of Gujarat. Qualitative Primary Data was collected via google forms. To prevent any error in this research, at first pilot study was conducted on the initial responses and minor changes were done and the research was continued. In order to describe the collected data SPSS version 22 was used. The data was also analysed by SPSS version 22. A questionnaire was developed about dietary habits, physical activity and their height and weight and then BMI was calculated.

The BMI was calculated by

$$BMI = \frac{Weight(kg)}{(Height)2\ (cm)}$$

After finding the BMI the population was distributed among different BMI categories:
- Underweight (<18.5)
- Normal (18.5-24.9)
- Overweight (25-29.9)
- Obese (>30)

The population was asked about their daily physical activity and then those activity were distributed according to their intensity
- Mild (requires mild or no amount of effort)
- Moderate (requires moderate amount of effort and accelerates heart rate)
- Vigorous (requires large amount of efforts with rapid breathing and substantial increase heart rate.

Inclusion and Exclusion Criteria: People residing in the state of Gujarat were included in the study and children under the age of 15, pregnant women and critically ill patients with comorbidities were excluded in this study.

RESULT:

	<20	20-30	30-40	40-50	>50
BMI					
Normal	21	71	6	23	7
Obesity	8	9	3	5	5
Overweight	26	106	33	50	14
Underweight	1	9	0	2	1
Physical activity distribution					
Everyday	25	63	18	35	13
Frequently	6	60	16	28	11
Sometime	23	59	5	16	4
Rarely	1	7	1	0	0
Occasionally	0	9	0	0	0
Time indulged for physical activity					
1 hr or less than 1 hr	8	27	0	4	1
Atleast 30 min	39	122	26	42	22
More than 30 min	6	37	16	28	3
More than 1 hr	3	9	0	6	1
Exercise intensity					
Mild	0	1	0	1	0
Moderate	50	174	40	79	26
Vigorous	6	20	2	0	1
What is healthy?					
Food rich in Calories	2	13	0	0	1
Food rich in Protein	54	182	42	80	26
Food rich in Preservative	0	0	0	0	0
Water consumption					
2-4 liters	35	150	36	71	25
<2 liters	14	33	6	6	1
>4 liters	7	12	0	3	1
Food preference					
Fruits,Vegetables,Meat,Egg	54	172	41	80	27
Prepacked Food	0	6	1	0	0
Fast Food	2	17	0	0	0
Diet based on					
Protein	18	79	25	41	14
Fat	0	4	1	0	0
Carbohydrate	5	16	0	4	1
Different food	33	96	16	35	12
Frequency of consumption of preferred diet					
Different occasionally	2	16	0	3	0
Different sometime during a week	13	50	8	11	3
Everyday different	41	126	34	66	24
Very monotonous	0	3	0	0	0
Frequency of 3 meal/day					
Everyday	20	90	17	35	13
Frequently	23	75	22	34	11
sometimes	13	30	3	11	3

DISCUSSION:

Sedentary behaviour and lifestyle are a major risk factor for the whole population of the world. Diseases due to lifestyle disorders are now a days very not only common amongst adult population but also amongst children such study was done by Alice Giontella et al where it was highlighted that the prevalence of obesity and high blood pressure was more and that the children were at higher risk. Our study focuses on similar behaviour about the sedentary lifestyle comparing different age groups regarding their physical activities and food habits. The study consisted of total of 400 participants wherein the population of female was 203 and males was 197. The total prevalence of overweight and obese in the population was found to be 57.25% and obese is 7.5%. The mean height and weight were 171.25 cms and 77.65 kgs and the mean BMI of the population is 26.43 (overweight). The prevalence of overweight in female population is 43.8% and obese is 3.75%. Praween Agrawal et al concluded that in the Indian urban scenario it is more the sedentary lifestyle that is responsible for the increase in overweight and obesity among women. The prevalence of overweight males in the population is 70% and obese is 3.75%. 38.6% of the subjects exercise daily, 30.3% of the subjects exercise frequently (thrice a week), 26.8% of the subjects exercise sometimes (twice a week). The maximum percentage (15.5%) of subjects under the age group 20-30 years indulged in physical activity every day. Donatus A. Anido et al concluded that physical activity amongst college going study is high but here we find that half of our population is students and then also majority of the population exercises moderate level of physical activity. According to WHO guidelines and correlating it with our study the population doing their respective moderate PA ,at least 30 minutes every day, more than 30 minutes every day ,one hour or less than one hour every day and frequently and for more than one hour every day ,frequently and sometimes during a week is considered healthy PA practice which is 48.25% of our study population which implies that these 48.25% follows correct moderate PA activity related to their specific time indulged whereas population doing vigorous exercises is 6.25%. the rest of the population would need correction in their indulgence of more time in their Physical activity.

Brisk walking was a common physical activity done by almost majority of the population some other PAs included sports, yoga, cycling and training in the gym. As majority of the population indulges in moderate intensity physical activity but very less of the population did vigorous intensity physical activity, it was noted that majority of the female population was more into moderate exercises than vigorous exercises whereas males were more into either vigorous PA or there would be more time indulgence in their moderate PA.

Majority of the age groups opted for food rich in protein (96%) and the rest of the 4% opted for food rich in calories. Considering the ICMR guideline the 4% of the population which opted for food rich in calories as a healthy option would need to change their attitude regarding their food habits. Majority of age groups consumes 2-4 litres water where as 15% of the population consumes less than 2 litres. According to the ICMR dietary guidelines 15% of the population which consumes less than 2 litres water might need to change their drinking water habits. 93.5% of the population prefers fruits, vegetables, meats,eggs etc., 1.75% of the study population prefers pre-packaged food and 4.5% prefers fast food. Majority of the populations' frequency of consumption of their preferred diet was 'different everyday' (72.75%). 21.25% consumed their preferred diet 'sometimes during a week'. The frequency of 3 meals a day for each individual were noted wherein 21.5% and 22.25% females and males respectively consumes every day. 21% females and 20.25% of males consumes frequently. The 'sometimes' consumption of the three meals are 8.25% and 6.75% of females and males respectively.

CONCLUSION:

Sedentary lifestyle and unhealthy dietary habits in the current scenario led to lifestyle related disorders like diabetes, hypertension etc.From our study we concluded that sedentary behaviour and unhealthy dietary habits were prominent amongst the age group of 20-30 years regarding their dietary habits and lifestyle.This may increase the disease burden in the population regarding lifestyle disorders, and will increase the mortality due to lifestyle related disorders in the future population.Thus, we conclude that we need to act now if we have to save the current generation from lifestyle related complications.

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