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Impact of nutritional factors and lifestyle in the etiology of macronutrients deficiency causing new world syndrome

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Abstract
The present study assessed the prevalence of New World Syndrome in office-going people and their dietary habits. New World Syndrome is a set of non-communicable diseases brought on by the consumption of junk food and a sedentary lifestyle, especially common to office-going persons. It is characterized by obesity, heart disease, diabetes, hypertension, and shortened life span. The data concerning the dietary intake of the respondents were collected using the 24-hour recall method, Data concerning lifestyle and Dietary habits was obtained from the respondents by 'questionnaire-cum interview' and purposive random sampling method. The energy, protein, and fat consumption of respondents according to gender, 2132.47 Kcal of energy, 43.48 gm of protein and 45.11 gm of fat with SD 282.37 Kcal, 7.15 gm and 5.19 gm were consumed by male respondents followed by average 2338.5 Kcal of energy with SD 354.50, 36.4 gm of protein with SD 2.95 and 43.7 gm of fat with SD 8.06 were taking by female respondents. Energy consumption with value z test is 7.632*, protein consumption with value z test is 8.630* and fat consumption with value z test is 1.672, Respondents.

Keywords: Nutrient intake, lifestyle, office-going person, energy, fat, protein

Introduction
NWS is an assemblage of maladies brought on not by microbes or parasites but by lifestyle and dietary habits. It is a set of non-communicable diseases characterized by obesity, hypertension, diabetes, heart disease, and shortened life span. As per reports, 75% of the world's population is affected by NWS. Dr. Venugopal Pareek bariatric and Laparoscopic surgeon states that NWS is occurring due to a radical change in diet and lifestyle from a traditional one to a Western one. Another contributing factor to this is Western food. These foods are rich in sugar, carbohydrates, fats, salts, and starches that cause obesity. Obesity is the major driver for the widely prevalent diabetes mellitus, Hypertension, cardiovascular disease, breast cancer, and dyslipidemia disorders.

Methodology
The occupational sample is on the Office employees (work in A.C.) in Kanpur, working in different area of Kanpur city chosen to best provide the required data for the study. 100 Samples were randomly selected as a sample size for study from selected areas of Kanpur city such as Krishna tower, CUGL Agency, Franciscan Solutions Pvt. Ltd. Kanpur, etc. The information was obtained from the respondents by the 'questionnaire-cum interview' method. A questionnaire cum interview method was used to collect reliable data. It was used to characterize the average intake of a large group.
The 24-hour recall method was used to assess the food intake of the subjects. The nutrient intake was calculated using

$$\text{Raw amount of a particular food stuff consumed by individual from the given preparation} = \frac{\text{Total raw quantity of food stuff used in that preparation}}{\text{Total cooked quantity of the prepared}} \times \text{Individual intake ofcooked amount of that preparation}$$

The Nutrient intake was compared with the suggested intake compared with the Recommended Dietary Allowances (RDA) of ICMR (2020). Mean, SD, Correlation Coefficient, and Z test Statistical Analysis Tool Pack.

Observation and Assessment

Food intake

Table 1: Energy consumption of Respondents as compared to R.D.A.

S. No.	Age Group	N	Energy (kcal/day)	RDA	Deficit/ Increase (%)
1.	25 to 34 years	37.0	2216.7	2130	10.62
2.	35 to 44 years	41.0	2347.4	2130	13.87
3.	45 to Above 45 years	22.0	2319.8	2130	12.17
	Total	100.0	2431.3	2130	13.22

Table 1: Reveals energy consumption by respondents as compared to recommended dietary allowances (RDA).

The maximum 10.62 percent increased energy was found in 25 to 34 years of age group, 13.87 percent increased energy was found in 35 to 44 years of age group and 12.17 percent increased energy was found in 45 to Above 45 years of age group. Respondents were consuming high carbohydrate diet like bread, beans, milk, popcorn, potatoes, cookies, spaghetti, soft drinks, corn, and cherry pie. High consumption of carbohydrates increases blood sugar levels, which causes the body to make more insulin, which helps cells save extra glucose as fat. It can lead to diabetes, obesity, Fatigue, cavities, and a sluggish brain.

According to David S Ludwig (2018) [1], "Residents in places associated with extreme longevity have traditionally consumed high carbohydrate diets, although associated healthy lifestyle factors may confound a causal interpretation. By contrast, the PURE study in 18 countries reported that higher carbohydrate intake was associated with increased mortality, but here too, confounding is possible (e.g., many people in low-income countries subsist predominantly on starchy foods such as white rice). In large long-term cohorts studied in the US, total carbohydrate intake is also associated with higher mortality, though the type of dietary fat is an important modified risk. Analogously, substituting saturated fat with low GI carbohydrate is associated with lower risk of myocardial infarction, whereas substituting with high GI carbohydrates is associated with higher risk."

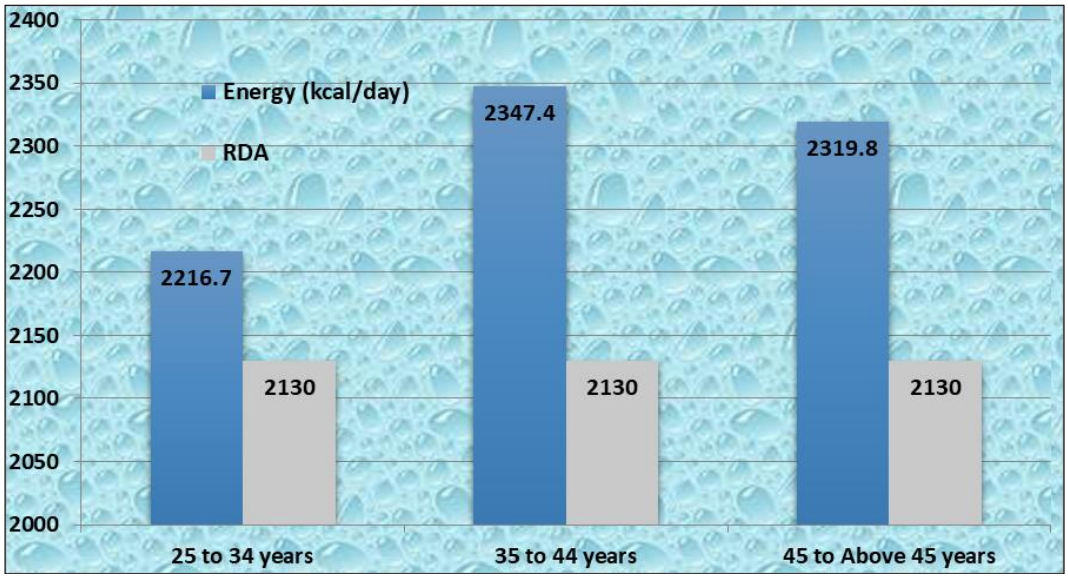

Fig 1: Data on carbs consumed by respondents

Table 2: Protein consumption of respondents as compared to R.D.A.

S. No.	Age Group	N	Protein (gm/day)	RDA	Deficit/ Increase (%)
1.	25 to 34 years	37.0	34.7	46	-24.56
2.	35 to 44 years	41.0	40.9	46	-11.08
3.	45 to Above 45 years	22.0	39.2	46	-14.78
	Total	100.0	38.26	46	-16.81

Table 2 Reveals Protein consumption by respondents as compared to Recommended dietary allowances (RDA).

The maximum 24.56 percent deficient Protein was found in 25 to 34 years of age group, 11.08 percent deficient Protein was found in 35 to 44 years of age group, and 14.78 percent deficient Protein was found in 45 to Above 45 years of age group. The protein consumption of respondents was found low, To increase protein content in the diet, they should take dairy products, lean meat, poultry, eggs, chickpeas, lentils, green peas, pulses, and soyabean in their diet.

An insufficient protein intake from vegetarian diets may occur if the diet does not include protein-rich foods such as legumes (the most traditional source) and nuts and seeds, or any protein analogs of animal foods, the availability of which is increasing along with the proportion of people shifting their protein intake towards more plant protein sources.

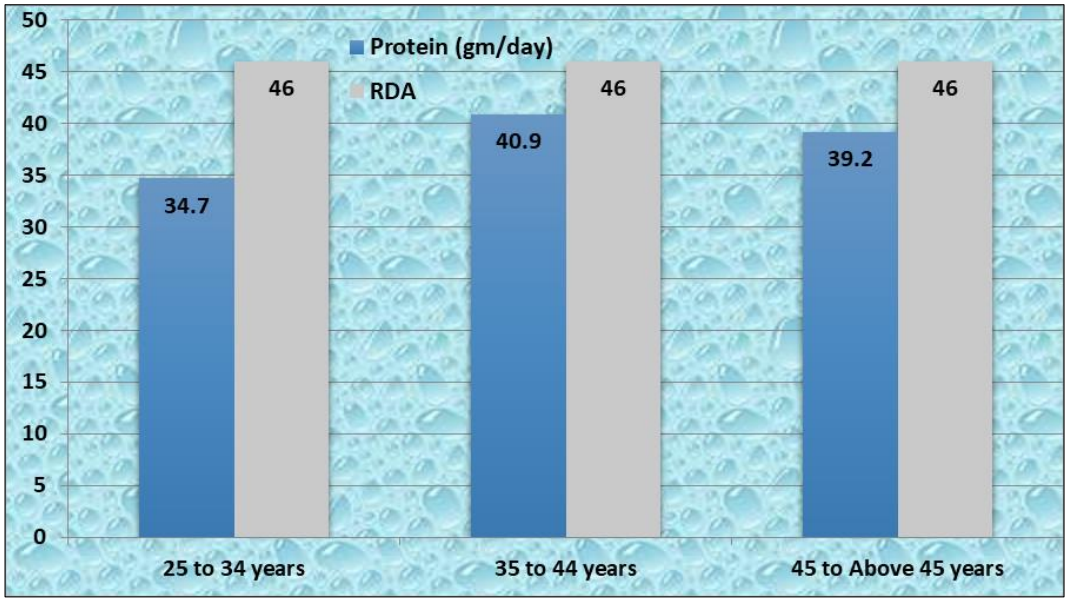

Fig 2: Data on protein consumed by respondents

Table 3: Fat consumption of Respondents as compared to R.D.A.

S. No.	Age group	N	Fat (gm/day)	RDA	Deficit/ Increase (%)
1.	25 to 34 years	37.0	47.18	35	134.2
2.	35 to 44 years	41.0	43.9	35	131.7
3.	45 to Above 45 years	22.0	42.7	35	122
	Total	100.0	42.3	35	129.3

Table 3: Reveals Fat consumption by respondents as compared to recommended dietary allowances (RDA). The maximum 47.18 percent increased fat was found in 25 to 34 years of age group, 43.9 percent increased fat was found in 35 to 44 years of age group and 42.7 percent increased fat was found in 45 to Above 45 years of age group. Respondents were consuming saturated fat in regular meals like whole egg, cheese, aaloo tikka, and pastries which are rich in butyric acid, propionic acid, palmitic acid, etc. Saturated fats, trans fats can raise cholesterol levels in the blood that's cause many heart diseases and greater fat, intake is a major cause of obesity and hypertension, diabetes, and gallbladder disease. Higher fat intake may heighten the risk of breast cancer directly through increased blood estrogen levels and/or secondarily through increased obesity.

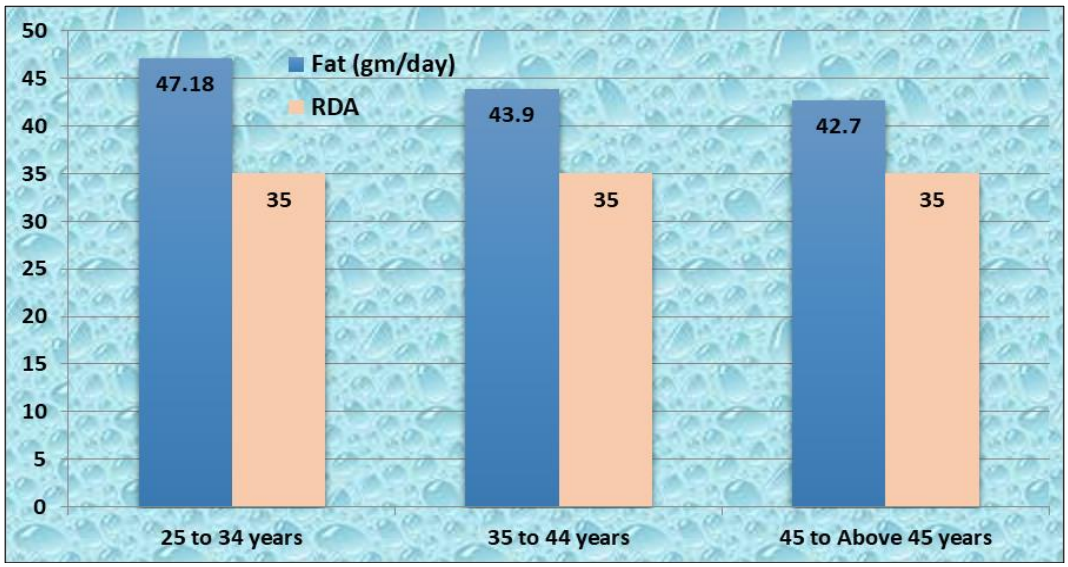

Fig 3: Data on fat consumed by respondents

Table 4: Energy, Protein and Fat consumption of Respondents according to gender.

S. No.	Nutrient	Gender		Z test	Significant level
		Male	Female		
1.	Energy (kcal / day)	2132.47±282.37	2338.5±354.50	7.632*	$p<0.05$
2.	Protein (gm / day)	43.48±7.15	36.4±2.95	8.630*	$p<0.05$
3.	Fat (gm / day)	45.11±5.19	43.7±8.06	1.672	$p>0.05$

Table 4: Reveals the energy, protein, and fat consumption of respondents according to gender, 2132.47 Kcal of energy, 43.48 gm of protein and 45.11 gm of fat with SD 282.37 Kcal, 7.15 gm and 5.19 gm were consuming by male respondents followed by average 2338.5 Kcal of energy with SD 354.50, 36.4 gm of protein with SD 2.95 and 43.7 gm of fat with SD 8.06 were taking by female respondents. Energy consumption with value z test is 7.632*, protein consumption with value z test is 8.630* and fat consumption with value z test is 1.672, Respondents. This study showed that there was a significant difference between the intake in energy, protein, and fat between males and females. Females were taking more energy during work than males due to their gobbler eating pattern and they love to eat fast foods. Protein and fat intake were found to be more in males than females because of different religious and eating habits, mostly males were found to be non-vegetarian than females during survey and obviously non-vegetarian diet have high biological value.

Conclusion

The study revealed inadequate dietary intake among employees. Respondents were consuming more than the required amount of carbohydrates and fats. It causes a higher risk of diabetes, obesity, hypertension, and cardiovascular diseases. Lack of proteins causes anxiety and poor health muscle. To increase protein content in the diet, they should take dairy products, lean meat, poultry, eggs, chickpeas, lentils, green peas, pulses, and soybeans in their diet.

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