

Cancer Prevention Diet: Assessment of Young Adults (20-29 Years) Knowledge, Dietary Habits and Practices

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ABSTRACT

Promotion of a healthy lifestyle is an important part of cancer prevention. This study aimed to evaluate the knowledge, attitude and practices (KAP) of young adults towards nutrition related to cancer prevention. A cross-sectional survey was conducted among a convenience sample of 150 participants. Knowledge, attitude and practices towards diet and health were evaluated by a questionnaire with open- and closed-ended questions. Likert scale was used to analyse the questions related to attitude and practice and was classified as seldom eaten (0-1 days/week), often eaten (2-3 days/week) and always eaten (4-7 days/week). The study confined to non-medical background adults, so as they don't have medical knowledge related to the subject. The average age of the studied population was between 18-22 years from which 45% were male students and rest were females. Students belong to different religion and cultures. Nutrition knowledge of the studied population was good almost 68.34% students know that fruits and vegetables are a good source of vitamins and minerals and it also help in boosting immunity. The scoring on Likert scale indicate that students often eat diet which is rich in antioxidants and have less knowledge regarding the cancer prevention diet. Findings suggest that nutrition and health promoting programs need to be emphasised for promoting healthy lifestyle practices which help in combatting deadly diseases like Cancer. Adults need to have a better understanding so that a better and healthy future can lead to the development of the country.

Keywords- Knowledge, Cancer prevention, young adults, nutrition, dietary habits, practices.

I. INTRODUCTION

Diseases such as non-communicable diseases on global level account for about 71% of deaths whilst in India it was estimated to be the reason for 63% of deaths(Mathur et al., 2020). Studies conducted by WHO estimated that cancer is leading cause of mortality accounting about 9% of total deaths worldwide. In the year 1997 American Institute of Cancer Research (AICR) and World Cancer Research Fund (WCRF) estimated that "about 30-40 percent of cancers can be prevented by appropriate diets, physical activities and by maintaining appropriate body weight"(Donaldson, 2004).It one of the study it was found that there is a link between cancer and diet(*Diet, Nutrition, and Cancer Executive Summary of the Report of the Committee on Diet, Nutrition, and Cancer*, 1983). It was known that

about 10-15% of cancers can be prevented by following proper nutrition and by doing so it also helps in the treatment and recovery of cancer patients(Thorne et al., 2020) . It's been found that few of the components of the food may affect the cancer cells positively or negatively (Álvarez-Álvarez et al., 2021).

Due to reductions in mortality from other causes of death importance of cancer is increasing day by day as it is leading cause of mortality(Grosso et al., 2017) .Even though nutrition and diet play such an important role many young people are unaware of this fact(Ports Ada Wports, 1994). Even though knowledge and education with respect to nutrition plays such an important role in India mainly among young Indians aged 20-29 years there is no such study conducted assessing the knowledge in regard to nutrition knowledge with emphasis to cancer prevention. It is

important to study and test the knowledge in regards to nutrition and cancer as from various studies we got to know how cancer can be a global burden and leading cause of mortality by surpassing cardiovascular diseases and there is a need for us to be ready and reduce this burden(Kurtuncu et al., 2014; Mathur et al., 2020; Siegel et al., 2019).

Thus, the present study was conducted with the objective to assess the knowledge in relation to cancer prevention diet among young adults i.e., to assess dietary habits, level of knowledge about cancer prevention diet and practices among group of young adults (20-29 years).

II. METHODS

2.1. Study Population and Inclusion criteria

A cross-sectional study was conducted among young adults aged 20-29 years from three different universities in Noida and Greater Noida. The data was collected in the month of March 2022. Participants belonged to different academic branches and have different specializations. Maximum of participants were from non-science background. A total of 300 participants participated in this study. All the participants were asked to complete the questionnaire as it was explained to them before filling. Participation in the study was anonymous, confidential and voluntary. Participants can withdraw anytime. An inclusion criterion was set

-Healthy individuals born in India having Indian nationalities were considered as Indian

- Should belong to age group of 20-29 years

2.2. Data Collection

Data was collected in people belonging to science background and non-science background. The data collected for the present study based on the questionnaire consists of three parts. First part consists of socio-demographic data such as name, age, gender, educational background, nationality. Second part consists of questions which were used to assess the knowledge of the participants in nutrition-related cancer prevention and third part was related to practices. For answering the whole questionnaire approximately 20 minutes had been taken by each participant. In the second part of the questionnaire each question was given three response fields, agree/ disagree/ don't know.

III. RESULTS

In this study 300 subjects were assessed with a response rate of about 100%. The data for the study was collected by using a questionnaire. Questionnaire consisted of four parts i.e., socio-demographic data, eating-habits, knowledge and practices. Among the participants 67.33% of the participants were female and 32.66% were male as shown in figure 1. The mean age of young adults was 22.93±2.09years and male mean age

was found to be 23.15±2.36 whereas in females it was 22.18±1.93 as shown in table 1. The studied population belong to different education sectors. Most of the questions were open-ended giving more information about eating habits of participants like consumption of different food groups, inclusion of smoke-preserved foods, salt intake etc. In figure 1, we can see the data regarding subjects age and gender who participated in this study.

Table 1: Distribution of age by Gender

| Field | Total Mean (SD) | Female Mean (SD) | Male Mean (SD) |
|-------|-----------------|------------------|----------------|
| Age | 22.93±2.09 | 22.18±1.93 | 23.15±2.36 |

The average score of each participant regarding knowledge of the cancer prevention diet is found to be 12.14 out of 20 points(Table 2.) emphasising that majority of the people were having more fair than amount of nutrition related knowledge for prevention of cancer unlike similar studies conducted in Malaysian undergraduate students where majority of the participants had very poor nutrition related knowledge for cancer prevention(Al-Naggar, 2011) , whilst similar study conducted among Undergraduate Students in University of Port Harcourt, Rivers Nigeria participants majority of them had fair amount of nutrition related knowledge for prevention of cancer(Akhimien et al., 2019).

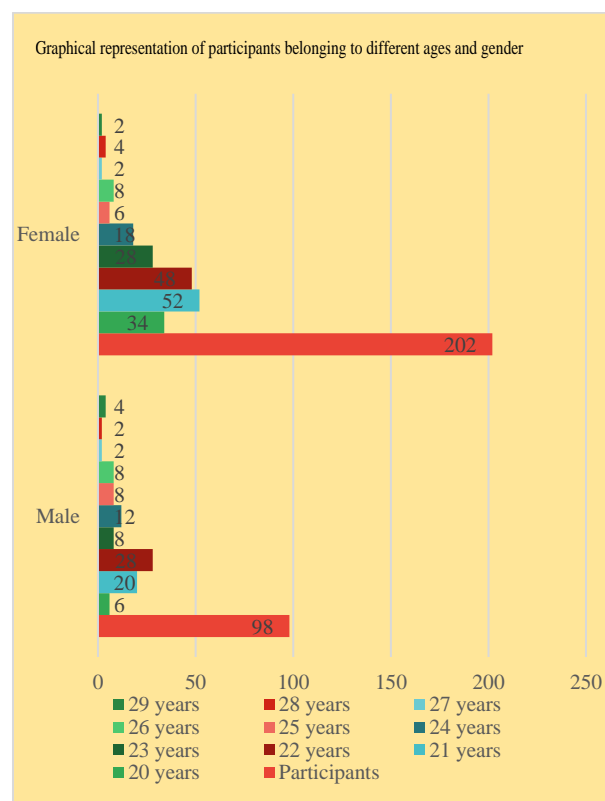


Figure 1: Graphical representation of participants belonging to different ages and gender

Based on the study conducted it was found that many people are least aware of the facts that alcohol consumption, high salt intake, high red meats consumption promotes cancer. They were also unaware of the fact that foods of plant origin exhibit protective effects against cancer. In table 2, we can see few questions and percentage of agreed participants in relation to question regarding knowledge of cancer prevention-diet and distribution of knowledge regarding in different genders.

Table 2: Distribution of knowledge regarding cancer prevention-diet in different genders

| Knowledge | Total | Female | Male |
|---|-------|--------|-------|
| Healthy weight is protective against cancer | 78 | 24.66 | 53.33 |
| Body fat and abdominal fat promotes cancer | 50 | 32 | 18 |
| Physical activity reduces chances of attaining Cancer | 70 | 47.33 | 22.66 |
| Avoiding Sugary drinks reduces chances of attaining Cancer | 41.33 | 28 | 13.33 |
| Consumption of fruits and vegetables reduces chances of attaining Cancer | 53.33 | 36.66 | 16.66 |
| Plant originated foods doesn't protect against cancer | 18.66 | 11.33 | 7.33 |
| Avoiding excessive meat or red meat doesn't exhibit any protective effects against cancer | 19.33 | 12.66 | 6.66 |
| Consumption of fish exhibits anti-cancer properties | 44 | 31.33 | 12.66 |
| Fresh Foods when consumed exhibit cancer preventive properties | 62 | 41.33 | 20.66 |
| By avoiding stale, mouldy foods cancer can be prevented | 46.66 | 32.66 | 14 |
| Avoiding Excessive salt intake protects against Cancer | 30.66 | 22.66 | 8 |
| Breastfeeding up to 6 months protects against Cancer | 42 | 30.66 | 11.33 |

Each question was allotted 1 point each making 20 points for total questionnaire. Out of all questions 17 questions correct option to opt if a person is well aware is agree with the question or fact and for rest 3 questions it is disagree with the question or fact. Based on the total points attained by each participant they are categorised into three categories i.e., poor knowledge, fair knowledge and good knowledge (Table 3)

Table 3: Categories of knowledge and total participants from each category based on the study

| Category | Frequency (N= 300) | Percentage (%) |
|------------------------------|--------------------|----------------|
| Poor knowledge (≤ 6) | 15 | 10% |
| Fair knowledge (7-12) | 65 | 43.33% |
| Good knowledge (≥ 13) | 70 | 46.66% |

Based on the study we can say that only 10% of the participants have poor knowledge regarding nutrition knowledge in relation to cancer prevention.

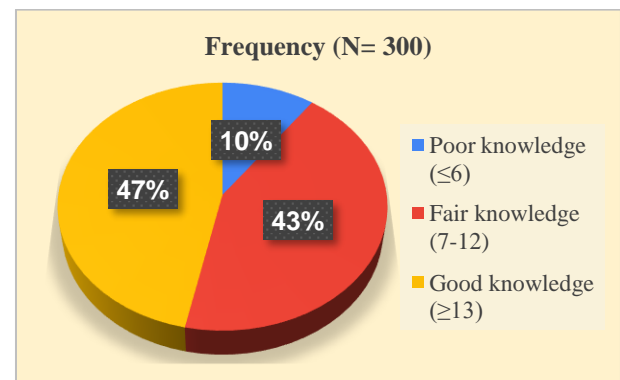


Figure 2: Diagrammatic representation of participants based on their nutrition related knowledge for preventing cancer

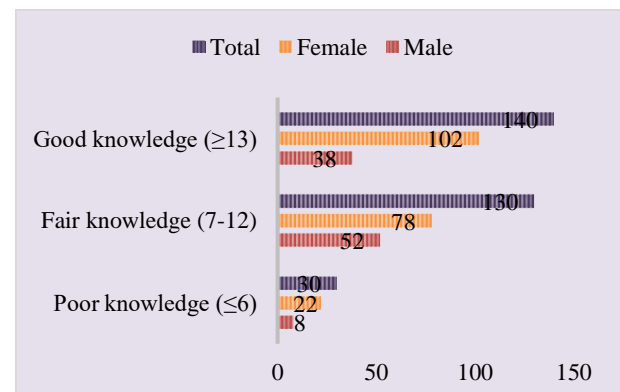


Figure 3. Graphical representation based on gender and total number of participants in each category based on nutrition knowledge to prevent cancer.

Table 4. Eating Habits in Young Adults

| Eating Habits | Response | Total | Female | Male |
|------------------------|----------|-------|--------|-------|
| Grains and Tubers | Yes | 81.33 | 54.66 | 26.66 |
| | No | 18.66 | 12.66 | 6 |
| Fruits and Vegetables | Yes | 28 | 17.33 | 10.66 |
| | No | 72 | 50 | 22 |
| Starchy roots | Yes | 52 | 33.33 | 18.66 |
| | No | 48 | 34 | 14 |
| Milk and Milk Products | Yes | 72 | 50 | 22 |
| | No | 28 | 17.33 | 10.66 |
| Legumes/ Meat Products | Yes | 81.33 | 54.66 | 26.66 |
| | No | 18.66 | 12.66 | 6 |

In Table 4 eating habits of young adults is shown. Majority of the adults consumed grains and tubers (81.33%), milk and milk products (72%), legumes/meat products (81.33%) whilst fruits and vegetables were consumed by only 28% of the participants. And Starchy roots and tubers was consumed by only 52% of the participants regularly. Based on the eating habits anti-oxidants rich/ anti-inflammatory foods i.e., fruits and vegetables are the least consumed which majorly help to fight against carcinogenic agents.

Table 5: Practices in Young Adults to Prevent Cancer

| Practice | Response | Total | Female | Male |
|--|----------|-------|--------|-------|
| Limiting Salt intake | Yes | 30.66 | 22.66 | 8 |
| | No | 69.34 | 58.68 | 10.66 |
| Limiting Preserved food/ Packaged food | Yes | 25.44 | 12.78 | 12.66 |
| | No | 74.56 | 54.56 | 20 |
| Limiting intake of smoke-preserved foods | Yes | 84.66 | 59.33 | 25.33 |
| | No | 15.33 | 8 | 7.33 |
| Limiting intake of energy-dense foods | Yes | 46.66 | 28.66 | 18 |
| | No | 55.33 | 38.66 | 14.66 |
| Limiting Alcohol-consumption | Yes | 14.66 | 10.66 | 4 |
| | No | 85.33 | 56.66 | 28.66 |
| Avoiding Smoking of tobacco | Yes | 80 | 52 | 28 |
| | No | 20 | 7.66 | 12.34 |

In Table 5, we can see that limiting alcohol intake and preserved/packaged food consumption are least practiced in young adults i.e., 14.66% and 25.44% respectively. Limiting salt intake is also not practiced only 30.66% practice limiting salt intake. Limiting smoke-preserved foods and avoiding smoking of tobacco are highly practiced i.e., 84.66% and 80% respectively. Limiting intake of energy-dense foods was practiced in only 46.66% i.e., approximately half of the participants.

IV. DISCUSSION

Investigation in this study included aspects like assessment of knowledge to regarding anti-cancer diet among young adults (20 to 29 years) of India, their eating habits and practices. The main importance of this study is to have information regarding the knowledge of nutrition-related cancer prevention among young adults of India. By imparting and having proper nutrition knowledge, following proper dietary habits and practices in early stages of life helps to practice a good and healthy lifestyle thereby reducing the risk of nutrition-related cancers and also helps to maintain a good nutritional status even if prone with cancer afterwards thereby reducing the secondary health implications caused due to cancer such as malnutrition. Majority of the respondents i.e., 90% of the respondents have fair (46.66%) and good (46.66%) amount of knowledge and only 10% of the participants have poor amount of knowledge indicating that majority of young adults in India have good amount of nutrition-related knowledge to prevent cancer. The respondents were majorly i.e., 80% were from non-science background and 20% were from science background. Even though majority were from non-science background majority of them had good and fair amount of knowledge.

Majority of them i.e., about 70% or more correctly responded that: maintaining a healthy weight throughout life is protective against cancers, limiting the intake of smoke-preserved foods can prevent cancers, eating more fibre-rich grains, cereals and tubers is protective against cancer, vegetables and fruits should ideally amount to about half the plate of an adult, Avoidance of smoking of tobacco or contact with smokers is protective against cancer, Eating foods fresh is important to protect against cancer development. The current findings suggest that young adults of India have good amount of nutrition-related knowledge unlike other similar studies like Nutrition-related cancer prevention knowledge of undergraduate students at the University of Ibadan, Nigeria (Folasire et al., 2016), Assessment of the Nutrition-related Cancer Prevention Knowledge among Undergraduate Students in University of Port Harcourt, Rivers Nigeria (Akhimien et al., 2019), Nutrition and Cancer Prevention: Knowledge, Attitudes and Practices among Young Malaysians Asian Pacific (Al-Naggar, 2011) etc.

In the current study majority of the respondents were female i.e., 67.33% and only 32.66% were male. Out of 202 females 180 were having good and fair amount of knowledge i.e., 89.1% of females had good amount of knowledge only 10.9% had poor amount of knowledge. In Figure 2. We can see that out of 98 males 90 were having good and fair amount of knowledge i.e., 91.8% males were having good amount of knowledge and only 8.2% had poor amount of knowledge emphasising that males majority of males had good amount of nutrition-related knowledge to prevent cancer than females contrary to similar studies such as Cancer awareness among university students in Turkey(Kurtuncu et al., 2014), Nutrition and Cancer Prevention: Knowledge, Attitudes and Practices among Young Malaysians Asian Pacific(Al-Naggar, 2011) etc

V. CONCLUSION

By conducting assessment regarding knowledge regarding cancer-preventive diet in 300 participants belonging to group of young adults aged between 20 to 29 years of Indian nationality 65 (43.33%) participants were of fair amount of knowledge, 70 (46.66%) were of good amount of knowledge in relation to nutrition knowledge in prevention of cancer and only 15 (10%) of the participants were of poor amount of knowledge in relation to nutrition knowledge in prevention of cancer (Figure 2.). Based on this study we can say that young adults of India are well aware of the importance on nutrition in relation to cancer prevention.

In relation to dietary habits assessed we can conclude that majority of participants were not consuming fruits and vegetable regularly, moderately consuming starchy roots and tubers and majority were regularly consuming grains, milk and milk products and legumes/ meat products.

Practices such as limiting smoke-preserved foods and avoiding smoking of tobacco are highly followed whilst others such as limiting energy-dense foods are moderately followed and least followed practices are limiting salt intake, packaged/preserved foods and limiting alcohol intake.

By observing and analysing the results obtained from this study more ideal dietary habits and practices must be followed and implemented in young adults.

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