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A Study to Assess the Knowledge and Practice on Benefits of Antioxidants in Our Body among Students in SGT University.

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ABSTRACT:

Background of the study: Antioxidant is group of oxidant that help to prevent from diseases and maintain the good health and level of decrease antioxidant in the body cause some problem vision loss ,chronic conditions and maintain the oxidant help to prevent from heart diseases , cancer , inflammation .Antioxidant found in the food ,coffee , and the green leafy vegetables , dairy product like ghee basic food that available in home and practice of the that type of food that help prevent the disease.

Objective of study:

The objective of the study is to assess the knowledge on benefits of antioxidants in our body, , practice of antioxidants in our body and to find out association between the knowledge and practice on benefits of antioxidants with selected demographic variables.

Research Methodology:

The present research study cross sectional exploratory study was adopted to assess the knowledge of the student about antioxidant and usage of antioxidant in daily life in selected area of SGT University student.

Results: In present study 361 participants participate all participants 53.2% of participants having inadequate knowledge, 38% having moderate knowledge, and only 8.9% having adequate knowledge about antioxidants. 45.7% of participants exhibited excellent practices regarding the benefits of antioxidants, 37.7% demonstrated good practices, and 16.6% had poor practices.

Conclusion: Based on the finding of the study the knowledge about antioxidant is basic knowledge about antioxidant and daily consumption of the food is consumption in daily life but still there need modification and educate about antioxidant to people . The results from both studies underscore the need for targeted educational interventions to improve antioxidant knowledge. Such programs could be integrated into university curriculums.

Keyword: Antioxidants, Knowledge , students ,Practice

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Introduction

Antioxidants, typically found in fruits, vegetables, and other plants, are crucial for a balanced diet. Common sources include vegetables, red peppers, garlic, green tea, and vitamin E.[1] Exercise also plays a significant role in managing reactive oxygen species and free radicals, with both enzymatic and non-enzymatic defensive systems contributing to this balance.[2]

Free radicals and reactive oxygen species (ROS) are increasingly significant in health research. Excessive free radicals can damage lipids, proteins, and DNA, leading to various illnesses. This growing awareness emphasizes the need for external antioxidants to support physiological functions.[3,4]

Traditional diets, rich in non-nutritive phytochemicals, offer disease-prevention benefits, including reduced risks of diabetes, heart disease, and obesity. These diets, such as those consumed by native Hawaiians before European contact, contain valuable secondary compounds with pharmacological properties like anticholesterol, antioxidant, antidiabetic, and anti-malarial effects.[5]

Physical activities also enhance antioxidant levels. The body counters this with free radical scavengers and antioxidant enzymes, highlighting the importance of a diet rich in antioxidants for those engaging in regular physical activities.[6] Additionally, yoga had a positive impact on the releases of stress hormones and somewhat enhanced immunological function. [7] Foods like broccoli, bananas, mangoes, kiwis, spinach, carrots, and Brussels sprouts provide essential nutrients that support overall health and well-being.[8,9]

Need of the Study

Antioxidants are essential for maintaining body functions and preventing diseases. However, many people lack knowledge about antioxidants and their sources. This study aims to improve awareness and assess the knowledge of antioxidant consumption to promote better health practices.

Objectives

1. To assess the knowledge on benefits of antioxidants in our body among student in SGT University.
2. To assess the practice of antioxidants in our body among student in SGT University.
3. To find out association between the knowledge and practice on benefits of antioxidants in our body with selected demographic variables.

METHODS AND MATERIALS

Research Approach: A quantitative research approach

Research Design: A cross-sectional analytic study design

Research Settings: Sgt University Gurugram

Population : SGT University students

Sampling Technique : Convenient sampling technique through the google form.

Sample And Sample Size : 361 students

Tools development and selection: A verified self-developed questionnaire

Duration of Data Collection: January to February 2024

Data Analysis: Descriptive and Inferential statistics (Chi-Square)

DATA ANALYSIS AND INTERPRETATION

The data collected was organized and presented under following sections:

Section 1: Description of the Socio demographic variables

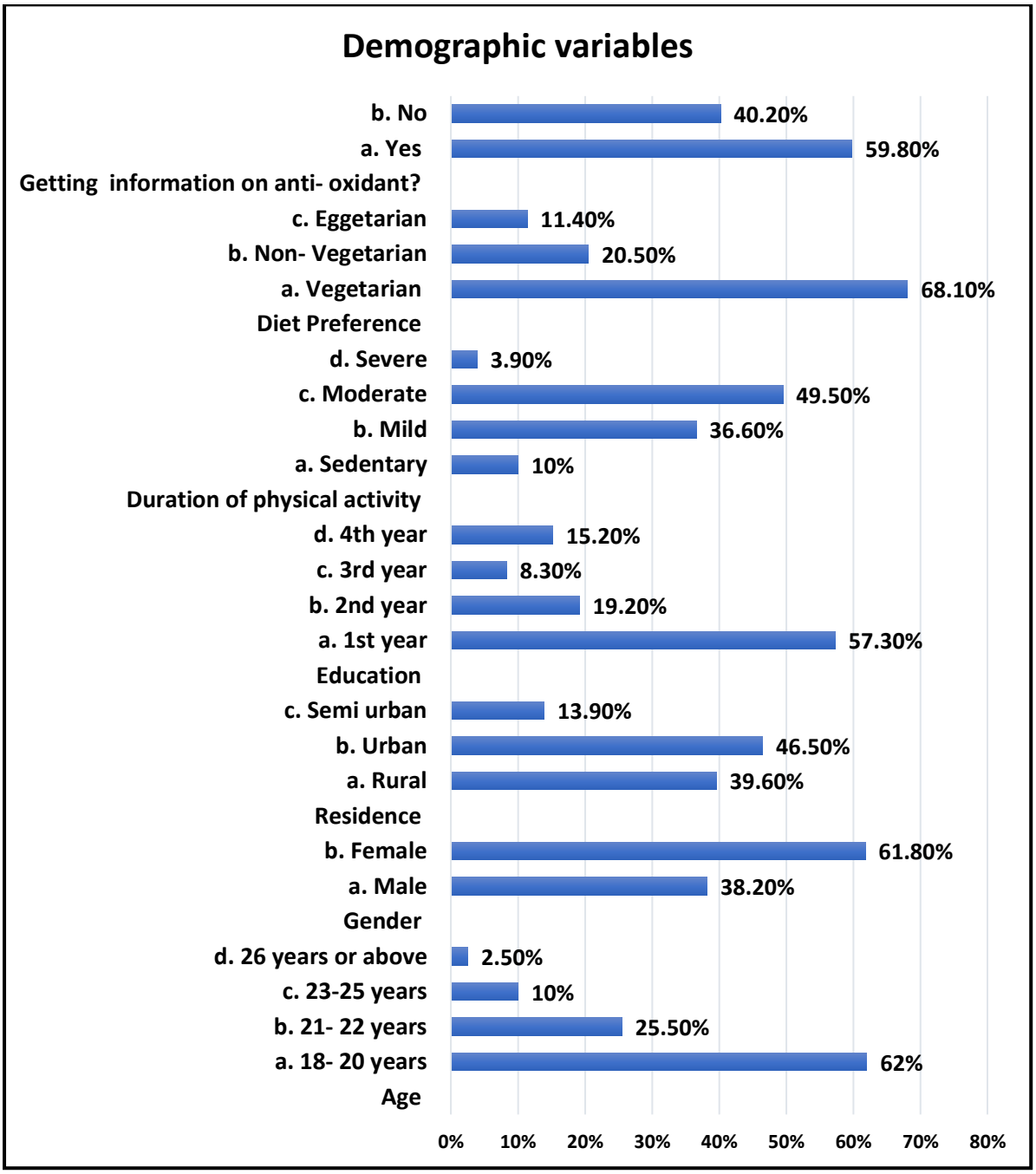

Figure 1: Socio demographic variables

Section 2: Finding related to knowledge on benefits of antioxidants in our body among students at SGT University

Table 1: Finding related to knowledge score on benefits of antioxidants in our body among students

N=361

Aspect	*Min Score*	*Max Score*	*Mean*	*Mean %*	*SD*
Knowledge Score	0	20	10.2078	51.039 %	4.03575

Table 2: Finding related to knowledge Level on benefits of antioxidants in our body among students

N=361

Knowledge Level	*Score*	*Frequency*	*Percentage*
Adequate (76 to 100%)	16 - 20	32	8.9 %
Moderate (51 to 75%)	11 - 15	137	38 %
Inadequate (less than 50%)	1 - 10	192	53.2 %
Total		**361**	**100** %

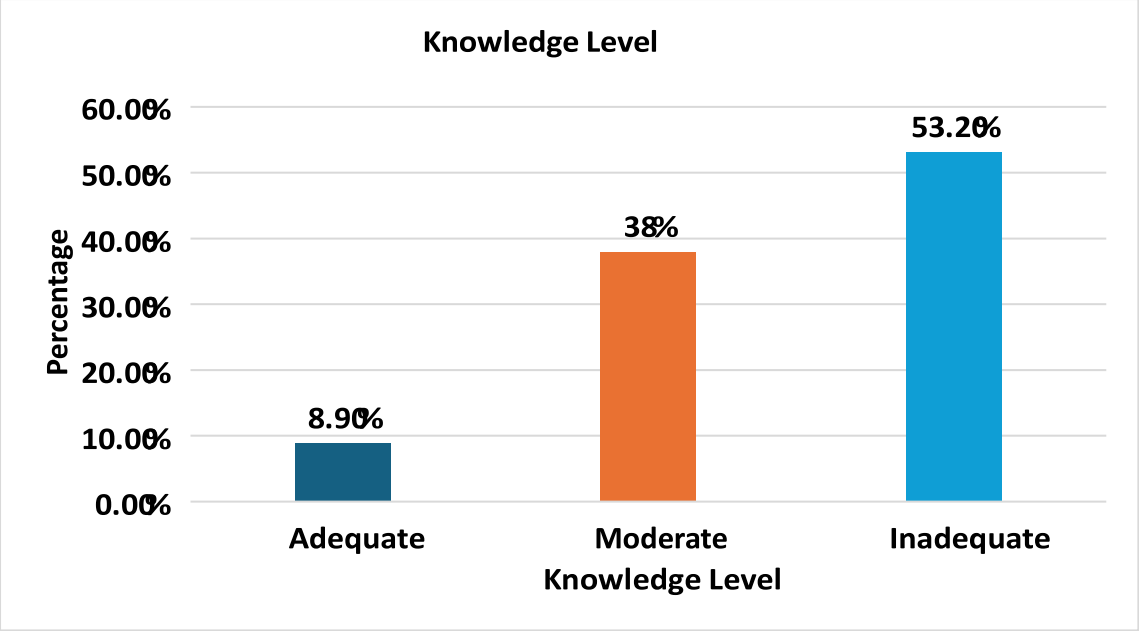

Figure 2: Knowledge Level on benefits of antioxidants in our body among students

Section 3: Finding related to practice on benefits of antioxidants in our body among students at SGT University

Table 3: Finding related to practice score on benefits of antioxidants in our body among students

N=361

Aspect	*Min Score*	*Max Score*	*Mean*	*Mean %*	*SD*
Practice Score	0	10	7.2271	72.271 %	1.80537

Table 4: Finding related to practice Level on benefits of antioxidants among students

N=361

Practice Level	*Score*	*Frequency*	*Percentage*
Excellent (76 to 100%)	8 to 10	165	45.7 %
Good (51 to 75%)	6 to 7	136	37.7 %
Poor (less than 50%)	1 to 5	60	16.6 %
Total		**361**	**100** %

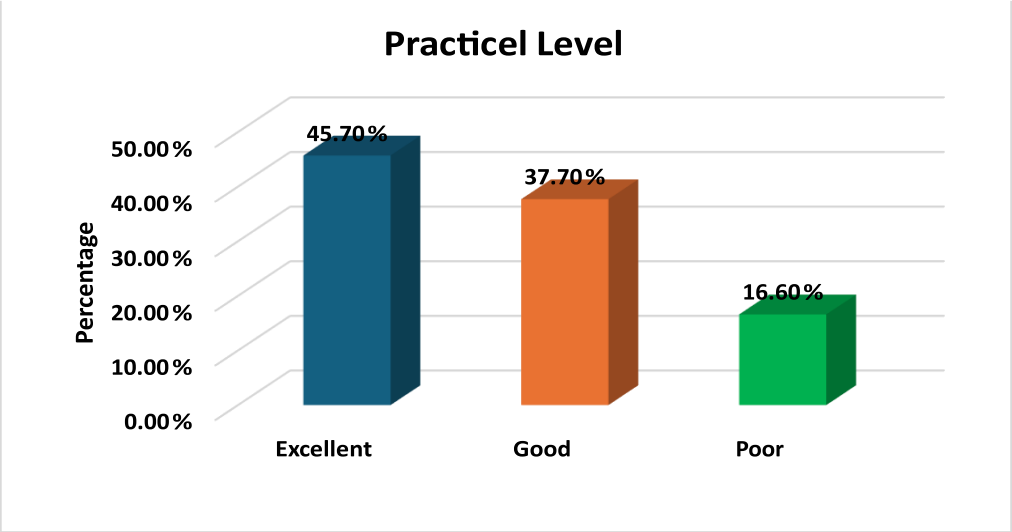

Figure 3: Practice Level on benefits of antioxidants among students

Section 4: To find out the association between the knowledge on benefits of antioxidants with selected demographic variables.

Diet Preference				0.899 Df = 4	0.925	**NS**
a. Vegetarian	23	96	127			
b. Non- Vegetarian	6	27	41			
c. Eggetarian	3	14	24			
Getting information about anti- oxidant?				**6.947** **Df = 2**	**0.031**	**S**

a. Yes	23	90	103			
b. No	9	47	89			

Table 5: To find out the association between the knowledge on benefits of anti-oxidant with selected demographic variables.

Demographic variables	**Adequate**	**Moderate**	**Inadequate**	**Chi Square Value & df**	**P-Value**	**Inference**
Age				4.202	0.649	**NS**
a. 18- 20 years	16	81	127	Df = 6		
b. 21- 22 years	11	36	45			
c. 23-25 years	4	16	16			
d. 26 years or above	1	4	4			
Gender						
a. Male	11	41	86	**7.702**	**0.021**	**S**
b. Female	21	96	106	**Df = 2**		
Residence				4.627	0.328	**NS**
a. Rural	13	52	78	Df = 4		
b. Urban	11	68	89			
c. Semi urban	8	17	25			
Education				4.694	0.584	**NS**
a. 1st year	19	70	118	Df = 6		
b. 2nd year	6	31	32			
c. 3rd year	2	11	17			
d. 4th year	5	25	25			
Duration of physical activity				1.707	0.945	**NS**

a. Sedentary	2	13	21	Df = 6		
b. Mild	14	47	71			
c. Moderate	15	71	93			
d. Severe	1	6	7			

Section 5: To find out the association between the practice level on benefitof antioxidants with selected demographic variables

Table 6: To find out the association between the Practice level on benefits of antioxidants with selected demographic variables. N=361

Demographic variables	**Excellent**	**Good**	**Poor**	**Chi Square Value & df**	**P-Value**	**Inference**
Age				6.824 Df = 6	0.337	**NS**
a. 18- 20 years	101	86	37			
b. 21- 22 years	45	29	18			
c. 23-25 years	13	19	4			
d. 26 years or above	6	2	1			
Gender				**7.304 Df = 2**	**0.026**	**S**
a. Male	73	40	25			
b. Female	92	96	35			
Residence				7.466 Df = 4	0.113	**NS**
a. Rural	74	43	26			
b. Urban	69	75	24			
c. Semi urban	22	18	10			
Education				11.033 Df = 6	0.087	**NS**
a. 1st year	95	79	33			
b. 2nd year	23	32	14			
c. 3rd year	20	5	5			
d. 4th year	27	20	8			
Duration of physical activity				**16.656 Df = 6**	**0.011**	**S**
a. Sedentary	12	15	9			
b. Mild	47	56	29			
c. Moderate	98	60	21			
d. Severe	8	5	1			
Diet Preference				3.846	0.427	**NS**

a. Vegetarian	118	88	40	Df = 4		
b. Non- Vegetarian	34	28	12			
c. Eggetarian	13	20	8			
Total	165	136	60			
Did you get any information about anti- oxidant?				**13.726 Df = 2**	**0.001**	**S**
a. Yes	113	78	25			
b. No	52	58	35			

DISCUSSION AND CONCLUSION

Major findings of the study:

- Among total sample age group 18- 20 years age group is 62%, 21-22 years age group is 25.5%, 23-25 years age group is 10% and 26% years or above age group is 2.5%.
- Among all the sample there are 38.2% is male and 61.8% is females.
- Samples according to area is 39.6% from rural area, 46.5% from urban area, and 13.9% from semi- urban area.
- Among all samples 1st year students are 57.3%, 2nd year students are 19.2%, 3rd year are 8.3% and 4th year are 15.2%.
- Samples duration of physical activity is sedentary in 10% samples, 36.6% is mild activity, 49.5% is moderate and 3.9% is severe.
- Diet- preference of samples is 68.1% is vegetarian, 20.5% is non- vegetarian and 11.4% is eggetarian.
- Among all participants 53.20% had inadequate knowledge, 38% had moderate knowledge level and 8.90% had adequate knowledge about antioxidants.

Section B: Finding related to knowledge on benefits of antioxidants in our body among students at SGT University

In this study conducted at SGT University, 361 participants were assessed to determine their knowledge and practices regarding antioxidants. The findings revealed a concerning gap in knowledge, with 53.2% of participants having inadequate knowledge, 38% having moderate knowledge, and only 8.9% having adequate knowledge about antioxidants. On the practice front, 45.7% of participants exhibited excellent practices regarding the benefits of antioxidants, 37.7% demonstrated good practices, and 16.6% had poor practices.

Comparing these findings with the study conducted by **Miriam Elizabeth et al. (2023)** highlights similar trends. In their study, 72.71% of participants exhibited an unhealthy lifestyle, and 56.64% lacked information about antioxidants. Notably, young people made up 35.97% of the study population. Like our study, Elizabeth et al. found a significant correlation between the degree of antioxidant awareness and sex, but no correlation with age. Additionally, no significant differences were found between age, sex, and lifestyle variables.[9] The results from both studies underscore the need for targeted educational interventions to improve antioxidant knowledge. While our study participants showed relatively good practices, their limited knowledge could hinder the full benefits of these practices. Educational programs that emphasize the importance of antioxidants, their sources, and their role in preventing chronic diseases could bridge this knowledge gap. Such programs could be integrated into university curriculums, health promotion activities, and community health initiatives to reach a broader audience.

Conclusion

The study found that most participants had inadequate knowledge about antioxidants, with 53.2% falling into this category. Only 8.9% had adequate knowledge, and 38% had moderate knowledge. Despite the lack of knowledge, a significant proportion of participants practiced consuming antioxidant-rich foods, though their understanding of the benefits was limited.

By increasing knowledge about antioxidants, students can make more informed dietary choices, leading to improved overall health practices. Targeted educational interventions, could play a crucial role in bridging this knowledge gap. Ultimately, better-informed students are likely to adopt healthier lifestyles, reducing their risk of chronic diseases and improving their long-term well-being.[10]

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Auther's contribution: The study, data collection and analysis, data interpretation, paper drafting and critical revision were all equally contributed by all authors.

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Conflict of interest: The author declares that there is no conflict of interest.

Ethical approval: The study was approved by the institutional ethical committee of the SGT University.

Informed consent: Informed consent was obtained from the participants.

REFERENCES

1. Xu DP, Li Y, Meng X, Zhou T, Zhou Y, Zheng J, Zhang JJ, Li HB. Natural Antioxidants in Foods and Medicinal Plants: Extraction, Assessment and Resources. Int J Mol Sci. 2017 Jan 5;18(1):96. doi: 10.3390/ijms18010096. PMID: 28067795; PMCID: PMC5297730.
2. Rahaman MM, Hossain R, Herrera-Bravo J, Islam MT, Atolani O, Adeyemi OS, Owolodun OA, Kambizi L, Daştan SD, Calina D, Sharifi-Rad J. Natural antioxidants from some fruits, seeds, foods, natural products, and associated health benefits: An update. Food Sci Nutr. 2023 Jan 13;11(4):1657-1670. doi: 10.1002/fsn3.3217. PMID: 37051367; PMCID: PMC10084981.
3. Phaniendra A, Jestadi DB, Periyasamy L. Free radicals: properties, sources, targets, and their implication in various diseases. Indian J Clin Biochem. 2015 Jan;30(1):11-26. doi: 10.1007/s12291-014-0446-0. Epub 2014 Jul 15. PMID: 25646037; PMCID: PMC4310837.
4. Phaniendra A, Jestadi DB, Periyasamy L. Free radicals: properties, sources, targets, and their implication in various diseases. Indian J Clin Biochem. 2015 Jan;30(1):11-26. doi:
5. 10.1007/s12291-014-0446-0. Epub 2014 Jul 15. PMID: 25646037; PMCID: PMC4310837.
6. Culture's Influence on our Diet. Available at: **https**://sociology100.commons.gc.cuny.edu/wpcontent/blogs .
7. Nutrition-related knowledge, attitude, and dietary intake of college track athletes." *Sport Journal* 11.1 (2008).
8. Kumar A, P N, Kumar M, Jose A, Tomer V, Oz E, Proestos C, Zeng M, Elobeid T, K S, Oz F. Major Phytochemicals: Recent Advances in Health Benefits and Extraction Method. Molecules. 2023 Jan 16;28(2):887. doi: 10.3390/molecules28020887. PMID: 36677944; PMCID: PMC9862941.
9. The 17 Best Foods to Relieve Constipation - Healthline

10. Available at: https://www.healthline.com/nutrition/best-foods-for-constipation
11. 9 GUTIERREZ-RAMOS, Miriam Elizabeth et al. Level of knowledge of antioxidants and their relation to lifestyle. Mem. Inst. Investig. Cienc. Salud [online]. 2023, vol.21, n.1, e21122302. Epub Mar 16, 2023. ISSN 1812-9528. https://doi.org/10.18004/mem.iics/1812-9528/2023.e21122302.
12. 10 Sung-Ah Lim and Kwang-Jo Cheong.Regular Yoga Practice Improves Antioxidant Status, Immune Function, and Stress Hormone Releases in Young Healthy People: A Randomized, Double-Blind, Controlled Pilot Study.The Journal of Alternative and Complementary. Medicine.Sep 2015.530-538.http://doi.org/10.1089/acm.2014.0044