



The outcome of nutritional status, mobile usage and stress affects the haematological parameters of day scholars and hostellers

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ABSTRACT :

The study is to detect the effects of nutritional status, mobile usage and stress affects the bloodcells of day scholars and hostellers. The study is done in 57 paramedical students that include 30 day scholars and 27 hostellers. The consent form, questionnaires related to the study, anthropometric data, blood pressure were taken from the study participants. The 2 ml of EDTA blood sample was tested for the CBC parameters. The study concluded that the hostellers of agegroupbetween17–21 are affected and showing more significance in the hematological parameters Hb (p value=0.03*),RBC count (p value=0.04*), platelet count (p value=0.03*) also in their nutritional and anxiety scoring which reflect the poor performance in the examination results. The mobile usage and severity of mobile addiction reflect in the poor academic performance and shows significance in hemoglobin (p value = 0.02*) in the both categories. The less nutritional in take for the students are skipping meals due to various reasons. This will affect the physical health that cause reduced Hb, RBC count and Platelet count. The poor mental health results in stress that leads to severe addiction in the mobile usage which disturbed the sleep pattern which results in poor academic performance.

Keywords: Hostellers,dayscholars,nutritionalintake,mobileusage,anxiety,healthissues,haematologicalparameters,academicstress.

Introduction :

The human nature is shaped and changed by the environment and their lifestyle. The present study was conducted to assess the health status of day scholars and hostellers of intake, mobile usage and stress level based on the questionnaires collected with the objective to assess the anthropometric measurements to detect the BMI, hematological parameters by detecting their nutritional. This research is done to analyze Stress that affect the academic performance, nutritional intake and effect of mobile usage affects the hematological parameters in day scholars and hostellers.

Objectives:

To study the effect of mobile usage, stress and nutritional intake affects the hematological parameters of day-scholars and hostellers.

.Methods:

This study was conducted at MMM college of health sciences which is located in Chennai. The study was done between November 2022 to January 2023.

1.3. Materials

Study design : Prospective analytical study

Duration of the study: 3 months

Study population : N = 56

Day scholars : N = 29

Hostellers : N = 27

Inclusion criteria:

- The students willing to participate in the study and giving consent form for the study.

Exclusion criteria:

- Students not willing to give consent form to participate.
- History of chronic disease and bleeding disorders in the students and family through questionnaire.

Methodology: :

- Distribution of consent form
- Distribution of Questionnaires for the collection of general information, dietary pattern, mobile usage and stress level.
- Measuring the Anthropometric measurements
- Then the EDTA blood sample was collected and transported to the nearby
- Private lab, to analyze the complete blood count by an automated method
- The results are concluded by SPSS version 28

Results:**Table: 1:-Comparison of the severity of Nutritional intake score, Anxiety score and Mobile usage score along with the hematological parameters of the day scholars.**

Hematological Parameter	Nutritional Score		Anxiety		Mobile Usage	
	Mean ± SD	P Value	Mean ± SD	P Value	Mean ± SD	P Value
Hb	11.45±1.23	0.08	12.67±1.89	0.07	11.31±1.91	0.02*
TLC	31.78± 14.44	0.06	27.98±19.20	0.09	39.22±9.89	0.08
RBC Count	3.05±0.82	0.10	4.01±0.99	0.10	5.33±0.42	0.10
Platelet count	5.67±0.78	0.23	3.57±0.67	0.19	3.49±0.32	0.06
PCV	39.18±7.66	1.06	37.22±9.23	1.05	31.61±4.49	1.09
MCV	72.78±3.60	1.18	21.29±2.97	1.21	69.29±6.52	1.11
MCH	22.45±1	1.23	24.66±1.31	1.31	27.31±2.21	1.19
MCHC	26.60±1.91	1.45	27.42±2.01	1.19	29.66±0.81	1.21

Table: 2.Comparison of the severity of Nutritional intake score, Anxiety score and Mobile usage score along with the hematological parameters of the hostellers.

Hematological Parameter	Nutritional Score		Anxiety Score		Mobile Usage	
	Mean ± SD	P Value	Mean ± SD	P Value	Mean ± SD	P Value
Hb	13.88±1.34	0.03*	14.98±1.72	0.04*	11.42±1.67	0.04*
TLC	32.89± 12.65	0.06	25.67±20.01	0.08	37.21±9.65	0.08
RBC Count	3.10±0.62	0.02*	3.32±0.67	0.04*	5.67±0.36	0.10
Platelet count	5.77±0.34	0.03*	3.34±0.34	0.06	3.66±0.42	0.06
PCV	40.20±6.20	1.03	38.29±9.45	1.00	31.42±4.50	1.09
MCV	71.90±2.99	1.09	22.33±2.11	1.32	59.31±6.32	1.11
MCH	23.54±1.32	1.16	25.87±1.37	1.20	25.28±2.45	1.19
MCHC	27.23±1.72	1.21	26.97±2.10	1.09	22.59±0.72	1.21

Table: 3. Comparison of anthropometric and hematological variables between day Scholars and Hostellers.

Parameter	Day Scholar		Hostellers	
	Mean ± SD	P Value	Mean ± SD	P VALUE
Anthropometric parameter				
Age	18.50±0.94	0.06	19.04±1.22	0.04*
Height (Cm)	166.53±9.95	0.09	160.22±6.95	0.07
Weight (Kg)	60.17±16.23	0.1	55.04±12.30	0.19
Bp Systolic	116.90±11.61	0.11	111.33±10.48	0.08
Bp Diastolic	70.87±7.09	0.08	69.00±5.79	0.09
Hematological Parameter				
Hb	14.16±1.79	0.06	11.511±1.76	0.03*
TLC	34.45± 12.78	0.07	42.66±9.56	0.06
RBC Count	4.97±0.61	0.08	4.58±0.51	0.04*

Platelet count	3.23±0.678	0.1	3.51±0.52	0.03*
PCV	42.14±5.48	1.02	34.95±4.78	1.03
MCV	84.86±5.16	1.11	76.37±8.47	1.1
MCH	28.347±1.99	1.08	25.13±3.18	1.01
MCHC	33.39±0.60	1.05	32.844±0.79	1.02

Discussion:

The results of this study in the age category of hostelers shows significant (p value = 0.04*). The hostelers shows significant in certain hematological parameters that includes the p value of Hb (p value = 0.03*), RBC count (p value = 0.04*), platelet count (p value = 0.03*).The hostelers shows when comparison of nutritional score with hemoglobin shows significant (p value = 0.03*), the RBC count also shows significant (p value = 0.02*).The p value of day scholars shows significant by comparing mobile usage score with the hematological parameter that is hemoglobin (p value = 0.02*).The comparison with the mobile usage shows significant in hemoglobin (p value=0.04*) of the hostelers .

Conclusions:

The study concluded that the hostelers of age group between 17 – 21 are affected and showing more significance in the hematological parameters, the nutritional and anxiety scoring which reflect the poor performance in the examination results. The mobile usage and severity of mobile addiction reflect in the poor academic performance in the both categories.

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REFERENCES :

1. Akbari V, Asayesh H, Sharififard F, Qorbani M, Elahi A, Heidarpour A. Breakfast consumption as a test anxiety predictor among paramedical students. *J Nurs Midwifery Sci* [serial online] 2020, Volume 7: Page 47-48. DOI: 10.4103/JNMS.JNMS_37_19
2. Ambreen Fatima, Mangalam Kumari, Arman Jahan, Pramod Kumar Sahu, Pooja Kukreti, Monika Sharma, Survey Based Study on Stress Level and Sleep Quality among Hostelers, *Medico-legal Update*, April-June 2021, Vol. 21, No. 2, page 1303-1034, DOI: 10.37506/miu.v21/2.2872
3. ArishaJaved, Tanya Sharma, and Rakesh Singh Hazari, "Evaluation of Prevalence of Anemia and Its Sociodemographic Correlation among Undergraduate Medical College Students - A CrossSectional Study." *World Journal of Nutrition and Health*. 2017, vol. 5, no. 2. Page 57-58. doi: 10.12691/jnh-5-2-6.
4. Arun Kumar Arya, Pramod Kumar, TanuMidha, Mahendra Singh, Hematological profile of children with severe acute malnutrition: a tertiary care centre experience, *International Journal of Contemporary Pediatrics*,2017 Sep;4,Volume (5),page 1577-1578, DOI:10.18203/http://dx.doi.org/10.18203/2349-3291.ijcp20173072
5. ChinkyUpadhyay (2016), A Comparative Study of Adjustment among Day Scholars and Hostel Students, *International Journal of Indian Psychology*, Volume 3. Pg (123), Issue 4, No. 63, ISSN 2348-5396 (e),SSN: 2349-3429 (p), DIP: 18.01.108/20160304, ISBN: 978-1-365-32518-2
6. Dr. Mrs. Anuya Joshi, Dr. Mrs. KanchanWingkar, Dr. AnandJoshi,Effects of Mobile Use on Selected Hematological Parameters in Female Medical Students, *International Journal of Science and Research (IJSr)* 2019,Volume 8, SJIF : 7.426
7. Espinoza VE, Emmady PD. Histology, Monocytes. [Updated 2022 Apr 28]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK557618/>
8. Geeta Jain, Manisha Singhai, Academic stress amongst students: a review of literature, *Prestige e-Journal of Management and Research*, Volume 4 Issue 2 (October, 2017) and Volume 5 Issue 1(April, 2018). ISSN 2350-1316
9. Ghulam Rasool, S., Amjad, F., Zuha, A... & Ahmad, A.. (2022). Health Status and Academic Progress Among Day Scholars Vs Hostelites in Allied Health Sciences Students. *Pakistan BioMedical Journal*, 2022, volume 5(7), page 66-67, <https://doi.org/10.54393/pbmj.v5i7.625>
10. Hoyland, A., Dye, L., & Lawton, C. A systematic review of the effect of breakfast on the cognitive performance of children and adolescents. *Nutrition Research Reviews*, (2009). Volume 22(2), Page 220-221. doi:10.1017/S0954422409990175
11. J. A. Afolayan, Bitrus Donald, OlayinkaOnasoga, AdeyanjuBabafemi A. and Agama Juan A, Relationship between anxiety and academic performance of nursing students, *Niger Delta University, Bayelsa State, Nigeria, Pelagia Research Library Advances in Applied Science Research*, 2013, Volume 4(5), page 25, ISSN: 0976-8610