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Original Research Article

A Study on Use of "Surplus Time" by Undergraduate Medical Students and Their Psychological Well-Being in a Government Medical College in West Bengal

Krishna Laskar[1], Sajib Chakraborty[2], Saikat Baidya[3], Nivedita Das[4], Nazir Abdul Wasim[5]

[1]Assistant Professor, Department of Physiology, Sarat Chandra Chattopadhyay Govt Medical College and Hospital, Uluberia, Howrah, West Bengal

[2]Associate Professor, Department of Anatomy, Raiganj Government Medical College, West Bengal

[3]RMO cum Clinical Tutor, Dept. of Psychiatry, Medical College & Hospital, Kolkata

[4]Associate Professor, Department of Community Medicine, College of Medicine and Sagore Dutta Hospital

[5]Associate Professor, Dept of Pathology, Sarat Chandra Chattopadhyay Govt Medical College and Hospital, Uluberia, Howrah, West Bengal

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Corresponding Author: Dr Nivedita Das
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Abstract:

Background: 'Surplus time' is the left-over time after completion of activities for survival needs of obtaining food, sleep and shelter. Structured and organized use of surplus time ccontributes to healthy development by aligning individual's strengths with developmental assets specially in early age and it is very much important in determining social, emotional, cognitive, and other spheres of mental health also. The aim of the study was to explore the way of structuring surplus time and to assess whether there is any relation between the use of surplus hours and their psychological well-being.

Material Methods: A descriptive observational cross-sectional study was done among first, second and third phase MBBS students in the College of Medicine and Sagore Datta Medical College and Hospital in West Bengal. 232 was the final sample size. Those who had any diagnosed pre-existing psychiatric disorder (as disclosed by them confidentially) or any chronic medical illness which may have some bearings on mental health were excluded. A pre-designed, validated questionnaire consisting of two sections, first section having 13 items included personal information, own opinion regarding academic achievement, information regarding his/ her self-physical, social-media activities, creative leisure time activities, self-development related activities, daily activities of personal preferences and any other specific activities other than those mentioned and second section with General Health Questionnaire (GHQ-28) was used for data collection. Statistical analysis was performed using Chi-square test and independent t-test to test the significance.

Results: Overall 43.1% of students were screened by GHQ as having psychiatric problem. Greater proportion of students involved in activities like exercise, playing outdoor game, speaking with friends and relatives, creative writing, performing music/dance/drama, reading books other than study material also had low GHQ score , so were screened as non-psychiatric and significant difference in their mental health status were also found for activities like exercise (p=0.000), outdoor games (p=0.000), speaking with friends and relatives (p=0.001), creative writing (p=0.000), performing music/dance/drama (p=0.000), reading books other than study material (p=0.000). Whereas greater proportion of students who were the users of content community, social net-working, playing virtual game and indoor game, were found to have higher GHQ score and significant difference in their levels of psychological well-being were also found.

Conclusion: From the study it was found that time spent on social media activities had negative impact on mental health status of the students, whereas creative leisure time activity, self-development related activity had positive impact on psychological wellbeing. Though no relation had been found between time spent on physical activity and mental health, exercise, outdoor game had positive association with mental health status.

Keywords: Surplus time, Psychological well-being

Introduction

"The eternal problem of the human being is how to structure his waking hours**"** ― Eric Berne **[1]**

According to Berne, a noted psychiatrist, human motivation for behaving comes from biogenic drives for survival, like hunger for food. Besides those biogenic drives there are certain psychological drives, like stimulus hunger, recognition hunger and structure hunger, which are the motives of the common human dilemma of deciding what to do with 8760 hours a year. [2] Some persons devote this whole time for survival needs of obtaining food, sleep and shelter, but in technologically and gadget dependent modern society most people have enough left-over time ie. 'surplus time'. The dilemma in structuring the surplus time is primarily based on a choice between progression and regression and absence of structuring invites a sense of emotional vacuum ("existential vacuum") leading to poor mental health. In every situation we have two options, determining what we are and what we would be through progressive positive activities, promoting our growth, or regressive, self-fulfilling activities like substance use, gambling or so on.

Use of modern technology, increase use of mobile phones in day-to-day life has decreased physical activities leading to the vulnerability of physical and mental conditions. [3,.4,5] Structured and organized use of surplus time contribute to healthy development by aligning individual's strengths with developmental assets specially in early age. [6] In this competitive world, increase in academic as well as other career related pressure leads to huge burden of stress on young adult. According to 2021 National Survey on Drug Use and Health (NSDUH) report young adults aged 18-25 years had the highest prevalence of any mental illness which is about 33.7% and in India about 13-45%. [**7,8]**

There is a positive relationship with leisure time and mental health according to different studies. [9] From this point of view, we wanted to conduct a study among medical students of College of Medicine and Sagore Datta Medical College & Hospital as structured use of surplus hours is very much important in determining social, emotional, cognitive, and other spheres of their mental health with the background of huge curricular pressure as well.

General Objective

To explore the way of structuring surplus time and to assess whether there is any relation between the use of surplus hours and their psychological well-being.

Specific Objectives

1. To find out the pattern of use of the surplus time by the Medical Students

2. To assess the level of psychological well-being of the study population

3. To find out the distribution of levels of their psychological well-being according to the pattern of use of surplus time.

Material & Methods

Study Type, Design And Population: A descriptive observational cross-sectional study was done among first, second and third phase MBBS students in the College of Medicine and Sagore Datta Medical College and Hospital in West Bengal. The college has an intake of 125 students per year.

Study Duration: 6 months; December 2022- May 2023

Sample Size and Sampling Design: As it is an exploratory study, all the students enrolled in First, second and third phase MBBS course in College of Medicine and Sagore Datta Medical College and Hospital were invited to participate in the study voluntarily. Out of 375 students in three phases 248 students responded at first through google form. Out of them three students had preexisting psychiatric disorder and two had chronic medical illness. So, excluding 5, 243 students were given the chance to open the second part. Out of these 243, 238 students responded of which 6 forms were incomplete. So, final sample size came to be 232.

Exclusion Criteria: Those who had any diagnosed pre-existing psychiatric disorder (as disclosed by them confidentially) or any chronic medical illness which may have some bearings on mental health were excluded

Method of DATA Collection: A pre-designed questionnaire consisting of two sections, having 13 items included personal information, own opinion regarding academic achievement, information regarding his/ her self-physical activities, social-media activities, creative leisure time activities, self-development related activities, daily activities of personal preferences and any other specific activities other than those mentioned. This questionnaire was validated for content validity by subject-material experts and pre-tested in a similar population to ensure internal consistency and reliability. The second section included the General Health Questionnaire (GHQ-28), a self-administered questionnaire, which is used as an indicator of psychological well-being and for screening common mental disorders like somatic symptoms, anxiety, and insomnia, social dysfunction and severe depression and help for further intervention. Total score ranges from 0 to 84 with higher scores indicating a greater probability of

a psychiatric distress. Goldberg (1978) suggested that participants with total scores of 23 or below should be classified as non-psychiatric, while participants with scores > 24 may be classified as having psychiatric problem. [10] Here in our study non-psychiatric will be described as preserved psychological well-being for better understanding.

The questionnaire consisting of two sections was sent through personal email in a Google form. The participants were given access to main questionnaire only after giving written consent and disclosure about mental and physical illness if any, in the first page of the form. The questionnaire had a unique identification number to refer the participants having psychiatric illness for detailed psychiatric evaluation and management, if necessary.

Statistical Analysis: The data were entered in MS excel spreadsheet and checked for consistency. The average 'surplus time' (in hours) spent in different activities was calculated with mean and standard deviation (SD). Pattern of surplus time activities were compared between the groups with preserved psychological well-being and without, by Chi-square test and the average surplus time spent for different activities was compared between the groups of preserved psychological well-being and psychiatric using independent sample t test.

Ethics: After getting permission from the Institutional Ethics Committee the study was commenced maintaining anonymity and confidentiality of collected information. The study had observed the ethical standards of a descriptive epidemiological study.

Result

Table 1 Distribution of students according to their surplus time (n=232)

	Mean	SD	Range
Surplus Time in hours	97.2608	11.43464	70.00 -130.00

Table 2. Distribution of different activities in surplus time according to gender

Activities in Surplus time			Male Frequency (%)	Female Frequency (%)	Total Frequency (%)	Test of significance (Chi-square)
Shopping (online and/ offline)		YES	105 (76.1)	75 (79.8)	180 (77.6)	x^2=1.005 df=1 p=0.605
		NO	33 (23.9)	19 (20.2)	52 (22.0)	
Physical activities	Exercise	YES	39 (28.3)	30 (31.9)	69 (29.7)	x^2=0.357 df=1 p=0.550
		NO	99 (71.7)	64 (68.1)	163 (70.3)	
	Outdoor game	YES	66 (47.8)	29 (30.9)	95 (40.9)	x^2=6.663 df=1 p=0.010*
		NO	72 (52.2)	65 (69.1)	137 (59.1)	
	Indoor game	YES	67 (48.6)	21 (22.3)	88 (37.9)	x^2=17.389 df=1 p=0.000*
		NO	71 (51.4)	73 (77.7)	144 (62.1)	
Social media activities	Blog	YES	21 (15.2)	13 (13.8)	34 (14.7)	x^2=0.086 df=1 p=0.769
		NO	117 (84.8)	81 (86.2)	198 (85.3)	
	Content communities	YES	82 959.40	53 (56.4)	135 (58.2)	x^2=0.212 df=1 p=0.645
		NO	56 (40.6)	41 (43.6)	97 (41.8)	
	Social networking	YES	103 (74.6)	80 (85.1)	183 (78.9)	x^2=3.678 df=1 p=0.055
		NO	35 (25.4)	14 (14.9)	49 (21.1)	
	Virtual game	YES	58 (42.0)	13 (13.8)	71 (30.6)	x^2=20.936 df=1 p=0.000*
		NO	80 (58.0)	81 (86.2)	161 (69.4)	
Regular casual activities	Speak with friends or relatives	YES	119 (86.2)	83 (88.3)	202 (87.1)	x^2=0.212 df=1 p=0.645
		NO	19 (13.8)	11 (11.7)	30 (12.9)	
	Relative meet	YES	48 (34.8)	46 (48.9)	94 (40.5)	x^2=4.648 df=1 p=0.031*
		NO	90 (65.2)	49 (51.1)	138 (59.5)	
	Prayer	YES	73 (52.9)	65 (47.0)	124 (53.4)	x^2=0.705 df=1
		NO	64 (46.4)	43 (45.7)	108 (47.0)	

						p=0.703
	Going outside for walk	YES	103 (74.60	65 (69.1)	168 (72.4)	x^2=0.843
		NO	35 (25.4)	29 (30.9)	64 (27.6)	df=1 p=0.358
	Cooking	YES	46 (33.3)	40 (42.6)	86 (37.1)	x^2=2.037
		NO	92 (66.7)	54 (57.4)	146 (62.9)	df=1 p=0.153
	Movie	YES	93 (67.4)	53 (56.4)	146 (62.9)	x^2=2.905
		NO	45 (32.6)	41 (43.6)	86 (37.1)	df=1 p=0.088
	Party with friends	YES	43 (31.2)	27 (28.7)	70 (30.2)	x^2=0.157
		NO	95 (68.8)	67 (71.3)	162 (69.8)	df=1 p=0.691
	Watching TV	YES	27 (19.6)	25 (26.6)	52 (22.4)	x^2=1.589
		NO	111 (80.4)	69 (73.4)	180 (77.6)	df=1 p=0.207
	Addiction	YES	09 (9.4)	06 (2.1)	15 (6.5)	x^2=2.390
		NO	125 (90.6)	92 (97.9)	217 (93.5)	df=1 p=0.122
	Listens music	YES	105 (76.1)	67 (71.3)	172 (74.1)	x^2=0.675
		NO	33 (23.9)	27 (28.7)	60 (25.9)	df=1 p=0.411
Creative leisure time activities	Creative writing	YES	43 (31.2)	32 (34.0)	75 (32.3)	x^2=0.21
		NO	95 (68.8)	62 (66.0)	157 (67.7)	df=1 p=0.645
	Photography	YES	63 (45.7)	27 (45.7)	90 (38.8)	x^2=6.749
		NO	75 (54.3)	67 (71.3)	142 (61.2)	df=1 p=0.013*
	Painting	YES	30 (21.7)	40 (42.6)	70 (30.2)	x^2=11.497
		NO	108 (78.3)	54 (57.4)	162 (69.8)	df=1 p=0.001*
	Performing music/dance/drama	YES	44 (31.9)	46 (48.9)	90 (38.8)	x^2=6.847
		NO	94 (68.1)	48 (51.1)	142 (61.2)	df=1 p=0.010*
	Sewing	YES	09 (6.5)	09 (9.6)	18 (7.8)	x^2=0.728
		NO	129 (93.5)	85 (90.4)	214 (92.2)	df=1 p=0.394
	Gardening	YES	26 (18.3)	21 (22.3)	47 (20.3)	x^2=0.424
		NO	112 (81.2)	73 (77.7)	185 (79.7)	df=1 p=0.515
	Travelling	YES	82 (59.4)	36 (38.3)	118 (50.9)	x^2=9.981
		NO	58 (40.6)	58 (61.7)	114 (49.1)	df=1 p=0.002*
Activities for self-development	Learning language	YES	34 (24.6)	30 (31.9)	64 (27.6)	x^2=1.482
		NO	104 (75.4)	64 (68.1)	168 (72.4)	df=1 p=0.223
	Newspaper reading	YES	50 (36.2)	27 (28.7)	77 (33.2)	x^2=1.422
		NO	88 (63.8)	67 (71.3)	155 (66.8)	df=1 p=0.233
	Reading books other than study material	YES	84 (60.9)	57 (60.6)	141 (60.8)	x^2=0.001
		NO	54 (39.1)	37 (39.4)	91 (39.2)	df=1 p=0.972
Social work	Involvement in social work individually	YES	35 (25.4)	18 (19.1)	53 (22.8)	x^2=1.225
		NO	103 (74.6)	76 (80.9)	179 (77.2)	df=1 p=0.268
	Involvement in social work at group level	YES	41 (29.7)	27 (28.7)	68 (29.3)	x^2=0.026
		NO	97 (70.3)	67 (71.3)	164 (70.7)	df=1 p=0.871

- Indicates significant difference

Table 2 shows that180 (77.6%) of students do shopping, through online, offline or both modes. Regarding Physical activities in surplus time, only 69 (29.1%) students do exercise having no difference between male and female. 95 (40.9%) students play outdoor game and 88 (37.9%) play indoor game with a significant difference between male and female (p=0.010) and (p=0.000) respectively.

For social media activities in surplus time, 34 students do blog and 135 search YouTube etc. as content community activity without any significant difference between male and female. 183 (78.9%) students participate in social networking and 71 (30.6%) play virtual game and significant difference (p=0.055), (0.000) exist between male and female respectively in these modes of use of surplus time.

94 (40.5%) students meet their relatives and this is more in female (48.9% in female vs 34.8% in male) with significant difference (p=0.031) between two genders. 202 (87.1%) students talk with relatives or friends, 124(53.4%) have habit of prayer, 168(72.4%) go outside for walk, 86(37.1%) cook, 168(62%) go for watching movie, 52(22.4%) watch television, 70(30.2%) do party with friends 172(74.1%) listen music without any significant difference between male and female. Only 6.5% students informed that they spend time for their addiction, though this seems to be very less.

For creative leisure time activity, significant difference exists between male and female in painting (p=0.001) and photography (p=0.013), performer of music/drama/dance (p=0.010) and travelling (p=0.002). 70 (30.2%) students do painting and among female the habit is more (42.6% of female vs 21.7% of male), 90 (38.8%) students do photography and 90 (38.8%) perform music/drama/dance and this is also more in female (48.9% in female vs 31.9% in male) and 118 (50.9%) subjects have habit of travelling and this is more in male (59.4% in male vs 38.3% in female). 75 (32.3%) study subjects do creative writing, 47(20.3%) do gardening and 18(7.8%) have habits of sewing and no significant difference exist between male and female in these activities.

For self-developmental activities, 64(27.6%) of study subjects learn language, 77(33.2%) have habit of reading newspaper and 141(60.8%) subjects reads books other than their study material and no significant difference in male and female students is present.

22.8% of the study subjects do social work individually and 29.3% do it at group level without any significant difference between male and female.

Table 3. Distribution of students according to level of psychological well-being (GHQ score)

Gender	GHQ		Total Frequency (%)
	≤23 (Nonpsychiatric) Frequency (%)	>24 (Psychiatric) Frequency (%)	
Male	77 (55.8)	61 (44.2)	138 (100.0)
Female	55 (58.4)	39 (41.6)	94 (100.0)
Total	132 (56.9)	100 (43.1)	232 (100.0)

Table3. Shows that overall, 56.9% have score **≤23** or having no psychological problem and 43.1% have score **>24**, have psychological problem.

Table 4: Distribution of level of psychological status according to pattern of activities in surplus time

Different activities			Psychological status with GHQ scoring		Total	Significance test (Chi-square)
			(Nonpsychiatric) Frequency (%)	(Psychiatric) Frequency (%)	Frequency (%)	
Social media activity	**Blog**	Yes	18 (52.9)	16 (47.1)	34 (100.0)	x^2=0.254 df=1 p=0.614
		No	114 (57.6)	84 (42.4)	198 (100.0)	
	Content communities	Yes	65 (48.1)	70 (51.9)	135 (100.0)	x^2=10.076 df=1 p=0.002*
		No	67 (69.1)	30 (30.9)	97 (100.0)	
	Social networking	Yes	88 (48.1)	95 (51.9)	183 (100.0))	x^2=27.416 df=1 p=0.000*
		No	44 (89.8)	5 (10.2)	49 (100.0)	

	Virtual game	Yes	32 (45.1)	39 (54.9)	71 (100.0)	x^2=5.835 df=1 p=0.021*
		No	100 (62.1)	61 (37.9)	161 (100.0)	
Physical activity	**Exercise**	Yes	58 (84.1)	11 (15.9)	69 (100.0)	x^2=29.543 df=1 p=0.000*
		No	74 (45.4)	89 (54.6)	163 (100.0)	
	Outdoor game	Yes	79 (83.2)	16 (16.8)	95 (100.0)	x^2=45.240 df=1 p=0.000*
		No	53 (38.7)	84 (61.3)	137 (100.0)	
	Indoor game	Yes	41 (46.6)	47 (53.4)	88 (100.0)	x^2= 6.696 df=1 p=0.035*
		No	91 (62.9)	53 (37.1)	144 (100.0)	
Regular casual activities	**Speak with friends and or relatives**	Yes	124 (61.4)	78 (38.6)	202 (100.0)	x^2=12.839 df=1 p=0.001*
		No	8 (26.7)	22 (73.3)	30 (100.0)	
	Meet relatives	Yes	55 (58.5)	39 (41.5)	94 (100.0)	x^2=0.168 df=1 p=0.682
		No	77 (55.8)	61 (44.2)	138 (100.0)	
	Prayer	Yes	71 (57.3)	53 (42.7)	124 (100.0)	x^2=0.794 df=1 p=0.672
		No	60 (56.1)	48 (43.9)	108 (100.0)	
	Listening Music	Yes	109 (63.4)	63 (36.6)	172 (100.0)	x^2=11.372 df=1 p=0.001*
		No	23 (38.3)	37 (61.7)	60 (100.0)	
	Cooking	Yes	48 (55.8)	38 (44.2)	86 (100.0)	x^2=0.065 df=1 p=0.798
		No	84 (57.5)	62 (42.5)	146 (100.0)	
	going out for walk	Yes	98 (58.3)	70 (41.7)	168 (100.0)	x^2=0.513 df=1 p=0.474
		No	34 (53.1)	30 (46.9)	64 (100.0)	
	Movies etc	Yes	85 (58.2)	61 (41.8)	146 (100.0)	x^2=0.281 df=1 p=0.596
		No	47 (54.7)	39 (45.3)	86 (100.0)	
	Taking party with friends	Yes	41 (58.6)	29 (41.4)	70 (100.0)	x^2=0.115 df=1 p=0.735
		No	91 (56.2)	71 (43.8)	162 (100.0)	
	Watching TV	Yes	33 (63.5)	19 (36.5)	52 (100.0)	x^2=1.178 df=1 p=0.278
		No	99 (55.0)	81 (45.0)	180 (100.0)	
	Addiction	Yes	06 (54.5)	05 (45.5)	11 (100.0)	x^2=0.026 df=1 p=0.872
		No	126 (57.0)	95 (43.0)	221 (100.0)	
Creative leisure time	**Creative writing**	Yes	67 (89.3)	08 (10.7)	75 (100.0)	x^2=47.547

		No	65 (41.4)	92 (58.6)	157 (100.0)	df=1 p=0.000*
	Photography	Yes	45 (50.0)	45 (50.0)	90 (100.0)	x^2=2.852 df=1 p=0.091
		No	87 (61.3)	55 (38.7)	142 (100.0)	
	Painting	Yes	39 (55.7)	31 (44.3)	70 (100.0)	x^2=0.057 df=1 p=0.811
		No	93 (57.4)	69 (42.6)	162 (100.0)	
	Performing Music/dance/drama	Yes	67 (74.4)	23 (25.6)	90 (100.0)	x^2=18.463 df=1 p=0.000*
		No	65 (45.8)	77 (54.2)	142 (100.0)	
	Sewing	Yes	10 (55.6)	08 (44.4)	18 (100.0)	x^2=0.014 df=1 p=0.905
		No	122 (57.0)	92 (43.0)	214 (100.0)	
	Gardening	Yes	32 (68.1)	15 (31.9)	47 (100.0)	x^2=3.009 df=1 p=0.083
		No	100 (54.1)	85 (45.9)	185 (100.0)	
	Travelling	Yes	65 (55.1)	53 (44.9)	118 (100.0)	x^2=0.321 df=1 p=0.571
		No	67 (58.8)	47 (41.2)	114 (100.0)	
Self-development	**Learning Language**	Yes	38 (59.4)	26 (40.6)	64 (100.0)	x^2=0.221 df=1 p=0.638
		No	94 (56.0)	74 (44.0)	168 (100.0)	
	Newspaper reading	Yes	49 (63.6)	28 (36.4)	77 (100.0)	x^2=2.135 df=1 p=0.144
		No	83 (53.5)	72 (46.5)	155 (100.0)	
	Reading books other than study material	Yes	102 (72.3)	39 (27.7)	141 (100.0)	x^2=34.961 df=1 p=0.000*
		No	30 (33.0)	61 67.0	91 (100.0)	
Social work	**Individual level**	Yes	35 (66.0)	18 (34.0)	53 (100.0)	x^2=2.341 df=1 p=0.155
		No	97 (54.2)	82	179 (100.0)	
	Group level	Yes	40 (58.8)	28 (41.2)	68 (100.0)	x^2=0.146 df=1 p=0.408
		No	92 (56.1)	72 (43.9)	164 (100.0)	

***Indicates Significant Difference**

Table 4 shows that among the 69 study subjects who does exercise 84.1% and 95 subjects who play outdoor game 83.2% have normal GHQ score and preserved psychological well-being and significant difference is present regarding mental health status between doers of exercise or players of outdoor game (p=0.000 in each) from those who do not participate in exercise or outdoor game. Among the participants of indoor game 53.45 % have abnormal GHQ score ie. have psychiatric problem and this is also significantly different (p=0.035) from those who do not play indoor-game. 51.9% of users of content community, 51.9% of social networking users and 54.9% of subjects who are involved in virtual game have above normal GHQ score and significant difference existed in all the three (p=0.002, p=0.000, p=0.021) respectively with those having preserved psychological status. 47.1% of subjects who use blog had above normal GHQ score and there was no significant difference in psychological well-being with the non-users of blog.

Among 202 students who speak with friends and relatives, 61.4% and among 172 students who listen

music, 63.4%, have preserved psychological wellbeing and significant difference (p=0.001 in each) in mental health status exist between those who do these two activities with those who do not. Greater percentage of students who is involved in all other casual activities has normal GHQ score ie. preserved psychological well-being.

Of 75 students who have habit of creative writing, 89.3% and among 90 performers of music/dance/drama, 74.4% have preserved psychological well-being and have significant difference (p=0.000) in level of psychological wellbeing between performers and nonperformers.

In case of activities for self-development significant difference in levels of psychological well being exists only in those having activity like reading books other than study material (p=0.000) than who does not. Most of the students who read Newspaper or learn language have preserved psychological well-being, significant difference does not exist in these two groups of readers and non readers.

Regarding social work, out of 53 who do it individually, 66% and out of 68 who do it at group level, 58.8% have preserved psychological well-being, though no significant difference in mental health status exists in both the cases.

Table 5. Association between time spent in different activities and psychological well-being

Time spent in hours	Psychological well-being	Mean	SD	Independent t test
Time spent daily on physical activity	**Non-Psychiatric**	2.97	2.071	t=-0.248 p=0.805
	Psychiatric	2.90	2.106	
Time spent daily on social media activity	**Non-Psychiatric**	2.833	1.4938	t=-3.926 p=0.000*
	Psychiatric	5.675	8.1443	
Time spent in week on regular casual activity	**Non-Psychiatric**	61.58	18.339	t=--0.255 p=0.799
	Psychiatric	60.90	21.985	
Time spent in a week on creative leisure time	**Non-Psychiatric**	6.345	7.4836	t=-2.939 p=0.004*
	Psychiatric	3.830	4.7621	
Time spent in week on self-development	**Non-Psychiatric**	4.515	4.8974	t=-3.127 p=0.002*
	Psychiatric	2.600	4.2236	

***Indicates Significant Difference**

This table 5 shows that time spent in hours daily on social media activities (2.833 ± 1.4938) by students who are non-psychiatric is less than mean time spent (5.675 ± 8.1443) by those who have psychiatric problem and these are significantly different (p=0.000). Time spent in hours in a week on creative leisure time (6.345 ± 7.4836) by students who have preserved psychological wellbeing is more than mean time spent (3.830 ± 4.7621) by those who have psychiatric problem and significant difference (p=0.004) is also there. Students who spend more time in self-developmental activity are non-psychiatric (p=0.002). For regular casual activities no significant difference was found in time spent by two groups of students.

Discussion

Surplus time is the time which one can spend as per his or her own choice after completion of daily activities. After launching of broadband policy in India in 2004, pattern of use of surplus or leisure time had changed a lot. Since 2013, with the amendment of broadband policy that is increase in download speed and different supportive interactive services, people are using mobile phone for different activities and this had changed their lifestyle also. Especially, younger people became more involved with mobile and internet using activities. With this perspective our aim was to get an idea about the pattern of use of surplus hours by medical students and the impact of the pattern of use of surplus hours on psychological wellbeing.

Here in our study, for background information of study participants, it is found that out of 232 students, 138 (59.5%) are male and 94 (40.5%) females. Majority (57.33%) of students stay in hostel, 55.6% from urban area and from nuclear family (81%). 54.3% students studied in govt. or govt. aided school. 52.6% students' father is in service and most (77.6%) of the students' mothers are home maker. Majority of students' parents are graduate and 65.1% belong to upper socioeconomic status. 61.2% students informed that they have average academic performance followed by 27.2% who are good. In a week 43.5% of students spent <5hours for online academic purpose while 28.4% spent ≥20 hours for offline academic purpose. 53.9% students sleep for ≥5 -≤8 hours daily followed by 38.4% for <5hours and 7.8% for >8 hours.

Mean surplus time of the study subjects is 97.26 hours with SD 11.43 with a range of 70 to 130 hrs in a week. Regarding physical activities in surplus time, in our study, there is no difference in male or female regarding exercise. Significant difference is present between two genders in playing outdoor game and indoor game, which is supported by

another study showing that girls played more indoor games than boys without having significant difference. [9] For social media activities in surplus time, significant difference exists between male and female in social networking and playing virtual game and no difference in users of blog and YouTube as content community activity. Regarding regular casual activities, greater proportion of females meet their relatives with significant difference between two genders. Only 6.5% students informed that they spend time for their addiction, though this seems to be very less. For creative leisure time activity, significant difference exists between two genders in photography, painting, performing music/dance/drama, travelling and females are more involved mostly in these activities except travelling and photography. A study at Bamyan university showed that overall female students were more involved in creative leisure time activity than male students though the response rate was lower as a whole. [11] For self-developmental activities, no significant difference in male and female students is present. In a study in Iran among Medical students by 64.6% students read books other than study materials and there was also no significant difference between male and female. [12] According to a study by Ibrahim MR et al., the male students more positively responded to the activities like newspaper reading, learning language compared to the female students. [11] No significant difference exists between male and female study subjects who do social work individually and those who do it at group level.

While assessing psychological wellbeing by GHQ-28 screening questionnaire, in this study, overall, 56.9% have score ≤23 or having no psychological problem and 43.1% have score >24 ie. they may have psychological problem. Distribution of male or female is almost equal in both the groups. Prevalence of psychological distress was 51.5% in a study by Bhad P et al. which is more than ours, and 27.3% in another study by Chowdhury F et al. which is less than our findings. [13,9]

In this study significant difference exists for level of psychological well-being between those who do exercise or play out-door game from those who do not. So, physical activity, specially playing outside or doing exercise has a positive effect on psychological well-being. In-depth information regarding impacts of physical exercise on psychological well-being in university students in USA showed that physical exercise was more effective way of reducing stress than passive forms of leisure such as watching TV or even social leisure, such as meeting with friends. [14] In our study, among the students who play indoor game, greater proportion of students have psychiatric problem which is supported by one study showing that students across all ages, who played indoor game as leisure time activities were more distressed than those who played outdoor game. [9] Impact of physical activity on mental health may be explained by several physiological and neurobiological theories. Physical activity stimulates serotonin and endorphin release and facilitates hypothalamic-pituitary axis which is responsible for stress hormone or cortisol secretion. [15]

From this study it can be said that those who are more involved in social media have psychiatric problem. Study by Barman L. in in Kolkata on Medical students showed significant association of high use of social media with anxiety and depression. [16]

Though in all the regular casual activities greater percentage of students who are involved in a particular activity has normal GHQ score, no significant difference in mental health status is present in most of them. Greater proportion of students who speak with friends and relatives, who listen music have preserved psychological wellbeing and significant difference in level of psychological well-being exist between doers and not-doers of these. So, from our study we can find that students who are involved in regular casual activities and have connection with society, have no psychological problem than who are not. In a study by Bhad P et al. in India a statistically significant association was found between prevalence of severe psychological distress versus time spent with parents (OR 2.7, 95% CI 1.14, 6.4; P=0.023) where only 5.9% students had severe psychological distress, if they spent time daily with their parents. [13] This information is also supported by a longitudinal study on Northern Finland Birth Cohort 1986 showing that socially active leisure (SLA) time ie. meeting with friends, playing, going to movies (high SLA) in adolescence during 15-16 years of age was associated with a lower incidence of psychiatric disorders in follow-up (16-33 years of age). The said study also showed that meaningful social leisure time activities had a positive impact on current and future mental health. [17]

Statistically significant difference also exists between psychological well-being of students who do creative writing and perform music/dance/drama in this study. So, with creative activity there is chance of preserved mental health which we have also found in another study. [17]

In case of activities for self-development significant difference in mental health status exists only in the activity like reading books other than study material. Most of the students who read newspaper or learn language have preserved psychological well-being but without having any significant difference in mental health status. For social work, no significant difference exists in mental health status of students who do it or not. This finding is different from

another study where it can be found that students who participate in social activity were comparatively more mentally healthy than the who do not. [18]

Our study findings showed that more time spent on social media activity has negative impact on mental health. In a study among Indian medical students, depression and anxiety scores were higher in students who used social media for greater duration and those who used for less duration and those were significantly different. [16] A study by Twenge JM et al. showed that increase in time spent on social media has progressively negative impact on mental health. [19] In this study, those who spend greater duration for creative activity in surplus hour are non-psychiatric and this finding is also supported by another study. [18] No significant difference with mental health status was found regarding time spent on physical activity by the subjects in our study, which is also supported by one Indian study. [18] Same finding was also seen in case of time spent in self -development related activity and mental health status of the student in our study.

Conclusion

The study to explore the way of structuring surplus time by medical students and to assess whether there is any relation between the use of surplus hours and their mental health showed that time spent on social media activities had negative impact on mental health status of the students, whereas creative leisure time activity, self-development related activity had positive impact on psychological wellbeing. Though no relation had been found between time spent on physical activity and mental health, exercise and outdoor game had positive association with mental health status. So, exercise, outdoor game activity can be promoted in the college according to new curriculum implemented by National medical Council. Students can be motivated to structure their surplus time so as to improve their mental health status.

Limitation

It was a cross-sectional study. Longitudinal study can be done to get better result. Some other information like diet could have been collected as diet has an important relation with mental health also. In this study limited information regarding substance use was present which could be explored further.

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