



COVID -19 AND ITS IMPACT ON MENTAL HEALTH OF MARINE ENGINEERING CADETS: AN EMPIRICAL STUDY

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ABSTRACT- This research study is about COVID - 19 and its impact on the mental health of Marine Engineering Cadets with reference to Chennai. The research, which comprises cadets in both Undergraduate (UG) and Postgraduate (PG) levels. Data collection is carried out using a questionnaire, which is the main source of data collected. Secondary data from blogs, the internet, and newspapers. To assess their knowledge of COVID - 19 for their mental wellbeing, the study of 150 responses is collected from the cadets of Maritime University. Our study's findings highlight the urgent need to address the mental health of marine engineering cadets to develop preventive strategies to provide timely provision for future pandemic situations and mental health among cadets of the university.

Keywords: COVID - 19, Cadets, Marine Engineering, Maritime Universities

I. INTRODUCTION

The leading barrier to academic achievement is mental health problems. Mental illness will affect the career aspiration and happiness of cadets. Therefore, the COVID - 19 pandemics has brought Marine Engineering cadets' mental health into view. The purpose of this study is to define the key factors with the COVID - 19 pandemic, such as awareness of COVID - 19, changes in academic performance, lifestyle, and mental health with the COVID - 19 pandemic, and to understand their effect on mental health cadets. This research paper explains, through online surveys, the findings of the mental health effects of cadets at Maritime University.

NEED FOR THE STUDY

This research has been done to understand the view of cadets on the COVID - 19 in B.E Marine Engineering(UG) and Graduate in Marine Engineering (PG), which helps to examine their shift in lifestyle and academic performance during the pandemic situation.

II. REVIEW OF LITERATURE

Wang, Xet al., (2020) reported that academic, health and lifestyle-related concerns are caused by the pandemic. In their research, Wang C et al. (2020) identified that mental health disorders can significantly impact the academic performance of students and social experiences that influence their potential career and personal opportunities. It is expected that the rapid dissemination of COVID-19 and social distancing initiatives implemented across the country would further impact the population's mental health, including college students. Sahu, P. (2020) revealed that previous studies have shown that the current pandemic could have widespread effects on the learning experiences of students. In their research, Kecojevic, A., et al. (2020) found that the COVID-19 pandemic had a substantial negative effect on college students' mental health. There is a need for concerted initiatives to improve students' mental health and well-being.

OBJECTIVES OF THE STUDY

- To study the demographic profile of the cadets in the Marine Universities

- To analyze the influencing factors having an impact on COVID - 19 among the cadets of Marine engineering in the Undergraduate(UG) and Postgraduate (PG) level

RESEARCH HYPOTHESES

H_0 - There is no significant association between awareness on COVID - 19 and Lifestyle

H_1 - There is an association between awareness on COVID - 19 and Lifestyle

III. RESEARCH METHODOLOGY

Sources of Data Collection

The present study is based on both Primary and Secondary data. Primary data was collected through a structured questionnaire. Data was collected from the cadets of Marine Engineering in the Undergraduate (UG) and Postgraduate (PG) level

Secondary data was collected from different sources such as Magazines, Journals, Websites, Books, News Papers, online resources, blogs, etc.,

Questionnaire Design

The questionnaire used for this study comprises questions related to Awareness on COVID - 19, Changes in Academic Performance, Changes in Lifestyle, and Mental Health. 5 point Likert scales ranging from strongly agree to strongly disagree have been used for the study.

Sample Size

The Sample size is 150

LIMITATIONS OF THE STUDY

1. The study is only restricted to Marine Engineering cadets only
2. The respondents' replies tend to be biased due to the intensity and nature of the question.
3. The sample size is limited to 150 respondents and hence the findings are restricted.

IV. ANALYSIS AND INTERPRETATION

Demographic Profile of the Respondents

Frequency Table

Table 1: Demographic Profile of Respondents

	Variables	No. of respondents	Percentage
Gender	Male	150	100
		150	100
Age	Below 22 yrs	54	36

	Above 22 yrs	96	64
	150		100
Major	BE Marine Engineering	74	49.3
	Graduate in Marine Engineering	76	50.7
	150		100

The above table shows that out of 150 respondents 36% of males are in the age group between below 22 years and 64% of males are in the age group of above 22 years. 49.3% of the respondents are BE Marine Engineering and 50.7% of the respondents are Graduate in Marine Engineering.

Table 2: Reliability Analysis –Scale

	Number of Respondents	Number of Items	Alpha
Impact of COVID - 19	150	26	0.753

Table 2 shows the result of reliability analysis –Cronbach alpha value. This test measured the consistency between the survey scales. The Cronbach Alpha score of 1.0 indicates 100 percent reliability. Cronbach's Alpha scores were all greater than Nunnally's generally accepted score of 0.7. In this case, the score was 0.753 for the COVID - 19 and its impact on the mental health of cadets of Marine Engineering in the Undergraduate (UG) and Postgraduate (PG) levels.

Descriptive Statistics showing Mean and Standard Deviation

Table 3: Mean and SD of Awareness on COVID - 19, Academic Performance, Change in Life Style and Mental Health

Awareness on COVID - 19	Mean	Standard Deviation
Spreads via Respiratory droplets from an infected individual	3.9533	1.04488
Clinical symptoms are fever, fatigue, breathlessness, and dry cough	4.1267	1.07626
Elderly people and people with chronic illness are prone to get infected	4.1600	1.01055
Awareness in maintaining social distancing	4.4267	.82207
Wearing a mask while stepping out from home	4.5168	.76762
Frequently washing hands with soap	4.5400	.72935
Symptomatic and supportive care at an early stage will help Many patients are recovering from the disease.	4.4467	.84771
Not all people with COVID -19 will develop severe illness	4.2733	.91150
Academic Performance		
Introduction to New Online teaching platform	3.7200	.98390
Ability to focus on academic work from home	3.6133	1.09168

Completing assignments and exams through online mode	3.7200	1.03703
Difficulty in accessing the online platform	3.7533	1.09260
Inadequate Wi-Fi, desktop, and computer availability to attend the online class	3.7867	1.07807
Lack of Practical training	3.9400	1.15410
Change in LifeStyle		
Difficulty in sleeping pattern	3.5667	1.14351
Disruptions in eating pattern	3.7718	2.67147
Difficulty in concentrating on studies	3.6733	1.17865
Changes in the living environment	4.1067	2.58583
Increased spending on sanitization	3.9133	1.02935
Limited social outings	4.0000	1.05551
Mental Health		
Concern on Health	3.9733	1.03591
More exposure to Gadgets for online class	4.0267	.98271
Increased academic workload	3.9667	.96528
Stressful thoughts	4.0133	1.03617
Financial difficulties	3.9800	1.08356
Impact on employment/placement	3.7733	1.33686

Based on the mean score, frequently washing hands with soap (4.54) is the most important factor of Awareness on COVID - 19 followed by wearing a mask while stepping out from home (4.51), followed by the least factor is Spreads via Respiratory droplets from an infected individual (3.95)

Based on the mean score, Lack of practical training is the important factor for Academic Performance (3.94), followed by Inadequate Wi-Fi, desktop, and computer availability to attend online class (3.78). The last factor is the ability to focus on academic work from home (3.61).

Based on the mean score, changes in the living environment are the important factor in the change in lifestyle (4.10), followed by limited social outings (4.0) and increased spending on sanitization (3.91) the last factor is Difficulty in the sleeping pattern (3.56).

Based on the mean score, more exposure to gadgets for an online class on mental health (4.02) followed by Stressful thoughts (4.01) and financial difficulties (3.98).The last factor is the impact on employment/placement (3.77).

Table 4:Independent Sample T-Test

Group Statistics					
	Major	N	Mean	Std. Deviation	Std. Error Mean
Awareness	BE Marine Engineering	74	35.3514	5.18278	.60249
	Graduate in Marine Engineering	76	33.5000	5.52208	.63343
Lifestyle	BE Marine Engineering	74	23.5135	5.30764	.61700
	Graduate in Marine Engineering	76	22.5132	6.78133	.77787

The table shows that the cadets who are pursuing the BE Marine Engineering course having a slightly higher mean for awareness on COVID - 19: 35.35 compared to 33.50 for those who pursue the Graduate in Marine Engineering.Also, the lifestyle of the cadet slightly higher mean 23.51 for the cadets of BE Marine Engineering compared to 22.51 for Graduate in Marine Engineering.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Awareness	Equal variances assumed	.056	.813	2.116	148	.036	1.85135	.87494	.12237	3.58034
	Equal variances not assumed			2.118	147.803	.036	1.85135	.87419	.12382	3.57889
Lifestyle	Equal variances assumed	1.608	.207	1.004	148	.317	1.00036	.99607	-.96800	2.96871
	Equal variances not assumed			1.008	141.511	.315	1.00036	.99286	-.96240	2.96311

The above table shows that the test is not significant ($p > 0.05$) on the row for equal variance assumed. In this case, the p-value is .813 which means that the difference found in the table above is more than the significant value which showed that those who are doing BE Marine Engineering having more awareness on COVID - 19 than those who are studying Graduate in Marine Engineering – is not statistically significant. The p-value for lifestyle is .207 which showed that those who are doing BE Marine Engineering having more change in lifestyle during the pandemic situation than those who are studying Graduate in Marine Engineering – is not statistically significant. Thus, the awareness of COVID -19 and changes in lifestyle are not significantly related. Therefore the Null hypothesis is accepted and the alternate hypothesis is rejected.

V. FINDINGS AND SUGGESTION

The Quantitative analysis research was carried out on the cadets of BE Marine Engineering and Graduate in Marine Engineering. The results infer that out of 150 respondents 49.3% of respondents are BE Marine Engineering and 50.7% of the respondents are Graduate in Marine Engineering. Also, 64% of males are in the age group of above 22 years. The descriptive statistics analysis identified that frequently washing hands with soap (4.54) is the most important factor of Awareness on COVID – 19 followed by wearing a mask while stepping out from home (4.5168), Symptomatic and supportive care at an early stage will help many patients are recovering from the disease. (4.4467) and Awareness in maintaining social distancing (4.4267). The least factor of Awareness on COVID – 19 is Spreads via Respiratory droplets from an infected individual (3.9533). However, it is a fact that wearing a mask is to prevent the spread of respiratory droplets. This awareness is found to be low in the cadets. Wearing a mask is directly related to preventing the spread. Under the academic performance factor, Lack of Practical training (3.9400) is the most important statement followed by Inadequate Wi-Fi, desktop, and computer availability to attend online class (3.7867) and Difficulty in accessing the online platform (3.7533). The last statement being the Ability to focus on academic work from home (3.6133). This factor infers that due to the non-availability of Wi-Fi connectivity and difficulty in accessing the online platform, the cadets were not able to concentrate on academic and related activities from home. The government should have come up with free schemes to ensure Wi-Fi connectivity throughout the country when they insist to conduct academic programs through the digital platform. Concerning the Change in Lifestyle factor, Changes in the living environment (4.1067) are the most influential statement followed by Limited social outings (4.0000) and Increased spending on sanitization (3.9133). Though the concentration on studies, food, and eating patterns has been given the least influence, they are the most important for an adolescent life. Parents are the key players who must ensure the health as well as academic activities of their wards at home. Under the Mental health factor, More exposure to Gadgets for an online class (4.0267) is the most influential statement followed by Stressful thoughts (4.0133) and Financial difficulties (3.9800). The last statement is Impact on employment/placement (3.7733). This infers that even during the pandemic, the shipping industry was completely functioning and cadets would have had positive thoughts about placement. The study infers that the awareness of COVID-19 and changes in the lifestyle of the cadets of Be Marine engineering and Graduate in Marine engineering is not statistically significant. Therefore the University should monitor the cadets by taking preventive measures without affecting their career and also by motivating them to analyze the pandemic situation to protect themselves to relieve from stressful thoughts. The factors are influencing more on the Undergraduate cadets compared to Postgraduate cadets. Therefore, all the stakeholders should involve the cadets to maintain a balance between academic and social relevance.

VI. CONCLUSION

Owing to the long-lasting and onerous pandemic, this has resulted in adverse circumstances, such as lockdown and stay-at-home orders, impact on higher learning. Our study's findings highlight the urgent need to address the mental health of marine engineering cadets to develop preventive strategies to provide timely provision for future pandemic situations and mental health among cadets of the university. Largely, the epidemic has psychological consequences for cadets. The health and safety of cadets and staff should be the top priority. Appropriate counseling services should be open to supporting the cadets' mental health and well-being. Members of the faculty are the key stakeholder who should consider the new methodology of teaching through digital media and often pay attention to cadet interactions to ensure wealthy learning and activity.

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