POST-TRAUMATIC STRESS DISORDER AND THEIR COPING STYLES IN DOCTORS: WITH SPECIAL REFERENCE TO HOSPITALS IN KOLKATA
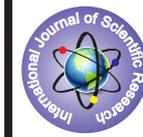
Management

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ABSTRACT This study is undertaken to identify the major reasons that led to PTSD in doctors when they are present in Intensive care unit, the impact of PTSD on the physical , personal and mental wellbeing of the 107 doctors and the coping techniques by implementing which doctors can regain their normal mental stability quickly. A questionnaire survey is being done among the physicians working in Intensive Care Units in different hospitals in Kolkata. Then a Reliability check, Factor Analysis followed by regression is conducted on the data. Clusters analysis is done on the basis of demographic profile . Anova is done along with Manova and Chi-square analysis. Analysis proved that the factors that mainly led to PTSD have an impact on physician's life and job satisfaction and the impact of PTSD varies according to gender and age of physician.

INTRODUCTION

Accidents, Medical Emergencies, Injuries do happen in our day to day life. These incidents most of the time led to trauma in persons who are confronting such situations. Many researches have been done on the persons dealing such traumatic conditions but very few researches are being done on the persons who are assisting such traumatic persons on regular basis. These types of traumatic incidents are being rarely come across by the general public but the medical professionals are more vulnerable to these kinds of situations on regular basis. Doctors particularly feel more challenged from these critical situations since the patient's wellbeing is in their hands. They gradually, unexpectedly fell in to the clutches of traumatic stress which they astonishingly not realise also.The persons working in ICU or other critical care departments daily go through these extremely disturbing situations like distorted wounds and injuries, burn parts etc.. These types of situations remained unnoticed by the general people. Exposure to this type of situations led to symptoms of traumatic stress. Many researchers have proved that facing of this type of traumatic situation effect the person's perception about the world.

The main problems with the doctors facing PTSD is that they fail to come in terms with the fact and so they keep their negative feelings with in themselves , not telling anyone and suffered in with in them. However there are many doctors who are quite aware of their problems and they would like to be treated to get rid of PTSD. The basic aim of this study is to identify the major factors that led to PTSD, their impact on the physician's health and to study the techniques which has more pliability for the physicians to get cured from PTSD. From the prospective of the hospitals this type of study is beneficial in the way that they can create amendments in the organizational stressors which led to PTSD symptoms. The hospital's interference can help identify the symptoms of PTSD like absentee-ism, attrition rate and diagnostic errors at early stage and can help rectify them. If every hospitals implement such changes it boost up the morale of the doctors, motivate and improve the condition of patient care. All these led to improvement in better quality of health care in medical sectors.

LITERATURE REVIEW:

Stress which is derived from the Latin word "Stringi" which means to be drawn tight". It is the most common word that we use in our daily life regarding every work that we do right from children to adults. But the amount of stress that any individual faces depends on the type of work that he is doing .Persons who are in medical Profession are facing this stress more often than any other professionals since they are dealing with human lives and any mistake committed by them can cost individual his life. But it is not that always that every physician experienced same kind of stress , they differ in the type like those who work in hospitals from those among general practitioners.

Barbara White Daryl O'Connor Lisa Garrett, (1997),"Stress in female doctors", Women in Management Review, Vol. 12 Issue 8 pp. 325 - 334 performed a questionnaire survey and interviews among the female doctors chose to be general practitioners since the reason for stress in hospitals are generally environment in workplace where as for general practitioners it is balancing work and home. In another study it was seen that there is a difference between the doctors working in the public hospitals than compared to the private. Dr. MeeraVijay, Prof. NitinVazirani , (2012), "A comparative study of stress among nurses in public and private hospitals in Mumbai", BVIMR Management Edge, Vol. 5, No. 1 (2012) PP 46-52 found that talking with patient's relatives and low renumeration for private and poor working condition and the hours of working are major stressors for public hospital's nurses. After facing some natural calamity these types of stress slowly led to PTSD among the physicians as well as the medical staff. ED Battler (2007) conducted the study on nurses in hospital in New Orleans to view that there are symptoms of PTSD among 20% on Nurses after they faced Hurricane 2005 in U.S.A. But all of them have the view that hospital authority did not do anything for trauma management. Retrieved from another article by Wilberforce, N.(2010) that there is a high rate of PTSD found in doctors working in rural areas in Canada and men are highly effected by PTSD then women since they face traumatic events more then women. From another British journal Sharon Einav, AriehY. Shalev, Hada Ofek, Sara Freedman, Idit Matot, Carolyn F. Weiniger ,The British Journal of Psychiatry Jul 2008, 193 (2) 165166; DOI: 10.1192/bjp.bp.108.051532 states that there is a lot of psychological differences between the doctors who have PTSD and those who do not undergo such situations. Both of them work for the same time but the group having PTSD are feeling more stressed, but are hesitant to take any treatment.

OBJECTIVES

1. To identify significant factors that led to stress in Medical Profession.

2. To find out the Post traumatic disorder level of the Medical Professionals who are working in Intensive Care Unit, Neo Natal Intensive Care Unit &Emergency Departments.

3. To find out the consequences of Post Traumatic Stress Disorder on the lives of Medical Professionals.

4. To observe to what extent demographic details and job variables have effect on the level of Post-Traumatic Stress Disorder on Medical Professionals.

5. To understand the different coping styles that different doctors adapt to cope with Post Traumatic Stress Disorder.

HYPOTHESIS

1. H0- The physicians coping with PTSD are not facing any job stress.
H1- The physicians coping with are facing a lot of stress.

2. H0-The physicians working in critical care are not satisfied with their job.
H1- The physicians working in critical care are highly satisfied with their job.

3. H0-The physicians facing PTSD are not at all satisfied with their life.
H1-The physicians facing PTSD are totally satisfied with their life .

4. H0-There exists no impact of PTSD and stress on gender ,age.
H1-There exists a impact of PTSD and stress on gender,age.

METHODOLOGY

For collecting data a questionnaire is built with the objective of collecting data from those professionals who are dealing with critical patients ,from different hospitals in kolkata . For doing this project Exploratory research is followed by Causal research was done to find the effects of Traumatic stress on medical professionals . Judgmental sampling is done and the questionnaires are been given to only to the selected professionals giving critical care.

After data collection Reliability analysis is done to test the internal consistency of the data. Factor Analysis is being done to find the most relevant factor that led to PTSD ,stress due to other factors and the most suitable factor that help doctors to cope with PTSD. With the most relevant factors Regression is done to predict the effect of different variables on the stress experienced by the physicians. This is followed by cluster analysis in which data is clustered on the basis of demographic features. Anova is conducted to observe if there is a difference of stress causing factors and coping styles between male and female. Manova is used to observe difference between PTSD factors with gender. Chi-square is done to observe if the amount of time a doctor spent in ICU is dependent on age, education or gender.

DATA ANALYSIS

The value of   Cronbach's Alpha is acceptable   with .829 which confirms that there is internal consistency among data. From the factor analysis of PTSD factors Burn victims, crime victims and accident victims proved to be the major stressors. This accounts for 54.8% variation by varimax rotation. The other stressors which have mainly that of not working as a team in time of crisis , developing friendly relation with patient and then if the patient dies and the risk of developing dangerous contagious diseases. 68.3% of the variation is explained by rotation. In case of coping strategies reading books, drinking and taking nerve transquilers are the most effective coping strategies adapted by the physicians and accounts for 68.7% of the variance.

REGRESSION

The factors that led to stress among physicians are regressed against the overall stress experienced as shown in table 1 to get the result that R is .514 and R square denotes that 26.4% change in over all stress is due to the main factors of stress. R square is estimated to diminish to.196 after adjustment.

Another regression equation was formed to view the impact of job satisfaction, job stress and life satisfaction on the overall stress experienced by the physicians. Here the correlation coefficient is .664 and the impact of R square is 44.2% change on the stress . After adjustment the R square diminishes a little (from .442 to .425).

Since in both the cases the value of Durbin Watson is more than 1 so it can be predicted there exists a positive correlation between the residuals. So Multi collinearity can be checked by using VIF factor. Values of the VIF factors are more than 1 so it can be said that regression is biased. Tolerance level is above .1 and .2.

TABLE 1: REGRESSION

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.514ᵃ	.264	.196	.807	.264	3.870	9	97	.000	1.67

a. Predictors: (Constant), READINGBOOKS, ACCIDENT, NERVETRANSQUILLER, AUXILLARYDEPTT, EMERGENCYCALLATNIGHT, DANGEROUSDISEASE, BURNVICTIM, DRINKING, CRIMEVICTIM

b. Dependent Variable: OVERALLSTRESS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.664ᵃ	.442	.425	.682	.442	27.143	3	103	.000	1.29

a. Predictors: (Constant), LIFESATISFACTION, JOBSTRESS, JOBSATISFACTION

b. Dependent Variable: OVERALLSTRESS

ANOVA

From the Anova table 2 it can be interpreted that from the factors that led to PTSD as well as stress with the gender there is a significantly differs when they are exposed to crime victims , burn victims and on the coping strategies like drinking and taking nerve transquillers.

Table 2 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ACCIDENT	Between Groups	0.161	1	0.161	0.169	0.682
	Within Groups	100.064	105	0.953		
	Total	100.224	106			
CRIMEVICTIM	Between Groups	6.8	1	6.8	6.626	0.011
	Within Groups	107.761	105	1.026		
	Total	114.561	106			
BURNVICTIM	Between Groups	5.447	1	5.447	5.83	0.017
	Within Groups	98.105	105	0.934		
	Total	103.551	106			
AUXILLARYDEPTT	Between Groups	0.04	1	0.04	0.05	0.823
	Within Groups	83.512	105	0.795		
	Total	83.551	106			
EMERGENCYCALLATNIGHT	Between Groups	0.271	1	0.271	0.277	0.6
	Within Groups	102.776	105	0.979		
	Total	103.047	106			
DANGEROUSDISEASE	Between Groups	4.448	1	4.448	3.279	0.073
	Within Groups	142.449	105	1.357		
	Total	146.897	106			
READINGBOOKS	Between Groups	0.008	1	0.008	0.005	0.944
	Within Groups	176.048	105	1.677		
	Total	176.056	106			
DRINKING	Between Groups	12.827	1	12.827	11.398	0.001
	Within Groups	118.164	105	1.125		
	Total	130.991	106			
NERVETRANSQUILLER	Between Groups	14.296	1	14.296	17.537	0.000
	Within Groups	85.592	105	0.815		
	Total	99.888	106			

TABLE 3 : MANOVA

Multivariate Analysis

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.983	3014.770ᵃ	2.000	104.000	.000
	Wilks' Lambda	.017	3014.770ᵃ	2.000	104.000	.000
	Hotelling's Trace	57.976	3014.770ᵃ	2.000	104.000	.000
	Roy's Largest Root	57.976	3014.770ᵃ	2.000	104.000	.000
gender	Pillai's Trace	.061	3.373ᵃ	2.000	104.000	.038
	Wilks' Lambda	.939	3.373ᵃ	2.000	104.000	.038
	Hotelling's Trace	.065	3.373ᵃ	2.000	104.000	.038
	Roy's Largest Root	.065	3.373ᵃ	2.000	104.000	.038

From the multivariate analysis table 3 we can interpret that Wilks' Lambda row (highlighted in red) by looking at the significance level it can be said that gender has a significant impact on PTSD score and other major stressors, as the sig value is (p< .05). This result can be written as here is a statistically significant difference in PTSD scores and the overall stressors based on gender, F (2, 104) = 3.373, p < .05; Wilk's Λ = 0.93.

By Chi-square analysis from the Pearson's   coefficient it could be identified that education and gender does not have any impact but age have an impact on over all time spent by the doctors in ICU. The

physicians in the age group of 50-60 spent more than 5 hours in ICU.

From cluster analysis by performing Hierarchical clustering three major clusters were identified. Hence K means clustering is done on 3 clusters. We firstly standardised all the variable before starting K-Means cluster.Secondly K- Means clustering is done to identify the homogenous cases on certain characteristics. It was observed that

CLUSTER 1 - In this cluster the physicians are in the age group of 41-50 years, full time , spending 4-5 hours in ICU ,M.B.B.S. , experience of more than 4 years and earning between 40000-50000 p.m .

CLUSTER2 – This cluster have physicians aged 21-30years, full time, M.B.B.S., spending daily 1 hour in ICU . This group generally consists of junior physicians.

CLUSTER3 – The physicians of age group of 31-40 years, full time , M.B.B.S. sending up to 4 hours daily in ICU constitute this group.

CONCLUSION

By this study   it can be concluded that there are several critical traumatic factors through which doctors deal with every day. The doctors are facing these type of unnatural incidents more often than the general   public. Doctors do not let these factors disturb themselves too much otherwise they will not be able to perform their duties. Our study shows doctors do feel the stress due to over work , non-cooperation of other departments rather than the other traumatic critical incidents that they are facing but they do not let themselves effected by this too much.Thus by this research hospital authorities will   become aware of the major stressors that led to PTSD and can implement different ways to reduce this kind of stress. They   can provide doctors with basic infrastructures and other facilities so that they can easily be able to do their duty.

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