Impact of Terrorist Attacks on Educational Institutions-Perceptions of Medical Students.

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Abstract
Background: This study was conducted to assess the perceptions of undergraduates of Rawalpindi Medical College (RMC) regarding terrorist attacks on educational institutions and their impact.

Methods: A descriptive cross-sectional study was conducted in Rawalpindi Medical College, Rawalpindi from April-December 2016. Questionnaires were administered among 390 students from five academic years of RMC selected through stratified random sampling technique. Questionnaires comprised of questions exploring the perceptions of students regarding terrorism and its impact on their academics, physical and mental well-being.

Results: According to 33.6% of the total students, their education and academics have been affected by the wave of terrorism while 58.2% students mentioned terrorist attacks had affected their mental health. 65.9% perceived that their extra-curricular activities and social activities had been affected due to terrorism. 42.8% students had accepted terrorism as a part of their lives however 81.2% students were hopeful that terrorism will end soon. Only 53.1% of them could correctly recall emergency numbers displayed in the institution.

Conclusion: Majority of students perceived that terrorism had profound effects on their academics, mental well-being and social life, yet majority was optimistic and enthusiastic to overcome this issue with determination and their recommendations.

Key Words: Terrorism, Mental health, Medical education, Undergraduate, Fear.

Introduction
The Global Terrorism Index defines terrorism as the threatened or actual use of illegal force and violence by a non-state actor to attain a political, religious, or social goal through fear, coercion, or intimidation and this definition recognizes terrorism not as a physical act of an attack, but also the psychological impact it has on a society for many years after.1 Most of the deaths last year (and every year) are in Middle East and Africa-not the West.2 Iraq, Nigeria, Syria, Pakistan and Afghanistan together account for three-quarters of the global total.3 Since 2000 there has been over a five-fold increase in the number of people killed by terrorism.4 From 2011-2015 there were 8258 incidents of terrorism in Pakistan which lead to 11330 deaths and 17912 injuries.5 Terrorism has greatly affected the whole world. It has disturbed both mental and physical health of people of all ages.

Undoubtedly terrorism has greatly affected all aspects of life but terrorist attacks on educational institutions have greatly traumatized the people especially students and their parents as these are soft and vulnerable targets. Terrorists are opposed to the western education and the education of girls and have targeted schools and advocates of equal education. Attack on Army Public School Peshawar on 16 December 2014 led to death of 141 people, including 132 school children.4 Terrorism is negatively affecting students and their education as schools, colleges and universities remain closed due to terrorist threats which waste their time. Many Extracurricular events are frequently cancelled or postponed because of continuous threats to educational institutions. Parents also don’t feel safe for their children when they are outside even in schools and universities.

According to one study done by Nasim S et al there was an association of terrorism in 84.6% respondents with psychiatric morbidity.5 Another study by Ahmed AE et al amongst student population of universities in Karachi, a total of 65.8% of the students had mild stress levels, 91.5% of university students were exposed to terrorism through television, while only 26.5% students reported personal exposure to terrorism. 67.4% students were forbidden by their parents to go out (p = 0.002). Most commonly used coping strategy was increased faith in religion whereas irritability was the most common stress symptom.6 Another study by Korn L. and Zukerman G. shows higher levels of terror exposure were also associated with higher levels of avoidance behavior, subjective feelings of insecurity, and emotional distress however higher religiosity moderated avoidance behavior.7 Another research on Palestinian Israeli students...
revealed that 25% of the students suffered from acute stress disorder. No documented Pakistani study was found to determine the perceptions of medical students towards terrorism so our study is important as it will highlight these important issues. This study was conducted with an objective to assess the perceptions of undergraduate students of Rawalpindi Medical College, a public medical college, regarding terrorist attacks on educational institutions and their impact. This will help us to understand how they perceive physical and mental damage that terrorism has caused and how it has affected their lives and academics so that we can cope with it accordingly. It will also provide us with recommendations providing an insight to concerned authorities regarding this topic.

Methods and Materials
This descriptive cross-sectional study was conducted at Rawalpindi Medical College from 14th July 2016 to 15th September 2016. The ethical approval of the study was obtained from the Institutional research forum of Rawalpindi Medical College. The undergraduates of five academic years of Rawalpindi Medical College were included in the study. No previously conducted study was available to determine perceptions of medical students towards terrorism and its effect on academic lives so we took 50 percent anticipated proportion (since unknown), keeping level of confidence 95% and anticipated absolute precision 5%. The minimally required sample size was calculated to be 389 with WHO sample size calculator but we included 390 students. Using the enrolment record of the students as the sampling frame work we selected these 390 students through stratified random sampling technique where stratification was done based on academic years. All regular students were included and those who had migrated in from other institutions within last 3 months were excluded. Informed verbal consent was taken. Then pretested questionnaires specially designed for this study were administered. SPSS version 22 was used for data entry and analysis. For numerical variables means and standard deviations were calculated. For categorical variables like gender and responses to questions frequencies and percentage were calculated. Most of these percentages in results may not add up to 100% because of multiple responses by the same participant.

Results:
Amongst the total 390 students, 300 (76.9%) were females and 90 (23.1%) were males. Mean age of students was 22.07± 1.09 years. 130 (33.3%) students were from third year, 130 (33.3%) students were from fourth year and 130 (33.3%) students were from final year. 201 (51.5%) students were day scholars and 189 (48.5%) students were hostelites. When asked to mention the top priority issue faced in our country currently, terrorism was mentioned by 40.5% of the total students. 59.2% students mentioned that terrorist attacks on educational institutions have exacerbated their fear and anxiety level. Regarding the causes of terrorism in educational institutions 37.4% students perceived that terrorists wanted to intensify fears in them while 29.5% thought terrorists wanted to discourage education in their country and 15.1% stated educational institutions were soft and vulnerable targets. According to 58.2% students terrorist attacks had affected their mental health. 61.6% of students mentioned that these attacks exacerbated fear, anxiety and stress in them whereas 20.7% think it caused depressed mood and depression in them. 8.6% of students considered it the cause of their mood imbalances and 6% stated it lead to lack of interest in studies and other activities. Regarding how frequently they are conscious of terrorism in a day, 52.8% of total students stated that they thought of it throughout the day and 78.7% of them are reminded of this issue at least once or twice a day whereas 17.5% think quite often a day.
When inquired if their education and academics have been affected by the wave of terrorism 33.6% of the total students were affirmative. The ways how it had affected is displayed in figure 1.

Regarding their reaction to any terrorist activity, 73.5% of students mentioned that they felt distressed due to these attacks while 26.5% denied any distress. When those 73.5% students were inquired about how they try to cope with this stress, majority of them mentioned that they tried to overcome it through praying while 25.9% mentioned they try to ignore it.
When inquired if their families worry or fear whenever they come to educational institutions for their safety due to terrorism, 68.2% of the total students were affirmative and 34.4% of these students mentioned that they were prohibited by parents from going to college any day due to security concerns at least once during last three months. 77.2% of the total students mentioned that they often imagined themselves in a situation of terrorist attack and when we asked that what would be their first response if such incidence occurs, 30.7% mentioned they would attempt to find a safe place to hide within building immediately, 28.9% mentioned they would call the rescue force. Amongst remaining 40.4%, half of students showed intentions of helping other people while half intended to fight back with courage.

According to 65.9% of the total students terrorism has negatively affected their extra-curricular activities and social activities. 91% of these students had either cancelled or postponed their plans for sports week and trips ever. 32.8% avoided public gatherings due to fear of terrorism.

If ever experienced any act of terrorism in life, 4.1% of the total students were either themselves or any of their family members were a victim of terrorism and 26.7% of these students had lost a friend, relative or family member. According to 48.7% of the total students these attacks have negative impact on their decision to pursue a career in Pakistan. 40.3% students wanted to leave Pakistan and settle abroad due to these security issues in Pakistan. 42.8% students had accepted terrorism as a part of their lives however 81.2% students were hopeful that terrorism will end in Pakistan soon.

When inquired about the displayed emergency numbers and instructions to follow in case of any act of terrorism in their institution, 85.9% students mentioned that they had noticed and read these displayed information. They were asked to tell the emergency numbers displayed then only 53.1% of them spelled out the correct number.

80.3% of the total students were of the opinion that watching and reading news and discussions regarding terrorism on media channels or printed media had affected them and the various roles of media and how they had affected are displayed in figure 2.

According to 65.9% of the total students were not satisfied with the measures taken by educational institutions in our country to deal with such attacks. When we asked how security could be improved, majority i.e. 43.3% said by proper checking and surveillance of people and vehicles within vicinity, 10.3% said by employing trained guards and by arming them properly, 4.9% mentioned increasing security barriers, check points and by installation of good alarm system, 4.9% also mentioned by introducing biometric system and 2.8% said that there should be group of well trained students in every class who could deal with emergency and terrorism acts effectively. Few highlighted the need of proper training and counselling sessions regarding how to respond in case of any incident.

Figure 2. The perceived role of media regarding terrorism mentioned by students

Discussion

Terrorism is a global phenomenon but Terrorism in Pakistan has become a major problem. The annual deaths from terrorism have increased from 164 in 2003 to 3318 in 2009, with a total of 35,000 Pakistanis killed between September 11, 2001 and May 2011. In addition to loss of precious lives terrorism also cause economic loss. Economic loss of terrorism from 2000-
2010 was 68 billion dollars according to government of Pakistan. In Pakistan ten percent of all terrorist attacks were on schools. Attack on Army Public School Peshawar on 16 December 2014 led to death of 132 school children. In our study 37.4% students think that educational institutions are target of terrorism because terrorists want to intensify fear in them and 29.5% think terrorists want to discourage education in their country. According to 33.6% of the total students, their education has suffered due to terrorism and 52.8% of total students think about terrorism throughout the day and 78.7% of them think about terrorism once or twice a day which shows that they are continuously in state of fear and preoccupied with these thoughts of terrorism which affects their academic progress whereas in another study done by Nasim S et al shows that 78.3% students believe that their academic progress is affected by terrorism. So when we asked students how they can contribute to prevent these attacks, majority said that they can contribute by educating public through media, lectures and seminars, spread positivity and by continuing their studies as terrorists want them to stop their education. In Pakistan approximately 2.9% of annual GDP in allocated to education sector due to which it ranked 153rd internationally among 186 countries with published statistics. Pakistan’s self reported literacy rate is 50% with a 63% literacy rate among males and 36% in females respectively. In order to deal with this situation proper measures should be taken to promote education. Proper security should be provided to schools and universities. Terrorism not only affect the education of students but also their physical and mental health as well. According to Ahmed AE et al a total of 65.8% of the students had mild stress level. Another study by Gillepsie shows 53% psychiatric morbidity in terrorism exposed young adults while in another study an adverse effect of an impairment of mental health 79% and social health 17.2% respectively was observed. According to another study 69.5% students said that terrorism has affected their lives. In our study 58.2% students said that terrorist attacks have affected their mental health and 61.6% of them think these attacks cause fear, anxiety and stress in them. 73.5% feel distressed due to these attacks and majority of them i.e. 49.1% overcome this feeling by praying which is in accordance with another study in which most common coping strategy was increase faith in religion. Terrorist attacks are not only distressing for the students but also their parents. According to our study family of 68.2% of the total students worry when they come to college and parents of 34.4% of these students have prohibited them from going to college any day due to security concerns which is seriously affecting their education. Students especially of medical colleges who have tough studying schedules, activities like trips and sport weeks are only main source of enjoyment. In our study 65.9% of the total students said that terrorism has negatively affected their extra-curricular activities and 91% of these students have cancelled or postponed their plans for sports week and trips. Extracurricular activities are not only good for physical and mental health but also help students to cope with terrorism because these sports especially high endurance sports train students to maintain patience and resilience in times of difficulty. In our study 80.3% of the total students think that watching news and discussion regarding terrorism on media channels or printed media has affected them. Majority i.e. 50.4% of these total students think that media exaggerate the situation and create a hype by extra promoting the news and among “others” 60% think that media is useless and distressing whereas in another study 91.5% of university students were exposed to terrorism through television. There should be proper policies and laws which could control this negative role of media. Over promotion of distressing news should be stopped. Media should play a positive role by educating people how to deal with such situations. 32.8% students avoid public gatherings due to fear of terrorism hence their social exposure is seriously jeopardized. The fear of where and when next attack might occur causes worry and effect their activities. They not only suffered themselves but 26.7% of them have lost one or more family members. During ward rotations and their duty they witness many victims of terrorism. All these factors lead to increase stress and anxiety in medical students. From 2001-2016 fifty doctors have been killed. In our study according to 48.7% of the total students terrorist attacks have negative impact on their decision to pursue a career in Pakistan. 40.3% students want to leave Pakistan and settle abroad due to these security issues in Pakistan which is alarming as no of doctors are already declining in our country and there is need for more doctors due to continuously increasing population of Pakistan. This issue should be dealt on urgent basis. They should be encouraged to work in Pakistan by giving them proper security, good job opportunities and by increasing their pay.
Security system in schools, colleges and universities are not well developed. Emergency response system is poor and there is lack of coordination and compromise dissemination of information. In our study 65.9% of the total students were not satisfied with the measures taken by their institutions to deal with such attacks. Emergency numbers have been displayed in the college but only 53.1% students recalled the number correctly. When we asked them how the security of their institution can be improved, majority (43.3%) said by proper checking of people and vehicles entering the college throughout the day. Check points and emergency exits should be increased. Guards should be trained and armed properly. Biometric system should be introduced. There should be group of well trained students who can deal with emergency situations in every class. According to Kaiser HE et al perspective of future physicians on disaster medicine and public health preparedness issues are not addressed properly.\textsuperscript{15} Equipping medical students with knowledge, skills, direction, and linkages with volunteer organizations may help them to deal with emergency situations effectively.\textsuperscript{15} There should be proper training sessions for medical students. They should be trained how to response and fight in case of terrorist attack. Proper counselling sessions of students should be held regularly in their own institutions so that if any student is suffering from any mental or physical illness because of this then it can be diagnosed and treated early before leading to serious consequences.

Although previous studies have been done regarding terrorism but they had not find out the perceptions of students regarding terrorism. They had used some scale to check stress in students but this stress could be due to other reasons like some personal family matters or may be due to their exams or tough studying schedules. So our study cannot be truly compared with theirs’.

**Conclusion**

Our study showed that majority of students perceived that terrorism had profound effects on their academics, mental well being and social life, yet majority was optimistic and enthusiastic to overcome this issue with determination, their recommendations and by taking appropriate steps.

**References**