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Review

Post-traumatic stress disorder: An under-diagnosed and under-treated entity

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Post-traumatic stress disorder (PTSD) is a serious behavioural and psychological abnormality that occurs after perceived or actual exposure to unusual, severe, acute stressful events. In addition to returning soldiers from war front, PTSD is also occur in civilian victims of wars, terrorist attacks, serious accidents, sexual abuse/rape, or other violent episodes, and following school and workplace bullying or harassments. However, early diagnosis, individualized effective therapies and appropriate follow-up programs could effectively lead to cure. In addition, to psychotherapy and pharmacotherapy, out of the box approaches need to be explored including meditation, music therapy, and relaxation methods. Not only is PTSD under-diagnosed, but it also misdiagnosed or mislabelled, including as depression or adjustment disorders. Treatment of PTSD needs to be well-coordinated with all stakeholders taking active part, synergistically, maximizing utilization of resources to prevent recurrences. However, mislabelling PTSD as a diagnosis, prevents patients getting effective therapy and thereby may harm them and their families. The provision of timely, effective therapeutic plans not only alleviates the PTSD symptoms, but also prevents recurrences; thus facilitating their return to normal productive lives. Several novel neurohormonal and structural brain abnormalities have been identified in patients with PTSD, allowing further understanding, and identifying new medications and management options to help PTSD victims.

Keywords: Neurons, psychiatry, homeostasis, structure-function, endocrine, behaviour

INTRODUCTION

Post-traumatic stress disorder (PTSD) is defined as a severe anxiety disorder that develop after exposure to an event or events that involve actual, perceived, or threatened death, or serious injury, or a threat to the physical integrity of oneself or others that results in significant psychological trauma (Association 1994, Cooper 1995, Satcher 2000, Berntsen and Rubin 2002, Brunet, Akerib et al., 2007). However, in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), the PTSD is move from the class of anxiety disorders into a new class of trauma and stressor-related disorders (Rey, 2010).

Post traumatic stress disorders \are a complex, highly disabling disorders in which the past is always present in the mind, which is disturbed by a memory of traumatic events (Jakovljevic, Brajkovic et al., 2012). It produces intense negative feelings of fear, helplessness, or horror in victims and those who had witnessed or participated in atrocities or traumatic events. These events include life-threatening illnesses (Association 1994), trauma and terrorist attacks (Galea and Resnick, 2005), serious accidents, mugging, rapes, home invasions, and so forth. Studies have shown that those who are psychologically and physically prepared for potential traumatic or dangerous experiences, handle such high-stress situations better (Zeiss and Batten, 2012). Therefore, they are less likely to develop PTSD and suicidal ideations during the post-exposure period (Rothschild 2000).

This disorder also occurs in scenarios other than war experiences (USDHHS , Helzer, Robins et al., 1987). In fact, those with PTSD who have not been in war situations outnumber post-war PTSD victims by several-fold (Zohar, Juven-Wetzler et al., 2008). PTSD is associated with a variety of disabilities, including interpersonal difficulties and work-related impairments

(Davidson, Hughes et al., 1991, Blanchard, Hickling et al., 1996), somatic complaints and others medical illness (Lipton and Schaffer 1988, McFarlane, Atchison et al., 1994), poor quality of life (Cordova, Andrykowski et al., 1995), negative body image (Wenninger and Heiman 1998), impaired intimacy (Riggs, Byrne et al., 1998), increased burden to spouse or partner (Beckham, Lytle et al., 1996), partner abuse (Johnson and Zlotnick 2012), social dysfunction (Blanchard, Buckley et al., 1998, Wagner, Heinrichs et al., 1998), and suicidal tendency (Hughes et al., 1991, Ferrada-Noli, Asberg et al., 1998, Goodwin and Davidson, 2005).

Therefore, PTSD is a serious debilitating syndrome with significant personal, social, and economic implications and costs (Shay 1999; Rosenheck and Fontana, 2007; Giardino, 2009). In some patients, intrusive memories, such as flashbacks and nightmares could be greater contributors to biological and psychological aspects of PTSD than the event itself (Olszewski and Varrasse 2005). However, not all individuals with PTSD continue to have the symptoms after six months to one year (Caffo and Belaise 2003, Costanzi, Cannas et al., 2011).

Prevalence of PTSD

In 1988, the National Vietnam Veterans Readjustment Study estimated that the prevalence of PTSD in that group was 15.2% and that 30% had experienced the disorder at some point since returning from Vietnam; the rates were double among males (King, King et al., 1999), perhaps reflecting the severity of their exposure. This study reported that a substantial minority of Vietnam veterans were experiencing a variety of psychological and life-adjustment difficulties, including marital, study, and work-related problems (Schnurr, Lunney et al., 2004, Otis, Keane et al., 2009). Despite these findings, only a relatively small number of these veterans voluntarily sought treatment from mental health providers.

In addition, studies have revealed high incidences of PTSD in those who have subjected to serious non-war trauma (Delimar et al., 1995; Chapman et al., 2012; Farhood and Dimassi, 2012). A study reported that at four months after serious motor vehicle accidents, among the 132 victims studied, 39.2% met full PTSD criteria and 28.5% met sub-threshold criteria, meeting two of three as defined in the DSM-IV and DSM-V (Blanchard, Hickling et al., 1996, Asmundson, Frombach et al., 2000). In another prospective screening, 6 months after a plane crashed into two apartment buildings in Bijlmermeer, Netherlands, 26% of the 136 surviving respondents met full diagnostic criteria for PTSD, and 20% met sub threshold criteria (Carlier and Gersons 1995, Utku and Checinski 2006).

The prevalence of PTSD varies between 5% and 10% in men (Walker, Katon et al., 2003, Palyo and Beck 2005) and up to 14% in women (Meltzer-Brody S 2000) in the general population. However, these prevalence rates likely to vary between ethnic groups and different societies, and may be underestimated, as not all patients volunteer providing information about their condition, or clinicians may not ask the right questions to clarify their symptoms (Michaels, Michaels et al., 1999, Zimmerman and Mattia 1999, Palyo and Beck 2005). In the United States, the 9/11 terrorist attacks have generated a number of people suffering from PTSD; incidence reported varied from 4.3% to 17.0% among the first responders (North, Pfefferbaum et al., 2004, Neria, DiGrande et al., 2011, Lucchini, Crane et al., 2012). Inexperienced and lay volunteers are more likely to develop both physical and stress-induced ailments following exposure to such disasters (Debchoudhury, Welch et al., 2011). In fact, viewing graphic images in the media (secondary exposures) alone has been reported to cause PTSD symptoms among the viewers (Saylor, DeRoma et al., 2006, Otto, Henin et al., 2007). These data are comparable to the incidences reported following the Vietnam War and the nuclear disaster in Japan during World War-2 (Neria, Olfson et al., 2010; Mitka 2011, Ellison, Mueller et al., 2012).

Socio-demographic and ethnic variables of PTSD

While PTSD conceptualizes the experience of those who have been exposed to a traumatic event. One needs to be cognizant of the impact of ethnic and cross-cultural beliefs (Moghimi 2012), as these factors could influence the diagnosis and the onset of PTSD. There are racial, ethnic and gender differences in the presentation, and the prevalence of PTSD in different communities (Roberts, Gilman et al., 2011). The risk for development of PTSD is higher in women especially those with personal or family histories, or sustained childhood mental trauma, or those who exposed to intense trauma (Meltzer-Brody S 2000, McKenzie, Marks et al., 2001), or even major illnesses (Michaels, Michaels et al., 1999, Mehnert and Koch 2007).

The natural history of PTSD

Once established, PTSD often follows a chronic, unremitting course (Ballenger, Davidson et al., 2000, Ballenger, Davidson et al. 2004). However, some patients may achieve spontaneous or treatment-based recovery (Costanzi, Cannas et al., 2011). Meanwhile, self-harm is a major concern in those with severe PTSD. Comorbidities that may lead to self-harm in patients with PTSD include severe mood disorders, bipolar disorder, and depression with suicidal ideation, burst of aggressive behaviour, trauma or combat-related serious nightmares, having severe uncontrollable anxiety, and panic disorders

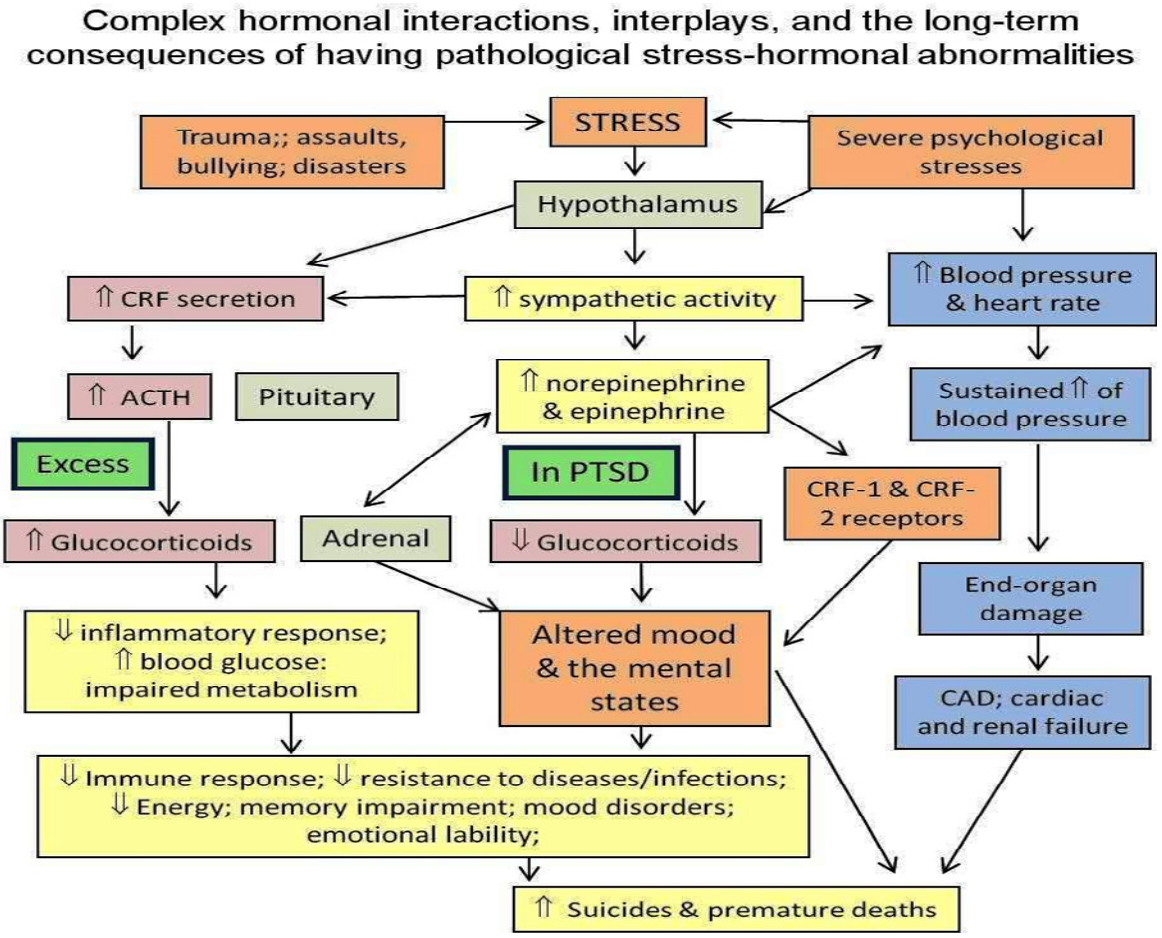

Figure 1. Illustrates the multiple ways humans handle normal and excessive stress. In physiologically relevant stressful situations, the glucocorticoid output from the adrenal gland increases transiently

(Rothschild 2000, Harb, Thompson et al., 2012, Mitchell, Mazzeo et al., 2012, Pacella, Hruska et al., 2012). Inner psychological reactions to major stressful life-events may lead to build up of unremitting, prolonged pathological stress responses. Triggering events or new provocations such as a threat of death to oneself or someone else, or threats to the physical, sexual, or psychological integrity of oneself or another may precipitate an acute event (Association, 1994). Figure 1 illustrates the complexity and multiple interactions associated with the PTSD.

PTSD has a significant impact on an individual's psychosocial functioning and judgment, so affected persons may unwittingly engage in socially unacceptable practices. For example, some Vietnam veterans with PTSD reported to have profound, pervasive problems in their daily lives (Hartman, Clark et al., 1990, Steenkamp, Nickerson et al., 2012). These include interpersonal relationships, inability to learn new information; difficulties with career path, employment and work-related issues; and higher incidences of involvement with the criminal justice system (Kulka 1990; Beckham et al., 1996; Riggs, Byrne et al., 1998).

Epidemiology and risk factors

Large number of studies have been conducted with reference to PTSD in trauma victims, war veterans, and other groups of people exposed to man-made or natural disasters (McDermott, Cobham et al., 2010). Although some symptoms of PTSD, such as hyper-alertness and insomnia are common in the general population (Frans, Rimmo et al., 2005, Farhood and Dimassi 2012), full-blown PTSD syndrome, as defined in the DSM-IVand DSM-V (Association 1994) are most commoner among wounded veterans (Helzer, Robins et al., 1987), in part because this is the largest group that has been studied specifically for psychological trauma (Shay 1999, Giardino 2009).

Some data suggest that one in four children exposed to violence at home may also experience acute or delayed-onset PTSD (McCloskey and Walker 2000, Alisic, van der Schoot et al., 2008). However the incidence depends on the biological and personality-dependant vulnerabilities (True, Rice et al., 1993, Skelton, Ressler et al., 2012). Therefore, being exposed to a major traumatic

Table 1. Common Causes that precipitate PTSD*

1.	Experiencing or witnessing serious physical abuse [59]
2.	Exposure to war (Moghimi 2012)
3.	Emotional or sexual abuse, physical or sexual assaults [2]
4.	Major accidents or illnesses
5.	Substance dependence (Ford, Hawke et al. 2007, Salgado, Quinlan et al. 2007, Burns, Lehman et al. 2010)
6.	Major natural or man-made disasters [33, 60]
7.	Bullying, harassments, and retaliations at schools or work places [61]
8.	Subjected to mugging or home invasions [37, 62, 63]
9.	Witnessing or taking part in killing [69]
10.	Exposed to violence at home [63, 65]
11.	Patients with major psychiatric disorders [49, 72, 73]
12.	Inability to modulate fear responses and biological vulnerability [70]

* Assembled from various sources

experience does not automatically indicate a person will develop PTSD (B. 2000). Table 1 illustrated a number of well-recognized causes of PTSD.

Risk factors for the development of PTSD seem to be different for men and women. For male veterans, family instability, childhood antisocial behaviour, and a younger age at entry into war-related activities seemed to predispose them to develop PTSD. For female veterans, instability within the family or history of major trauma in early life influence the development of post-war PTSD (King, King et al., 1996). In addition to trauma history at younger age, war-zone stressors of atrocities, abuses, violence, and perceived threat also affect the post-war resilience and the recovery. Other stressful life events and inadequate functional, family, or social support may exacerbate or trigger new episodes of PTSD (King, King et al., 1996, King, King et al., 1999).

School or workplace bullying is an underrated cause for development of PTSD (Fleisher and Schwartz 2003, Idsoe, Dyregrov et al., 2012). The incidence of workplace bullying is on the rise, and the negative effects can be so severe that they lead not only to PTSD, but also to suicides (Yildirim and Yildirim 2007, Mavroveli and Sanchez-Ruiz 2011, Kraemer, Luberto et al., 2012, Panagioti, Gooding et al., 2012), and are under-appreciated (Kraemer, Luberto et al., 2012). Stress is the most predominant health effect associated with bullying at the workplace (Frans, Rimmo et al., 2005), and exposure to bullying is a potential risk factor for the development of PTSD symptoms (Idsoe, Dyregrov et al., 2012) as well and other medical disorders (Buselli, Gonnelli et al., 2006, Bonafons, Jehel et al., 2009). Reactions can be sturdy and enduring that they render a person helpless to address the situation; thus, only those with strong personalities and will power would opt to fight the injustices (Milam, Spitzmuelle r et al., 2009); a defence against bullying.

Incidences of the school and workplace bullying, and retaliation for whistle-blowing activities are increasing (Yildirim and Yildirim 2007) and are unrecognized and under-appreciated causes of PTSD (Balducci, Fraccaroli et al., 2011). In fact, some reports found that 1 in 10 of such victims experience PTSD; 44% of the respondents in another study were to have PTSD (Hansen, Hogh et al., 2006). These PTSD incidences are similar to that reported with victims of child abuse and the battered women (Tehrani , Stueve, Dash et al., 2006). Another study reported as many as 77% of such targets experiencing PTSD following work place bullying and abuses (Matthiesen 2004). In addition to PTSD, workplace bullying is linked to physical, psychological, organizational, and significant social costs (Gilioli, Campanini et al., 2006, Srabstein, Joshi et al., 2008, Bonafons, Jehel et al., 2009, Balducci and Fraccaroli 2013). In addition, the workplace bullying can also hinder organizational dynamics, such as group cohesion, peer communication, and reduction of overall performance and productivity (Wachs 2009). Moreover, workplace bullying can harm the health of victims, and may even lead to premature deaths caused by excessive chronic stress (Workplacebullying.org , Srabstein, Joshi et al., 2008).

Symptoms of PTSD

PTSD is a disease with heterogeneity; it can leads to minor or major consequences. Most people with PTSD experience acute stresses or grief reactions, while few others develop more ominous behavioural issues including violence and may attempt suicide (Hidalgo and Davidson, 2000; Oquendo et al., 2005). People with PTSD may experience a variety of primary and secondary symptoms. Primary symptoms include, paranoia, flashbacks, having difficulty in interpersonal associations, and the inability to engage in activities of daily living or work is hallmarks of this disease (Table 2). Secondary symptoms include recurring unpleasant memories, frequent nightmares of the event(s), inability to initiate sleep, sleeplessness, loss of interest in activities enjoyed previously, feeling numb or insensitive, and unexplained anger irritability are hall marks of PTSD (Ohayon and Shapiro 2000, Schnurr, Lunney et al., 2004, McHugh, Forbes et al., 2012).

The most common symptoms of PTSD are

Table 2. Common Symptoms of PTSD*

• Recurring unpleasant memories (Rosenthal, Cheavens et al. 2006, Jelinek, Randjbar et al. 2009)
• Frequent trauma or combat-related serious nightmares [99]
• Inability to initiate sleep or sleeplessness (Leskin, Woodward et al. 2002)
• Loss of interest in activities enjoyed previously (Armenian, Morikawa et al. 2000, Hall, Hobfoll et al. 2010)
• Feeling numb or insensitive (Southwick, Gilmartin et al. 2006) (Volpicelli, Balaraman et al. 1999)
• Unexplained anger (McHugh, Forbes et al. 2012) or irritability (Ohayon and Shapiro 2000, Schnurr, Lunney et al. 2004)
• Self-harm (Harned, Najavits et al. 2006), suicidal ideation [97], and attempted suicide [96]
• Severe mood disorders and bipolar disorders (Beattie, Shannon et al. 2009, O'Hare, Shen et al. 2010)
• Depression (Thabet, Abed et al. 2004, Armour, Elklit et al. 2011)
• Aggressive tendencies and irrational defence (McHugh, Forbes et al. 2012), violence (Kilpatrick, Ruggiero et al. 2003),
• Eating disorders [98]
• Severe uncontrollable anxiety status (Kolltveit, Lange et al. 2012)
• Panic and personality disorders [100]
• Socially inappropriate or unacceptable behaviour (Duxbury 2011)
• Avoidance, withdrawal, and frozen status (Jakovljevic, Brajkovic et al. 2012)

* Assembled from various sources

characterized and are described in DSM and multiple others publications (Asmundson, Frombach et al., 2000, Bryant and Harvey 2000, Kazak, Alderfer et al., 2004, Lombardo and Gray 2005, Tuerk, Grubaugh et al., 2009, Wortmann, Park et al., 2011), and are in the table 2.

If these symptoms are unrecognized or untreated, these can lead to more sinister behavioural issues, including attempted suicide and harm to others (Bachynski, Canham-Chervak et al., 2012). Conditions that may predisposed to self-harm in patients with PTSD include severe mood disorders, bipolar disorder, and depression with suicidal ideation burst of aggressive behaviour, trauma or combat-related serious nightmares, severe uncontrollable anxiety, and panic disorders (Rothschild 2000, Harb, Thompson et al., 2012, Mitchell, Mazzeo et al., 2012, Pacella, Hruska et al., 2012). In addition, patients with PTSD are more vulnerable to develop systemic disorders like cardiovascular disease (Boscarino 2012) and cancer (Einsle, Kraft et al., 2012).

Inner psychological reactions to major stressful events may also lead to build up of unusually prolonged pathological stress responses. These syndromes encompass both acute PTSD and delayed manifestations of PTSD. Triggering events could be new provocations in subjects with PTSD, to a threat of death to oneself or someone else, or threats to the physical, sexual, or psychological integrity of oneself or another that overwhelm one's ability to cope (Association, 1994). Because the ability of people to handle acute stress situations varies among individuals, the development of PTSD can occur in individuals exposed to exceedingly stressful incidences and in some who have encountered seemingly less overwhelming stressors (Oquendo, Friend et al., 2003, Oquendo, Brent et al., 2005).

Diagnosis and differential diagnosis of PTSD

Those with PTSD may present either with primary symptoms of PTSD, or with various constitutional and vague symptomatology such as headache, gastrointestinal disorders, difficulty in breathing, chest pain, dizziness, musculoskeletal symptoms such as backaches, and so forth (Ballenger, Davidson et al., 2000, Brauchle 2006). In many communities, especially in the east, the diagnosis of PTSD is made too infrequently among the civilians as well as in affected soldiers (Husband and Platt 1987; Corvalan and Klein, 2011, Wimalawansa S.J., causes and risk factors for post-traumatic stress disorder: the importance of right diagnosis and treatment. Asian J.Med.Sc.). Consequently, the attention, research, and resources are been sidetracked from the real issues of PTSD affecting patients, into other non-life-threatening other behavioural disorders, including adjustment disorders.

Formal DSM-V diagnostic criteria of PTSD includes significant impairment in social, occupational, or other important areas of human functioning, and the symptoms lasting more than one-month. Other diagnostic criteria include re-experiencing the original trauma(s) through flashback of memories and nightmares, avoidance of stimuli associated with the trauma, and the increasing occurrence of new behavioural disorders since the index incident (Association, 1994). Detailed diagnostic criteria for PTSD have been defined in the DSM-IV and DSM-V (Asmundson, Frombach et al., 2000, Bryant and Harvey 2000) (table 2) and further refined in the DSM-V (Spitzer, First et al., 2007, Miller, Chard et al., 2011).

Evidence suggests that subjects with pre-existing psychiatric disorder and/or biological vulnerability are more susceptible to develop PTSD. The identification of

underlying susceptibility factors may allow targeting of preventive interventions and develop novel preventive pharmacologic strategies for PTSD (Wimalawansa S.J., causes and risk factors for post-traumatic stress disorder: the importance of right diagnosis and treatment. Asian J.Med.Sc.).

Comorbidities of PTSD

PTSD may co-exist with other psychiatric disorders, thus are associated with comorbidities (Kulka 1990; Breslau et al., 1991; Kessler et al., 1995, Gershuny, Baer et al., 2002, Spitzer, Barnow et al., 2009, Carragher, Mills et al., 2010, Fontana, Rosenheck et al., 2012). Therefore, some of the functional impairments associated with PTSD might cause by other disorders, as has been observed in dysthymia (Spitzer, Kroenke et al., 1995, Pinto-Meza, Fernandez et al., 2009). Thus, it may cause difficulty among the health care workers in arriving at the right diagnosis. It can co-exist with other psychiatric disorders such as mood disorder, bipolar disorder, depression, and anxiety syndromes. In addition, any of these comorbidities may delay the diagnosis of PTSD because of vague or puzzling presentations, which may leads to unfavourable outcomes (Association, 1994, Karlin, Ruzek et al., 2010). Moreover, data suggest that having multiple psychiatric disorders amplify the likelihood of suicidal ideations (Rothschild 2000, Wimalawansa S.J., causes and risk factors for post-traumatic stress disorder: the importance of right diagnosis and treatment. Asian J.Med.Sc.). Therefore, the early recognition of coexisting and contributory factors likely to prevent later suicides. Nevertheless, clinicians who take care of these patients and the emergency room staff, must be aware that some individuals may also malinger symptoms of PTSD to gain attention or privileges, in their differential diagnosis (Berger, McNiel et al., 2012).

In the National Comorbidity Study (Kessler, Sonnega et al., 1995, Bromet, Sonnega et al., 1998), 88.3% of men, and 79.0% of women with a history of PTSD met criteria for at least having one other comorbidity. Moreover, coexistence of major psychiatric disorders makes patients more vulnerable to greater disability and suicides (Ormel, VonKorff et al., 1994, Olfson, Fireman et al., 1997, Johansen, Eilertsen et al., 2012). Even those with only partial symptoms are known to have increased comorbidities (Bromet, Sonnega et al., 1998, Johansen, Eilertsen et al., 2012, Morris, Compas et al., 2012), physical and mental impairment (Chopra, Zhang et al., 2012), substance dependence (Jakupcak, Tull et al., 2010), primarily alcohol (Fetzner, McMillan et al., 2011, Back, Killeen et al., 2012, Hellmuth, Stappenbeck et al., 2012), and suicidal ideations (Marshall, Olfson et al., 2001, Oquendo, Friend et al., 2003, Mihaljevic, Aukst-Margetic et al., 2012). In addition, those with PTSD have higher incidence of violence and increased involvement with the law enforcement, and charges for violent offences (McNiel et al., 2012; Donley et al., 2012) suggesting deeper functional derangements.

Long-term consequences of PTSD

In addition to sustaining serious physical injuries thousands of soldiers and civilians who exposed to war situationexperience higher incidences of depression and PTSD. For example, in 2011, United States military screeners reported that between 31% and 49% of those who are returning from the wars experiencing psychological symptoms. Statistics in the United States are staggering: 13.8% (226,000 returning troops) had PTSD, and 13.7% (225,000) had major depression. For PTSD and major depression, the average treatment lasts approximately 2 years and costs US $4 to $6 billion (The Kennedy School of Government, Harvard University).

Protective effects of helmets, body armour, and battlefield surgery and medical advances are saving lives that otherwise would have been lost due to battlefield injuries. Consequently, injured soldiers are coming home with serious injuries. The Kennedy School of Government, reported that during World War two, 38 of 100 injured soldiers died; during the Vietnam War, 28 of 100 injured soldiers died; and in the Iraq and Afghanistan wars, only 6 out of 100 injured soldiers died (http://www.hks.harvard.edu).

Nevertheless, major injuries, predominantly caused by incendiary explosive devices, require extended and involved care for wounded soldiers and civilians. Many of these victims are cared for by their families and, in some instances, by friends. Considering approximately 45% of active-duty forces are between 17 and 24 years of age, and this group consist of over 65% of the frontline soldiers, a significant portion of those seriously injured are in their late teens and early twenties . Many of them are taken care of by their parents with little access to physical and occupational therapies (Beckham, Lytle et al., 1996). Therefore, the pressure and stress put on these caregivers are tremendous and potentially push themselves to develop depression and PTSD-like syndromes (caregiver-syndrome), which is a much neglected worldwide problem, even today (Ben Arzi, Solomon et al., 2000).

There is a recent attempt to reduce the stigma attached with the diagnosis of PTSD by changing its name to “posttraumatic stress injury” (PTSI) under the American Psychiatric Association/WHO, DSM-V criteria (APA 2010). Because of the sustained chronic stresses caused by the changes in brain chemical patterns that acquired and manifest consequently to war-related experiences, the occurrence of various levels of adjustment disorders are common among returning

soldiers. In fact, adjustment disorders are inevitable and are a part of the PTSD.

The situation among soldiers in the post-war periods in any given country is no different from soldiers in any post-war situation—to that from the Vietnam, Iraq Afghanistan wars (i.e., soldiers returning from the battlefields (Shay 1999, Neuner, Onyut et al., 2008, Adler, Bliese et al., 2009). In any given situation, it is mostly the non-urban youth who are getting affected, sent to the frontline and get as they fight internal or external terrorism or invading forces. Many of them sustain varying degrees of infuries and PTSD, in addition to the subsequent inevitable adjustment disorders. However, there is no indication that the PTSD is over-diagnosed (Zimmerman and Mattia 1999, Brunet, Akerib et al., 2007, Wimalawansa S.J., causes and risk factors for post-traumatic stress disorder: the importance of right diagnosis and treatment. Asian J.Med.Sc.). As with the soldiers who experience and are treated for PTSD in the west, soldiers from other countries who suffer from PTSD should also be offered the best possible treatment and long-term follow up.

To make a significant impact on reducing the morbidity and mortality, improving the awareness, early and proper identification, and the recognition of PTSD is essential. PTSD recently has attracted public attention because of the impact of the recent wars and international terrorism. However, for most individuals PTSD is related to traumatic events experienced as civilians, such as following car accidents, work place brutalities, rape, and violent robberies (Zeiss and Batten 2012). Moreover, this disorder requires a deeper understanding of victim's cultural believe To achieve optimal outcomes,consensus among professionals of different specialties.

CONCLUSIONS

A educational campaign to relieve the stigma attached to PTSD is needed, as it is a barrier to the diagnosis of PTSD and the willingness of victims to seek and accept effective treatment options (Brunet, Akerib et al., 2007). Some patients with PTSD syndrome resolve their symptoms spontaneously or with minimal medical attention, whereas others need counselling and pharmacotherapy's and long term follow-ups. However, misdiagnosis of PTSD as adjustment disorder would prevent them receiving the effective treatments and thus will not help these victims nor their families (Interian, Kline et al., 2012).

There are a number of treatment options available for patients with PTSD. These include, (A) Non-pharmacological therapies [psychotherapy (trauma-based Cognitive Behavioural Therapy), mindfulness therapy and calming practices such as the use of Buddhist meditation practices, exposure response prevention, etc.], (B) Pharmacological therapies [psychopharmacology: antidepressants, selective serotonin-uptake inhibitors (SRI) anxiolytics such as benzodiazepines, beta-blockers and alpha agonists, and off-label use of antipsychotic medications], and (C) Other non conventional treatments like relaxation water-and music-therapy. Meanwhile, debriefing methods tried at Veteran Administration centers in the United States have not revealed much success (Flannery, Fulton et al., 1991).

Unless healthcare providers can actively intervene with validated therapies and provide a wider-based support to the victims and their families, the higher incidence of suicide and behavioural issues related to PTSD will continue. This would lead to loss of more lives family disruption, and opportunity costs. One should not neglect the vast number of civilian victims with PTSD secondary to violent terrorist and other activities, including natural disasters (Galea and Resnick 2005). Health departments should offer such individuals, similar diagnostic and treatment options to obtain effective therapies as they offer to soldiers, so that they too can return to productive lives.

The key is to identify vulnerable individuals earliest possible and offer them effective treatment regimen, and individual and group therapies. Intensive medical and psychological therapies coupled with community, religious, work place and family support should be Offered and coordinated to all victims as a pivotal part of managing and remedying PTSD. Such comprehensive approach would, keeping the affected people in remission, and prevent suicides.

The solutions lie with directly addressing the root causes of persisting stress and providing individualized solutions. In the end, effective treatments are likely to be based on the biological knowledge-based individualized therapies to improve the behavioural issues in a sustainable manner. Since there are major ethnic and cultural variability for the development of PTSD, it is important to carry out in-depth root causes analysis to identify key contributory factors and causes, and warning signs in individual societies or a countries. Such an ethnic-specific data should benefit the society to focus into the real causes leading to PTSD, and thus offering the appropriate preventive and treatment interventions. These would prevent suicides and allow implementing specific therapeutic guidelines. Research is needed to develop method to predict and identify vulnerable people based on their biological characteristics, thus preventing them being exposed to high-stress situations.

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