Psychological impact of terrorism

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Abstract

- Terrorism is psychological warfare. Whether the attack is real or a hoax, terrorists use the fear of the unknown to their advantage.
- A terrorist attack can lead to acute stress disorder or post-traumatic stress disorder among those exposed to the trauma. With media coverage, people remote from the attack can have sufficient "exposure" to cause psychological problems.
- People at risk of psychological trauma (eg, victims, rescuers) need to be monitored during and after a terrorist event. General practitioners need to maintain counselling skills and be aware of the possibility of trauma, even among people exposed only through media coverage.
- Education and good leadership are important in preventing panic during a terrorist campaign.
- On the global level, we need to act to reduce the inequities that lead people to turn to terrorism.

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THE THREAT OF TERRORISM has been evident for many years, but only in recent times has this threat become fact. In this article, I discuss the actual and potential psychological effects caused by terrorism on a mass scale. Medical understanding of responses to trauma, how to recognise them, and critical incident debriefing is important. Therefore, educating both health care providers and the general public to understand what may confront them is also essential.

Physical terrorism

Psychological risk spreads out from the "ground zero" of a disaster. People with the highest level of trauma exposure (eg, survivors and rescue workers) are most likely to suffer from psychological illness.[1] Further from ground zero, the most affected are the families of those who were killed. Their emotions are well described by the mother of a young woman killed in the 1988 hijacking of a Pan Am plane over Lockerbie, Scotland.

> … a … cocktail of emotions — fear, disbelief, paralysing shock, and horror, but above all, a terribly sad feeling of dislocation and longing for Flora and penetrating knowledge that this was something from which there really was no recovery. Even after seven years I cannot think of the last moments of Flora's life without a pain which is like being burnt alive.[2]

This is not dissimilar to the high incidence of totally debilitating physical and emotional illness among relatives of murder victims.[2] As this psychological ripple effect moves further from ground zero, the effects are usually less severe. However, in the attack on the World Trade Center, New York, in September 2001, remote populations with access to television and "live media" were able to watch events unfolding in real time, and were repeatedly exposed over subsequent days by incessant replays of the event. It is still unclear whether this group of people will develop a disabling mental disorder or a heightened sense of insecurity. However, post-traumatic stress symptoms have been found to be associated with media exposure to the 1995 bombing of the Alfred P Murrah Federal Building in Oklahoma City.[3]

The greatest psychological problems facing the survivors, rescuers, families and onlookers (whether present personally or via the media) are acute stress disorder or post-traumatic stress disorder (PTSD). Acute stress disorder is similar to PTSD but self-limiting — usually lasting between 2 days and 4 weeks. The disorder includes a sense of dissociation and sometimes the development of nightmares, sleep difficulties, anxiety, and startle reactions.[1] For a diagnosis of PTSD, numerous criteria must be met, specified in the *Diagnostic and statistical manual of mental disorders, fourth edition* (DSM-IV).

> The first criterion to be met for a diagnosis is experience of a traumatic event. Criterion A specifies that the event must involve actual or threatened physical threat to the self or others, as well as a requirement that the person's response involved intense fear, helplessness or horror. The B group of criteria relates to re-experiencing the trauma (such as intrusive memories, nightmares and distress on exposure to reminders). The C group of criteria refers to active avoidance of reminders, as well as a numbing of general responsiveness, while the D criteria require symptoms of

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hyperarousal such as anger, sleep disturbance and hypervigilance. The symptoms in B, C and D must be present for at least 1 month before a diagnosis can be made.[4]

The tragedy of 11 September 2001 fulfils criterion A for people involved at the time. However, as this was an act of terrorism with its associated randomness, the emotional consequences are more far-reaching. Any person anywhere in the Western world could understandably feel actual physical threat.

Bioterrorism

On 4 October 2001, another attack on the Western world occurred. This was soon found to be the start of a campaign of terror, involving letters containing anthrax. Biological warfare had again raised its ugly head. The history of biological weapons can be traced to the earliest times. In the 6th century BCE, the Assyrians poisoned wells with rye ergot, and Solon used the purgative herb hellebore during the siege of Krissa.[5] History is full of such examples, including references in the Qur'an to what may have been smallpox.

The use of anthrax as a weapon of terrorism has been most successful. In the recent past, other biological agents have also been used. The Aum Shinrikyo released sarin on the Tokyo subway in 1995. This resulted in 12 deaths and injury to 5498 adults and children. Of these, 17 were critically injured, 1370 had mild to moderate injuries, and the remainder had no or minimal injuries.[6]

The major difference between these previous attacks and the recent wave of anthrax terrorism is that letters filled with anthrax continued to arrive over a sustained period. The uncertainty about any link between the World Trade Center bombers and other groups added to the fear factor of the bioterrorism: is there one or several groups of terrorists?

Fear of the unknown is the greatest fear of all. Steven Spielberg made use of this fact in his acclaimed thriller, *Jaws*. It is not until an hour into this movie that we see the cause of the fear — a gigantic shark. Suspense heightens fear, just as with the anthrax letters. The capacity was there, it was thought, for an overwhelming onslaught of death and mayhem.

Paradoxically, some disasters do not cause panic, as they involve familiar occurrences. However, a biological attack is alien to normal human experience or expectation, and thus spawns a contagion of fear, panic and, in some cases, hysteria.[6] This was observed in the United States and even in Australia; for example, retailers sold out of gas masks.

The media can have both negative and positive effects in these events. As discussed earlier, the repeating media coverage of the destruction of the World Trade Center tended to reinforce the terror and perhaps led to further psychological damage. With respect to the anthrax attacks, the media's information overload could cause desensitisation, or it could heighten the fear. It has certainly led to a "marketing opportunity" on the Internet for the antibiotic ciprofloxacin.[7]

Further consequences

There have been other direct responses to the wave of terrorism, not only in the US, but throughout the world. The cost to societies and business has been huge. Initially, there was a run in the US on products such as food and fuel, with reports of hugely inflated costs. This was followed by a sustained period of "consumer malaise", causing businesses to falter. Two of the worst hit areas have been tourism and air travel. People are afraid to travel. Throughout the world, the hotel industry is suffering low occupancy rates. Airlines such as Swissair and Canada 3000 ceased operation. Government support has seen some of these re-open, but in a very different format.

The consequent level of paranoia has increased substantially and continues to do so, with the media playing a significant role.

The World Health Organization has even considered whether to ask countries to resume vaccination against smallpox (Brundtland GH, Director-General, World Health Organization, reported in *Medical Observer Weekly*, 2 November 2001), and the US Centers for Disease Control and Prevention (CDC) has vaccinated laboratory staff against smallpox, fearing this will be the next biological weapon of terrorism.

Not surprisingly, a number of benefits have arisen from the attacks. New, faster diagnostic tests for anthrax have been developed, and treatment for smallpox is closer, using approaches similar to that developed for AIDS. Above all, the terrorist attacks have drawn populations together, as they seek a way of surviving or defeating the new enemy, fear.

Management

We have a new environmental change, which is causing health issues rarely seen in human history. Management of the various factors is diverse, but can be broken into two broad categories:

- Management of local factors, such as psychological injury; and
- Global approaches to address the primary causes of terrorism.

Local measures

Terrorism, particularly biological terrorism, is psychological warfare by another name, and will typically affect a wide section of society. Studies have shown that individuals with pre-existing personality weaknesses are more likely to progress to PTSD and similar psychological problems.[8] It is essential that the major at-risk groups be monitored during and after a crisis and, to this end, primary care practitioners need to maintain counselling skills so that problems do not go unrecognised. Rescuers are much less likely to seek help

than those who have escaped. Experience has shown that there is significant value in critical incident stress debriefing. Unfortunately, too often the people delivering the debrief were themselves involved in the disaster, and are not cared for as well as should be expected.[9]

Public hysteria was thought to be a significant problem of terrorist attacks, but after the collapse of the World Trade Center this did not eventuate. Instead, there was a quiet anger — soon replaced by a determination to seek revenge. In contrast, the anthrax letters caused more panic. Education is important in preventing this panic, and the media has been particularly effective in this area. Information, explanation, and perspective have overcome blind panic.

Unfortunately, government public health agencies can at times perpetuate inaccuracies. The New South Wales Health Department sent management guidelines for anthrax to all doctors in NSW. These guidelines included the use of intravenous doxycycline, which is not available in Australia. Mistakes such as this can lead to a loss of confidence in leadership, which is vital at such times.

Education includes knowing who the enemy is in a crisis. Following the attacks, undirected reactions against the Muslim community occurred, because of fear of the unknown. Islam is thought to be different from the major religions practised in the Western world, but this is not the case. Like most world religions, it is one of peace and harmony, and is widely misunderstood. Only in the hands of fanatics does religion take on malevolent intent.

The principles for thwarting terrorism at the local level include:

- Recognition of those at risk;
- Critical stress incident debriefing;
- Specific psychological care for those in need;
- Education;
- Leadership; and
- Above all, planning against the attack.

Denying the terrorist panic is the first step in defeating terrorism.

Global measures

Terrorism is the result of revenge for perceived grievances by sectors of society that harbour resentment of wealthy countries. There may be other factors, such as religious fanaticism and revenge, but in the absence of poverty and the dichotomy of social wealth, terrorism would not breed.

Globalisation is here to stay. It has not been brought about by an act of government or an act of God, but is a change that accompanies advances in technology, communication and consumerism. The ugly side of globalisation has been brought about by its management. There will always be differences in the wealth of countries, and there will always be resentment. However, with a little more equality, the resentment will be a little less. Hungry, frustrated people can turn to religious extremes for solace, and the consequent fanaticism breeds hatred.

Conclusion

No longer is the environment just the air we breathe, the water we drink or our other physical surroundings. The environment encompasses far greater issues affecting our health and wellbeing.

The effects of terrorist activities in the US in 2001 have brought about marked changes in how the world goes about its business. In the acute phase, there has been death, physical suffering and mental anguish. In the long term, it is probable that many lives will be changed by the psychological impact.

Evidence from other lesser tragedies indicates this probability. It has already had an effect at the level of the local medical practitioner, not only in the US, but also throughout the world. A new understanding of our patients has become necessary, as has the necessity of attempting to understand the facts that have led to this change in war.

Poverty, hatred and the need for revenge have conspired to cause fear within populations worldwide. Understanding the reasons, and relieving the poverty but allowing self-respect, will go a long way to thwarting further terrorism.

Competing interests

None identified.

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