

## Mass hysteria revisited

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### Purpose of review

Instances of mass psychogenic response have occurred throughout history, and across population groups; however, the present-day threat of terrorism and biological warfare is expected to enhance societal vulnerability to epidemics of such events. This paper provides a brief review of the current state of knowledge regarding the conceptualization, diagnosis, and management of mass psychogenic response.

### Recent findings

Various terms are nowadays used to denote mass hysteria, such as 'mass psychogenic illness' and 'mass sociogenic illness'. Recent studies investigating personality types predisposed to mass hysteric reactions are inconclusive with a range of results found. Cognitive models of this condition have been effective in promoting empowerment and adaptation among vulnerable individuals. The actions of governments, medical communities, and the media are pivotal in the management of mass hysteria.

### Summary

The diagnosis of mass hysteria remains contentious, and the mechanisms underlying its perpetuation are similarly ambiguous. The prevalence of 'threat' within the modern sociocultural climate is likely to increase the incidence of the condition, and this could result in serious implications for health services. A holistic approach entailing the collaboration of various public sectors performing a range of preventive activities will be required to contain future mass psychogenic reactions.

### Keywords

mass hysteria, mass psychogenic illness, mass sociogenic illness, outbreaks of multiple unexplained symptoms

Curr Opin Psychiatry 19:171–174. © 2006 Lippincott Williams & Wilkins.

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**Current Opinion in Psychiatry** 2006, 19:171–174

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0951-7367

### Introduction

'Thousands stranded, 57 sick as gas mystery deepens' [1]. With this bold headline, the *Sydney Morning Herald* proclaimed the unfolding of an unusual and striking chain of events that occurred on 21 February 2005. At the Virgin Blue terminal of Melbourne's Tullamarine Airport, a worker at the news agency complained of feeling ill. Within an hour, another two reported feeling of being unwell, albeit with different symptoms. Soon, 47 people, mostly airport staff, were reporting dizziness, nausea, vomiting, and respiratory problems with more than 40 taken to a hospital by ambulance. Paramedics treated others at the scene. The symptoms remitted quickly in the majority. The terminal was, however, plunged into full emergency mode, forcing its evacuation, and subsequent closure for 8 h. More than 60 Virgin Blue flights were cancelled, 14 000 people were stranded, and the cost ran into millions. Two months later and after an investigation by Victoria's Emergency Services Commissioner, no causes for these events had been found and no clear explanation has been offered [2].

The above-mentioned incident is a striking example of mass hysteria. It illustrates the rapid development of heightened fear and anxiety, which then translates into massive disruption to the behavior and activities of those involved. The threat can often be disproportionate to the public reaction it induces or even entirely unfounded – as was the outcome of the previously mentioned case. Be that as it may, occurrences of mass hysteria are typified by an incredible fear of what is perceived at that time and place to be a 'real threat'. The following is a summary of the current perspectives on mass hysteria, reviewing the concept, characteristics, management, and future considerations of this curious condition.

### Through time

Numerous cases of mass psychogenic responses to suspected or actual events abound in literature and are most likely underreported. The content of these episodes reflects dominant sociocultural concerns of the time and group manifesting the symptoms. For example, motor hysteria dominated Europe throughout the middle ages, whereby the strong Christian order and belief in witchcraft that was prevalent from the 15th to 19th centuries prompted epidemics of hysterical fits among nuns, which were blamed on demonic possession while the harsh working environments of the Industrial Revolution generated

outbreaks of convulsions, abnormal movements, and neurological complaints among factory workers [3]. A common trigger of mass hysteria during the 20th and 21st centuries has been the fear of environmental contaminant or toxic gas from a bioterrorist or chemical warfare attack, arousing symptoms such as breathlessness, nausea, headache, dizziness, and weakness [4\*].

### On causation

Most epidemics of mass hysteria are initiated by an actual event, but some can originate from mere rumors of a catastrophic situation. In cases associated with water contamination, smog, nuclear accidents, or chemical exposure, a common trigger is an odor, or perception of an odor. The outbreak may then be perpetuated by a variety of factors such as physical or visual proximity to casualties, general excitement of the event, presence of media at the event, litigation and/or compensation cases, labeling the phenomenon with a specific illness diagnosis, and persistence of rumors [5]. A number of personality studies have been conducted with those involved in cases of mass hysteria with the aim of identifying predominant social, psychological, and physical characteristics, and thus ascertaining individuals predisposed to such reactions and manifestations. Personality types are described variously as being more extroverted, more paranoid and hysterical, of lower IQ, being more likely to be women or having experienced the death of a significant other in early childhood. Few consistent patterns exist across the studies [3], and many of the conclusions are divergent. Subsequently, mass or epidemic hysteria is currently accepted as unassociated with any psychological or personality disorders and as a behavioral reaction, which all people are capable of experiencing given the right conditions of fear and uncertainty [6].

### Terminology and diagnosis

Given the pejorative nature of the term 'mass hysteria', others such as 'mass sociogenic illness', 'mass psychogenic illness', and 'outbreaks of multiple unexplained symptoms' have been offered. DSM-IV subsumes this condition under the rubric of 'Somatoform disorders' and within the subcategory 'Conversion disorder' [7]. The phenomenon is generally defined as '... the rapid spread of illness signs and symptoms affecting members of a cohesive group, originating from a nervous system disturbance involving excitation, loss or alteration of function, whereby physical complaints that are exhibited unconsciously have no corresponding organic etiology' [3].

The issue of diagnosis of mass hysteria remains contentious because it is often viewed as a diagnosis of exclusion. Furthermore, there exists no typical diagnostic feature with exceptions found for all characteristics [8].

The general model of identifying conversion disorders may provide insight into identifying mass hysteria outbreaks. Symptoms that have no plausible organic basis, are transient and benign, and have rapid onset and recovery are commonly seen in conversion disorders after acute stress. The occurrence of these symptoms in a segregated group, the presence of extraordinary anxiety, the spreading of symptoms via sight, sound, or oral communication, and cases spreading down the age-scale (beginning in older or higher status) and with preponderance of female participants may heighten index of suspicion for mass hysteria [3].

### Management and prevention

Most doctors are familiar with the individual presentation of conversion disorder; it is the group presentation of it that is less common. The current sociocultural milieu, however, may promote increasing epidemics of such mass hysteria, and doctors will be increasingly called upon to assess and treat this phenomenon [8].

Occurrences of mass hysteria have significant implications for health services, particularly emergency departments, and emergency response services. Separating the anxious from the physical casualties of an attack or poisoning will be acutely difficult, and this may overwhelm the capacity of emergency departments to provide timely and effective assessment and care. This may not be an either/or phenomenon: there may be a real outbreak with presentations amplified by a much larger number of people, most of whom may not be physically hurt or ill as a result of the attack or toxic exposure.

Although the underlying dynamics that initiate and perpetuate mass hysteria are poorly understood, its prompt diagnosis allows physicians to avoid unnecessary tests and treatments, and reassures both the affected individuals and the public. Simple as this may sound, it is quite problematic as controversy often surrounds outbreaks, and time is needed to analyze environmental and medical test results. Managing suspected outbreaks will require close collaboration between public health officials, emergency response services, and general physicians. One action may be to cordon off the site where the outbreak occurred until relevant investigations are carried out, and the safety of returning there is established [4\*]. This de-escalates the situation because it provides the public with a feeling of control and safety as the relevant experts are seen to be taking their concerns seriously. It also serves to control the outbreak by reducing anxiety levels and temporarily dispersing the group [3].

Clear information regarding the benign nature of symptoms and what action needs to be taken by the public

in relation to the severity of the symptoms will instill feelings of containment among the vulnerable. A system of ongoing surveillance and monitoring, as deemed appropriate by the relevant authorities, should minimize the likelihood of re-creating the hysterical response when exposed to the same environment again. Explanatory models should be communicated in a sensitive manner so as not to appear dismissive of symptoms, which are 'real' although anxiety-related. It is the general observation that when doctors and patients do not agree on the illness, the prognosis is worse than when there is a consensus [9]. Therefore, media controversy, scientific disagreement, political debates, and legal struggles need to be managed in a way that does not cause an anxious public to be fearful of their symptoms or suspicious of the reliability of the explanation provided.

Cognitive models of illnesses suggest that illness representations are created by patients in an effort to understand their symptoms and foster various coping responses to restore health [10]. This reality determines subsequent behaviors related to treatment seeking, adherence to and engagement with medical services. Cognitive components of such models may be divided into the following groups:

- (1) *Identity*: the label of the illness and the symptoms the patient views as being part of the disease;
- (2) *Cause*: personal ideas about etiology, which may include simple single causes or more complex multiple causal models;
- (3) *Time-line*: the patient's belief about the likely time course of the illness (e.g. acute, chronic, or episodic);
- (4) *Consequences*: expected effects and outcome of the illness;
- (5) *Cure/control*: the patient's beliefs about the extent to which the illness is amenable to cure or control.

The illness perception approach may be utilized in instances of mass psychogenic illness in fostering a sense of control and facilitating adaptation in the vulnerable members of the population.

The effectiveness of cognitive behavior therapy in caring for medically unexplained physical symptoms after toxic and other environmental exposures depends upon the patient-provider relationship. The provider must have well developed communication skills, the patient and provider need to have confidence in each other, and the provider must be prepared to support the patient through extended behavioral change [9].

More important, cultural sensitivity is critical to the effectiveness of any other psychotherapy method used to treat mass hysteria. As stated previously, the threat that triggers mass psychogenic reactions is associated with the

preoccupations that dominate the affected population. Consequently, although similar symptoms may occur through time and space, each case should be addressed specifically to the sociocultural setting within which it transpired. For instance, the symptoms typically presented during threats of bioterrorism – difficulty in breathing and swallowing, dizziness, fainting – were attributed to demonic possession during a hysteria epidemic in Taiwan in 2000 [11]. Environmental toxicity and infectious disease are arguably the principal fears behind epidemic hysterias among 'Western' populations today [6].

## Outlook

As we enter the 21st century, the grim specters of terrorism and biological weapons have reared their heads worldwide. Some argue that bioterrorism poses more of a psychosocial danger than any real physical danger and that the most important hurdle for society to overcome is to control the fear and hype associated with these weapons [12]. It is therefore imperative that the public be knowledgeable and informed of the facts if they are to learn to live with these threats and evade the intense and disruptive reaction they are able to arouse.

During times of threat, the anxious public needs to feel reassured and protected, and people look to authority figures to take control and provide that reassurance. Undoubtedly, the key responsibility of public health agencies during an epidemic of mass psychogenic illnesses is to deal with the fear and anxiety caused by the threat. The circulation of realistic and practical information by the government and media will function to diminish the capacity of threats such as biological weapons to cause fear. A planned, well coordinated, strategic approach will help reduce societal vulnerability to mass hysteria and limit the 'contagiousness' of such an event.

## Conclusion

Mass hysteria is to date a poorly understood condition. Little certainty exists regarding its etiology; its diagnosis remains controversial and its management requires a specific collaborative effort. The underlying concept of threat is highly subjective, mitigated by resilience of the individual person and his/her capacity to self-manage uncertain threats. Accordingly, the extent to which individual and collective resilience can be assembled during times of threat will determine whether states of hysteria perpetuate and amplify within population groups. How governments, medical communities, and the media aid society in responding to this fear may have a significant impact on the degree to which future presentations of mass hysteria occur and whether or not these are managed successfully.

## References and recommended reading

Papers of particular interest, published within the annual period of review, have been highlighted as:

- of special interest
- of outstanding interest

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This is a concise summary of issues related to mass sociogenic illness, including its epidemiology, clinical management and prevention.