Mass psychogenic illness

'*Mass psychogenic illness* ***(MPI), also called*** *mass sociogenic illness*,[1] is "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 aetiology."[2] MPI is distinct from other collective delusions, also included under the blanket terms of mass hysteria, in that MPI causes symptoms of disease, though there is no organic cause.

The DSM-IV-TR does not have specific diagnosis for this condition but the text describing conversion disorder states that "In 'epidemic hysteria,' shared symptoms develop in a circumscribed group of people following 'exposure' to a common precipitant."

Current state of research

According to Balaratnasingam and Janca, "mass hysteria is to date a poorly understood condition. Little certainty exists regarding its etiology."[3]

Besides the difficulties common to all research involving the social sciences, including a lack of opportunity for controlled experiments, Mass Sociogenic Illness presents special difficulties to researchers in this field. Balaratnasingam and Janca report that the methods for "diagnosis of mass hysteria remains contentious.[3] According to Timothy Jones of the Tennessee Department of Public Health, MPI "can be difficult to differentiate from bioterrorism, rapidly spreading infection or acute toxic exposure."[4] These troubles result from the residual diagnosis of MPI. Singer, of the Uniformed Schools of Medicine, puts the problems with such a diagnosis thus:[5] "[y]ou find a group of people getting sick, you investigate, you measure everything you can measure . . . and when you still can't find any physical reason, you say 'well, there's nothing else here, so let's call it a case of MPI.'" There is a lack of logic in an argument that proceeds: "There isn't anything, so it must be MPI." It precludes the notion that an organic factor could have been overlooked. Nevertheless, running an extensive number of tests extends the probability of false positives.[5]

British psychologist Wesseley distinguishes between two forms of MPI:[6]

1. mass anxiety hysteria "consists of episodes of acute anxiety, occurring mainly in schoolchildren. Prior tension is absent and the rapid spread is by visual contact."
2. mass motor hysteria "consists of abnormalities in motor behaviour. It occurs in any age group and prior tension is present. Initial cases can be identified and the spread is gradual. . . . [T]he outbreak may be prolonged."

While his definition is sometimes adhered to,[2][7] others such as Ali-Gombe et al. of the University of Maiduguri, Nigeria contest Wesseley's definition and describe outbreaks with qualities of both mass motor and anxiety hysteria.[8]

An evolutionary psychology explanation for this disorder, as well as for conversion disorder more generally, is that the symptom may have been evolutionary advantageous during warfare. A non-combatant with these symptoms signals non-verbally, possibly to someone speaking a different language, that she or he is not dangerous as a combatant and also may be carrying some form of dangerous infectious disease. This can explain that conversion disorder may develop following an threatening situation, that there may be a group effect with many people simultaneously developing similar symptoms, and the gender difference in prevalence.[9]

Commonalities in outbreaks

Qualities of MPI outbreaks often include:[1]

- symptoms that have no plausible organic basis;
- symptoms that are transient and benign;
- symptoms with rapid onset and recovery;
- occurrence in a segregated group;
- the presence of extraordinary anxiety;
- symptoms that are spread via sight, sound or oral communication;
- a spread that moves down the age scale, beginning with older or higher-status people;
- a preponderance of female participants

Also, the illness may recur after the initial outbreak.[4]

Common symptoms

Jones compiles the following symptoms based on their commonality in outbreaks occurring in 1980–1990:[4]

Predisposition for psychogenic illness

The hypothesis that those prone to extroversion or neuroticism, or those with low IQ scores are more likely to be affected in an outbreak of hysterical epidemic has not

Symptom	Percent reporting
Headache	67
Dizziness or light-headedness	46
Nausea	41
Abdominal cramps or pain	39
Cough	31
Fatigue, drowsiness or weakness	31
Sore or burning throat	30
Hyperventilation or difficulty breathing	19
Watery or irritated eyes	13
Chest tightness/chest pain	12
Inability to concentrate/trouble thinking	11
Vomiting	10
Tingling, numbness or paralysis	10
Anxiety or nervousness	8
Diarrhea	7
Trouble with vision	7
Rash	4
Loss of consciousness/syncope	4
Itching	3

been consistently supported by research. Bartholomew and Wesseley state that it "seems clear that there is no particular predisposition to mass sociogenic illness and it is a behavioural reaction that anyone can show in the right circumstances."[2]

As stated above, there is a clear preponderance of female victims.[1] Adolescents and children are frequently affected in cases of MPI.[4]

History and examples

Middle Ages

The earliest studied cases linked with epidemic hysteria are the dancing manias of the Middle Ages, including St. John's Dance and tarantism. These were supposed to be associated with spirit possession or the bite of the tarantula. Those afflicted with dancing mania would dance in large groups, sometimes for weeks at a time. The dancing was sometimes accompanied by stripping, howling, the making of obscene gestures, or even (purportedly) laughing or crying to the point of death. Dancing mania was widespread over Europe.[10]

Between the 15th and 19th centuries, instances of motor hysteria were common in nunneries. The young ladies that made up these convents were typically forced there by family. Once accepted, they took vows of chastity and poverty. Their lives were highly regimented and often marked by strict disciplinary action. The nuns would exhibit a variety of behaviors, usually attributed to demonic possession. They would often use crude language and exhibit suggestive behaviors. One convent's nuns would regularly mew like cats. Priests were often called in to exorcise demons.[2]

18th to 20th centuries

In factories

MPI outbreaks occurred in factories following the industrial revolution England, France, Germany, Italy and Russia[2] as well as the United States and Singapore.

W. H. Phoon, Ministry of Labor in Singapore gives a case study of six outbreaks of MPI in Singapore factories between the years 1973 and 1978.[11] They were characterized by (1) hysterical seizures of screaming and general violence, wherein tranquilizers were ineffective (2) Trance states, where a worker would claim to be speaking under the influence of a spirit or *jin* (or genie) and (3) Frightened spells: some workers complained of unprecedented fear, or of being cold, numb, or dizzy. Outbreaks would subside in about a week. Often a *bomoh* (medicine man) would be called in to do a ritual exorcism. This technique was not effective, and sometimes seemed to exacerbate the MPI outbreak. Females and Malays were affected disproportionately.

Especially notable is the "June Bug" outbreak:[12] In June 1962, a peak month in factory production, sixty two workers at the Montana Mills dressmaking factory experienced symptoms including severe nausea and breaking out on the skin. Most outbreaks occurred during the first shift, where four fifths of the workers were female. Of 62 total outbreaks, 59 were women. Entomologists and others were called in to discover the pathogen, but none was found. Kerchoff coordinated the interview of affected and unaffected workers at the factory and summarizes his findings:

1. strain – those affected were more likely to work overtime frequently and provide the majority of the family income. Many were married with children.
2. Affected persons tended to deny their difficulties. Kerchoff postulates that such were "less likely to cope successfully under conditions of strain."
3. Results seemed consistent with a model of social contagion. Groups of affected persons tended to have strong social ties.

Kerchoff also links the rapid rate of contagion with the apparent reasonableness of the bug and the credence given to it in accompanying news stories.

Stahl and Lebedun [13] describe an outbreak of Mass Sociogenic Illness in the Data Center of a mid-western university town. Ten of thirty-nine workers smelling an unconfirmed "mystery gas" were rushed to a hospital with symptoms of dizziness, fainting, nausea and vomiting. They report that most workers were young women either putting their husbands through school or supplementing the family income. Those affected were found to have high levels of job dissatisfaction. Those with strong social ties tended to have similar reactions to the supposed gas, which only one unaffected woman reported smelling. No gas was detected in subsequent tests of the Data Center.

In schools

Thousands were affected by the spread of a supposed illness in a Serbian province of Kosovo, exclusively affecting ethnic Albanians, most of which were young adolescents.[14] A wide variety of symptoms were manifested, including: headache, dizziness, impeded respiration, weakness/adynamia, burning sensations, cramps, retrosteral/chest pain, dry mouth and nausea. After the illness had subsided, a bipartisan Federal Commission released a document, offering the explanation of psychogenic illness. Radovanovic of the Department of Community Medicine and Behavioural Sciences Faculty of Medicine in Safat, Kuwait reports:

> *This document did not satisfy either of the two ethnic groups. Many Albanian doctors believed that what they had witnessed was an unusual epidemic of poisoning. The majority of their Serbian colleagues also ignored any explanation in terms of psychopathology. They suggested that the incident was faked with the intention of showing Serbs in a bad light but that it failed due to poor organization.*

Rodovanovic expects that this reported instance of Mass Sociogenic Illness was precipitated by the demonstrated volatile and culturally tense situation in the province.[14]

On the morning of Thursday 7 October 1965, at a girls' school in Blackburn, several girls complained of dizziness.[15] Some fainted. Within a couple of hours, 85 girls from the school were rushed by ambulance to a nearby hospital after fainting. Symptoms included swooning, moaning,chattering of teeth, hyperpnea, and tetany. Moss and McEvedy, published their analysis of the event about one year later. Their conclusions follow.[15] Note that not their conclusion about the above-average extroversion and neuroticism of those affected is not necessarily typical of MPI.[2]:

- Clinical and laboratory findings were essentially negative.
- Investigations by the public health authorities did not uncover any evidence of pollution of food or air.
- The epidemiology of the outbreak was investigated by means of questionnaires administered to the whole school population. It was established that the outbreaks began among the 14-year-olds, but that the heaviest incidence moved to the youngest age groups.
- By using the Eysenck Personality Inventory it was established that in all age groups the mean E [extroversion] and N [neuroticism] scores of the affected were higher than those of the unaffected.
- The younger girls proved more susceptible, but disturbance was more severe and lasted longer in the older girls.
- It was considered that the epidemic was hysterical, that a previous polio epidemic had rendered the population emotionally vulnerable, and that a three-hour parade, producing 20 faints on the day before the first outbreak, had been the specific trigger.
- The data collected were thought to be incompatible with organic theories and with the compromise theory of an organic nucleus.

Late 20th Century and 21st Century

Terrorism and biological warfare

Bartholomew and Wessely anticipate the "concern that after a chemical, biological or nuclear attack, public health facilities may be rapidly overwhelmed by the anxious and not just the medical and psychological casualties."[2] Additionally, early symptoms of those affected by MPI are difficult to differentiate from those actually exposed to the dangerous agent.[4]

The first Iraqi missile hitting Israel during the Persian Gulf War was believed to contain chemical or biological

weapons. Though this was not the case, 40% of those in the vicinity of the blast reported breathing problems.[2]

Right after the 2001 anthrax attacks in the first two weeks of October 2001, there were over 2300 false anthrax alarms in the United States. Some reported physical symptoms to what they believed to be anthrax.[2]

Also in 2001, a man sprayed what was later found to be a window cleaner into a subway station in Maryland. 35 people were treated for nausea, headaches and sore throats.[2]

Also, see articles on:

- Tanganyika Laughter Epidemic

Response to outbreaks

Timothy F. Jones, of the Tennessee Department of Health recommends the following action be taken in the case of an outbreak:[4]

- Attempt to separate persons with illness associated with the outbreak.
- Promptly perform physical examination and basic laboratory testing sufficient to exclude serious acute illness.
- Monitor and provide oxygen as necessary for hyperventilation.
- Minimize unnecessary exposure to medical procedures, emergency personnel, media or other potential anxiety-stimulating situations.
- Notify public health authorities of apparent outbreak.
- Openly communicate with physicians caring for other patients.
- Promptly communicate results of laboratory and environmental testing to patients.
- While maintaining confidentiality, explain that other people are experiencing similar symptoms and improving without complications.
- Remind patients that rumors and reports of "suspected causes" are not equivalent to confirmed results.
- Acknowledge that symptoms experienced by the patient are real.
- Explain potential contribution of anxiety to the patient's symptoms.
- Reassure patient that long-term sequelae from current illness are not expected.
- As appropriate, reassure patient that thorough clinical, epidemiologic and environmental investigations have identified no toxic cause for the outbreak or reason for further concern.

Some responses by authority to MPI are not appropriate. Intense media coverage seems to exacerbate outbreaks.[3][4][7] Once it is determined that the illness in psychogenic, it should not be given credence by authorities.[7] For example, in the Singapore factory case study given above, calling in a medicine man to perform an exorcism seemed to perpetuate the outbreak.[11]

Notes

[1] ^ [1], Mass, Weir E. "Mass sociogenic illness." *CMAJ* 172 (2005): 36. Web. 14 Dec. 2009.

[2] ^ [2] Bartholomew, Robert and Simon Wessely. "Protean nature of mass sociogenic illness." *The British Journal of Psychiatry* 180 (2002): 300–306. Web. 28 Nov. 2009.

[3] ^ Balaratnasingam, Sivasankaran and Aleksandar Janca. "Mass hysteria revisited." *Current opinion in psychiatry* 19(2) (2006): 171–4. Research Gate. Web. 28 Nov. 2009.

[4] ^ [3] Jones, Timothy. "Mass Psychogenic Illness: Role of the Individual Physician." *American Family Physician.* American Family of Family Physicians: 15 Dec. 2000. Web. 28 Nov. 2009.

[5] ^ Singer, Jerome. "Yes Virginia, There Really Is a Mass Psychogenic Illness." *Mass Psychogenic Illness: A Social Psychological Analysis.* Ed. Colligan et al. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers, 1982. 21–31. Print.

[6] Wessely, Simon. "Mass hysteria: two syndromes?" *Psychological Medicine* 17(1) (1987):109–20. Web. 16 Dec. 2009.

[7] ^ [4] Waller, John. "Looking Back: Dancing plagues and mass hysteria." *The Psychologist* 22(7) (2009): 644–7. Web. 17 Dec. 2009.

[8] Ali-Gombe, A. et al. "Mass hysteria: one syndrome or two?" *British Journal of Psychiatry* 170 (1997) 387–8. Web. 17 Dec. 2009.

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[10] Bartholomew, Robert. *Little Green Men, Meowing Nuns and Head-Hunting Panics.* Jefferson, North Carolina: McFarland & Company, Inc. Publishers. 2001. Print.

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[13] Stahl, Sydney and Morty Lebedun. "Mystery Gas: An Analysis of Mass Hysteria." *Journal of Health and Social Behavior* 15(1) (1974): 44–50. *JSTOR.* Web. 27 Nov. 2009.

[14] ^ Radovanovic, Z. "On the Origin of Mass Casualty Incidents in Kosovo, Yugoslavia, in 1990." European Journal of Epidemiology 12(1) (1996):101–113. JSTOR. Web. 27 Nov. 2009.

[15] ^ Moss, P. D. and C. P. McEvedy. "An epidemic of overbreathing among schoolgirls." *British Medical Journal* 2(5525) (1966):1295–1300. Web. 17 Dec. 2009.

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