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Mass psychogenic illness among school children: a descriptive study of demographic and clinical variables

Abstract

Background: Mass psychogenic illness are reported from across various parts of the world since a long time. The symptoms are varied and may mimic the established diagnostic category like conversion or dissociative disorders. **Methodology**: All the affected students were assessed using a semi-structured proforma. **Results**: Descriptive statistics were used for fifteen students of a high school who developed dissociative trance and possession symptoms in rapid succession with significant impairment. **Discussion**: The majority of the students were from rural background and had history of childhood trauma. The affected students could be clearly divided into two groups on the basis of symptomatology, level of impairment, and religious belief. **Conclusion**: Prompt intervention and responsible media coverage could help in terminating the episode.

Keywords: Trance. Possession. Dissociative Disorders.

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INTRODUCTION

Mass psychogenic illness has been defined as rapid spread of illness signs and symptoms in a cohesive group, originating from a nervous system disturbance involving excitation, no corresponding aetiology is easily available.[1] It is now being recognised as significant social and health problem. It mirrors prominent social or cultural concern. There are two types: mass anxiety hysteria and mass motor hysteria.[2] We decided to study the phenomenon, as it caused significant social uproar and also impairment in the affected students. To the best of our knowledge, no such incident was earlier reported from Assam, India.

Trance

It is a state of functional non-awareness, a form of detachment from the environment, an altered state of consciousness.[3] It can occur during meditation, religious rituals, and in dissociative disorders.[4]

Possession

It is an altered state of consciousness characterised by replacement of personal identity by a new identity. The individual either believes being possessed or exhibits another ego state. Both trance and possession can occur as part of ritual (Voodoo, Pentecostalism, Shamanism) or as a part of dissociative disorder.[5]

The dissociative type commonly presents as trance/possession symptoms. Both the DSM-IV and ICD-10 put the following features to be present to consider the trance and possession as disorder – trance/possession should not be accepted as normal part of cultural/religious practice, it should be involuntary and there must be significant distress or impairment in functioning.[6,7]

Various types of trance and possession disorder are found in diverse cultures – Amok (Indonesia), Latah (Malaysia), and Piblokto (Arctic).[6] Dissociative disorder can also occur in a group as mass psychogenic illness.[8] Between 15th-19th century, dozens of cases of mass psychogenic illness among nuns were reported from Europe,[9] who were believed to be possessed. At present, the theme of mass psychogenic illness in Western societies are chemical and biological warfare, and terrorist attack; but, the theme in Asian countries still involves trance and possession.[10,11]

Background

In May 2006, there were episodes of abnormal behaviour among students of the Oriental School, Silchar, Assam, India. The school became the centre of media attention, there was panic and sense of chaos among guardians and general public; school was closed, examination postponed. The school is run by the Presbyterian Church; the phenomenon of spirit possession is widespread among the followers. On this background, we planned to study the phenomenon. We met school staff, students, and parents/guardians. First, it started in two girls on 24th April during evening prayer in the Church situated in school campus; then it spread to others, and they continued to show abnormal behaviour during most of the day for prolonged period. On 15th May, this phenomenon first occurred in school and rapidly spread to other unaffected students. The next day, same episode was repeated in school and number of affected students was more. District administration intervened and the school was closed for 15 days. On 1st June after the school reopened, the

episode again reappeared and the school was closed for one month.

We attended the prayer on three occasions in May in the Church situated in the school premise in the evening. The abnormal behaviour always started in a girl and rapidly spread to others. It continued for a long time even after the prayer was over. The various features are – crying, shouting, dancing, shaking, and rolling on the ground, convulsion and loss of consciousness. They were indifferent to surroundings, hurt others or themselves.

AIM AND METHOD

To study the demographic and clinical variables, and to find out any difference between residents and day scholars, this descriptive and observational study was carried out from 20th May 2006 to 19th June 2006. All students, either resident or day scholar showing signs of trance or possession were included in the study.

Interview protocol was developed using literature on trance and possession.[12] Five aspects of possession states were - demographic characteristics, nature of chief complains, circumstances leading to possession experience, other associated symptoms, and characteristics of the illness. We adopted the definition of possession by Crapanzano and Garrison.[13] They define possession as "any altered state of consciousness indigenously interpreted in terms of the influence of an alien spirit". We took consent from parent/guardian after detailing the purpose of the study. No qualitative assessment was done. A semi-structured proforma was used to collect the participant related variables.

This was an observational study with no intervention and the identity of the participants were not disclosed. We did not take any ethical committee clearance, but due administrative permission was taken from the school authority beforehand. We obtained verbal assent from the participants and informed consent from the parents/guardians. We interviewed the student, guardian, and teacher. We asked the students to respond according to their experience. Verbatim description was recorded as much as possible. We collected information from parents/teachers as well.

We followed ICD-10 Clinical Description and Diagnostic Guidelines (CDDG)[7] version for assessing various personality traits of the students.

Descriptive statistical methods were used.

RESULTS

In all 15 students were assessed, various clinical and demographic correlates are discussed.

Demographic

Age

The mean age was 15 years with a range of 13-18 years.

Sex

Twelve (80%) out of 15 students were females.

Background

Majority were from rural background (11 [73%]); ten students (67%) were from families with annual income less than Rs. 50,000/-.

Religion

All the residents (nine [60%]) were Christian and all the day scholars (six [40%]) were Hindu.

Community

There were nine (60%) Mizo, five (33%) were Manipuri, and one (seven per cent) was Bengali.

Personal history

Childhood trauma

Seven students had a positive history of childhood trauma.

Suggestibility

Six out of 15 students had histrionic traits.

Religious practice

All believed in God, but the resident (Christian) students were strong adherents to religious practice/rituals (Table 1).

Prodromal symptoms

Almost 80% subjects reported these symptoms. Commonest symptoms were somatic in nature. Seven students had a sense of presence (Table 2).

Chief complains

The number of students affected varied from day to day. The commonest symptoms were headache (87%), shaking, shivering, stiffening (80%), jerky movement and convulsion (80%), dancing, running, circular movement of trunk, rolling on ground (67%), hitting and overturning furniture (60%), hearing voices (47%), hitting oneself (20%) (Table 3).

Associated symptoms

The affected subjects also complained of lots of associated symptoms. Loss of control over one's action was present in all the subjects. Change in tone of voice and wandering attention was complained by 13 students (87%), and loss of awareness of surroundings and loss of subjectively perceived sensitivity of pain was found in 12 students (80%). Full or partial memory loss and loss of personal identity was reported by nine (60%) and six (40%) students respectively (Table 4).

Table 1: Religious belief/practice of subjects

Religious practice/belief	Christian (n=9)	Hindu (n=6)
Belief in God	All	All
Belief in revival	All	None
Religious practice	Daily	Occasionally
Belief in possession	All	None

Table 2: Prodromal symptoms of subjects

Prodromal symptoms	Number of subjects* (n=12)
Somatic – Dizziness, twitching movement,	11
nausea, feeling of hotness, numbness	
Sense of presence	7
Hallucination	6
Nervousness/uneasiness	4

*Subjects had more than one symptoms

Table 3: Chief complains of the subjects

Chief complains	Number of subjects* (n=15)
Headache	13 (87%)
Feeling of hotness	13 (87%)
Difficulty in breathing	13 (87%)
Shaking/convulsion	12 (80%)
Crying, shouting, screaming	11 (73%)
Dancing, running, fainting/ loss of consciousness	10 (67%)
Hallucination (auditory)	7 (47%)
Dizziness, sweating, blurred vision	5 (33%)
Nervousness, uneasiness, weakness	4 (27%)

*Subjects had more than one symptoms

Table 4: Frequency of associated symptoms

Associated symptoms	Frequency* (%)
Loss of control over one's action	100
Change in behaviour	93
Change in tone of voice	87
Wandering attention	87
Loss of subjectively perceived sensitivity to pain	80
Loss of awareness of surroundings	80
Full/partial loss of memory	60
Loss of personal identity	40

*Subjects had more than one symptoms

Precipitating factor

We tried to find out the event/experience thought to have led to the phenomenon. We recorded one event considered most important by the subjects. The various precipitating factors were lyrics of the song during prayer (27%), realisation of guilt/repentance (20%), rumours of spirit possession (20%), seeing others behaving abnormally (20%), felt the spirit of Jesus (seven per cent), and heard the voice of holy spirit (seven per cent) (Table 5).

Possession

We asked all the subjects whether they believed they were possessed; the reason and the agent of possession. All the residents (Christians) believed that they were possessed but none among the day scholars (Hindus) believed that they were possessed (Table 6).

Table 5: Precipitating factors (Event that the subject believed has led to the condition)

Precipitating factors	Number of subjects (n=15)
Lyrics of the songs during prayer	4
Realisation of guilt/repentance	3
By hearing rumours of spirit possession	3
By seeing other students behaving abnormally	3
Felt the spirit of Jesus	1
Heard the voice of the Holy spirit	1

Table 6: Categorisation of possessing agent

Reason	Number of subjects	Possessing agent	Religion
Felt the voice of the spirit within	3	Spirit of Jesus	Christian
Spirit was talking through them	3	Spirit of Jesus	Christian
Spirit was controlling their movement	3	Spirit of Jesus	Christian
No reason	6	Nil	Hindu

History of illness

We also tried to compare the various aspects of history of illness and clinical variables among resident students and day scholars. We found that in both the groups, the onset was acute but the residents had more number of episodes compared to day scholars. The resident subjects had no residual symptoms and less functional impairment, but the day scholars had significant residual symptoms and more functional impairment. The day scholars had no family history of trance and possession whereas four (44%) out nine residents had family history of trance and possession (Tables 7 and 8).

DISCUSSION

Various incidents of mass psychogenic illness among school children were reported earlier.[14] In most of the past studies, all the subjects were adolescents, majority females, mostly from rural background and from lower socioeconomic class.[15] Present study also supports these findings. Most of our subjects were Christians and stayed together in the school compound, and believed in the phenomenon of possession. Almost half of our subjects had childhood trauma; similar findings were reported by Small *et al.*[16] and Spiegel and Cardeña.[17]

About 40% of our subjects had histrionic traits; similar findings were reported by McEvedy *et al.*[18] in 1966 from two school epidemics. Most of our subjects had somatic

Table 7: Characteristics of history of illness variables of day scholars

Case	Number of episodes	Onset of illness	Exit from episode	Symptoms between episodes	Past history of psychiatric illness	Family history of trance and possession	Family history of other psychiatric illness	Treatment	Functional impairment
1	3	Acute	Inability to talk	Fearfulness, headache, irritability	Nil	Nil	Nil	Clonazepam, paroxetine	Severe
2	2	Acute	Fearfulness	Fearfulness, dizziness	Nil	Nil	Sister, suicide	Clonazepam, imipramine	Severe
3	1	Acute	Confusion	Fearfulness, headache	Nil	Nil	Nil	Clonazepam	Mild
4	2	Acute	Crying	Pain abdomen	Nil	Nil	Nil	Alprazolam, imipramine	Severe
5	2	Acute	Respiratory distress	Irritability, nervousness	Nil	Nil	Nil	Clonazepam	Severe
6	1	Acute	Confusion	Dizziness, nervousness	Nil	Nil	Nil	Clonazepam	Mild

Table 8: Characteristics of history of illness variables of resident students

Case	Number of episodes	Onset of illness	Exit from episode	Symptoms between episodes	Past history of psychiatric illness	Family history of trance and possession	Family history of other psychiatric illness	Treatment	Functional impairment
1	Multiple	Acute	Bodyache	Nil	Nil	Nil	Nil	Hospitalisation, lorazepam	Severe
2	Multiple	Acute	Exhaustion	Nil	Nil	Sibs	Nil	Propranolol, lorazepam	Mild
3	Multiple	Acute	Exhaustion	Nil	Nil	Sibs	Nil	Clonazepam, propranolol	Mild
4	Multiple	Acute	Bodyache	Nil	Nil	Sibs	Nil	Lorazepam	Mild
5	Multiple	Acute	Bodyache, weak	Nil	Nil	Father	Nil	Clonazepam	Mild
6	Multiple	Acute	Bodyache, weak	Nil	Nil	Nil	Nil	Clonazepam	Mild
7	5	Acute	Bodyache	Nil	Nil	Nil	Nil	Clonazepam	Mild
8	3	Acute	Weak	Nil	Nil	Nil	Nil	Clonazepam	Mild
9	3	Acute	Bodyache	Nil	Nil	Nil	Nil	Clonazepam	Mild

prodromal symptoms, others had sense of presence, dreams, etc.; similar findings were reported by Ben-Yeong Ng in 2000.[19] The clinical picture was polymorphic; all subjects did not develop all the symptoms. The commonest chief complains of our subjects match with the previous reports on trance and possession epidemics.[20] Auditory hallucination was found in seven subjects.

The associated symptoms fulfill most of the criteria for DSM-IV dissociative trance and possession disorder.[6] Considering various demographic and illness variables, our subjects can be divided into two distinct subgroups – residents (Christian) and day scholars (Hindu). Hallucination, dancing was mainly found in residents whereas nervousness, fearfulness was predominant among day scholars. The two groups also differed in the precipitating factors; for residents – prayer song, repentance and for day scholars – rumour, sight of others behaving abnormally acted as precipitating factors.[1]

The residents had significantly more episodes, less functional impairment, and no residual symptoms. Day scholars had less episodes, more functional impairment, and more residual symptoms. Residents had both features of trance and possession – altered state of consciousness, loss of awareness of surroundings, stereotyped behaviour, experience of being possessed, and amnesia. Day scholars had only features of trance – altered state of consciousness, loss of awareness of surroundings, stereotyped behaviour, and loss of personal identity.

Dissociative symptoms in our subjects were – loss of awareness of surroundings, loss of personal identity, loss of memory, and loss of control over one's own action. The

epidemic started on 24th April 2006 and continued up to 1st June 2006. The number of students affected increased significantly from 16.05.06 after media coverage, which was found in earlier study by Amin *et al.*[21] Since these symptoms were consistent with the shared community belief, it may have been easier for the illness to spread rapidly among the residents. Griffith and Ruiz[22] suggested that possession becomes abnormal when it is too long, even if it started within a religious ceremony.

Conclusion

Multiple factors – social, cultural, religious, individual, and environmental factors contribute to the development of mass psychogenic illness of dissociative variety involving trance and possession. There were two distinct subgroups – resident (Christian), who had both features of trance and possession, and the day scholar (Hindu) had only features of trance. Trance and possession can occur within a culturally sanctioned ritual but when the episode becomes prolonged, bizarre, or causes impairment in the individual or chaos in the society, intervention is needed. Knowledge of the characteristic features of mass psychogenic illness will help in formulating optimal intervention programme and minimising the spread.

Intervention should be prompt. Intervention can include – closure of the school, dispersing the group, reducing media coverage, demystifying the illness, group counselling, and reducing anxiety in those involved.

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