



# Dancing to Death

## (The possible causes of dancing plague)

Mawada Salem Al-Subeihi  
Faculty of Basic Medical Science  
Libyan International Medical University



### Introduction

The dancing plague (or dance epidemic), is a social phenomenon involving a type of dance mania that occurred in 1518, in Strasbourg, France, when a woman, Mrs. Troffea, began to dance fervently in a street. Four days later another 34 dancers had joined, and, within a month there were around 400 dancers.<sup>[1]</sup>

Some of these people would die from heart attacks, strokes, or exhaustion. One report indicates that for a period, the plague killed around fifteen people per day. Symptoms included headache, breathlessness, fainting, trembling, twitching, appetite loss, general soreness, and delusions combined with the dancing.

As the real cause of dancing mania was unknown, numerous hypotheses have been proposed for the causes of dancing mania whether it was a real illness or a social phenomenon.<sup>[2]</sup>

### First theory

Venomous species of tarantula (figure3) capable of producing sporadic tarantism symptoms including twitching and shaking of limbs, weakness, nausea, and muscular pain. Tarantula may have acted as a vector for an infectious disease rather than deliver a poison.<sup>[3]</sup>



Figure 3: Mexican Red-kneed Tarantula, Mexican Red-kneed birdeater. Female (Brachypelma smithi)

### Second theory

Mass hysteria or mass psychogenic illness, which involves many individuals, 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. Small groups of suddenly exhibiting the same bizarre behavior (figure2). The behavior spreads rapidly and broadly in an epidemic pattern. The sufferers are primarily adolescent females. This psychogenic illness could have created a chorea which is a situation comprising random and intricate unintentional movements.<sup>[4]</sup>



Figure 2: Dancing plagues of the Middle Ages are thought to have been caused by mass hysteria

### Third theory

Theories include food-poisoning caused by the toxic and psychoactive chemical products of ergot fungi (figure 1), which grows commonly on grains in the wheat family (such as rye) used for baking bread. Ergotamine is the main psychoactive product of ergot fungi; it is structurally related to the (LSD-25) lysergic acid diethylamide substance.<sup>[5]</sup>



Figure1: Ergot (Claviceps purpurea) on Hordeum vulgare - BRIP 49127.

### What is the most appropriate cause?

The appropriate cause is ergot poisoning because the lysergic acid diethylamide act on dopamine D2 receptor promoter recognition and signaling of D2-5-HT2A receptor complexes, which may contribute to its psychotic effects. If taken in large enough doses, the drug produces delusions and visual hallucinations. Overdose can lead to severe psychosis.<sup>[6]</sup>

### Conclusion

The dancing plague is a phenomena of mass frenzied dancing affecting large populations, The exact etiology of the Dancing Plague (or Dancing Mania) is still unclear, but it is likely there are multiple factors which were involved. Dancing Mania remains one of the unresolved mysteries of public health.

### References

1. 'Dancing Plague' and Other Odd Afflictions Explained . Jurnal Desain.2018;5(01).
2. Mcgrew RE. Dancing Mania. Encyclopedia of Medical History. 1985:83-105.
3. 10 Facts About The Dancing Plagues. Listverse. <https://listverse.com/2016/11/07/10-twisted-facts-about-the-dancing-plagues/>. Published November 7, 2016. Accessed January 20, 2019.
4. Seminar on choreas. The Lancet Neurology. 2015;5(7):589-602.
5. Waller J. A forgotten plague: making sense of dancing mania. The Lancet. 2009;373(9664):624-625.
6. LSD: Effects, Hazards & Extent of Use. Drugs.com. <https://www.drugs.com/illegal/lsd.html>. Accessed January 27, 2019.