

## Case Report

**Koro endemic among school children  
in Guangdong, China**

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**Abstract.** *The occurrence of a koro endemic among elementary-school children is reported, the nature of the occurrence is elaborated, and the possible cause for the endemic is discussed. The episode occurred within a period of three days in Fuhu village in Guangdong Province in southern China in late May 2004. It involved 64 male students. Familiarity with koro in the community, tension among schoolchildren due to their studies, and a misleading warning and instruction from the school principle are considered contributing factors in the occurrence of this mass-hystericalike, unique phenomenon.*

**Keywords:** koro, endemic, schoolchildren, China, mass hysteria

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**INTRODUCTION** Koro epidemics have occurred in the past in various regions of south Asia, including China, Thailand, Singapore, and India (Tseng, 2001; Tseng, 2006). It is well known that koro epidemics have occurred particularly frequently on Hainan Island in the China Sea and on nearby Leizhou Peninsula in Guangdong Province in southern China in the past several decades (Tseng *et al*, 1988; 1992). Koro was commonly known to occur in those coastal areas of southeast China, particularly when the community encountered social stress (Mo *et al*, 1995). However, the collective occurrence of koro among children was rare. A case has been reported from Sichuan Province (Zhang & Zhu, 1993), in the central part of China, but not in Guangdong Province.

**REPORT OF THE ENDEMIC** The koro endemic occurred among elementary-school children in Fuhu village, Yangxi County, Guangdong Province, China. It involved a total of 64 male students within a period of three days in late May 2004. The children involved were of various ages between 6 and 15, with an average age of 11. Their grade levels varied from the first to the sixth grades, but they were mostly fifth- or sixth-grade students, with few preschool children. No female students were involved (Deng *et al*, 2005).

Fuhu village is located in the coastal area of Guangdong Province. In this village, a koro endemic had occurred in 1963, involving approximately 50 adults over a period of about 10 days. It was one year after a massive epidemic had occurred on nearby Hainan Island, considered a reaction to the

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community stress associated with the Great Leap Forward movement and the economic crisis that ensued throughout the country (Mo *et al.*, 1995).

The local village people referred to koro as *shuo-yang* in Chinese, literally meaning “shrink of *yang* (penis organ),” and also as *kong-shuo*, meaning “panic shrink.” Thus, they were familiar with the phenomenon and believed in its dangerousness. It was in this village that the koro endemic occurred among the children at the Fuhu Elementary School.

In the late afternoon of May 21, 2004, a third-grade boy student, after playing ping-pong, felt that his penis was shrinking, began to panic, and ran home to tell his parents. His anxious mother held the boy’s penis, while his father immediately called a local healer, an 80-year-old lady, for emergency treatment. The healer gave the traditional treatment of *aijiu*, or moxibustion, to the boy and the alleged symptoms subsided within 10 minutes.

Two days later, on the May 23, when the school principal learned about the incident, he gathered all the students (393 boys and 287 girls, 680 in total) together in the school courtyard. Using a microphone, the principle explained to the students in detail what had happened, and warned them to be cautious, and to take emergency measures if they experienced similar symptoms. On that day, four boy students felt their penises were shrinking and ran home for emergency care by the local healer. The next day, May 24, 60 boy students complained that they suffered from koro as well, and began to panic. Except for one case, they all received *aijiu* treatment from the same local healer. This caught the attention of the departments of health and education and immediate measures were taken to eliminate the panic atmosphere through public-health education. No endemic attacks occurred after this, except three sporadic cases reported several years later. One was an old man and the other two were young children, and all occurred on different occasions.

**RESULTS OF STUDY** After hearing this news, a research team from Guangzhou Psychiatric Hospital, located in the capital of the province, was formed one month after the endemic occurred (Deng *et al.*, 2005). The team carried out a questionnaire survey of the koro victims (as the study group) versus 64 nonvictim cases (as the control group) among the students in the same school. The Eysenck Personality Questionnaire (Chinese children version; Gong, 1992) was administered and symptoms manifested among victim cases were checked. It was revealed that the study group had lower scores of E (Extravert) in the Eysenck Personality Questionnaire than those of the control group ( $36.42 \pm 11.77$  and  $45.27 \pm 9.81$ ,  $t = 4.54$ ,  $P = 0.00$ ). This meant that koro tended to occur among students who were less sociable, with timid personalities. Clinically, when the alleged koro occurred, the children manifested symptoms of panic (89%) and crying due to anxiety (33%), with somatic symptoms of palpitation (62%) and tremor (36%).

In 2009, the research team visited the village again, and used the Folk Belief Questionnaire (Tseng *et al.*, 1993) to carry out a survey of the adults and schoolchildren. The questionnaire was composed of 14 questions regarding sex beliefs, koro (*suoyang*) belief, and supernatural belief. By the koro research team to study adult koro epidemics occurred in the past, in 1993, the questionnaire had been designed and applied to people in three different regions of China, namely, Guangdong, Jilin (in north China), and Taiwan (Tseng *et al.*, 1993; Mo *et al.*, 1995). It had revealed then that the people in all three regions were equally aware of the phenomena of *suoyang*, but, in contrast to people in the regions of Jilin and Taiwan, more people in Guangdong tended to believe that *suoyang* was a dangerous condition needing immediate help (44.5% of adults in Guangdong, 10% in Jilin, and 20% in Taiwan). This illustrated that, beyond knowledge, belief in koro is more crucial to the occurrence of a koro attack and koro epidemic.

When this Folk Belief Questionnaire was administered to people in Fuhu village this time, it was found that, among the adults (61 subjects) 35 subjects (57.4%) believed that *suoyang* was a dangerous condition, and, surprisingly, among the schoolchildren (61 subjects) 36 children (59%) believed the same. This indicated the children were taught that *suoyang* was a dangerous condition and needed immediate care.

During the interview with the 80-year-old local healer, it was found that, in spite of her age, she was still in sound mental condition, and was well regarded and respected by the villagers. She vividly remembered the suoyang endemic that had occurred among the adults in the village in 1963, when she was in her forties. It was her interpretation that the endemic had occurred due to a change in the government order (The Great Leap Movement, which demanded that people work hard to promote production), bringing an “evil wind” that intruded into people’s bodies. She believed that suoyang tended to occur when there was a cold wind, manifested as wind sickness. She further mentioned that this illness condition should not be treated by Western medicine, such as injections, or it would result in death. It should only be treated with the traditional method of aijiu, or moxibustion, plus drinking water with chili powder (yang element) to warm the stomach and kidneys. On her recommendation, victims ran to her for emergency treatment. She did not charge a fee, only accepting voluntary donations from clients and their families.

**INTERPRETATION OF CONTRIBUTING FACTORS** There was no obvious environmental stress of a dramatic nature revealed in the school at the time the endemic occurred, as were revealed in other hysterical endemics among schoolchildren, such as one reported in literature elsewhere (Teoh *et al.*, 1975). However, it was speculated that it was near the end of the academic term and students might be feeling tension about their final examinations. In general, tension was more severe for male students, as they were expected to be successful academically by their parents. It is obvious that the reaction of the school principal, as an authority figure, providing a warning message to the schoolchildren, provoked the endemic attack. It is apparent that people’s common knowledge of suoyang, and their shared fear of the “dangerous” condition, were the underlying factors in the occurrence of this unique koro endemic among schoolchildren. Also, it needs to be pointed out that, in the same way as in sporadic cases (Zhang & Zhu, 1993), it was not the children themselves, but mainly the adults, their parents or the schoolmaster, in this case, who interpreted and reacted to the occurrence in ways that indicated they believed that the children were suffering from suoyang, were in critical condition, and needed immediate care to save them from potential death. To what extent the local healer played a role in increasing the anxiety was unclear.

**COMMENTS** When a group of young people, particularly schoolchildren or factory workers, encounter a common tension or stress, and there is no proper channel to deal with it, it tends to induce the occurrence of a mass, shared, contagious, emotional group reaction, usually in the form of mass hysteria, namely, the collective occurrence of fainting, emotional turmoil, or conversion. The victims are usually female. However, it occurs rarely in the form of koro attacks, among only males. It should be pointed out that this reported episode took the form of a koro endemic but still had a hysterical, contagious nature, as in adult koro epidemics. Because koro concerns the fear of the penis shrinking, it involves mainly male adults or children, seldom females. It is considered that preexisting knowledge of, familiarity with, belief in and fear of koro are the underlying causes for this form of mass-hysterical reaction when there is tension or an atmosphere of panic in the community. Misinformation and handling by an authority figure was a crucial factor in this reported case. Educational guidance and assuring the public are essential in stopping the spread of an epidemic.

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