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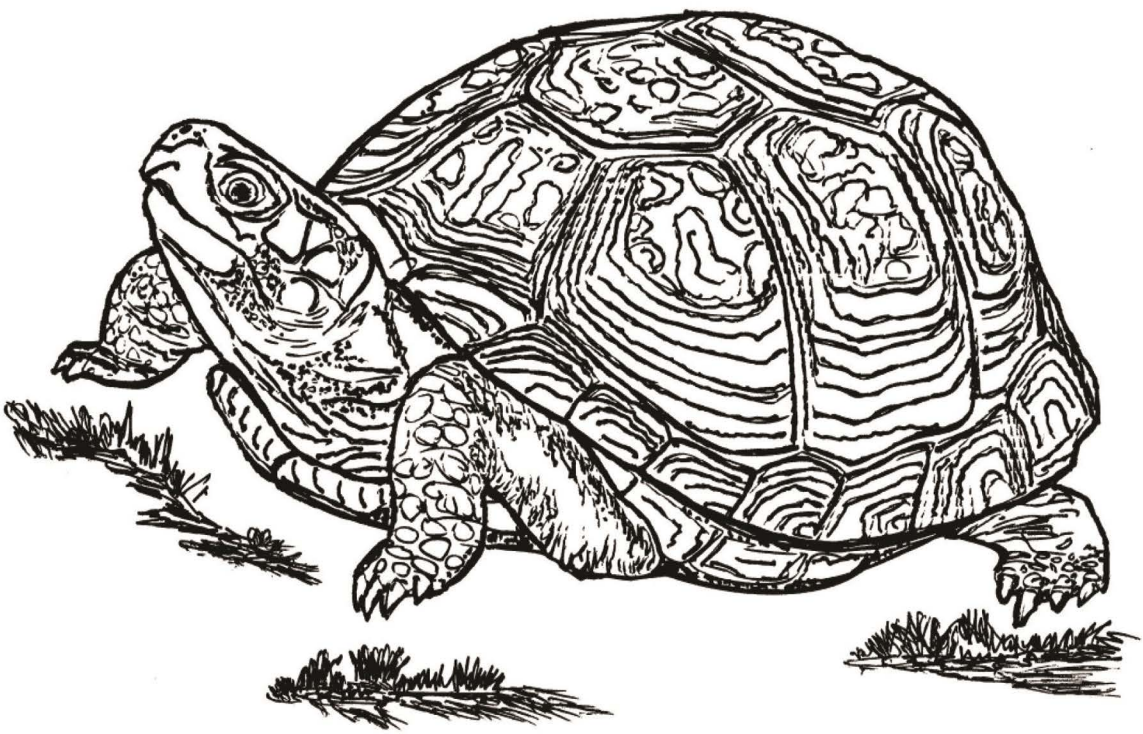
Indian Psychiatric Society Publication

KORO
Epidemics in India



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Chapter 5

West Bengal Koro Epidemic 2010: A Tertiary Teaching Hospital Study

Sayanti Ghosh, Saswati Nath, Arabinda Brahma, Arabinda N Chowdhury

INTRODUCTION

Koro is a culture-bound syndrome endemic to Southeast Asian countries. Authors have extensively researched several Koro epidemics over the last several decades. It was initially recognized as a culture-bound syndrome in the 8th edition of Kraepelin's Textbook of Psychiatry in 1909. It described clinical pictures later labeled as culture-bound syndromes, namely *latah*, *Koro*, and *amok*.[1] Interestingly, the sociocultural changes and advancements in general knowledge have influenced symptomatology, modes of spread, information sharing, and help-seeking behavior patterns in all these epidemics. Comorbid psychiatric diagnoses have also been studied and researched in detail in these epidemics depending on prevailing standardized diagnostic systems for mental disorders. That Koro has been included in "Other Specified Obsessive-compulsive and Related Disorder" in the latest Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) manual of the American Psychiatric Association[2] reflects this view. Similar conceptual shifts have been proposed in other culture-bound syndromes (CBS).

The fifth Koro epidemic in India occurred in 2010 and probably started in the Northeastern Indian states. The epidemic's epicenter was Assam,[3] then Mumbai, and then transmitted by migrant laborers to West Bengal. On October 26th, 2010, Mid-Day, a news daily in Mumbai reported: "Mass panic at labor camp in Goregaon as 25 men suffer from "retracting" genitalia.[4] The Aarey milk colony is situated in Goregaon East, Mumbai, and houses several labor camps, where people came to work from different parts of India. At least 25 workers (all male) reported similar symptoms. Most of the victims were from West Bengal and Orissa states. These incidents created an air of panic in the camp. The news also received high publicity in other media and blogs in Mumbai,[5] in Assam,[6] and West Bengal.[7] It is worth noting that there was a mass-scale Koro affliction reported from Assam immediately preceding this incident in Mumbai. It is also noted that the media are overreporting, thus helping spread the illness. Duarah[8] reported how this epidemic speeded inside rural Assam and how people from all walks of life adhered to the folk preventing practices: "Quite, unfortunately, the local media hype regarding

this syndrome has created an uncalled for situation that has put every educated individual to shame. On tour around the bustling capital city, … one will bump into all sections of people with lime smeared on the ear lobe to shield oneself from the "dangerous disease." From the well-dressed men and women to the salesman in a sleek mall and the daily wage laborers, everyone is sporting lime spots on their ears, and the more paranoid ones are immersing themselves in water holes." October is the month of the Great festival of Durga Puja for Hindus and Ramadan for Muslims. Usually, the laborers get leave from work and visit their native homes. Few of these affected persons in Aarey Colony were indeed from West Bengal, and they returned to their homes during the festival leave.

THE EPIDEMIC SCENARIO

From the first week of November 2010, several districts of West Bengal were affected, mostly Darjeeling (Siliguri) and West Dinajpur.[9] At least 4,000 people were affected in those districts.[10.] The present report regarding is based on patients from Kolkata and adjoining districts who attended RG Kar Medical College, Kolkata, West Bengal.[11] The study was carried out from November 2010 to January 2011. A total of 60 cases had attended the emergency and other outdoor departments of RG Kar Medical College (a general teaching hospital), Kolkata, during this period. It was later referred to the psychiatry department for detailed assessment and management. Five cases were not Koro; hence, they were not included in this study of 55 patients. This study which included the demographic details, salient clinical features, beliefs regarding the illness, and different folk therapeutic measures adopted by the affected and nonaffected persons, was done after interviewing patients and accompanying family members and neighbors. Written consent from each patient was obtained to publish their data, maintaining anonymity. Diagnostic assessments were done following ICD 10 criteria.[12]

SOCIODEMOGRAPHIC FEATURES

Of the 55 cases, 52 were males, and 3 female patients were reported **(Table 1)**. All the female cases reported vaginal symptoms. The district of North 24 Parganas reported the maximum number of subjects (30 males) in the age range of 9–42 years. Muslim cases were predominant (25) compared to Hindus (10), and married (20) cases were more. Regarding the districts of South 24 Parganas, there were 15 males and 2 reported females in the age range of 16– 35 years, of whom 14 were Hindus compared to 3 Muslims. 13 persons were married. Kolkata reported 5 males and 1 female case in the age range of 23–35 years. All the cases were Hindus, and 4 were married. The district of Howrah had 2 male cases, 21 years of age, both Hindus and married. Hence, case distribution was highest in North 24 Parganas (54.54%), followed by

TABLE 1: Demographic pattern of the Koro cases (n = 55).

Area (% of cases)	*Age range (years)*	*Gender*		*Marital status*		*Religion*	
		Male	*Female*	*Single*	*Married*	*Hinduism*	*Islam*
North 24 Parganas (54.5)	9–42	30	0	10	20	5	25
South 24 Parganas (30.9)	16–35	15	2	4	13	14	3
Howrah (3.6)	21	2	0	0	2	2	0
Kolkata (10.9)	23–35	5	1	2	4	6	0
Total		52	3	16	39	27	28
Total%		94.5	5.5	29.1	70.9	41.1	50.9

South 24 Parganas (30.90%), Kolkata (10.90%), and Howrah (3.63%). 75% of cases were from an urban area in and around Kolkata, and 25% had a rural background. Most of the patients were illiterate or had only primary education. Only one male patient was a graduate. Except for two males who were students, most patients were either unskilled or semiskilled laborers. Females were all housewives. 95% of patients used tobacco (either smoked bidi or cigarette or oral tobacco—*Khaini*). Harmful use of alcohol (F10.1) was found in 21.15% of cases, of which 27.3% of persons fulfilled the ICD criteria for Alcohol Dependence (F10.24). Regular cannabis use was found in 3.84% of cases, though occasional use of alcohol and cannabis was reported by 30.76% of patients.

CLINICAL PRESENTATION

All male patients presented with acute penile shrinkage and retraction and pain and pulling sensation in genital region. A "Flu-like" syndrome with fever (described as "Disco fever"), tremor, headache, burning sensation all over body with increased temperature over the lower part of the body below the waist, sweating and dryness of throat, was reported by 80% of the cases. Since most patients' standard form of self-medication was submersion in cold water up to the neck level for long hours; some patients felt that the fever and associated symptoms could have been a result of such therapy. The acute penile pull was described as sudden retraction with pain in the lower abdomen that lasted for 10–15 minutes with resultant shortening of the penis (in 7.7%, shortening /reduction of the scrotum also). 95% of cases reported one attack, but 5% had several attacks (2–3) on the same day. One male patient also reported a shrinking feeling of both arms, legs, and ears

(as if there is a pull from inside) along with penile symptoms. Associated fear of impending death was reported in 43.6% of cases. The remaining cases feared the "dissolution" of their male organ. One patient was fearful of dying due to the severe respiratory distress and palpitation rather than his penile retraction. Other complaints, among all patients, in order of frequency were difficulties in micturition (74.5%), heat emanating from the head and body (67.3%), generalized body weakness (54.5%), breathlessness (47.3%), vertigo (20%), and pain in the genital area and lower abdomen (7.7%). Many patients reported more than one symptom. Among the male patients' complaints of frequent loss of semen through urine (Dhat syndrome) were found in eight cases (15.38%). Erectile dysfunction (11.5%) and masturbatory guilt with intense anxiety (regarding future sexual life) were also reported in 5.8% of cases.

A 9-year-old male child was brought by his parents to the hospital with complaints of shrinkage of the penis and pain abdomen. His anxious mother confirmed the shrinkage. The child watched a Hindi action movie on television when he suddenly felt his penis was shrinking. On questioning, he revealed that he had heard discussions in the neighborhood about a recent illness of penile shrinkage a few days ago. However, the two female cases did not have such associated sexual anxiety; their concern was more focused on disfiguring their body and fear of some severe future health malady. Two female patients had symptoms of retraction of nipples. One case also reported an associated "peculiar sensation" in the vagina and vaginal discharge.

On MSE, 80% of patients had moderate-to-severe anxiety, mean HAM-A score 22.70 ± 3.52[13] regarding the illness, especially its outcome. One male patient presented with extreme agitation with symptoms of acute stress reaction (F43.0), fearing some fatal bodily ailment and imminent death. Hypochondriacal preoccupation with genital symptoms was seen in 56.4% of cases and associated moderate-to-severe depression, with a mean HAM-D score of 21.42 ± 2.46 (Hamilton, 1960). One male patient (with comorbid Dhat syndrome) had intense suicidal ideation. Definite features of body dysmorphic disorder (F45.2) regarding penile size and disfigurement were seen in 5.8% of male patients.

Regarding past psychiatric history and premorbid personality pattern, perception of excessive emission of semen via urine (Dhat syndrome) before the attack of Koro was the most common feature reported (15.38%). Of these cases, six were Hindu, two were Muslim, age was 21 ± 3.7 years, and all were single. Among these Koro cases with preexisting Dhat syndrome, three cases met the criteria for diagnosis of depression (one with severe depression without psychotic symptom (F32.2), two with Moderate Depressive episode with somatic syndrome (F32.11); one with Generalized Anxiety Disorder (F41.1) and two with Mixed Anxiety and Depressive Disorder (F41.2). Two cases had Hypochondrical Disorder (F45.2). One had Body Dysmorphic

disorder F45.2 (firm conviction and deep concern about physical appearance, mainly small size of penis and scrotum, bordering onto the delusional belief of having a small penis). The last two cases had a history of multiple health consultations, both modern and traditional. Even though all Dhat syndrome cases had acute anxiety with the perception of penile pull, none had a fear of impending death. 34.54% of patients reported excessive masturbation and associated guilt. Three patients (5.54 %) had an anxious-avoidant personality, F60.6 (described as "mentally weak") and two cases (3.63 %) had obsessive-compulsive personality traits (F60.5). Four cases were referred from other departments: Three from dermatology (two received treatment for gonorrheal infection and had a perception of penile shrinkage, and the other had herpes simplex infection (HSV2) with symptoms of feverish feeling, tingling sensation in the penis with a perception of intermittent retraction of the penis, and pain on passing urine). One was from the medicine department (with Dhat syndrome and extreme fear of "penis-illness" infection from the current Koro epidemic). None of these patients had typical Koro symptoms such as sudden onset, penile pull from inside, acute anxiety, and fear of impending death. The case with HSV2 infection may be categorized as intermittent Koro-like symptoms. One 7-year-old male child was brought by his mother with the complaint of penile retraction. The boy had no complaint, but the mother was firmly convinced that since that morning, her son's penis gradually retracted and became "too small to grasp." There are some similar cases reported from her locality, she said.

MANAGEMENT

Most of the patients were treated with SSRI (selective serotonin reuptake inhibitor) antidepressants (Fluoxetine 60 mg or Citalopram 60 mg daily) and benzodiazepine (Clonazepam 500 μg twice/thrice or Alprazolam 0.25/0.50 mg twice or thrice daily). Supportive psychotherapy was initially provided to all patients. Two cases (severe depression and hypochondriasis) were offered a more structured form of psychotherapy. Family therapy was done. 18 cases attended follow-up (up to 12 weeks), and all of them reported doing well with complete remission of Koro symptoms.

MODE OF SPREAD OF KORO IN BENGAL AND EXPLANATORY MODEL

All the patients had prior information about this illness (Disco fever) mostly from neighbor's and some through newspapers. In one of the male patients, the illness started after receiving a phone call from a friend who worked in Mumbai and who first informed him that such an illness was occurring at his workplace. Though he received the information with disbelief, after 2 hours, he felt his genitals shrinking. Another male subject went to help his friend

who had a Koro attack and while pouring water on his head, he developed Koro symptoms. The mode of referral to this hospital was as follows: 43.64% self-referral, 36.36% by "Quack doctors" (unregistered medical practitioners) and 20% by "Primary Care Physicians. 42.3% attributed their penile retraction and associated bodily symptoms to "bodily weaknesses." They also related this "weakness" with "body heat" as its consequence. 27.27% patients reported "Viral infection" as a probable causative factor. They used the term "Disco fever" to designate Koro symptoms. They believed that touching any person suffering from Koro would spread the disease. This belief created a panic atmosphere in that locality to such an extent that unaffected persons remained home-bound and did not even go out to work till the attack in the vicinity subsided. It is interesting to note that this area evidenced large-scale epidemics of Bird-flu (avian influenza from H5N1 virus) twice (2008 and early part of 2010). The concept of "viral infection/fever" most probably has a connection with these social experiences. One patient who vaguely associated his symptoms with AIDS, but could not explain it in more detail, admitted to having had extramarital affairs and sexual intercourse with prostitutes, increasing his fear of illness. 21.15% of cases believed the causative factor is excessive loss of semen, either by habitual masturbation or by sexual intercourse or due to weak Dhat (semen). Two patients reported a prior suspicion and deep concern that their penis was smaller than average, which they thought was a precursor condition for developing this illness. Anxiety regarding future marital life was present in both cases. One male patient felt that supernatural powers were responsible for such ailments, which indicated that "the world was coming to an end soon by 2012." He describes himself as an unfortunate target of this "evil power."

HELP-SEEKING BEHAVIOR AND FOLK TREATMENT MODALITIES

Some interesting observations are noteworthy. 74.54% of the patients initially consulted faith-healers, quacks, and local religious heads such as Priests or Moulavis, 25.45% consulted primary care physicians. Besides this, prophylactic folk measures were also taken by unaffected persons living in the same locality where the disease occurred.

The most common therapy (Water Therapy) adopted by 95% of patients, was to submerge the body up to neck level in water usually in local ponds **(Fig. 1)**, holding the penis and pulling it for approximately 5 minutes to 6 hours. Later, cold water was poured or ice was placed on the head by family members. Besides this, "cooling drinks" such as sugar water, medicinal water (prescribed by local faith healers or obtained from places of worship) was taken to combat the excessive heat believed to accumulate in the body due to the disease.



Fig. 1: Water therapy of a Koro patient in a pond, Kolkata.[14]

Herbal amulets, Armlets, amulets, and talisman containing medicinal herbs were also prescribed by Hindu priests and Muslim Moulavis for both, as therapeutic and prophylactic measure. It is reported that in Barasat town, 25 km from Kolkata city, many people were affected by genital shrinkage illness.[14,15] A wave of mass-hysteria was observed, where people rushed to purchase chanted amulets to prevent the disease. Ginger and root of Arum (*Arum triphyllum,* locally known as 'Mankachu') was taken together, tied up in a piece of cloth to be worn around the waist, by a red thread. Crushed seeds of bottle-gourd (*Lagenaria siceraria*, locally known as Lau) to be worn within an armlet was also advised. Manasa (Sij plant, belonging to the cactus family of *Euphorbia* genus), and Basil (*Ocimum basilicum*, locally called Tulsi) leaves were taken together and tied up in a string at mid-arm position. Muslim patients were mostly prescribed the Manasa leaves whereas Hindus priests preferred Tulsi. Tulsi is regarded as a holy plant by Hindu religious tradition and is worshipped by Hindus at large. All these herbs and vegetables were sold at high prices locally at that time! Lime (Calcium hydroxide) paste smearing on the forehead, throat and earlobes was also a popular preventive measure adopted by many patients and persons **(Fig. 2)**.

In some regions of the South 24 Parganas districts of West Bengal, from where most of the Muslim patients came, holy papers containing lines from the holy Koran were distributed by a local photocopy shop. A local Moulavi gave the initial writing to the shop owner. This created such an impact that some patients living in other areas rushed and procured the paper at high costs after hearing from friends over the telephone about this therapy. This piece

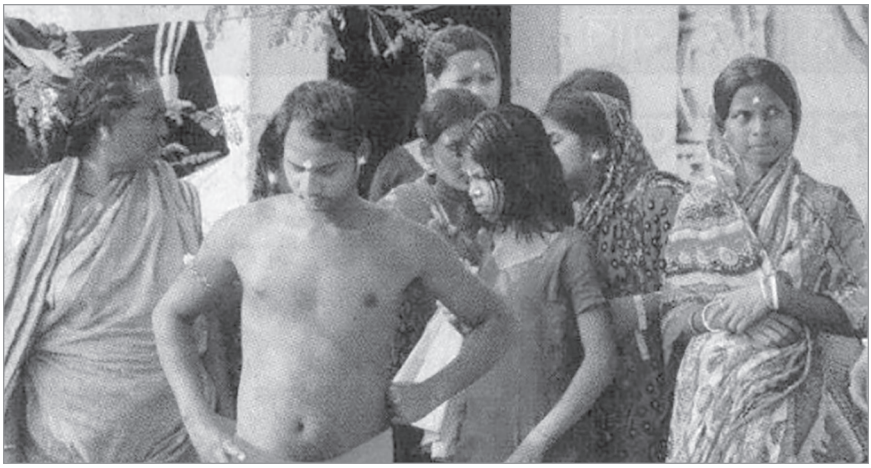

Fig. 2: Smearing of lime paste on forehead and ear lobules among the nonaffected persons in Kolkata.[15]

of paper was meant to be inserted into the armlets and worn all the time to prevent genital symptoms. The idea behind this therapy was the belief that people who had developed the symptoms had sinful thoughts in their minds, but keeping these holy lines would redeem them from their wicked thoughts. Similar incidents were also reported from Barasat town[14] where one Gunin (folk healer) wrote a chant (*Mantra*) on a paper and advised to copy it and keep it within an amulet to wear and keep one copy at home to protect family members. There were long queues in front of different Xerox (Copier) shops in Barasat town to procure a copy of this chanted paper. The typical cost of a document was Rs.1, but at that time, these chanted paper copies were sold at Rs. 20–30. Another prophylactic measure adopted by some patients was to massage the penile shaft with herbal massage oil (a herbal preparation called "German oil," sold as an aphrodisiac over-the-counter). The preparation was sold in large numbers with an escalating cost.

DISCUSSION

This Koro outbreak added some new clinical dimensions to our understanding of the psychiatric epidemic. Information gathered from this epidemic may help combat a future one.

The Migration Route of Psychic Infectivity of Koro

It is evident here that the first epidemic focus was Guwahati, Assam, from where the epidemic spread to Mumbai (air distance of 2,746 km) and then to West Bengal (1,662 km from Mumbai). This interstate spread occurred through migrant laborers. In recent times, because of the easy transport, people have rapid movement to distant places, and so is the psychic infectivity.

It is similar to an organic infection epidemic, e.g., the transcontinental spread of Severe Acute Respiratory Syndrome—from China-Vietnam-Singapore-Taiwan-Canada, the spread of COVID-19 pandemic from initial focus in Wuhan, China. This is a new dimension of Ecopsychiatry[16] where rapid transit and information systems (media, television, fax, cell phone, etc.) influence the quick spread of the psychiatric epidemic (news) over a wide geographical area.[17]

Reporting of Koro from Muslim Subjects

Muslim persons and Maulavis in advocating religious treatment for Koro is a new finding. In previous Koro epidemics from India, no Muslim patients were reported. The present epidemic-time coincided with Ramadan fasting in the Muslim community, and interestingly, a recent study said, "Ramadan fasting triggering koro-like symptoms during acute alcohol withdrawal: a case report from Oman."[18] This area needs further research.

Sexual Psychopathology

AIDS phobia,[19] sexual guilt,[20] and sexual preoccupation[21] of hypochondriacal concern[22,23] and generalized anxiety disorder[24] or Panic disorder[25] are pretty common comorbid psychopathology in Koro patients, and the same is evidenced among the current epidemic cases. Hypochondriacal concern about penile morphology or function is known to cause Koro vulnerability.[26] One case here had excessive guilt because of his long-continued extramarital sexual involvement and was found to be quite apprehensive that some sexual deformity may result from his behavior. The most familiar precipitating factor 23.5% reported among 162 Koro patients of the North Bengal epidemic was "extramarital intercourse."[27] Genital pain often accompanied a Koro attack.[28]

Koro and Comorbidity Factors

Empirical relation of any culture-bound syndromes (CBS) with a designated psychiatric disorder is essential.[29] The CBS often coexists with other psychiatric disorders, as many psychiatric disorders do with each other. Delineation of comorbidity factors will help in clinical decision-making and shed light on the phenomenology of the CBSs. Koro has offered a unique opportunity to study comorbidity in CBS. Over the years, Koro has been reported from diverse cultures and ethnicities with varieties of comorbid pathology, both mental and physical.[30] Dhat syndrome, a CBS reported from the Indian subcontinent, is based on the conviction that semen mixes with urine and is excreted through urination. It has a strong cultural belief that the loss of semen is harmful because it depletes the body of physical and mental energy.[31] Dhat syndrome often has a complicated psychosexual loading with multiple comorbidities.[32] In eight cases of Dhat syndrome with Koro here,

different psychiatric comorbidities were found, which guides the clinical decision to treat these symptoms in addition to Koro complaints. These findings also help to develop insight into the psychodynamic psychopathology about sexual neurosis in the cultural context. In a recently reported case of Koro and Dhat syndrome with comorbid OCD in a young Muslim male,[33] the authors have discussed how initial Dhat and Koro symptoms camouflaged the underlying OCD symptoms in the patient. His mother brought the child for alleged Koro symptom, an example of Munchausen by proxy. By fabricating symptoms (nonexisting), the mother tried to convince the medical providers that her child was sick. In a psychoanalytical way, she displaced her sexual anxiety onto the child. Similar cases have been reported from the 1982 Indian epidemic[34] and the 1967 Singapore epidemic (mother came with a 4-month-old baby).[35] A very similar epidemic scenario is reported from coastal Vietnam, where some mothers observed that the penis and testes of their children had shrunk after swimming. This had created a social panic in several coastal communities. Some mothers tried to pull out the penis and testes manually or even with hooks, which resulted in severe penile injury in some boys.[36] Health professionals should have insight about Munchausen or Factitious disorder by proxy[37] while dealing with alleged Koro in children, especially during epidemic times.

Koro and Koro-like Symptoms

Careful delineation of classic symptoms of Koro is crucial to differentiate it from Koro-like symptoms (KLS)[38,39] or states.[40] Since Koro involves sexual organs, many individuals with varied psychopathology (and accompanied emotionality ranging from depression-anxiety-hypochondriasis to body dysmorphic perception, etc.) may present as if they are suffering during the epidemic wave from Koro. "Koro-like symptoms" are an accepted diagnostic category since Berrios and Morley[41] first described it in 1984. In KLS, symptoms are less dramatic and usually do not have a vital cultural context, and are generally seen in association with other neuropsychiatric disorders.[42] Association of KLS with varieties of psychiatric and nonpsychiatric disorders has been reported, e.g., with recurrent depressive,[43] mood-disorder,[44] generalized anxiety disorder and panic,[45] schizophrenia,[46,47] intellectual disability with fixated pedophilia,[48] voyeurism,[49] HIV infection,[50] genital pain[51] and prostatic enlargement.[52] Clinicians should be cautious about this differential diagnosis because the correct cultural formulation is essential to understand the CBS in its cultural context.[53,54] The other point of clinical interest is the difference between the delusional belief of penile retraction in Koro[55] and the perception of the small penis.[56] Common clinical mistakes are to merge both. Delusion of retracting (and thus small) penis may be either manifestation of body dysmorphic disorder[57] or penile dysmorphophobia, as in Koro,[58,59] and a "Small penis syndrome"[60,61] and often present with varieties

of urogenital pathology[62] hypochondriasis and even in an otherwise normal person.[63] These are static penile perceptions over a long period of time, but in Koro, the penile retraction and consequent shortening is a sudden, acute dynamic perception with manifest acute anxiety, and the course of illness is short. The prominence of cultural context is absent in the former while present strongly in the latter.

Koro Perception

One of the several attempts to classify CBS is "taxon categories" (set of similar syndromes which share common or related symptoms.[64] Koro was placed under the "genital retraction taxon" where retraction is the key criterion. It was thus proposed to replace the term Koro with Genital Retraction Syndrome.[65] A "Koro-like" symptom affecting the tongue was reported from Malaysia,[66] suggesting that retraction taxon can involve other organs (and may not always be culture-bound). Complementary to this concept, we propose "Koro perception," where retraction from the inner pull within the body (of any organ) is the prime clinical presentation. In addition to penile symptoms, one case in this study complained of "Koro perception"—a shrinking feeling of arms, legs, and ears. This is a new finding.

Body Heat Explanatory Model

42.3% cases of this epidemic implicated "body heat" generated from the "body weaknesses" as the cause of their penile retraction. Excessive "body heat" was predominantly implicated by the patients (54.5%) as the cause of penile shrinkage in the 1982 Koro epidemic also.[67] In this epidemic, almost all the victims complained of body heat before the Koro attack. Body cooling, the prevailing folk therapy, was thus advocated by Priests, Gunins, and Maulavies and was well accepted by all, including the nonaffected family members of the victims and the general public. In fact, because of this excessive water submersion for hours, many Koro patients became seriously ill with respiratory distress. Similar ill effects and health hazards of folk therapy were also noted in the previous Koro epidemic in West Bengal.[68] The heat-cold concept in Koro is a standard social cognition and is also reported from Mumbai and Assam cases as well.

Folk Rituals

Folk therapeutics is a crucial component of any CBS. In addition to water cooling by water submersion **(Fig. 1)** or ice bath, one other ritual utilized was the advanced technology of copier machines. Both Koro and non-Koro subjects, in massive numbers, procured a copy of the chanted paper and a page containing lines from the holy Koran. This is a new finding of social responsibility to prevent the Koro infectivity. Interestingly, in the 1984–85 Koro epidemic in Guangdong, China, folk therapy consisted of feeding red

pepper jam, black pepper, or ginger juice.[69] Social excitement with panic and anxiety in the neighborhood is a decisive environmental risk factor for any psychiatric epidemic.[70,71] Community's perception of infectivity of Koro is a dynamic force[72,73] that speeds the epidemic observed here in mass panic reaction and adopting folk preventive measures in massive numbers. Many avoided going out or were absent from work. Previous social experience with the viral epidemic (Bird flu) added further uncertainty and anxiety in the population. The price of bottle gourd in the local vegetable markets reached an astonishing level (from the usual cost of 4–6 to ₹ 40–45), and people from all categories of life put the lime-paste spots on the ear lobule and forehead **(Fig. 2)**. This practice was also observed in Assam and during the previous Koro epidemic in West Bengal.[74] This mass reactivity highlighted Koro's social anxiety, which has further fueled its spread in the neighborhood. The role of local health agencies timely intervention by health advocacy is an important measure to check the spread of any epidemic, be it medical or psychiatric. In this regard, the role of the medical community is crucial.[75] Unfortunately, the extreme dilemma and poor response from local health administration was noted in the present epidemic. This might be one of the reasons which have not only prolonged the epidemic wave but pushed people to adhere to folk explanation and therapy.

Role of Media

Media is a compassionate and powerful pathway by which epidemic news percolates through society.[76] Assam Tribune made a cautious statement on this issue, and in West Bengal too, during the first week of the epidemic, almost all the news daily of Kolkata, Television channels covered this epidemic with very ambiguous and sensational headlines for at least 4–5 consecutive days. This helped spread the news of this "strange and mysterious disease" in a broader public circle rapidly. The epidemic waves stayed for about 8 weeks.

CONCLUSION

Epidemics of Koro have followed the above-reported epidemic from Bengal in 2010. In 2014, it was reported from Assam[77] and again in West Bengal in 2017.[78] Previously at least five Koro epidemics occurred in India, and the states of West Bengal and Assam were affected repeatedly. Therefore, the population of these states has Koro vulnerability of epidemic proportion. The health administration and professionals should learn from these Koro episodes and equip themselves adequately for preventive strategies so that in the future, they can act proactively to restrict the epidemic spread of Koro and also to provide appropriate treatment to the affected population at the hour of need. This would also prevent the chronicity of the problem.[79,80] Mental health professionals should transmit the knowledge of Koro illness and pathology to other nonpsychiatric colleagues to enhance their clinical

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KORO
Epidemics in India

Psychiatric epidemics is a fascinating academic subject that drew attention since last three hundred years. Psychosexual disorders occupy an important section in cultural psychiatry. Koro is a special example in the arena of culture-bound syndromes. Koro epidemic, first reported in 1908 from China, is an intensely studied subject, both in social anthropology and psychiatry. Koro, both in sporadic and epidemic form, is reported mainly from South-East Asia. India is a Koro-prone country and evidenced nearly 10 such epidemics since 1982. Clinical study of each Koro epidemics here unfolds many new psychosocial dynamics and insight about management and prevention. This book is a compilation of 10 Koro epidemics from four states of India, carried out by eminent scholars and providing answers to many unknown questions relating to this unique psychiatric epidemic. This is the first book in the global Koro literature that explains the psychosocial and clinical interplay in Koro epidemics and thus will provide a unique resource for clinicians and researchers of cultural psychiatry and psychology; medical sociology, social work and psychosexual medicine.

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