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Socio Demographic Profile and Treatment Seeking Behaviour of Koro Patients in an Epidemic Reported from West Bengal, India

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Abstract:

Background: Koro is a psychiatric illness prevailing at Asia-pacific region with its strong cultural underpinnings. Several large epidemics of koro were reported from India including West Bengal in last few decades. But till date a well planned follow up study is lacking in literature to understand its course and outcome. Method: The present study was planned with objectives: 1.To determine the socio demographic profile of the study population 2.To find out the treatment seeking behaviour of the study population. In 6 months period, 92 consecutive patients with symptoms of koro reported in different disciplines of a tertiary care government hospital of West Bengal. Data on socio-demographic profile, referral points, treatment seeking pattern was collected from 64 patients who gave consents. -Result: Among the whole sample (N=64), 76.56% (n=49) were male and 23.44% (n=15) female. Majority were educated up to primary, single, agricultural work or student by occupation, belonged to low income Hindu rural joint family for male and nuclear family for female. Majority were referred from either private or government doctors or hospitals and reported first at non-psychiatric OPD. Almost 95% had new/old case(s) of 'koro' in their locality. Most of the cases reported of trying home remedies before reporting to the hospital. Conclusion: In all societies any issue related to genitalia of adult males and females governed by a pervasive set of social norms which is sensitive to handle and may only be modified by education.

Keywords: Koro epidemic, genital retraction, shrinking penis, psychosexual syndrome.

1. Introduction

Koro is a psycho-socio-cultural phenomenon among Asians characterised by a panic attack, with the belief that the penis is shrinking and the fear that it will disappear inside the abdomen causing death. *Koro* was originally described in Indonesia, in the rural hinterland of the port city of Macassar, in 1895 (1). The word *koro* simply means 'shrunken' in the Buginese language so it may be necessary to specify laso koró, 'shrunken penis' in order for the meaning to be clear (2).

The *koro* phenomenon is known among diverse ethnic and religious groups in South-East Asia and Africa, typically in those cultures where reproductive ability is considered as a major determinant of a young person's worth. The mass symptoms were often triggered by rumours of genital disappearance at the background of cultural myth, in different form for different cultures e.g. in China by female fox spirits, in Singapore and Thailand by mass poisoning, in Africa by sorcery or black-magic or penis-theft etc. The syndrome also got its identity in different geographical area by different local names, e.g. in China as 'suoyang' (3), in Thai 'rook-joo' (4), in North-East India as 'jhinjini' (5,6). The first *Koro* epidemic was reported in Hainan Island and Leizhou peninsula of Southern China in 1865

(7). Since World War II, several epidemics have been observed in various part of Asia-Pacific region, e.g. in Han Chinese (8), in Singapore (9), in Thailand (10) etc. In India, first occurrence of *koro* epidemic was in 1968 from Northern part of West Bengal, thereafter several epidemics happened mainly involving the state of West Bengal (11), Assam (6), Tripura (12) and Maharashtra (7). In last three decades several districts of West Bengal became the target of this socio-cultural malady (7,11).

The epidemic cases of *koro* mostly appeared in poorly educated young male persons (7), later described in female population also (5,6), who had knowledge of the existence of *koro* (8), usually with short lasting symptoms for few days to weeks. At individual level the disease can recur or maintain its chronicity or can spread to other susceptible persons, depending on several predisposing factors like psychosexual conflicts with prominent sexual, masturbatory or religious guilt, lack of sexual confidence (4), personality factors like suggestibility, poor body image, susceptible to superstitious beliefs (5,8) etc. In the community level social factors like geographic seclusion (13), migration or history of migration as second generation (14) etc. were the commonly associated precipitating factors reported for an outbreak. The community's anxious reaction and hysterical atmosphere often takes important role in facilitation, intensification and recurrence of the epidemics in a specific geographical area (13).

Various types of indigenous methods of treatment were practised by community healers based on the cultural construct of causes for example defeating the foe is recommended treatment option for a *koro* outbreak was resulting from an invading force, exorcism procedure used if fox spirit was responsible, restoring the yin-yang balance by means of penises of deer, tigers, fur seals, antlers, deer tails, pepper soup, ginger soup, liquor. Immediate symptomatic treatment with anxiolytics, reassurance and sex-education to patients and their family members were often recommended by the clinicians. (15,16,17). In Western system, no specific treatment guideline is available for *koro* in the literature.

With the above background when a large number of *koro* cases (popular as '*disco rog*') were reported from all over West Bengal during 2010 -2012, the present study was planned with the following objectives:

1. To determine the socio demographic profile of the study population
2. To find out the treatment seeking behaviour of the study population

2. Methods and Materials

The current study was conducted in a government tertiary care teaching hospital of West Bengal from 15th January 2012 to 14th July 2012, over a period of 6 months (Figure 2). A person was considered of suffering from *koro* if he/she presented with tingling sensation and various nonspecific somatic symptoms all over body predominantly related to genitalia and/or breast along with sense of retraction of penis (for male) or vulva or breast (for female) associated with acute panic like symptoms. Recruitment of new patients was done in first 3 months and each patient was treated and were followed up for next 3 months. In initial 3 months, consecutive 92 patients who were referred to Psychiatric OPD from other departments (Emergency, Medicine, Surgery, Gynae & Obstetrics, Dermatology, Urology) with symptoms of *koro* were recruited for the present study. Total 76 patients out of 92, turned up at Psychiatry OPD. Among 76 patients total 12 were excluded, 8 for refusing to participate in the current study and 4 for having severe comorbidities e.g. severe pneumonia, bruise and gangrene round genitalia or breast etc. Remaining 64 patients who gave consent or assent and were without any serious comorbidity constituted the study population for the present study. Data on socio-demographic profile and treatment seeking behaviour was collected from the study population with a predesigned & pretested questionnaire at the Psychiatric OPD. All patients were assessed by a psychiatric team and managed symptomatically.

Approval of the Institutional Ethical Committee was taken prior to data collection.

3. Results

3.1. Socio-Demographic Profile (Table 1)

Among the study population 76.56% were male and 23.44% were female. The mean age for total study population was 17.28 years (age range 8 years to 36 years). Majority of the males were educated up to primary level (51%) and females up to matric level (40%). About one fourth of all cases was illiterate. Majority of males were engaged in agricultural work (45%). 84% of the males and 60% females were single. Very few persons were married (8% male and 7% female population). Family income of majority of persons was Rs. 2499 per month or below in both male (37%) and female (47%) population. Very few persons had family income Rs. 4000 per month or above [male (14%), female (13%)]. Majority of males belonged to joint family (59%), while most females belonged to nuclear family (60%). Religion wise 57.81% of study population were Hindu and 31.06% were Muslim. 93% males and 67% female were from rural background in the present study. Interestingly 95.31% of the study population gave a history of *koro* cases in the locality.

3.2. Treatment Seeking Pattern (Table 2)

1. Referred from: Among the whole study population (N=64) 29.69% was referred from private doctors or hospitals, 17.19% from other government hospitals, local quacks (15.62%) & local faith healers (12.5%) together contributed substantially in the referral while lesser referrals were reported from either Homeopathy or an Ayurvedic or an Unani doctors (3.12%), schools or NGOs (1.56%). Only 9.38% of cases came by self and 10.94% were brought by family members or neighbours. Among the male patient's majority was referred from private/government doctors or hospitals (53.05%) while the female patients were either brought by family members/neighbours (20%) or referred from local quacks (20%) & local faith healers (13.33%). One female patient (6.67%) and five male patients (10.2%) reported on their own.

2. Where reported first: About one third of the persons (57.8%) in the whole study population reported first at the Emergency OPD, followed by the medical or surgical OPD (20.31%) while least percentage of cases reported at Urology or Gynaecology OPD (10.94%) & psychiatry OPD (10.94%). However, a remarkable difference was noted between male (6.12%) and female (26.67%) population reporting to psychiatry OPD. While majority of male patients reported first at emergency OPD (69.39%), the female patients (40%) reported first at the medical or surgical OPD.
3. Treatment received at first contact: Out of the total 64 study population, 58 patients reported to have received some sort of home remedies for *koro*. Application of ligature around the genitalia appears to be the most popular treatment for *koro* (43.75%) followed by wearing of chanted 'dhaga' or herbal amulets around penis or arm (21.87%). Several others methods were adopted as a curative measure e.g., application of herbal massage oil (21.87%), smearing of lime over forehead, neck, ear (10.93%) etc. Also as a remedy 6.25% victims were drowned in cold water of a pond or a well covering their genitalia or breast for several hours even for a full winter night as advised by family members or community healers.

Only 6 patients who came by themselves to attend the hospital have not tried any of the above remedies at home.

3.3. Discussion

Most of the past epidemics of *koro* in West Bengal were reported from North Bengal districts and coastal areas of Sundarbans where it often became a breaking news. Constant tension due to various socioeconomic adversities including immigration had an underpinning role for maintaining the endemic pattern of this malady in these geographical areas (11,12,18,19). But in the present study the index case was reported from South Bengal districts of West Bengal where socioeconomic status was relatively stable. It was also not clear that this epidemic is a new one or the extension of the previous one. Geographically North Bengal and South Bengal part of West Bengal is divided by the river Ganges. Though there is significant socio-cultural difference noted between these two but frequent migration of population occurs between them for occupational, residential and other purposes and moreover they share the common media services primarily based on Bengali language that might be one of the important vehicle for the spread of epidemic.

In the current study it was observed that young unmarried poorly educated persons from lower socioeconomic status of rural background were mostly affected by *koro* especially for male populations which was congruent with the existing literature (7,13,20,21). By occupation most of the cases were either student or household/agricultural/unskilled worker; no one was professional and very few was skilled or semiskilled worker from either gender. Similar type of observations was noted from previous studies (7,8,21). A significant proportion of both males and females were Muslim which was also significantly evidenced in one recent study (7) and one case report (17). Recent trend of mixing up between different culture and communities for their various socio-occupational purposes and accessibility of different types of media to every tier of people in the community might be the possible explanation for this extension of this culture bound syndrome. Although the epidemic occurred in isolated rural areas Sachdev pointed out that they were intact communities rather than disrupted and fragmented ones (5). He further proposed that "probable reasons for the high 'contagion' of the illness was the cohesiveness of the society with means of communication still being primitive; the dramatic nature of the presentation further increased the emotional impact.

Some new observations were made in the current study especially for the female population. In previously reported epidemics of *koro* from all over world including West Bengal and India, *koro* was mostly described among the male population, (13,22,23) only few epidemics were reported where female cases were significantly mentioned (5,6,14). In the present study a good proportion (23%) of affected persons were female. A good percentage (40%) of female had higher education level (up to matric) in comparison to males. A significant proportion of females were separated (27%) or widowed (6.67%). Female cases were mostly reported from a nuclear family unlike males who were from joint family. These differences noticed between two genders might be because of difference in social role between two genders before and after marriage in West Bengal.

A reasonable number of persons reported of past history (27%) and family history (11%) of *koro*. Almost every person (95%) had history of occurrence of any new/old case(s) of '*koro*' in their locality. These observations supported the role of hysterical atmosphere and anxious reaction of the community and victims themselves in facilitation and intensification of a *koro* epidemic and its recurrence (24).

About half of the cases were referred from professional medical personnel, one fourth were either accompanied by family members/neighbours or by themselves and rest one fourth from either local quacks/faith healers or alternative medicine personnel. Overall majority of patients and family members sought treatment from professional medical personnel for this culture bound syndrome and ultimately they reached up to the tertiary care hospitals of the state through the referral chain. Thus there is a noticeable change in the treatment seeking pattern of the cases compared to the previous studies (9,20). Better health awareness, relatively better economic status, availability of medical resources in the community and people's trend to utilize them, in this geographical part (i.e. South Bengal part of West Bengal) may be contributory factors to these observations. It was also observed that most of the patients (89%) in the current study reported first at either emergency or medical, surgical, gynaecological units of the hospital rather than Psychiatric unit (11%). Acceptance of psychiatric illness and that it can be managed like any other illness still remains a social taboo. For male patients' percentages of first reporting at the Emergency OPD was higher than female. Access to doctors/hospitals were probably better for male; even if the female has an access to doctors, sexuality and its problems in a female are more neglected in Indian society.

Though less but still a significant 25% cases confided first with a local quack and more than 90% cases in the present study reported to have received some sort of home remedies for *koro* before reaching the hospital. This points to the fact that the faith healers/ local quacks still hold an important role in common peoples' life, especially when it comes to deal with sexuality and diseases affecting the

private parts commonly known as 'gupt rog'. Since retraction of penis is the most prominent fear psychosis in *koro*, application of ligature around the genitalia appeared to be the most popular as well as logically acceptable treatment for *koro*. Previous study on curing of *koros* (2,9,20) also mentions about the above and also few more home remedies mentioned in the present study like wearing of chanted 'dhaga' or herbal amulets around penis or on arm application of herbal massage oil, smearing of lime, covering their genitalia or breast for several hours in cold water of a pond or a well. Though very less at least 6 cases reportedly showed some faith in the modern system of medicine.

4. Conclusion

Epidemic of *koro* has started towards capturing newer geographical areas of South Bengal part of West Bengal. In all societies any issue related to genitalia of adult males and females governed by a pervasive set of social norms guiding how they are to be draped in clothing, displayed in pictures, how gaze may be directed, how they may be touched and how they may be spoken about. These rules are powerfully enforced in society, learned in early childhood and remain largely unspoken and beyond negotiation. In adolescence and in adult life it is not just the erections of the unruly penis that need to be concealed, but retractions even more so, since they threaten both the social prestige and the self-esteem of their owner (25). This is the context in which retraction of the penis is so misunderstood that it sometimes comes to be misconstrued as a frightening disease. This fear could be managed most successfully by mere counselling at initial level. But when the qualified MBBS doctors are not minimally equipped with skill of managing these psychiatric disorders and long process of referral leads to spread of *koro* through miscommunication. The situation worsens even more when media concocts false stories and misguides common people. Though the issues related to doctors and media can be successfully addressed for prevention of *koro*, the social norms and culture is very sensitive to handle and may only be modified by education.

- Conflict of Interest: None

5. References

- i. Mitchell, David, (2003), "The Shrinking Penis Disease" Inside Indonesia, 75: 13
- ii. Curing of koros; Proceedings of 1st Annual Conference of the Monash Asia Institute Mumbai, India, 9-13 February 2004
- iii. Bernstein RL, Gaw AC. Koro: Proposed classification for DSM-IV. Am J Psychiatry 1990; 12:1670-1674
- iv. Ungvari GS, Mullen RS. Koro: The delusion of penile retraction. Urology 1994; 43:883-885
- v. Sachdev PS. Koro epidemic in north-east India. Aust N Z J Psychiatry. 1985;19(4):433-8.
- vi. Dutta D. Koro epidemic in Assam. Br J Psychiatry 1983; 143:309-310
- vii. Ghosh S, Nath S, Brahma A, Chowdhury AN. Fifth Koro epidemic in India: A review report. World Cultural Psychiatry Research Review 2013, 8 (1): 8-20
- viii. Cheng ST. Epidemic Genital Retraction Syndrome: environmental and personal risk factors in Southern China. J Psychol & Human Sexuality 1997; 9:57-70
- ix. Chong TM. Epidemic Koro in Singapore. Br Med J. 1968; 1(5592): 640-641.
- x. Jilek W, Jilek-Aall L. Massenhysterie mit KoroSymptomatik in Thailand. Schweiz Arch Neurol Neurochir Psychiatr 1977; 120:257-259
- xi. Chowdhury AN, Pal P, Chatterjee A, Roy M, Das Chowdhury BB. Analysis of North Bengal Koro epidemic with three years follow up. Indian Journal of Psychiatry, 30:60-72, 1988
- xii. Roy D, Hazarika S, Bhattacharya A, Das S, Nath K, Saddichha S. Koro: Culture bound or mass hysteria? Australian New Zealand Journal of Psychiatry, 45: 683, 2011
- xiii. Nandi DN. Epidemic Koro in West Bengal, India. Int J Soc Psychiatry 1983; 29:265-268
- xiv. Tseng WS, Kan-Ming M, Hsu J, Li-Shuen L, Li-Wah O, Guo-Qian C, Da-Wie J. A sociocultural study of Koro epidemics in Guangdong, China. Am J Psychiatry 1988;145:1538-1543
- xv. Kovács A, Osváth P. Genital retraction syndrome in a Korean woman. A case of Koro in Hungary. Psychopathology 1998;31:220-224
- xvi. Nakaya M. Fluvoxamine treatment of a Japanese patient with koro. J Clin Psychiatry. 2002 Dec; 63(12):1182-3.
- xvii. Goetz KL, Price TRP. A case of Koro: Treatment response and implications for diagnostic classification. J Nerv Ment Dis 1994; 182:590-591
- xviii. Tseng WS, Kan-Ming M, Li-Shuen L, Guo-Qian C, LiWah O, Hong-Bo Z. Koro epidemics in Guangdong, China. A questionnaire survey. J Nerv Ment Dis 1992;180:117-123
- xix. Constable PJ. Koro in Hertfordshire. The Lancet 1979;1:163
- xx. Chowdhury AN. Ethnomedical concept of heat and cold in Koro: study from Indian patients WCPRR July 2008, 3(3): 146-158
- xxi. Scher M. Koro in a native born citizen of the U.S. Int J Soc Psychiatry 1987;33:42-45
- xxii. Bartholomew E. The social psychology of "epidemic" Koro. Int J Social Psychiatry 1994;40:46-60
- xxiii. Koro Study Team. The Koro "epidemic" in Singapore. Singap Medical J 1969;10:234-242
- xxiv. Chowdhury AN. Biomedical potential for symptom choice in Koro. Int J Soc Psychiatry 1989;35:329-332
- xxv. Li J. Koro endemic among school children in Guangdong, China. WCPRR 2010; 5(2): 102-105.

Annexure

Socio-demographic Variables	Characters	N (%)		
		Total	Male (n=49)	Female (n=15)
Age (in years)	Mean (SD)	17.28 (7.92)	16.53 (5.31)	18.79 (3.65)
Education	Illiterate	17 (26.56)	13 (26.53)	4 (26.67)
	Upto primary	27 (42.19)	25 (51.02)	2 (12.33)
	Upto matric	09 (14.06)	3 (6.12)	6 (40.00)
	Above matric	06 (9.37)	4 (8.16)	2 (13.33)
	Professional	2 (3.12)	2 (4.08)	0 (0.00)
	Not known	03 (4.69)	2 (4.48)	1 (6.67)
Occupation	Student	15 (23.44)	9 (18.37)	6 (40.00)
	Agricultural work	27 (42.19)	22 (44.90)	5 (33.33)
	Skilled/Semi-skilled Worker	02 (3.12)	1 (2.04)	1 (6.67)
	Unskilled Worker	9 (14.06)	7 (14.29)	2 (13.33)
	Trade/business	3 (4.69)	3 (6.12)	0 (0.00)
	Housewife/Household	1 (1.56)	0 (0.00)	1 (6.67)
	Unemployed	6 (9.38)	6 (12.24)	0 (0.00)
	Others	1 (1.56)	1 (2.04)	0 (0.00)
Marital status	Single	50 (78.13)	41 (83.67)	9 (60.00)
	Married	5 (7.81)	4 (8.16)	1 (6.67)
	Remarried	0 (0.00)	0 (0.00)	0 (0.00)
	Widowed	1 (1.56)	0 (0.00)	1 (6.67)
	Divorced	0 (0.00)	0 (0.00)	0 (0.00)
	Separated	5 (7.81)	1 (2.04)	4 (26.67)
	Others	3 (4.69)	3 (6.12)	0 (0.00)
Family income (in rupees/month)	Nil,	1 (1.56)	1 (2.04)	0 (0.00)
	Upto 749	12 (18.75)	9 (18.36)	3 (20.00)
	Up to 2499	25 (39.06)	18 (36.75)	7 (46.64)
	Up to 4000	17 (26.56)	14 (28.57)	3 (20.00)
	4000 and above	9 (14.06)	7 (14.29)	2 (13.33)
Family type	Nuclear	16 (25.00)	7 (14.29)	9 (60.00)
	Joint	34 (53.13)	29 (59.38)	5 (33.33)
	Extended	9 (14.06)	8 (16.33)	1 (6.67)
	Others	5 (7.81)	5 (10.20)	0 (0.00)
Religion	Hindu	37 (57.81)	27 (55.10)	10 (66.67)
	Muslim	25 (31.06)	21 (42.85)	4 (26.67)
	Other	2 (3.13)	1 (2.04)	1 (6.67)
Locality	Urban	8 (4.69)	3 (6.12)	5 (33.33)
	Rural	56 (95.31)	46 (93.88)	10 (66.67)
Past H/O 'Koro' / Recurrent 'Koro'	No	47 (73.44)	34 (69.39)	13 (86.67)
	Yes	17 (26.56)	15 (30.61)	2 (13.33)
Family H/O 'Koro'	No	58 (90.63)	47 (95.92)	11 (73.33)
	Yes	7 (10.94)	3 (6.12)	4 (26.67)
Incidence of any new/old case(s) of 'koro' in the locality	No	3 (4.69)	2 (4.08)	1 (6.67)
	Yes	61 (76.56)	47 (97.92)	14 (93.33)

Table 1: Socio-demographic profile of the study population (N=64)

Treatment seeking	Characters	n (%)		
		Whole sample (N=64)	Male (n=49)	Female (n=15)
Referred from	Came by himself/herself	6 (9.38)	5 (10.20)	1 (6.67)
	Brought by family members/neighbours	7 (10.94)	4 (8.16)	3 (20.00)
	Local faith-healers (Ojha/ gunin /religious persons)	6 (9.38)	4 (8.16)	2 (13.33)
	Homeopath/Ayurved/Unani doctors	2 (3.12)	1 (2.08)	1 (6.67)
	Referred from local quacks	10 (15.62)	7 (14.29)	3 (20.00)
	Referred by schools/NGOs	1 (1.56)	0 (0.00)	1 (6.67)
	Referred from private doctors/hospitals	19 (29.69)	17 (34.69)	2 (13.33)
	Referred from other governments	11 (17.19)	9 (18.36)	2 (13.33)
Where reported first	Others	2 (3.12)	2 (4.08)	0 (0.00)
	Emergency OPD	37 (57.81)	34 (69.39)	3 (20.00)
	Medical/surgical OPD	13 (20.31)	7 (14.29)	6 (40.00)
	Urology/Gynaecology OPD	7 (10.94)	5 (10.20)	2 (13.33)
	Psychiatry OPD	7 (10.94)	3 (6.12)	4 (26.67)

Table 2: Treatment seeking pattern of the study population

Treatment Received	Study Population n (%)
Ligature application around genitalia	28 (43.75)
Wearing herbal amulets/ chanting dhaga	14(21.87)
Herbal massage oil	14(21.87)
Smearing of lime over forehead, neck, ear	7(10.93)
Drowned in cold water	4(6.25)

Table 3: Distribution of study population according to home remedy received for koro (N= 58)

3 cases tried 2 home remedies before reaching the hospital (multiple responses).