

KORO SOCIAL RESPONSE (URBAN) : A LONGITUDINAL STUDY OF NORTH BENGAL KORO EPIDEMIC*

ARABINDA N. CHOWDHURY¹

Social responses to Koro illness was studied from an urban population (n = 118) of Darjeeling district of West Bengal State, during and after the North Bengal Koro epidemic. The prevalent social cognition of Koro as a positive illness paradigm, both among the Koro-affected and non-affected families, was the important social dynamics that helped the epidemic to spread as the illness in the region. The cognition-intensity related to the Koro vulnerability has diminished gradually with the passing of time, which was well corroborated with the gradually waning incidence curve of Koro illness in the region.

The concept of illness refers to objective symptoms and illness behaviour refers to the personal and social meaning of the symptoms (Mechanic, 1977). Illness perception and response is a socially learned phenomena because the magnitude of symptoms and disability is a product of subjective experiences and social definitions (Waxler, 1974). Social sanction is a pre-requisite for any maladaptive behaviour to be labelled as 'illness'. So the social labelling requires the acceptance of positive illness paradigm of a given symptom. Thus once a person with symptoms is defined as 'sick' a series of negotiation begins between him and the other interested parties such as family, community and the treatment people. Once as illness serve as a model, then it will provide a referential basis of defining the model and the contagion enters into the social network and well disperse with increasing rapidity, which can be termed as 'chain reaction' (Smelser, 1963). The acceleration is really a part of the fact that, as more cases appear, the behaviour becomes increasingly legitimized - increasingly accepted according to the evolving generalised belief in the community involved (Turner and Killian, 1972). Since such contagion is at the very root of psychiatric epidemics, so with its acceleration with greater legitimation in the society, it soon form a phenomena of such proportion that its credibility can no longer be denied and thus increasingly reinforces the 'illness paradigm' and vice versa among the affected and non-affected segment of the population (Lang and Lang, 1961; Lionberger, 1953).

WORKING HYPOTHESIS OF THE STUDY

A massive Koro epidemic took place in Darjeeling district of West Bengal state (Chowdhury *et al.*, 1988). This illness was not known in this region before. A rapid spread of the outbreak was also observed.

To test the social cognition hypothesis the following factors in respect to 'positive illness paradigm'

of Koro was studied in Koro-affected and nonaffected population.

1. Whether Koro was regarded as an illness,
2. Cognition related to the 'seriousness' of Koro.
3. Cognition related to the 'infective potential' of Koro,
4. Cognition related to 'risk' imposed by Koro and
5. Consistency or difference in these Koro social cognition over time.

MATERIALS AND METHODS

SAMPLE

Social responses of 60 family heads (male person) of non-Koro affected families (NKF) were taken by random sampling from a total of 98 responses, from three municipal wards of Siliguri town of Darjeeling district. From the same areas, responses of 58 heads from Koro-affected families (KF) out of 72 responses were taken by random sampling. Thus a total of 118 responses were taken for this study.

INSTRUMENT

A simple 12-item questionnaire (Appendix) was devised for recording the social responses to Koro illness, in consultation with the Department of Sociology and Social Anthropology, North Bengal University, Darjeeling. It has five parts: (1) Brief demography; (2) illness paradigm of Koro; (3) Koro etiology; (4) Treatment option and (5) Koro acquaintance source.

Koro illness paradigm section includes the following items: (a) Identification of Koro illness type; (b)

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¹Professor & Head, Department of Psychiatry, Institute of Postgraduate Medical Education & Research, Calcutta.

Grades of seriousness; (c) Infective potential of Koro; and (d) Risk assessment of Koro illness.

STUDY DESIGN

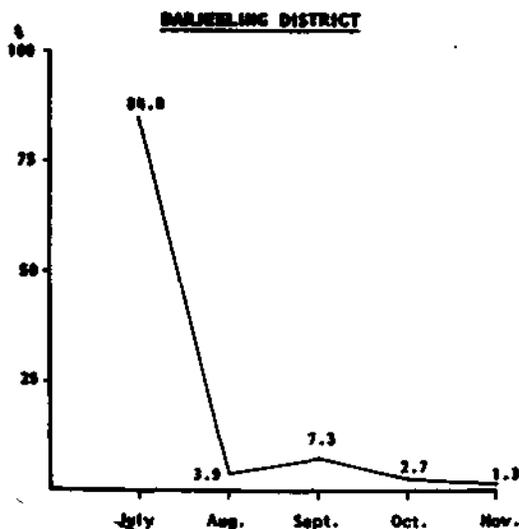
Koro social response rating was done by home visits. First rating (IR) was done during the height of the epidemic (at the third week of outbreak). Second rating (IIR) was done at an interval from the first of 29.5 ± 3.4 days, and the third rating (IIIR) from the second, at 30.67 ± 4.57 days. In the third rating due to absence or unwillingness the number of respondents were dropped down to 38 in non-Koro families and 30 in Koro-affected families. So for the comparison between IIR and IIIR, a sub-sample (of the same persons who also responded in IIIR) of the IIR was drawn.

Comparisons of the responses were done by using Chi square analysis.

EPIDEMIC CHARACTER

Social responses were elicited at the following background of Koro epidemic in the Darjeeling district. Out of total 151 male Koro cases of this epidemic, 84.8% were reported in July; 3.9% in August; 7.3% in September; 2.7% in October and 1.3% in November 1982 (Fig. 1).

Fig. 1. Male Koro incidence of 1982 epidemic



RESULTS

Table 1 shows the responses percentage distribution and comparison between first and second ratings.

In the IR most of the respondents both from Koro and non-Koro families, perceived Koro as a physical illness with little emphasis on its mental causation and they showed no difference in their illness-type cognition. In the IIR, this illness-type cognition differed significantly ($p < .01$), where physical-mental typology was endorsed with greater frequency and the previous physical-type cognition showed decreased response with slight increase in mental-type response. This cognitive shift of illness-type from IR to IIR was significant ($p < .01$) in the non-Koro families and in the total response.

In the cognition of Koro seriousness, both the groups differed significantly ($p < 0.01$) in the IR perception, where non-Koro families stressed more on the less serious nature of Koro than the Koro-family respondents. In the IIR, this trend was noted in higher frequency in the non-Koro families' and in the Koro-families also this cognition shift towards 'nil' or 'mild' serious nature of Koro was evident. These differences from more serious to less serious nature perception was significant ($p < .01$) from IR to IIR in all the sample groups.

Cognition about the assessment of infective potential of Koro showed no difference between the groups in both the ratings though there was a cognition shift from IR to IIR so far the 'nil' and 'deadly infectious' endorsement is concerned. The cognition shift from IR to IIR in respect from more to less infective nature of Koro is significant ($p < .01$) in both the groups and in the total response.

Interesting cognition differences ($p < .05$) were noted in the risk perception between the groups in the IR, where non-Koro families perceived more about the 'sexual power loss' from Koro, whereas Koro families perceived more about the 'life threatening' risk. This trend was also observed in greater frequency in IIR along with the non-Koro families' endorsement of no life threat from Koro. Similarly, the Koro families perceived for the first time in IIR that Koro posed no risk along with more emphasis on the 'general health problem' as a risk of Koro. These cognition differences between the groups were significant ($p < .01$). Differences in the risk cognition from I to IIIR in all the sample groups were significant ($p < .01$).

Table 2 shows the comparison between II and IIIR percentage responses. In the IIIR, mental or mental-physical nature of Koro illness-type were perceived in greater frequency in both the groups. In addition, non-Koro families perceived for the first time in IIIR that Koro is not an illness at all. These cognitive differences of both the groups were significant ($p < .05$).

A significant cognition shift from II to IIIR was noted in non-Koro families ($p < .01$) and in the total responses ($p < .05$).

In the 'seriousness' response, though the shift of cognition from 'severe' and 'moderate' nature in 'nil' or 'mild' seriousness was noted in II to IIIR, yet there were no significant differences were observed from II to IIIR. Similarly, in the response of 'infectivity', this type

of cognitive shift from 'deadly infectious' to 'nil' or 'mild' was noted though they showed no statistical significance.

In the 'risk' response, total responses from II to IIIR showed greater endorsement on 'nil' item ($p < .01$). There were significant difference ($p < .05$) between the two groups in both the ratings.

Table 1. Comparison between first and second Koro social response percentages.

	FIRST RATING %			SECOND RATING %		
	(A) NKF	(B) KF	(C) TOTAL	(a) MKF	(b) KF	(c) TOTAL
I. Illness Type:						
Physical (P)	90	91.4	90.7	35	75.9	55.1
Mental (M)	6.7	1.7	4.2	16.7	10.3	13.6
P + M	3.3	6.9	5.1	48.3	13.8	31.3
χ^2_2 : A vs. B = 2.4; a vs. b = 21.03 [*] ; C vs. c = 38.4 [*] ; A vs. a = 40.6 [*] ; B vs. b = 2.9						
II. Seriousness:						
Nil	13.3	-	6.8	40	10.3	25.4
Mild	15	-	7.6	28.3	22.4	25.4
Moderate	21.7	19	20.3	16.7	36.2	26.3
Severe	50	81	65.3	15	31.1	22.9
χ^2_3 : A vs. B = 20.9 [*] ; a vs. b = 18.2 [*] ; C vs. c = 49 [*] ; A vs. a = 22.2 [*] ; B vs. b = 30.04						
III. Infectivity:						
Nil	23.3	17.2	20.3	65	48.3	56.8
Mild	6.7	1.7	4.2	15	17.2	16.1
Moderate	21.7	17.2	19.5	6.7	15.5	11.0
Marked	10	19	14.4	3.3	5.2	4.2
Deadly Infectious	38.3	44.8	41.5	10	13.8	11.9
χ^2_4 : A vs. B = 4.5; a vs. b = 4.2; C vs. c = 57.3 [*] ; A vs. a = 30.5 [*] ; B vs. b = 30.04						
IV > Risk:						
Nil	10	-	5.1	26.7	5.2	16.1
Life Threatening	31.7	55.1	43.2	-	18.9	9.3
Sexual power Loss (S)	35	20.7	27.9	45	13.8	29.7
General Health (H)	16.7	12.1	14.4	20	41.4	30.7
S + H	6.6	12.1	9.3	8.3	20.7	14.4
χ^2_4 : A vs. B = 13.1 ^{**} ; a vs. b = 37.1 [*] ; C vs. c = 40.7 [*] ; A vs. a = 24.6 [*] ; B vs. b = 24.7						

* $p < .01$; ** $p < .05$

Table 2. Comparison between second and third Koro social response percentage

	SECOND RATING %			THIRD RATING %		
	(A) NKF	(B) KF	(C) TOTAL	(a) NKF	(b) KF	(c) TOTAL
I. Illness Type:						
Physical (P)	47.4	80	61.8	36.8	60	47.1
Mental (M)	10.5	6.7	8.8	15.8	16.7	16.2
P + M	42.1	13.3	29.4	26.3	23.3	25
Nil	-	-	-	21.1	-	11.7
χ^2_2 : A vs. B = 7.89** ; B vs. b = 2.96 χ^2_3 : a vs. b = 8.3** ; C vs. c = 11.1** ; A vs. a = 10.3*						
II. Seriousness:						
Nil	39.5	16.7	29.4	47.4	23.3	36.8
Mild	26.3	26.7	26.5	31.6	40	35.3
Moderate	23.7	33.3	27.9	15.8	26.7	20.6
Severe	10.5	23.3	16.2	5.2	10	7.3
χ^2_3 : A vs. B = 5.2; a vs. b = 4.5; C vs. c = 4.4; A vs. a = 1.7; B vs. b = 2.5						
III. Infectivity:						
Nil	60.5	36.7	50	73.7	46.7	61.8
Mild	10.5	16.7	13.2	10.5	26.7	17.6
Moderate	10.5	20	14.7	5.3	13.3	8.8
Marked	5.3	10	7.4	2.6	6.7	4.4
Deadly infectious	13.2	16.6	14.7	7.9	6.6	7.4
χ^2_4 : A vs. B = 4.1; a vs. b = 6.4; C vs. c = 4.5; A vs. a = 1.9; B vs. b = 2.9						
IV. Risk:						
Nil	28.9	6.7	19.1	57.9	16.7	39.7
Life Threatening	-	20	8.8	-	13.3	5.9
Sexual-power Loss (L)	36.8	23.3	30.9	23.7	20	22.1
General Health (H)	23.7	40	30.9	13.2	26.7	19.1
S + H	10.5	10	10.3	5.2	23.3	13.2
χ^2_4 : A vs. B = 14.4** ; a vs. b = 18.1** ; C vs. c = 22.7* ; B vs. b = 4.2 χ^2_3 : A vs. a = 6.6						

* p < .01; ** p < .05

DISCUSSION

Social response theory suggests that the labeling of deviance in the form of messages to the patient about how to confirm to sick role, is consistently strengthened and reinforced by the significant others in the community (Raman and Murphy, 1972). The positive cognitive strength so far as the illness cognition is concerned, is one of the most important determinant factor in this reinforcing process. Time, on the other hand, is an important variable to influence the strength and direction of this cognitive paradigm because it offers the basis of facilitative observational clues and sociometric feedbacks as to the rational outcome of the

initial hypothetical cognitive construct of the illness in question. Mechanic (1977) viewed this process as a dynamic response to changing personal and social conditions and Cobb (1976) stressed the role of adaptive responses viz. search for meaning, social attribution and social comparison, in the process of cognitive shift that accomodates illness perception through the construct of social cognition. Sirois (1974) in his elegant analysis of 'Epidemic Hysteria' stressed the importance of this aspect of mass-cognition in seven psychiatric epidemics, two of which were of Koro.

The present investigation clearly displayed this social cognition pattern in reference to Koro epidemic

in this region. Initially with the outbreak of Koro, the Koro as a positive illness paradigm was accepted through emergent norm theory (Markush, 1973). With the passing of time, this positive (as regard to the illness validity of Koro) cognition shifted towards negative paradigm, both in Koro-affected and non-Koro population of this region. So gradually the incidence of new cases fall to the complete non-occurrence. The dynamics of this social cognition reinforcement could be well convincing if we consider the associated epidemic pattern in this region (fig. 1) and compare this epidemic curve with each of the factors of social cognition, viz. seriousness, infectivity and risk perception in reference to this time frame (fig. 2,3,4). The cognitive shift from Koro as a positive illness to a negative one is well illustrated in these cognitive maps and shows how the social reinforcement turns from initial positive to negative acceptance of the behavioural abnormality gradually with the passing of time.

Fig. 2. Longitudinal variation in 'Seriousness' of Koro cognition.

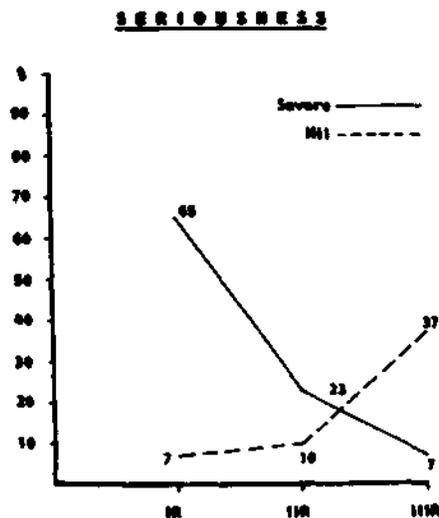


Fig. 3. Longitudinal variation in 'Infectivity' of Koro cognition.

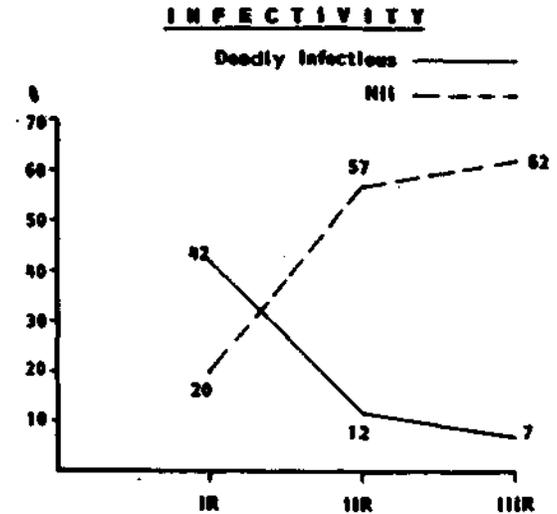
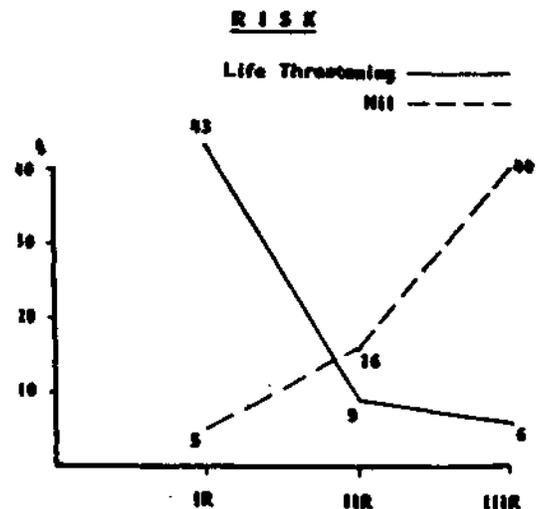


Fig. 4. Longitudinal variation in 'Risk' of Koro perception



Time is the most important variable in any cognitive appraisal, as it offers sufficient interval for the observation of the natural course of the event. The social model of Koro as a highly vulnerable illness gradually lost its cognitive intensity over time. This is a dynamic process, started from the very inception of the event in the community, but probably when it attains an arbitrary level of shift from positive towards negative cognition, then some neutralizing effects evolve, as being manifested in the reduction of incidence curve of the illness. Psychiatric epidemics so are very much well-known for their acute rise and precipitous fall with eventual weaning and fall of incidence rate (British Medical Journal, 1979; Small and Borus, 1983; Moffatt, 1982). The social dynamics of cognitive shift from positive to negative illness paradigm of Koro along with its associated impact on the epidemic character is well illustrated in this study. Social response curve, thus definitely influence the illness incidence curve in psychiatric epidemic, which is evident in the present study of Koro epidemic.

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APPENDIX

SOCIAL RESPONSE PATTERN SCHEDULE

Name.....Date.....

Age.....Sex: M/F.

MaritalSt.....S/M/W/D/S. Relg: H/M/C.

Address.....

Ed.....Oc.....Income Rs.month

1. Is it a illness?: Yes/ No.

2. How serious the condition is :

0 = Nil

1 = Mild

2 = Moderate

3 = Severe

3. What are the risks involved?

0 = No danger

1 = life and death question,

2 = loss of sexual power,

3 = Weakness and general health problems,

4. What is the type of disorder? : Physical/mental.

5. Is it infective? Yea/ No.

6. What is the chance of infection? :

1 = Mild,

2 = Moderate

3 = severe

4 = Highly

Infectious.

7. What is/ are the cause of the condition?

- 1 = not know
- 2 = high fever
- 3 = physical exhaustion
- 4 = increased body heat
- 5 = sexual cause
- 6 = supernatural cause
- 7 = mischievousness
- 8 = fearfulness
- 9 = mental cause

8. What should be the treatment of the condition?

- 1 = Medicinal
- 2 = Non -medicinal (Natural treatment).
- 3 = 1+2
- 4 = No treatment

9. What type of medicine will help ? :

- 1 = Allopathy
- 2 = Homeopathy
- 3 = Kabiraji
- 4 = Iurbedic

10. What type of natural treatment will help?

- 1 = water pouring
- 2 = pulling out of penis
- 3 = wearing "kachu" leafe scale
- 4 = all of the above

11. Is there any scope of mental treatment ? : Yes/No.

12. How you know about the illness?

- 1 = Eye witness
 - 2 = Hearing from others.
-
-