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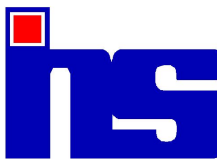

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Community Based Health Information Systems: The Case of Family Health Survey in Nellore District, A.P

Alex George, G. Vijaya Kumar, M.V Ramaniah & T. Sunder Raman

Introduction

The need for communities to know more about their own health in its physical, psychological and social context is increasingly on the rise as the level of mystification of health care increases with the introduction of higher technologies to health care (Tandon R 1996) and also to ensure an autonomous (Guha R 1986) informational domain to the people. Community based health information systems (Oranga & Nordberg 1996) will be an attempt towards achieving the objective of demystification of medicine and to provide alternative information base to the State's own information system. Such systems could have the participation of and by people at its various stages of research such as initiation, design, data collection and analysis, interpretation of data, presentation and dissemination of findings (De Koning & Martin 1996). The Nellore health survey conducted by the Jana Vignana Vedika is an exercise in this respect which achieved people's participation in some of these areas. Other examples in this regard are the health survey conducted by the Kerala Shasthra Sahitya Parishad in 1000 villages of the state in 1987 (Kannan K.P. Et al 1991). There are also several N.G.O. Experiments in health research on a smaller scale from many other parts of India. Such exercise can also be developed into a people's movement for village level planning with the support of the State administration as is taking place in Kerala now (Bandopadhyaya D.1997). The aspects of information which could be covered under a community based health information system are health status, causes of ill health, nature and type of treatment, resources available to improve health, household health expenditure and the health

problems of deprived groups such as the Scheduled castes & Scheduled Tribes, Rural & Urban poor, Women and Children.

The family health survey in Nellore District was carried out by the Jana Vignana Vedika (J.V.V.) A voluntary organisation which had been involved in the adult literacy campaign and also the anti arrack agitation. The survey was conducted in 1994 in 400 villages of the district, of which the data was manually consolidated in 289 villages of the district covering 41816 households and a population of 1,80,876. Out of this a sample of 5400 households were selected from 40 villages (Arogyadeepam, 1995) for the present analysis by the Institute of Health Systems (I.H.S). It must however be pointed out that the I.H.S. Was not associated with the planning and implementation of the study or its data collection and was contacted later for data analysis and interpretation.

The survey was organised as a part of J.V.V.'s post litercy campaign in which sensitisation to health issues and a campaign for health education formed important components. It aimed at sensitising the village youth and villagers to health issues and to assess the health status of villages for preparation of village level health plans for further action. The survey was co-ordinated by a core group of doctors and other relatively better educated activists of J.V.V. And the fieldwork was done in each village by a group of committed and educated youth belonging to the same villages. Data collection by the village youth who were also activists of the J.V.V at the same time has added to the credibility of the data, though there are shortcomings also for this data set which is discussed elsewhere in this paper.

The selection of the said 40 villages and the respective households was done taking into consideration the delta and non delta areas in the district and the caste composition of villages. The 40 villages selected were from 18 mandals. Wherever the size of the villages covered in the sample was less than 150 households we have taken all the households in our sub sample analysis. For villages with more than 150 households we have taken only the first 150 households in the sub sample analysis to keep it within feasible limits. This upper limit was kept in order to keep the sub sample size less than 6000 households, beyond which it would have become unwieldy for data entry and analysis. The actual sub sample of 5400 households works out to 12.91% of the total households, which we feel is adequate enough to validate the findings of the larger study which was consolidated and analysed manually. The purpose of this exercise is to compare the findings of this participatory research exercise with other data and to see how far participatory research carried out by the activists themselves can generate valid data for action and policy making. Comparing the data used in this sub sample analysis with the data of the larger study has also been carried out.

Out of the 5400 households selected the following information were obtained regarding their demographic, health and socio-economic conditions. We have also made an attempt to calculate different Ratios/ Indicators with the given data.

Household Size

The total population covered in 5400 households was 24459 and made an average household size of 4.53. The average household size of the larger study was 4.33 (Arogyadeepam 1995). The household size for AP as per the NFHS is 5. (PRC-IIPS 1995) But this could be less

for a developed district like Nellore. The data presented below in Table 1 is in 6 class intervals. There were more households having 1 to 4 members with total number of members in them being 9009 (i.e. 36.83%). Even though the number of households with 5-8 members was slightly less (2213) than the former one, the number of members in those families was much higher i.e. 12,965 persons showing a higher 53.01% out of the total population. Other households with larger number of members were fewer in number.

Table 1

Household Size

No. of Persons	No. of Families	No. of Members	% of total Population
1-4	2,959	9,009	36.83
5-8	2,213	12,965	53.01
9-11	160	1,545	6.32
12-15	51	661	2.7
16-19	11	186	0.76
20-25	6	93	0.38
Total	5,400	24,459	100
Mean Household Size = 4.53			

Sex Ratio

It was found that there were 975.79 females per 1000 males which is approximately equal to 976 per 1000 which was the 1991 Census figure for the district. (FRHS 1995). In the larger study this figure was 981.18 per 1000. (Arogyadeepam 1995) While calculating the sex ratio we have taken the number of persons whose sex was recorded/ reported which was 23920, consisting 11811 females and 12109 males.

Age Distribution by sex and Literacy Rate

The data on age distribution by sex has been collected for the age group 12-40 only and not for other age groups i.e., <5 years, 5-12 years and for those above 40 years. So it is not possible to

put all age groups in one table for age wise sex distribution, literacy rate and school going. The percentage of school going children for the age group 5-12 years was 82 (See Table 2).

Table 2
Number of Children Under 5 & Between 5-12 Years
With School Going Rate

Age Groups	Number of Persons	% of Total Population	No. of Literate	% School Going
<5 Years	2,582	10.56	(Not Applicable: (NA)	NA
5-12 Years	3,952	16.16	3,258	82.44

For the age group of 12-40 the number of literates are given sex-wise (See Table 3). On the whole 57% of the population belonged to this age group. Nearly 70% of men in this age group were literate while only 50% of women were literate in this age group. The relatively low level of literacy of females in this age group demands special attention. It is in fact the comparatively much higher rate of literacy among the males of this age group which is actually raising the overall literacy rate of this group of 60%. Age specific literacy rates are at the moment not available for comparison.

Table 3
Number of Persons and Literacy Rate Between the Age Group of 12-40

Number of Members in the Household						
Age Group	**Male**	**% of Male in Sample**	**Females**	**% of Females in Sample**	**Total**	**% of Total Population.**
12-40	7,064	28.88	6,784	27.74	13,878	56.74
Sex Wise Total Number of Literate in the Household and Literacy Rate						
Literacy Rate 12-40 Age	**Males**	**Literacy Rate in 12-40 Years**	**Females**	**Literacy Rate in 12-40 years**	**Total Literate**	**Total Literacy Rate**
	4,913	69.54%	3,411	50.28%	8,324	60%

Birth and Death Rates

There were 291 female and 253 male births in one year preceding the survey. The birth rate for female was 12.16 per 1000 and for males 10.58 per 1000, thus giving the crude birth rate figure of 22.74 (Table 4). But a comparison of this figure with the results obtained from the larger study showed that in the larger study crude birth rate was 18.15. However the CBR derived from this sub sample analysis is closer to the AP rural figure of around 24.3 per 1000 population (S.R.S 1995). The crude death rate was 7.02 per thousand which is very low, compared to the AP rural death rate which was 9.5 per 1000 population. This low figure was likely to be due to the under reporting of female deaths particularly those of female children. This phenomenon getting reflected in the low female death rates also (Table 4). The crude death rate of 6.16 for the larger study is still lower than our figure. (Arogyadeepam 1995). However, the infant mortality rate for the larger study shows a higher i.e. 47.79. In this case the larger study's figure looks more acceptable. This could be because they had covered a much larger population and thereby a large number of infant deaths to arrive at reasonable figure.

Table 4
Birth and Death Rates

	Births	**Population**	**Birth Rate**
Females	291	11,811	12.16
Males	253	12,109	10.58
Crude Birth Rate	544	23,920	22.74
	Deaths	**Population**	**Death Rate**
Females	68	11,811	5.76
Males	100	12,109	8.26
Crude Death Rate	168	23,920	7.02

Caste and Community

In the survey a large number of households were from the Backward Castes i.e., 38.07% followed by Upper Castes which consist of 26.61%. The Scheduled Caste consisted of 21.78% of

the total sample, whereas the Scheduled Tribe population consisted of 9.43% and 4.09 % of households did not mention anything about their caste or community (Table 5). One lacunae perhaps is the absence of Muslims in the sub sample which was however only accidental and not deliberate.

Table 5 **Caste and Community**		
Upper Caste	1,437	26.61
Back Caste	2,056	38.07
Scheduled Caste	1,176	21.78
Scheduled Tribe	509	9.43
Muslims	0	0
Christians	1	0.02
Not Mentioned	221	4.09
Total	5,400	100

Social Classes

When we observed the data regarding the classification of total population among the different social classes, we found that lower class constituted the maximum percentage of the sample i.e. 49.43% followed by the middle and rich class (Table 7). If the middle class was broken down into a lower middle class, the data would have reflected its actual size in the society. As it is the middle class looks bloated in size. This was not possible since this impressionistic assessments seem to have been used during fieldwork to decide the class status of households.

Table 6

Division of Sample Among Various Social Classes

Different Classes	Number of Families	% of Total Families

Lower Class	2,669	49.43
Middle Class	2,434	45.07
Higher Class	152	2.81
NM	145	2.69
Total	5,400	100

Disease Profile and Utilisation

In addition to the information already presented, the data was also collected about the occurrence of certain specific diseases. Below we present the table on the disease profile, along with the respective reference periods for which they were collected. As the results show, the information consist of some of the important acute and a few chronic disease (Table 7). Information regarding the utilisation of medical facilities have been given for probable cases of leprosy. According to the information given, out of 267 persons who were having white spots without sensation, probably indicative of leprosy, only 68 (25.46%) persons were using some king of medicines.

Table 7
Disease Profile (With different reference periods)

Disease	Reference Period	No. of Persons Affected	% of Total Persons
Nightblindness	At the point of Survey	414	1.69
Diarrhoea	Last two Weeks	492	2.01
Jaundice	Previous Year	436	1.78
Worm Infestation	At the Point of Survey	322	1.32
Fever	Last Two weeks	926	3.79
Polio	Last Year	54	0.22
White Spots without Sensation	At the Point of Survey	267	1.09
N=24459			

Information Regarding Pregnancy Related Death and Abortions

As per our data there were 11 pregnancy / delivery related deaths. The meternal mortality rate therefore would work out to 2.02% of births. Such a high figure is questionable on the ground that, the maternal mortality estimated for India is around 0.5% (Sunday Ravindran T.K.S 1994). Moreover even in a study conducted in rural areas of Anantapur District in mid 1980s MMR was found to be .83% of live births (Bhatia,1993). The high rate found in the study is due to the fact that even some female deaths unrelated to pregnancy or child birth were also wrongly recorded as deaths due to pregnancy and delivery.

Immunisation

Of the total children under 5 years 50% were completely immunised with very little gender difference among the children. Only 6% were totally unimmunised. Of them 4% were males and 7% were females. Those who were partially immunised were 37%. Among them 39% were males and 36% were females. Complete immunisation includes one does each of BCG and Measles and three doses of any of the four vaccines given. Around 5% of children were being continued on an immunisation schedule (Table 8). It must at the same time be added that these rates will vary for polio thanks to the recent pulse polio immunisation drives.

Table - 8
Immunisation Details of Children Under 5 Years

S.No	Vaccine	Male	%	Female	%	Sex NM	Total	%
1	Number of Children who got completely immunised	309	50.74	331	50.46	2	642	50.23
2	Number of Children Who are partially immunised	237	38.92	238	36.28	0	475	37.17
3	Number of Children totally unimmunised	27	4.43	45	6.86	0	72	5.63
4	Number of children whose immunization	31	5.09	38	5.79	1	70	5.48
5	Number of children whose	2	0.33	2	0.3	10	14	1.1

	immunization details are not mentioned at all							
6	Number of children whose continuation of immunisation schedule is not mentioned	3	0.49	2	0.3	0	5	0.39
	Total	609	100	656	99.99	13	1,278	100
Note: Number of children with 5 years of age in the sample = 1278 Total number of families = 915								

Among those who were partially immunised 61% were immunised with BCG while only 17% took the anti measles vaccine. Forty seven percent had the three doses of DTP while 60% had the three doses of Polio. In this category immunisation rate for the individual vaccines are slightly less among the females (Tables 9). The number of children who were continuing on the immunisation schedule was too small for generalisation.

Table 9
Partial Immunization

S.No.	Vaccine	Male	%	Female	%	Total %
1	BCG (1 dose)	149	31.37	141	29.68	61.05
	BCG unimmunised	88	18.53	96	20.21	38.74
	Not mentioned	0	0	1	0.21	0.21
2	DTP Ist dose	21	4.42	27	5.69	10.11
	DTP II nd dose	13	2.74	23	4.84	7.58
	DTP IIIrd dose	139	29.26	132	27.79	57.05
	Not immunized	63	13.26	55	11.58	24.84
	Not Applicable	1	0.21	1	0.21	0.42
3	Polio Ist doses	28	5.89	29	6.11	12
	Polio IInd dose	12	2.53	27	5.68	8.21
	Polio III rd dose	151	31.79	136	28.63	60.42
	Not immunized	45	9.47	45	9.47	18.94
	Not Applicable	1	0.21	1	0.21	0.42
4	Measles (1 dose)	38	8	44	9.26	17.26
	Not immunized	165	34.74	159	33.47	68.21
	Not Applicable	34	7.16	35	7.37	14.53
N = 475						

Sanitary Conditions

Regarding the sanitary conditions, information was collected about using latrines and the people's perception towards its use. Information regarding the drinking water sources was also collected. Tables 10 & 11 show the results obtained in this regard. Another point which is worth noting is that, when the respondents who said that they were not using latrines were asked their perception on the need for latrines, 2263 of them said that they were needed. When asked about their willingness to pay Rs.500/- for latrines, 1990 i.e. 36.85% mentioned that they were willing.

Table 10
Sanitary Conditions

Having Latrines or Not	In No. of Families	% Figure
Having	307	5.59
Not having	4,963	92
No Response	130	2.41
Total	5,400	100
If Not Having Do They Feel The Need For It?		
Yes	2,263	41.91
No	2,876	53.26
No Response	261	4.83
Total	5,400	100
Willing to Pay Rs.500 For the construction of Latrines		
Yes	1,990	36.85
No	1,093	20.24

Sources of Drinking Water

The source of drinking water is another indicator of environmental health of the sample population. The following responses were ranked for sources of drinking water. As per the

Table 11

Sources of Drinking Water

	Ranking of Sources (Figures in Brackets are col.%									
Sources of Drinking Water	1	%	2	%	3	%	4	%	5	%
1. Well	1,862	34.97	1,344	33.68	93	29.52	110	90.91	0	0

2. Hand Pumps	1,646	30.92	2,070	51.86	177	56.19	0	0	0	0
3. Tap	1,637	30.74	426	10.67	28	8.89	0	0	1	10
4. Culvert	116	2.18	146	3.66	16	5.08	11	0	0	0
5. Pond	64	1.19	5	0.13	1	0.32	0	9.09	9	90
Total	5,325	100	3,991	100	315	100	121	100	10	100

ranking, hand pumps come out as the almost highly used source as per first three ranks. However in the 1st rank Well Water overscores hand pumps slightly. On the whole well water and hand pumps remain as the two highly used sources, followed by tap water. The uniform scoring of hand pumps could be due to the non availability or the difficulty in getting Tap, or well water. Pond water seems the least used source for drinking water as per the respondents, (See Table 11).

Conclusion

The findings from a sub sample of the Family Health Survey conducted in Nellore district show that in certain respects the survey has been able to generate data comparable with other data sets while in certain other respects the quality of data needs improvement. At the same time it needs to be pointed out that such attempts at maintaining community based health information systems as alternative sources of health information has a definite role to play in empowering the people. Exercises of this kind can be further enriched by better co-operation with action oriented researchers and imparting better training to a group of field workers drawn from the respective villages who should gradually be able to take up the data collection at regular intervals as a continuous activity. It is also necessary to enlarge the scope of the survey to include various uncovered aspects without making the questionnaire unwieldy.

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