

Development and Health among the Gudalur Adivasi Communities: A collaborative study (2015) – Executive Summary

A report of a collaborative study conducted at Gudalur in collaboration with and on behalf of the Adivasi Munnetra Sangham, ACCORD, ASHWINI and the Gudalur Adivasi Hospital.

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Preamble

This is the report of a study conducted over the year 2015 of the health of four Gudalur Adivasi communities (Kattunayakan, Bettakurumba, Paniya and Mullukurumba) that are serviced by the Gudalur Adivasi Hospital, ASHWINI, and ACCORD. The initial study was structured around an anticipated epidemic of diabetes among these communities. However since the prevalence of diabetes was non-alarming, we extended the study to cover chronic diseases, risk factors and social and economic determinants of health.

The study was conducted using three different approaches to study the problem in multidimensional terms:

- a) An epidemiological study of diabetes, hypertension and cardiovascular risk factors such as smoking and nutritional status.
- b) A set of detailed, qualitative and quantitative interviews to study three vectors of development, food habits, activity patterns, levels of stress and changes in living conditions experienced by the interviewees since childhood.
- c) An analysis of one year's mortality data to provide a better understanding of the relationship between socio-economic and epidemiological indices (hypertension, diabetes and cardiovascular risk factors) and mortality.

The goal of the study was to understand in depth, rather than in terms of abstract statistical figures of prevalence and risk alone (as do most rigorous academic studies), the health of the tribal communities, their opportunities for improvement and the weaknesses that need to be addressed. In order to do so the three studies above have been used to corroborate each other in this report and provide a living organic perspective of health.

The key concept in relation to health in this study is *development*. Normally, in the field of health care and in general understanding, development is seen to be a good thing: more development means a

better life. Most of the governmental programmes tend to follow this logic of improving access to the modern life. However, what we see in this small study is the complexity of the processes of development. Less hunger may translate to a propensity to diabetes. Better education can cause more stress regarding expenses with respect to children. Wage labour is better than bonded labour, but because it lacks the guarantee of permanence is bound with uncertainty and anxiety with respect to the stability and sustainability of everyday life. And yet there is less hunger, better education, and wages to be had. The broad question is 'how do we help community members to access development and its benefits in a manner that provides them with a better control and understanding?' What can the health and development organizations associated with these tribal communities do to help improve their terms of access?

This report is an attempt to address these questions in a manner that is responsible to the community.

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Executive Summary

This executive summary consists of three parts. One, the outcome of the epidemiological survey; Two, suggestions based on the meetings and interviews with members of different communities and three, some observations based on the corroborations between available mortality data and the knowledge gained from the epidemiological and sociological studies.

Outcomes of the Epidemiological survey:

The epidemiological survey was conducted across a selected sample population of 768 people distributed across four tribal communities in which tribe, gender, age and village development status served as main variables. The full report is in Section 1 following this summary. The conclusions and recommendations are:

1. We estimate that there are a total of 125 diabetics in Gudalur Valley (Adult population prevalence 1.82%). This number is slightly more than the 112 diabetics already under treatment by ASHWINI. Diabetes is not a problem for Panniyas, Bettakurumbas and Kattunayakans. However it is a problem for the Mullukurumbas (Adult population prevalence 4.12%) . This suggests more intense monitoring both for prevention and treatment of the Mullukurumba community at the clinical and community health level. The other communities do not need this specific emphasis. In diabetic patients the focus should shift to good education about understanding the problems associated with diabetes, ensuring that people control their sugars and prevent complications. Annual screening is recommended for all tribal community members above 40 years of age, especially Mullukurumbas.
2. We estimate that there may be 1137 cases of hypertension in the tribal communities (adult population prevalence 13.8%). Hypertension is a problem for all the communities. The mortality data suggests that hypertension may lead to an increased risk of stroke. Special clinical and community health measures for screening, treatment and prevention need to be designed for all the communities.
3. Undernutrition is a serious problem for all the communities except the Mullukurumbas (Overall undernutrition prevalence [BMI <18.5] 41.54%; individual tribe prevalence: Paniya 56.22%, Bettakurumba 40.54%, Kattunayakan 60.00% and Mullukurumba 19.34%). Specific community development initiatives would need to be taken to improve access to subsistence diets outside the free market.
4. Smoking needs to be tackled on a systematic basis as a risk for cardiovascular morbidity and mortality.

Outcomes of the interviews and meetings:

The interviews were conducted with over 35 individuals over the past 1 year, and of these the last 15 interviews were taken as satisfactory. Detailed analyses of these interviews are presented in Section 2 of the report. The broad qualitative indications that were gleaned from the interviews were as follows:

Food

1. There is a definite food scarcity which is somewhat alleviated by the PDS rice supply. The scarcity is also strongly indicated by the presence of undernutrition noted in the epidemiological study. This also is corroborated by the food consumption patterns reported for Tamil Nadu, Karnataka, Kerala, and other states across India.
2. There is a tell tale food consumption pattern dominated by cereal (rice) and with a small quantity of other macronutrient foods such as proteins, fats indicative of a precarious diet.
3. Beneficial foods consumed in small quantities are: backyard green vegetables, a variety of gathered and bought (other than green) vegetables, a cultural preference for meat, fish and eggs which is not being satisfied in the current economic circumstances.
4. The recent history of development in Gudalur (past twenty years) has resulted in an increase in cereal availability (rice through PDS), a consequent reduction in hunger, and yet a severe narrowing (curtailing) of the food basket available for consumption.

Activity

The general pattern of activity among the interviewees suggests that among the poor and able bodied, men tend to do moderate to hard work, while women largely tend to have a combination of moderate work and sedentary activity. The aged seem to live sedentary lives with some moderate activity. While the present level of activity is a definite reduction from the descriptions of the activity levels of interviewees' childhood, it is likely that these activity levels serve as protection for metabolic processes that maintain the communities in reasonable health.

Stress

Interviews and meetings with the community members suggested that there is a high and unrecognized level of stress among them. Stresses are both chronic in the normally understood sense (expenses, work related, community disputes, health related, caused by child rearing, etc.), and acute episodes of distress that are recognizably different (disagreements and fights, elopements, sudden death, suicides, etc.). Based on data from epidemiological studies, it is difficult to provide evidence to support the link between stress, hypertension and coronary and cerebrovascular events. However at a clinical level there is an implicit understanding that changing nature of stress due to development is the milieu within which these epidemics of hypertension, heart attacks, strokes and suicides are taking place in Gudalur valley. This practical knowledge can be mobilized in the doctors' strategies in the clinical encounter as well as community level intervention to deal with distress. In addition, finding ways to minimize distress through community processes would in its own right be a positive goal to improve the well being of their members.

Community strengths and weaknesses: possibilities for improvement

1. The communities still have extensive knowledge of hunting and gathering foods even though they live in a wage-market economy. This knowledge should be shared, preserved and communicated to future generations.
2. The community diets include fish and poultry as part of their preferred diet thus suggesting the possibility of some non-market measures for augmenting these foods.
3. The different communities maintain the practice of sharing foods gained through traditional community hunting practices on an egalitarian basis.

4. The communities also retain traces of poultry growing culture.
5. Weaknesses are a) preference for cereal heavy diets; b) absence of millets, nuts and oilseeds in the diet; c) complete lack of a milk consuming culture.
6. One possible avenue for propagation of these food cultures among and within communities would be to have a periodic fair (santhai) where traditional foods are displayed, discussed and revitalized. This could be a basis for community food security activity that stresses on food quality.
7. Another possible avenue for improvement in the food basket would be to explore the possibility of community pisciculture initiatives. These could be in fish ponds or behind dams in small streams, where the community can share the efforts and harvests of fish growing outside a market environment.
8. The all team meetings and community elders will have to decide on feasible processes to improve the diet and well being of the people in Gudalur.
9. Some methods of discussing stress in community meetings either in general or in response to crises such as suicides may be worth pursuing.
10. It would be desirable to encourage community activity, either in group efforts such as hunting or fishing, or in group discussion regarding childhood, or even in traditional rituals of specific kinds as a method of stress alleviation and existential comfort.

Outcome of pilot study of mortality patterns

Gudalur Adivasi Hospital made available to us the mortality records from their registers for the year 2013-14. We examined these in relation to the epidemiological study, and in relation to the Medically Certified Causation of Death (MCCD) as per ICD 10 published by the government in 2012.

The qualitative correlation between the causes of death in the Gudalur register and the epidemiological study suggest that there are specific patterns of morbidity that need to be investigated further by the GAH. In summary:

- Development stress may be affecting the tribes differentially causing differences in ill-health.
- Among the Mullukurumbas this may be due to access to better food, changes in physical activity, overweight and alcohol leading to diabetes and hypertension combined with smoking leading to one pattern of cardiovascular risk leading to more heart attacks.

Among the Paniyas, Bettakurumbas and Kattunayakans, development may be leading to lack of or access to poorer foods and alcohol leading to hypertension and undernutrition that be leading to another pattern of cardiovascular risk profile with increased risk of strokes.

Proposed linkage between development, cardiovascular risk factors and cardiovascular mortality in Gudalur Valley

Tribe	Pattern of development	Cardiovascular Risk factors	Cardiovascular Mortality
Mullukurumba	Access to better food, reduction in physical activity and alcohol	Overweight Diabetes Mellitus Hypertension	Heart attacks
Panniyas, Kattunayakans, Bettakurumbas	Access to poorer foods and alcohol	Hypertension Undernutrition	Strokes

- These findings require further investigation. They have implications for preventive strategies among specific tribal communities.

In comparison with the MCCD data it is apparent that the most important strength of the Gudalur data is that the percentage of medically unclassified deaths in the region covered by ASHWINI and the hospital is approximately 29% of the total registered deaths as compared to the national figure of 80%. This difference in proportion of medically unclassified causes of death may actually be a result of better reporting in Gudalur. However, keeping this in view, the following points may be made.

- The deaths of infants are still much higher than the Tamilnadu average and this definitely needs to be investigated. Special therapeutic nutritional schemes for mother and child, which try to explore better ways of implementing the basic principle of the ICDS programme as a live experiment would be extremely valuable in both the local and national context as a demonstration of a democratic, political approach to preventive health care.
- The suicide rate is 14% of the overall certified causes of mortality in Gudalur, indicative of increased stress and distress as discussed in the section on the interviews. The projected suicide rates per 100,000 population also seems to reflect a crisis. Further studies are urgently required. Community methods of addressing mental health issues and improving the mental health (as opposed to psychiatric ones) need to be investigated. (One possible organization that may be willing/able to help would be Basic Needs India of Bangalore, which is headed by Dr. Mani Kalliath).
- There seems to be a higher incidence of cancers in the Gudalur valley and it needs to be investigated whether this is a statistical/reportage effect or there is an actual difference.
- An annual mortality analysis of causes of deaths in the community may be performed. It may be possible to improve the accuracy of assigning causes of death by training of health animators. This may provide useful information for evaluation of the health programme and planning of hospital and community level interventions in health prevention and treatment.

A comment on the problem of alcohol

The reader may notice that we have not mentioned the role of alcohol in the communities' problems. The alcohol items in the epidemiological study were not rigorously followed through as an operational decision of the teams, because it was a delicate issue and it was difficult to obtain accurate information. However it figures often in the qualitative study with regard to stress. Therefore it is not possible to

comment on the scale of the alcohol problem or its potential impact on health and mortality. In informal discussions with team members, there is an important recognition that alcohol is a recent health problem due to promotion of TASMALC shops and increasing availability of cash from wage earnings. Alcohol is recognized by the ACCORD and ASHWINI teams as leading to diversion of money away from food in families, and may in fact be leading to reliance on PDS rice as the main food source. This may be contributing to childhood undernutrition as documented by the ASHWINI and possibly to the levels of adult undernutrition noted in the epidemiological study described in this report. It may also be linked to distress and the problem of suicide. There could potentially be links between the alcohol problem at the community level and the epidemic of hypertension and strokes. Therefore this is an area that requires serious study. It is also a direction for preventive community interventions.