

Benegal V Velayudhan A, Jain S, (2000) Social Costs of Alcoholism: A Karnataka Perspective. NIMHANS Journal, 18 (1&2) 67

THE SOCIAL COST OF ALCOHOLISM (KARNATAKA)

Vivek Benegal ¹, Ajay Velayudhan ² and Sanjeev Jain ³

1. Assistant Professor of Psychiatry, Deaddiction Centre, National Institute of Mental Health and Neuro Sciences, Bangalore, 560 029 India [vbenegal@nimhans.kar.nic.in]

2. Consultant Psychiatrist, Moulana Hospital, Perintalmanna, 679 322 Kerala, India

3. Additional Professor, Department of Psychiatry, National Institute of Mental Health and Neuro Sciences, Bangalore, 560 029 India [sjain@nimhans.kar.nic.in]

Running Title: Social Cost of Alcoholism

ABSTRACT:

Although the prevalence of alcohol use in India has been calculated at 30 per cent, there has been a rapid and noticeable increase in the rates of alcohol use in the Indian population as a whole.

113 patients admitted to a special deaddiction service for alcohol dependence were assessed. The average individual earned a mean of Rs 1660.95 (1703.78), spent Rs 1938.40 (1649.82) per month on alcohol and incurred personal loans of Rs 8388.29 (21447.11) . 94.7% had two or more admissions in the previous two years and did not work for 13.53 (12.18) days in a month. This amounted to a loss of Rs 13823.62 per person per year in terms of foregone productivity. 18.1 per cent had lost jobs in the previous year. 59.4 per cent of families were supported by income from other family members and 9.7 per cent sent children under 15 years to work to supplement family incomes. While the state recovered Rs 581.5 crores through taxation on alcohol and Rs 18.09 crores as individual health payments, it spent Rs 1147.48 crores in hospital costs alone. The social costs of alcoholism far outweigh the benefits accrued from the sale and taxation of alcohol.

Key words: Social cost, Alcoholism

INTRODUCTION

India is traditionally perceived to be a 'dry' culture, but alcohol use in some form has always existed in the country. The view of alcohol as impure and polluting, that many middle class Indians have, was predominantly influenced by Western temperance campaigners in the 19th century. A view which acquired greater popularity during the Nationalist movement - and was shaped into a generally held belief that drinking alcohol was alien to Indian culture.

This influenced the founding fathers of the new Indian Republic into declaring Prohibition as one of the Directive principles of the constitution. From the early 1950's the Government of India has periodically sought to persuade the State Governments to adopt a uniform prohibition policy. Attempts to impose prohibition in various states have periodically been made and predictably lifted as the budgetary deficit and the extra cost of enforcing prohibition made the effort financially non-viable. Consequently, the economic aspect of beverage alcohol as a major source of indirect tax revenue has always been the centre-point of the policy makers' thinking. Little thought has gone into examining the economic consequences of alcohol use and the costs borne by society as a result of it.

Alcohol policies especially those relating to production, consumption and taxation have varied widely across the states. However there has been no systematic recording of data pertaining to alcohol use and research in various aspects of alcoholism, particularly in the perspective of public health, has been minimal. It is not possible at the outset therefore to arrive at a reliable composite estimate of the costs due to alcoholism in the entire country. It would be prudent to gather data from individual states and cumulatively build up country wide statistics.

Despite the gaps in epidemiologic data, a beginning has to be made in auditing the costs due to alcohol misuse in India, based on two major compulsions :

- 1) The epidemiologic data, albeit crude and incomplete, shows evidence of a rapid and significant rise in alcohol production, consumption and related morbidity, which is only likely to increase further in the light of the drastic social and economic changes taking place in the country
- 2) Alcohol policy and legislation in India is based on political compulsions rather than the interests of public health. Part of the reason is that there has been little attempt to examine the economic and social burden generated by alcohol misuse to provide a sound guide for policy makers.

REVIEW OF LITERATURE

Epidemiologic Data

During the past twenty five years several field surveys of general psychiatric morbidity as well as alcohol use have been carried out in different parts of the country. It is difficult to generalize the figures derived from them, at a national level because of various methodological problems (Channabasavanna et al., 1986; Mohan & Sharma, 1985). Estimating prevalence of alcohol use in the general population, some of the recent studies estimated a range from 26 to 50 percent of all males. The surveys generally show that many persons are abstainers, some are drinkers and quite a few are heavy drinkers, with a tendency

among those who drink to indulge in very heavy drinking, to get drunk rather than to aid mutual social activity (Singh 1986). An earlier study found that women's alcoholism was relatively low and most other Indian studies have found very low rates of alcohol use in women in India (Murthy et al, 1995). As part of a community epidemiological study by NIMHANS, a community survey in the catchment area of NIMHANS, employing a face to face interview of 1956 subjects found the prevalence of alcohol dependence (ICD-9 303.0) to be 3.79% (Study on Severe Mental Morbidity, ICMR). For our purposes we have assumed a conservative estimate of 30% prevalence of alcohol use and 3.79% alcohol dependence. The comparative figures in the USA are 70% and 7.41% respectively (Grant et al, 1994).

Hospital admissions for alcoholism

One of the most striking indicators of the growing alcohol related problems in the country is the proportion of patients being admitted to various psychiatric treatment centres in different parts of the country (Isaac, 1998). At our centre in NIMHANS, for example registrations for alcohol related neuro-psychiatric problems (including alcohol dependence) increased from 212 in 1985 to 995 in 1994, and presently constitutes more than 10 percent of all registrations in the Psychiatry department. This rise appears closely correlated with rise in sales of alcohol in the state (Pearsons corr. coeff $p < 0.05$).

Trends in alcohol production and sales

The trends in alcohol related problems are closely related to trends in alcohol consumption which are in turn linked to alcohol production and sales (Walsh & Grant, 1985). But accurate and reliable data on alcohol production and marketing is not available. Even when some figures are available these are only concerned with known legal production and sales of alcohol. Such illegal production is known to occur quite extensively and has been estimated to be more than or equal to the legal production (Singh, 1986).

Production and sales

The All India Distillers Association released figures which showed that in 1990-91 the production and consumption of beverage ethanol was 1014.9 million litres and 993.7 million litres of absolute alcohol, respectively. By 1996-97 this had grown to 1567.3 and 1029.2 million litres of absolute alcohol respectively and was projected to rise to 1481.8 and 1161.9 million litres. This calculation had not taken into account the effect of the entry of multinational alcohol companies into the Indian market

The sales figures in Karnataka state as published by the excise department also show a dramatic rise of licit alcohol sales in the state. This amounts to a rise in availability of alcohol from 1.75 litres of absolute alcohol per user per year in 1990-91 to 2.15 litres of absolute alcohol per user per year in 1996-97 (if alcohol consumption is restricted to alcohol using males in the age group of 15 - 65 years) (Government of Karnataka, 1999).

Excise tax on alcoholic beverage production and sales forms the second highest source of government revenue (greater than 20%). In 1985, Karnataka state earned about Rs 50 crores from excise on liquor. This rose to Rs. Rs. 946 crores in 1997-98 (Government of Karnataka, 1999).

Social Costs

The term 'social' costs has been defined as the sum of private and external costs. Costs falling on third parties are termed 'external' costs (Wagstaff, 1987).

Private costs

Private costs comprise the direct costs borne by the individual consuming the hazardous substance. These include the costs related to loss in income due to absenteeism, reduced efficiency unemployment and the amount spent on buying alcohol. Personal loans incurred are also added to this figure.

External costs

Health costs:

Treatment facilities for substance abuse are organised under the governmental, private and voluntary (non governmental organisation) sectors. The health ministry of the government of India has set up a series of "drug management centres" mainly attached to psychiatric hospitals or general hospital psychiatry units. The ministry of welfare has provided financial support to set up detoxification centres with short-term inpatient facilities for 15 to 60 persons, counselling centres, and after care homes for longer term care and rehabilitation. Most of these provide care for those with predominant alcohol problems (Isaac 1998).

AIMS

Estimation of the cost of alcohol dependence to the individual patient and the cost borne by the state in treating a patient with alcohol dependence syndrome.

METHODOLOGY

Data regarding production, sales, consumption and taxation of alcoholic beverages in the state was collected from the available records of the state excise department.

Instruments:

Data regarding cost of alcoholism in individual alcoholics was collected using a *Social cost checklist for alcoholism* (specially constructed for the study) which provided data regarding :

1. Income from all sources
2. Consumption of alcohol per month
3. Amount spent on alcohol per month
4. Financial loss due to sickness, absenteeism and unemployment secondary to alcoholism
5. Amount spent by the individual on treatment for alcohol related problems

- 6. Family structure
- 7. Change in roles in the family
- 8. Social support in terms of financial help.

Sample:

113 consecutive males who met ICD-10, Diagnostic Criteria for Research (WHO 1993) for alcohol dependence syndrome formed the sample of the study. The following patients were excluded :

- 1. Dependence on other substances except tobacco
- 2. Patients with primary psychiatric disturbance other than alcohol dependence syndrome.

The Social Cost Checklist was administered to the patients in the second week of their stay in the hospital in order to prevent interference of recall due to withdrawal related cognitive disturbances. This data was corroborated by the patient's primary caregiver.

The figures obtained from this sample were used to calculate direct and indirect costs of alcohol use in the individual alcoholics.

RESULTS

The mean age of the sample was 38.37 (8.19) years. 12.3 percent were white collar workers, 32.7 percent blue collar workers and 46.9 percent were manual labourers. 84.4% were married, 8.3% were unmarried and 7.3% were separated or divorced.

The individuals in our sample consumed 223.74 (111.57)ml. of absolute alcohol equivalent per day, had been dependent for 7.71 (6.71) years and had first used alcohol at 23.5(6.4) years. The alcoholic beverages preferred were spirits (mainly whisky and brandy) 69%, arrack 27.4%, locally brewed and distilled alcohol 2.7% and beer 0.9%.

With a mean monthly earning of Rs 1660.95 (1703.78), they spent Rs 1938.40 (1649.82) on buying alcohol, contributing Rs.601.84 (1072.88) to family expenses i.e. 33 percent of the individual's salary (However, 40% of the group did not contribute any money at all) . They had also incurred loans worth Rs 8388.29 (21447.11).

Only 6.3% of the patients were admitted for the first time. It was the second admission for 57.3% patients and 37.4% had three or more admissions. The mean number of admissions was 2.06 (1.71) over the last two years, the mean stay in hospital being 38.42 (21.83) days. Only 25% of the subjects paid for their treatment, the rest received treatment free of cost. The mean hospital bill was Rs 520.72 (1681.33)

Consequently the responsibility for financial support of the family had been taken over by the spouse or other relatives in 88.6 percent. In 24 % of the sample the responsibility for family support had been taken up by non-traditional sources of support e.g. widowed mother, wife's biological family, married sisters and friends. 9.7 percent of the families had to send one or more children below the age of 15 years to work to supplement the family finances.

7.3% percent of marriages had broken down. 15 percent of all the alcoholics had lost a job within

the last year or had been forced to take up lower paying jobs.

Table 1 describes the social cost of alcoholism at the individual level. Private costs amount to Rs. 11086.88. External costs amount to Rs. 18,798.82. The social cost of alcohol dependence is thus Rs. 29,885.80 per patient per month.

[INSERT TABLE 1 HERE]

DISCUSSION

The primary finding of this study is that the monthly expenditure on alcohol of patients with alcohol dependence is more than their monthly earnings. Their monthly earnings are likely to be reduced because of absenteeism, sickness and unemployment. As they tend to spend more than what they earn, they are more likely to incur loans.

The economic burden of having an individual with alcohol dependence alters the structure and functioning of the family thereby forcing persons to take up responsibilities inappropriate to their roles eg., young children, widowed mother, sister's husband etc. This in turn sets up a chain of longer term loss to society, for example, when children lose out on education and subsequent social upliftment, not to speak of the direct consequences of failure and frustration in such a role change.

Projecting the data obtained at the micro level, we have estimated the social cost of alcoholism in the state of Karnataka given that there are 5 lakh alcohol dependent individuals as deduced from the 3.79% prevalence of alcohol dependence syndrome in the state. External costs include health care provided by the health care system of the state for detoxification and counselling. The cost per person per day in NIMHANS has been calculated at Rs. 600(including establishment costs, salaries and consumables) by the NIMHANS administration. With a mean of 38.42 days per admission and a mean of 2.06 admissions over 2 years, the cost of health care in a year *assuming all alcohol dependent individuals in the state undergo at least one admission in a year* is Rs. 1129.39 crores (this figure has been adjusted for those who pay for their own treatment). Costs of alcohol related medical and surgical problems (data is available for head injury only) amount to Rs. 0.15 crores. Other high risk behaviour is also prominently associated with alcohol misuse. While HIV positive alcoholics are increasingly encountered, the numbers are yet small and undocumented. That too will change. Compare this with the total health and family welfare budget of the state (1995-96) of Rs 469.58 crores. Forgone production, loss of productivity due to sickness, absenteeism and unemployment amount to Rs. 691.18 crores. The data related to alcohol related absenteeism and unemployment was collected from the patients and their relatives and not from employers as not all days of sickness absence will be alcohol related.

Data on social costs of material damage, criminal activities, of reducing external costs and distress to family and friends which also need to be added to external costs are either unreliable or not available, but potentially add up to a substantial amount.

[INSERT TABLE 2. HERE]

The amount accruing as excise from taxation on alcohol consumed by all alcoholics is calculated as (approximately 50% of retail price) Rs 581.52 crores . In fact a rough estimation of the calculable income and expenditure relating to alcohol production, consumption and consequences (Table 2) indicates an annual deficit of Rs. 974.72 crores.

These projections albeit crude, are obtained from very conservative estimates of expenditure on alcohol and loss of productivity secondary to alcohol dependence and make clear the high cost of alcoholism to the individual and the society. It is not the intention to express the net effect of alcohol negatively since one must assume that the consumers obtain pleasure from the activity of drinking alcohol .

The major implication of this study is that it indicates a need for a possible shift in the thinking of the health policy makers of our country.

In a historical perspective, India has had no mainstreams of ideas either in medical or sociological research on alcoholism. The trend during this period is reflected in the preoccupation with prohibition policies, which were interwoven within the freedom movement and finally laid out in Article 47 of the Directive Principles of the Indian Constitution.

One reason is its close association with the political and moral movement reflected in the prohibition approach. Second, it did not appear as an issue of immediate or remote concern in national health policy. Health planners have tended to focus more on immediate problems eg. communicable diseases, nutrition and infections rather than simultaneously planning preventive activities, in problems such as alcohol, road traffic accidents and industrial safety which will bear fruit in decades to come (Mohan & Sharma, 1985).

The dominant prohibition model has its problems. Several State governments have found to their cost that though the prohibition platform is a good electioneering vehicle it is difficult to sustain in the face of mounting fiscal deficits due to loss of excise taxes and the costs of policing prohibition. Powerful underground alcohol economies which have sprung up and toxic forms of alcohol have given rise to terrible illicit liquor tragedies.

The huge profits in the alcohol industry have resulted in the growing power, both financial and political, of the liquor traders. In many places they form cartels and syndicates to monopolise the trade in specific geographic areas. It is widely believed that liquor traders have close links with major political parties and are able to influence the liquor policies of the government.

Side by side, following liberalization of the Indian economy, transnational corporations are currently trying to create markets for their beverages in India, using aggressive worldwide marketing strategies. As experience in other developing economies has shown:

1. The diffusion of European style commercial alcoholic drinks adds to and modifies older patterns of drinking, more than it substitutes, thus tending to increase total consumption and drinking situations.
2. While considerable short term economic benefits accrue from the growth of alcoholic beverage industries, in forms of profit, employment and taxes; at the same time, however, there is a gradual rise of

long-term social and economic costs as a result of alcohol consumption.

3. Attempts by the government to restrict the transnational companies by licensing, joint ventures, sales of technology and similar means are usually ineffectual as these means are shown to be as effective for the corporations as outright legal ownership in exercising influence. (McBride and Mosher, 1985).

With the evidence at hand, and the current social political and economic situation in India, it is not difficult to extrapolate to a situation, where the prevalence of alcohol use will rise to resemble that of 'wet' cultures. This in turn will lead to a sharp increase in alcohol related morbidity and the costs accruing from them. In order to promote rationalizing of health care as opposed to rationing it, informed health planning is necessary.

Much more research is needed on the public health aspects of alcohol for confidence to be placed on cost estimates emerging from the available information. Cost calculation should not be based merely concentrating on a minority of alcohol misusers, with severe enough problems to have come to the attention of health professionals. Moderate drinkers may contribute significantly to the overall social cost in the community. Our figures are extremely crude and conservative and must be interpreted cautiously. The epidemiological evidence on which these costs are based require to be improved. Nevertheless even those conservative estimates suggest that alcohol related problems to the society are of great magnitude. The costs are heavy and place a severe burden on the society's scarce resources, more so in the context of a developing economy.

REFERENCES

- Channabasavanna, S.M., Ray, R. & Kaliaperumal, V. G. (1986) Patterns and problems of non alcoholic drug dependence in Karnataka, 79- 91, Dept. of Health and Family Welfare, Government of Karnataka, Bangalore.
- Grant, B.F., Harford, T.C., Dawson, D.A., Chou, P. et al. (1994). Prevalance of DSM IV alcohol abuse and dependence: US 1992 Alcohol Health and Research World, 18 (3), 243 - 248.
- Government of Karnataka [1999] Basic Excise Statistics State Excise Department,
- Isaac M (1998) Contemporary Trends: India. *In* Alcohol and Emerging Markets, Patterns, Problems and Responses. Grant M (ed.) Taylor and Francis pp 145-176
- McBride, R. & Mosher, J. F. (1985). Public health implications of the international alcohol industry -- issues raised by a World Health Organisation project, Br. J. of Addiction, 80,141-147.
- Mohan, D. & Sharma, H. K. (1985) International review series: Alcohol and alcohol problems research, 6. India. Br. J. of Addiction, 80,351-355.
- Murthy, P.J.N.V. & Benegal, V.(1995) Alcoholism in women. Paper presented at 47th ANCIPS Patna.
- Singh, G. (1986) Epidemiology of alcohol abuse in India . In the Proceedings of the Indo US Symposium on alcohol and drug abuse, (ed) Ray, R. & Pickens, R.W. NIMHANS Publication No. 20, Bangalore.
- Wagstaff, A. (1987) Government prevention policy and the relevance of social costs estimates, Br. J. of Addiction, 82,461-468.
- Walsh B, Grant M.(1985) Public health implications of alcohol production and trade. WHO Offset Publ. (88) : 1-55.
- World Health Organisation (1992) International classification of diseases, 10 th edition, Diagnostic criteria for research (ICD-10-DCR) World Health Organisation, Geneva, 1992.

TABLE 1: SOCIAL COST OF ALCOHOLISM AT INDIVIDUAL LEVEL PER MONTH

PRIVATE COSTS	IN RUPEES
Direct payments	520.72 (1681.33)
Treatment at Pvt. hospitals	no data
Insurance premium	no data
Amount spent on alcohol	1938.40 (1649.82)
other substances like tobacco	239.57 (438.3)
Earnings lost	in external cost
Fines paid	no data
Loans incurred	8388.29 (21447.11)
	11086.88
EXTERNAL COSTS	
Health care provided by state health system Detoxification, counselling etc.	17646.85 (4624.43)
Alcohol related medical/surgical problems	no data
Forgone production/ loss of productivity due to sickness, absenteeism, unemployment	1151.97 (2183.7)
Distress to family and friends	no data
Social costs of material damage	no data
Criminal activities	no data
Costs of reducing external costs	no data
	18798.82
TOTAL MONTHLY COST	29,885.80

TABLE 2: SOCIAL COSTS OF ALCOHOLISM (PROJECTED TO THE POTENTIAL 5 LAKH ALCOHOLICS IN THE STATE)

Income	Rs. Crores	Expenditure	Rs. Crores
Excise revenue from		Health care provided by state for	
- alcoholics	581.5	alcoholics	1147.48
- alcohol users	264.5		
Total excise revenue	846.00	Alcohol related medical/surgical	
Direct payments for		problems (incomplete)	0.15
health services	18.09		
	864.09	Forgone production/ loss of	
		productivity due to sickness,	691.18
		absenteeism, unemployment	
<i>Deficit requiring to</i>		Distress to family and friends	na
<i>be filled up from</i>		Social costs of material damage &	
<i>general</i>	974.72	criminal activities	na
<i>taxation pool</i>		Costs of reducing external costs	na
	1838.81		1838.81