HEALTH AWARENESS VERSUS ECONOMIC AFFLUENCE AS DETERMINANTS OF HEALTH STATUS : A COMMUNITY BASED EPIDEMIOLOGICAL ANALYSIS

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ABSTRACT

A community-based cross-sectional analytic epidemiological study was undertaken to compare the health status of school children from two villages and to see the association of the school children's health status with the level of health awareness among parents and teachers. The two villages had only one major difference, i.e., one had an agriculture-based economy and was more affluent than the other village. The study, however, revealed that the overall morbidity and nutritional deficiencies were significantly less ($p < 0.01$) and immunization status significantly better ($p < 0.01$) among school children of the less affluent village, possibly because level of health awareness was significantly higher among parents and teachers of this village as compared to the more affluent one ($p < 0.01$). The importance of health education has been reinforced by this study.

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KEY WORDS : Health status; Health planning; Health education.

Introduction

The general feeling among health functionaries is that improved economic development will lead to a betterment in health status. While this fact is undeniable, the feeling it generates tends to push the desirable steps like health education to the back-benches. In fact, today, health education seems to be thought of as an exclusive duty of preventive health functionaries.

One of the most sensitive indicator of the health standards of a community is the health status of the under-fives as well as school children [1]. The present study, therefore, tested the hypothesis that health awareness, rather than economic affluence, is the more important determinant of health, as judged by the health status of school children.

Material and Methods

The study design was that of a cross-sectional, correlational (ecologic) analytic approach undertaken in the field based community settings of two villages (Karde and Jawla) in Maharashtra. These two villages lie close to each other, equidistant (20 km) from a Rural Health Training Centre, and are similar to each other in respect of various demo-

graphic, geographical and topographical variables except for some major socio-economic differences, i.e., Jawla is predominantly agricultural village, with plenty of agricultural yield and overall better socio-economic status, while Karde has very little agricultural output, the inhabitants mainly rely on poorly paid jobs for livelihood, and the general economic status is much lower than Jawla. However the adult literacy level is better in Karde as depicted in Table 1. Both the villages have a school each which caters almost exclusively to the children of that particular village.

Sample size was calculated using a two-tailed type I error of 0.05, type II error of 0.20, the expected general morbidity among those with adequate knowledge as 20 per cent (approximately) and with a view to detect an Odds Ratio (OR) of at least two times among those with inadequate knowledge to be of public health relevance, a minimum sample size of 183 in each group was required [2]. It was decided to study a larger sample, to reduce the random error, by studying the entire population of school children in both villages. The sampling method was that of 'total population sample' for studying morbidity among

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school children, while for the purpose of assessing health awareness of adults (including school teachers), systematic random sampling was undertaken. Data collection was done, using a questionnaire, by well-trained workers (post-graduate medical students). The questionnaire and data collection techniques were standardized and pretested through a pilot study. Data collection extended from 2nd January to 15th January 1995. The criteria for assessing the level of various nutritional

deficiencies and immunization coverage was as per guidelines in standard texts [1], using a quick clinical survey, which was considered appropriate for a large scale study of the present type.

Results

Comparison of socio-economic profile (Table-1): From the data obtained from governmental sources, it was observed that there were significant differences as regards adult literacy, adult occupation, and the economic status of the two villages. The adult literacy in Karde was significantly higher. On the other hand, the economic status and occupational status was significantly better among village Jawla. The male : female ratio of school children in both the villages was similar (53 : 47).

Overall morbidity (Table - 2): It was observed that 78.9 per cent of the children in Jawla showed some or the other disease condition as compared to 59.5 per cent from Karde. The OR was 2.55 and with 95 per cent confidence interval (CI) of 1.72 to 3.80, it was found to be highly significant.

Nutritional deficiencies (Table - 3) : Over 50 per cent school children from Jawla had clinical evidence of various forms of malnutrition as compared to under 30 per cent from Karde. The odds of a school child from Jawla being found malnourished were more than two and a half times as compared to Karde. The odds were highly significant.

Immunization status (Table - 4) : As compared to 55.4 per cent children who were adequately immunized in Jawla village, 67.9 per cent were adequately immunized in Karde. The odds of inadequate or absent immunization were 70 per cent higher for Jawla as compared to Karde, the finding being statistically significant.

TABLE 1

Comparison of the two villages as regards socio-economic indicators

	Village Karde	Village Jawla	p value
Adult literacy			
Literate	1433 (52.1%)	2174 (50.3%)	< 0.05
Illiterate	1319 (47.9%)	2148 (49.7%)	
Total	2752 (100%)	4322 (100%)	
Adult occupation			
Petty agro labourer	955 (34.7%)	1092 (25.3%)	< 0.001
Agro land owner	217 (7.9%)	591 (13.7%)	
Other workers	183 (6.7%)	300 (6.9%)	
Non-workers	1397 (50.7%)	2339 (54.1%)	
Total	2752 (100%)	4322 (100%)	
Economic status of house-holds			
Monthly income > Rs. 300 per capita	86* (16.7%)	211* (27.0%)	< 0.001
Monthly income < Rs. 300 per capita	428* (83.3%)	570* (73.0%)	
Total	514* (100%)	781* (200%)	

TABLE 2

Comparison of overall morbidity among school children of the two villages

Overall morbidity among school children	Village				Total	
	Jawla		Karde		No.	(%)
	No.	(%)	No.	(%)	No.	(%)
Diseased	221	(78.9%)	154	(59.5%)	375	(69.6%)
Not diseased	59	(21.1%)	105	(40.5%)	164	(30.4%)
Total	280	(100%)	259	(100%)	539	(100%)

Chi square = 24.09; df = 1; p < 0.001; OR = 2.55, (95% CI = 1.72 - 3.80)

TABLE 3

Comparison of nutritional deficiencies among school children of the two villages

Nutritional status of school children	Village				Total	
	Jawla		Karde			
	No.	(%)	No.	(%)	No.	(%)
Malnourished	144	(51.5%)	76	(29.4%)	220	(40.8%)
Normal	136	(48.5%)	183	(70.6%)	319	(59.2%)
Total	280	(100%)	259	(100%)	539	(100%)

Chi square = 27.17; df = 1; $p < 0.001$; OR = 2.55, (95% CI = 1.76 - 3.70)

TABLE 4

Comparison of immunization coverage between school children of the two villages

Immunization coverage among school children	Village					
	Jawla		Kardc		Total	
	No.	(%)	No.	(%)	No.	(%)
Inadequately/Not covered	125	(44.6%)	83	(32.1%)	208	(38.6%)
Fully covered	155	(55.4%)	176	(67.9%)	331	(61.4%)
Total	280	(100%)	259	(100%)	539	(100%)

Chi square = 9.01; df = 1; $p < 0.001$; OR = 1.71, (95% CI = 1.81 - 2.47)

TABLE 5

Comparison of respiratory infection among school children of the two villages

Respiratory infection among school children	Village				Total	
	Jawla		Karde			
	No.	(%)	No.	(%)	No.	(%)
Present	70	(40.0%)	59	(22.8%)	129	(23.9%)
Absent	210	(60.0%)	200	(77.2%)	410	(76.1%)
Total	280	(100%)	259	(100%)	539	(100%)

Chi square = 0.36; df = 1; $p > 0.05$ (not significant); OR = 1.13, (95% CI = 0.75 - 1.71)

Respiratory tract infections (Table - 5) : While a higher proportion of children were found to have suffered respiratory infections during past one month in Jawla as compared to Karde, the difference was not statistically significant.

Vitamin - A deficiency states (Table - 6) : It was seen, interestingly, that while the various health parameters as described above indicated a much better health situation among school children of Karde as compared to Jawla the prevalence of vitamin A deficiency was found to be much higher (10.4%) in Karde as compared to Jawla (1.8%). The difference was statistically significant.

State of health awareness (Table - 7) : Assess-

ment of health awareness regarding causation, symptomatology, first aid and prevention of common diseases, undertaken on random sub-samples of parents and school teachers from the two villages revealed that the awareness was significantly higher in Karde village (84.3%) as compared to Jawla (60%) ($p < 0.01$).

Discussion

The findings of the present study are in contrast with the general feeling among health circles that better economic status would necessarily lead to improved health status. While the economic status of Karde was inferior to Jawla, the health status of

TABLE 6

Comparison of school children of the two villages as regards vitamin A deficiency

Vitamin A deficiency among school children	Village				Total	
	Jawla		Karde			
	No.	(%)	No.	(%)	No.	(%)
Present	5	(1.8%)	27	(10.4%)	32	(5.9%)
Absent	275	(98.2%)	232	(89.6%)	507	(94.1%)
Total	280	(100%)	259	(100%)	539	(100%)

Chi square = 16.47; df = 1; $p < 0.001$; OR = 0.16, (95% CI = 0.05 - 0.44)

TABLE 7

Comparison of health awareness among parents and teachers of the two villages

Health awareness among parents and teachers	Village					
	Jawla		Karde		Total	
	No.	(%)	No.	(%)	No.	(%)
Adequate	39	(60.0%)	59	(84.3%)	98	(72.6%)
Inadequate	26	(40.0%)	11	(15.7%)	37	(27.4%)
Total	65	(100%)	70	(100%)	135	(100%)

(5 subjects from each of the two villages were teachers)

Chi square = 9.99; df = 1; $p < 0.01$; OR = 0.28, (95% CI = 0.11 - 0.67)

school children of Karde was found to be significantly better as regards overall morbidity, nutritional status and immunization status. The putative reason for this unexpected finding are possibly the significantly better level of health awareness among parents and teachers of Karde as compared to Jawla, and possibly, a higher level of adult literacy in Karde, compared to Jawla.

The findings of the present study as regards morbidity status, nutritional status, and specific causes of morbidity are in general agreement with other studies undertaken on school children in India [3-7]. The better status among children of Jawla regarding vitamin A related conditions was possibly because of the increased availability of carotenoid rich foods available in this village, consequent to better agricultural yield.

The present study thus highlights the importance of health education. Health awareness is no less important than economic improvement for improving health status.

It is recommended that providing health education to our clientele be taken up as a duty by all in the medical profession rather than being consid-

ered as an isolated function of preventive health services. Such steps, along with concerted steps towards school health services, are likely to produce quick results in a reasonably foreseeable future and in a very cost effective manner.

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