

INDIA'S HUMAN DEVELOPMENT: GAPS AND PROSPECTS

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ABSTRACT

While initiation of worldwide debate on human development dates back to early 1960s, India's first-ever human development report was released in 2002. After the release of the first human development report, states are now bringing out their own human development reports and healthy competition is observed among the states to improve their human development' status. As a result, human development suddenly attained 'high politics' status in India and policy-makers, academicians, professionals, politicians, community groups, media, and the public alike actively discuss human development. In this context, this paper analyses the status of human development and its future prospects in India.

Results indicate that human investment is a worthy investment. Besides, yielding higher and sustainable returns; it also contributes to human well-being. India has made a healthy progress in human development during 1981-2001, her HDI increased by 56 per cent during this period. However, wide disparities exist across the states, Kerala would rank 11th with China whereas Bihar would go with Bhutan (100th). Bihar may take another 2 or 3 decades to match the progress made by Kerala in 1980. Nevertheless, states are narrowing down their differences among each other so much so that Tamil Nadu might even overtake Kerala by 2018.

Keywords: Human development index (HDI), Human investment, Life expectancy, Education, Standard of living and Gross domestic product (GDP).

Human development, a process of enlarging people's choices, is an important and fast growing area of debate world over. Started in early 1960s, the debate gained momentum after the publication of the 1st Human Development Report in 1990 by the United Nations Development Programme^{1,2}. In India it may be said that the debate was initiated in 1992 alongside the discussion for 73rd and 74th Constitutional Amendments but gained pace and substance only during

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the 9th Five-Year Plan (1997-2002). Subsequently, India released its first-ever human development report in 2002³. The National Human Development Report analyses human development trends in India and Indian states during the last two decades of the previous century. Going through the report and the 10th Five-Year Plan document, which discusses human development at length, one gets an impression that India is moving towards a model of 'growth through development', a major shift away from earlier approaches of 'growth with development' and 'growth first, development next'⁴. Today, policy makers, academicians, professionals, politicians, community groups, media and the public actively discuss human development. This paper analyses the current status and future prospects of human development in India.

Economic puzzles

Start of the human development debate can be traced back to 1960s when it was shown that classical economic thinking was inadequate to resolve the economic paradoxes and puzzles about the dynamic economic growth that existed then¹. The puzzles were identified as:

- Why does the national output in developed countries grow faster than the growth of land, man-hours and reproducible capital?
- Why does a country/state so blessed with natural resources find itself in bad shape?
- Why do many countries/states absorb additional external capital slowly and gradually?

If one tries to analyse the pattern of productivity and earnings across or within countries, not only nations but also their population sub-groups show greater variation in productivity and earnings^{3,5-10}. For instance, though Indian states like Bihar and Orissa are rich in natural resources, they are economically very poor and placed at the bottom of the HDI ladder. Similarly, states like Tamil Nadu, Karnataka and Maharashtra are able to attract more foreign direct investment (FDI) in comparison to other Indian states.

Solving the Puzzles

Although there could be several factors that determine the economic status of a state, region or a community, the bottom line is that those nations/states that are good in education and health attract more foreign direct

investment and grow faster than their counterparts: In other words, differentials in productivity or earnings correspond with differentials in education and health. The curves relating to income and age tend to be steeper for skilled than unskilled persons¹. According to Shultz¹, the economic puzzles can be resolved once we understand the role of human development in the economic growth of a state. The unexplained portion of economic growth, he argues, can easily be explained once we have information about the investment in health and education. Shultz further continues that all forms of human development can be termed as investment in human capital'. Obviously, he views investment in health and education as a means to achieve the end i.e. economic growth.

Researches provide clear evidences of the economic benefits of improving health,¹¹. A major result is that survival rates or life expectancy are powerful predictors of income levels or of subsequent economic growth. Economic historians have concluded that 30 per cent of the estimated per capita growth rate in Britain between 1780 and 1979 was a result of improvement in health and nutritional status of its populace, This figure lies within the range of estimates, produced by several cross-country studies during the last 30-40-years, Studies have also found evidences of economic growth being influenced by improvement in health through demographic transition^{12,13}. Due to rapid improvements in the health sector in East Asia in the 1940s, the working age population began growing, much faster than the young dependent population. This bulge in the age structure of the population created an opportunity for increased rates of economic growth. Asian Development Bank also showed that one-third to half of the economic 'miracle' that took place in East Asia was a result of its changed demography, occurred between 1965 and 1990. In other words, the interaction of exogenous demographic changes with human and physical capital development could lead to, a virtuous cycle of growth enabling a country to break free a poverty trap. It was also noticed that some countries which had suffered severe destruction of plant, and equipment during the war were able to recover rapidly¹.

Like macro studies, some micro studies too brought out the link between better health and income/economic growth of households and individuals^{1,4}. In Indonesia, for instance, men with anaemia were found to be 20 per cent less productive than men without it. The effect was found to be the greatest for the poorest and those with the least education. Similarly, ill health contributed to continued poverty in Cote d'Ivoire and Ghana¹⁵. Researchers also found that the total indirect cost of loss of productivity in Thailand as a result of morbidity associated with treated and untreated cases of tuberculosis was \$ 57 million' (Rs.2.74 billion).

What do We Mean by 'Human Development'?

Human development is a process of enlarging people's choices and raising their standard of living. It brings together the production and distribution of commodities, and the expansion and use of human capabilities. Unlike earlier development approaches, human development approach analyses all issues in society viz. economy, trade, employment, political freedom and culture-from people's perspective. Hence, it focuses on enlarging people's choices. People should participate in the development process to have its benefit. Because the real wealth of a nation is its people and the purpose of human development is to create an enabling environment for people to enjoy long, healthy and creative life¹⁶.

There are four major elements in the concept of human development namely; productivity, equity, sustainability and empowerment.

Economic growth is a subset of human development model because people must be enabled to increase their productivity and participate fully in the process of income generation. While raise in income is clearly an option for human development, it is not the sum-total of any developmental process. People must have a basket of choices for everything but simply not just only income. In other words, economic¹ growth must be combined with equitable distribution of its benefits. Equity requires that people have access to equal opportunities so as to have maximum benefit. The third dimension is that-access to opportunities must be ensured not only for the present generation but also for future generations. Finally, empowerment means that development process should be people-oriented and shouldn't be for a specific group of people or community. All people, men and women and rich and poor must be empowered to participate in the design and implementation of key decisions that shape their lives. Human development has two sides, formation of human capability and productive use of the acquired capability. It is essential that both these sides be properly balanced.

Means or an End?

Developing human capability requires investment on human beings. So, economists call 'human beings' as 'human capital'. According to this approach, labourers become capitalists, through the acquisition of health, knowledge and skill large differences in earnings between individuals reflecting the differences in health and education are cited as examples of human capital. Those who are in poor health and have no schooling are found to earn very little in comparison to

those who are in sound health and receive higher education. Thus, differences in the amount of human investment for nutrition, health, education, migration etc. explain the difference in earnings.

But, welfare economists question this approach. They ask, is it ethical to treat human beings as capital? If human beings are capital goods, they argue, then it will lead to slavery and bondage. Theory of human capital may then be considered as reducing 'human beings' to mere 'material components'. Therefore, people should not be viewed as wealth because wealth exists for the sake of the people. Consequently, human development should be seen as an end in itself and need not be seen as means to achieve an end¹⁶. They argue that health and education do much more than producing human capitals. Human capital theory, they say, segments the work-force and legitimates economic inequality by providing open, objective, and meritocratic mechanism for assigning individuals to unequal occupational positions. Those who argue in favour of human capital approach counter this. According to them, it is ethical because by investing in themselves, people can enlarge the range of choices available to them and enhance their welfare. So, there are two schools of thought on human development; viz. one views it as 'means' and the other looks at it as an 'end'. The meeting point for these two schools, perhaps, is the human development itself.

Human Investments

Several forms of existing human investments lead to an improvement in human development are as given below;

- Expenditures that improve life expectancy, strength, stamina, vigour and vitality of people,
- On the job training,
- Formal education,
- Extension programmes for adults, and
- Migration of individuals and families.

Health activities have both quantitative and qualitative implications which not only enhance the life expectancy of the people but also improve their quality of life. Similarly, on the job training is a form of human investment and it reduces the net earnings at the beginning but raises them later on. Likewise, extension programmes for adults especially in agriculture and farming resulted in improved earnings. Cost of migration is also cited as a case of human investment because young men and women are seen to move readily than older workers. Young

people have more years ahead of them than older workers during which they can realise on such an investment.

As it can be seen, many forms of human investments lead to qualitative improvements such as well-being and skill. So, it is difficult to quantify the effect of human investment. Given the nature of human investments, another challenge is there to distinguish between expenditure for investment and consumption. For instance, expenditure on food and nutrition can be termed as an investment in developing countries while the same expenditure in rich countries assumes the shape of consumption. Hence, it is difficult to measure human investment by its cost. It is often known by its yield¹. Any increase in earnings as a result of human investment may be regarded as the yield on human development. As cited earlier, several studies in the past have consistently brought out the strong positive association between human investments and economic growth both at the micro as well as at macro levels¹¹⁻¹⁵.

UNDP Report and Index

Both human capitalists and" welfare economists agreed on one aspect that people must be the nucleus of growth or development. It took 30 years to realise that people are an essential component of growth and development. The publication of the first Human Development Report in 1990 by United Nations Development Programme (UNDP) helped put people at the centre of development. The annually published Human Development Reports of UNDP provide a global assessment of human progress. As a part of the Human Development Report exercise, UNDP developed the Human Development Index (HDI) to reflect the most important dimensions of human development.

Although people's choices can be infinite and can change over a period of time, following three essential features of human development were identified for the purpose of determining and measuring the HDI; (i) long and healthy life, (ii) knowledge or education, and (iii) access to resources for decent standard of living.

HDI includes three indicators to reflect, these three features of human development- life expectancy, educational attainment and real Gross Domestic Product (in purchasing power parity dollars). For most of the individuals, a reasonably lengthy and healthy life span is an important attribute of personal well-being. On the other hand, education is an important means to improve personal endowments, build capability levels and overcome constraints. *Ceteris paribus*,

those with knowledge, skill and better health lead a better quality-of life. Another crucial attribute for an individual is his/her command over resources. It determines his/her sustenance and attainment of well-being. A composite index such as the HDI incorporating these three aspects was thought to be critical-to capture the process of human development and well-being. As a result, HDI was born.

HDI is a simple composite index assumed to subsume various other dimensions of human development such as human rights, freedom, democracy, etc. For developing HDI, fixed minimum and maximum values have been established for each of the indicators corresponding to the essential features of human development. Those values correspond to the world's worst and best figures with respect to the respective indicators. For instance, no country has a life expectancy below 25 years or above 85 years; Ethiopia men had the world's lowest life expectancy of 41.4 years in 1999 while Japanese women had the highest of 84.3 years¹⁷. Individual indices of HDI components are given as:

$$\text{Index} = \frac{\text{Actual value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

For instance, lifeexpectancyindex in 2001-for India can be computed as

$$\text{Life Expectancy Index for India (2001)} = \frac{61.1-25}{85-25} = 0.602$$

Similarly; we can construct adult literacy index and combined enrolment index. These two education indices are combined to arrive at the educational attainment index. In the educational attainment index, adult literacy index gets two-third weightage while combined enrolment index receives one-third. The construction of the income index is little more complex. The HDI adjusts real income for the diminishing utility higher levels of income to human development. The premise here is that people do not need an infinite income for a reasonable standard of living. So, the HDI defines a threshold for income regarded as adequate for a reasonable standard of living.

National Human Development Reports

Ever since the release of Human Development Report and development of Human Development Index in 1990 by UNDP, countries started to sit back and

rethink their development strategies. So, there has been a paradigm shift in their approach to growth and development towards people-centric policies. The realisation now is 'what is the meaning' of development if it is not translated into the lives of the people?' Countries such as Bangladesh, Egypt, Ghana, Pakistan and the Philippines are the first few nations that picked up the momentum early and brought out their own development reports in the mid-1990s. As a result, it was possible for them to take an early advantage of moving towards a two-legged human development approach from one-legged growth approach. While other countries released their human development reports during the mid-1990s, India has launched its first-ever human development report in 2002³. The influence of human development report 2002 is visible in the draft 10th Five-Year Plan document⁴. Following the nation, several Indian states either have released their own human development reports or are in the process of preparing it.

Preparation of human development reports and developing human development indices force the stakeholders at various levels to discuss social issues concerning the common man. As a result, human development has become an important issue. It has already entered into the top-level policy-making process. The press also devotes a considerable time to discuss on how to achieve and sustain human development. HDI has also led to healthy competition between countries and among the states within the country to improve their human development. New growth-theory is emerging now even at the lowest level.

Status of Human Development in India

India achieved a steep increase in human development during her first 50 years of independence. All the three components of HDI registered a phenomenal growth during this period. Started as a nation with poor GDP base and negative or zero growth at the time of independence, India has progressed as the best performing nation in Asia by 2000¹⁸. Similarly, the second component, life expectancy has nearly doubled from about 32 years in 1947 to 61.1 years in 2001^{19,20}. Unlike other nations, the take-off in life expectancy in India preceded its economic growth. The third component, literacy rate went up by more than three times from 18.3 per cent in 1951 to 65.2 per cent in 2001³. Gross enrolment ratio reached 94.9 per cent in 1999-2000 while the dropout rate from schools came down from 65 per cent in 1960-61 to 40 per cent in 1999-2000.

As mentioned earlier, India's first-ever National Human Development Report (NHDR) was released in 2002 but the year of reference was 2001³. The

major objective of this report was to bring about certain conceptual and methodological consensus on the use of human development approach in the country in general and the framework for identifying indicators and building composite human development indices at the state level in particular. The whole idea was to develop a core set of indices that reflect the common concerns, social values and development priorities of all the Indian states. In the process, it permitted a meaningful comparison of the human development status across the states.

The report used the same basic framework of the HDI formulated by UNDP that includes health, education and economic attainments²¹. But, it fine-tuned each component of the index to incorporate certain changes to reflect inter temporal and inter-spatial differences, and to track developmental changes at more frequent intervals. As indicated in Table 1, NHDR used life expectancy at age 1 combined with Infant Mortality Rate (IMR) to indicate longevity as opposed to the UNDP indicator of life expectancy at birth. Similarly, NHDR replaced enrolment ratio with intensity of formal education (based on current enrolment rates at successive classes) and real per capita GDP with real consumption expenditure.

The social valuation and development priorities were taken into account while finalising the scaling and weightage of each component. The report used a normative approach rather than using the empirical basis to derive the appropriate weights for each sub-index. Accordingly, life expectancy was given a weightage of 65 per cent (100% by UNDP) while IMR took the remaining 35 per cent (0% by UNDP) in shaping the health attainment index. Similarly, literacy rate was given a weightage of 35 per cent (67% by UNDP HDI) while intensity of formal education received a weightage of 65 per cent (33% by UNDP HDI) in the development of educational attainment index'. Economic attainment was solely (100%) represented by real consumption expenditure. The maximum and minimum values on the scale for each component were such that they supported inter-temporal comparison for a reasonable period of time starting from 1980.

TABLE 1
HUMAN DEVELOPMENT INDICATORS OF
UNDP AND NATIONAL HUMAN DEVELOPMENT REPORT

Human Development . Component	UNDP Indicator	NHDR Indicator
Longevity	Life expectancy at birth	Life expectancy at age 1 and Infant Mortality Rate
Education	Adult Literacy Rate combined with Enrolment Ratio	7+ Literacy Rate and intensity of formal education
Economy	Real per capita GDP (Purchasing Power Parity Dollars)	Per capita real consumption expenditure adjusted for inequality:

HDI was estimated at the national level, for all the States and Union Territories, and separately for rural and urban areas for the periods 1981-83, 1991-'93 and 1999-2001. At the national level, the HDI which takes a value between 0 (worst) and 1 (best), has increased 56 per cent during 1981-2001 from 0.302 in 1981 to 0.472 in 2001 (Table 2). As per the index, human development at the national level has improved significantly between 1980 and 2001. While the HDI improved by 26 per cent (from 0.302 in 1981 to 0.381 in 1991) during the 1980s, the rate of improvement was 24 per cent (from 0.381 in 1991 to 0.472 in 2001) during the 1990s. Although significant, the growth in human development cannot be termed as noteworthy for two reasons. First, India started with a poor human development base of 0.302 in 1981 and higher rate of growth is always achievable with a lower base. Second, India's relative-position in the world vis-a-vis human development has not changed much during 1980-2001 (or at least since 1990 when human development-index was first developed and released). There has been an improvement in human development both in rural and urban areas, and urban-rural difference too has narrowed down to some extent. The ratio of urban to rural HDI has declined from 1:7 during the 1980s to 1.5 during the 1990s. But the fact is that urban areas are still having a statistically significant HDI which is 50 per cent higher than the rural areas.

Data depicted in Table 2 reflect wide disparities in the level of human development between the states. While the human development in states like Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Punjab and Tamil Nadu have

done well consistently over the last two decades, Andhra Pradesh, Assam, Bihar, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal have the level of human development below the national average. But Bengal's HDI became exactly the same with the national, figure. Continuously Bihar has been the worst state in terms of human development whereas Andhra Pradesh and Assam slipped down in the human development rankings by one and four places respectively in the 2001 HDI as compared to the 1991 HDI. Among the better performing states too, Gujarat lost her relative position by two and Karnataka and Maharashtra each lost their positions by one. On the other hand, Madhya Pradesh, Rajasthan and Tamil Nadu improved their rankings by two, three and four places respectively. Tamil Nadu's improvement is phenomenal and is poised for greater achievements in future too. Like Bihar (15th), states such as Haryana (5th), Kerala (1st), Orissa (11th), Punjab (2nd), Uttar Pradesh (13th) and West Bengal (8th) retained their earlier rankings.

TABLE 2

HUMAN DEVELOPMENT INDEX OF INDIAN STATES IN 1981, 1991 AND 2001

State	Human Development Index		
	1981	1991	2001
1. Andhra Pradesh	0.298	0.377	0.416
2. Assam	0.272	0.348	0.386
3. Bihar	0.237	0.308	0.367
4. Gujarat	0.360	0.431	0.479
5. Haryana	0.360	0.443	0.509
6. Karnataka	0.346	0.412	0.478
7. Kerala	0.500	0.591	0.638
8. Madhya Pradesh	0.245	0.328	0.394
9. Maharashtra	0.363	0.452	0.523
10. Orissa	0.267	0.345	0.404
11. Punjab	0.411	0.475	0.537
12. Rajasthan	0.256	0.347	0.424
13. Tamil Nadu	0.343	0.466	0.531
14. Uttar Pradesh	0.255	0.314	0.388
15. West Bengal	0.305	0.404	0.472
All India	0.302	0.381	0.472

(Source: Government of India 2002)

Inter-state disparity in human development in India is so wide that Haryana, Maharashtra, Punjab and Tamil Nadu attained the level of human development in 2001 what was achieved by Kerala way back in 1981. Some other states might take another two or three decades to reach that level. While Kerala can be ranked 111th in the world along with countries like China, Bihar would rank 160th along with Bhutan¹⁶. Only 14 countries have lesser level of human development in the index ladder than that of Bihar. However, the report states that differences in human development across the states have come down during the period 1980-2001. The report also states that the inter-state differences in human development are smaller than the inter-state differences in per capita state domestic product.

Kerala's Dominance

Among the Indian states, Kerala, with a population of 3.184 million, is the torchbearer of human development which has placed itself on top of the list of HDI. Kerala's success in terms of human development is fondly cited as 'Kerala Model of Development' as the state's development experience departs significantly from the traditional models of economic development²². It shows that even at low levels of economic development, basic needs can be met through appropriate redistribution strategies.

The entire world is keen to know and analyse Kerala's progress in human development, as it remains a mystery that how Kerala with a not-so-impressive per capita Net State Domestic Product (NSDP), which is equal to the GDP of many poor nations and not different from many Indian States, attains better human development index which are similar to that of some of the developed nations?. The state is characterised by the co-existence of a good quality of life with the almost stagnant economy due to slow agricultural and industrial growth. In other words, Kerala showed that even at low levels of economic development, basic needs of the population could be met through appropriate redistribution strategy. Hence, Kerala is looked up on as a 'model' for other states and nations. Yet, some may argue, that Kerala's development experience is a unique model and it would be difficult for other nations or states to replicate it as the model has socio-cultural, political and historical roots.

Whether replicable or not, the mystery continues and Kerala continues to dominate the human development scene in India. The dominance is so apparent that Kerala's HDI is 35.2 per cent higher than the national average and 73.8 per

cent higher than that of Bihar³ Kerala stands out among the Indian-states with respect to major human development indicators such as life expectancy, crude birth rate.(CBR), crude death rate (CDR), infant mortality rate (IMR) and, literacy rate. Kerala has also sharply reduced deprivation and absolute poverty. At present, only 12.72 per cent of Kerala's population is below the poverty line while the national average is 26.1 per cent.

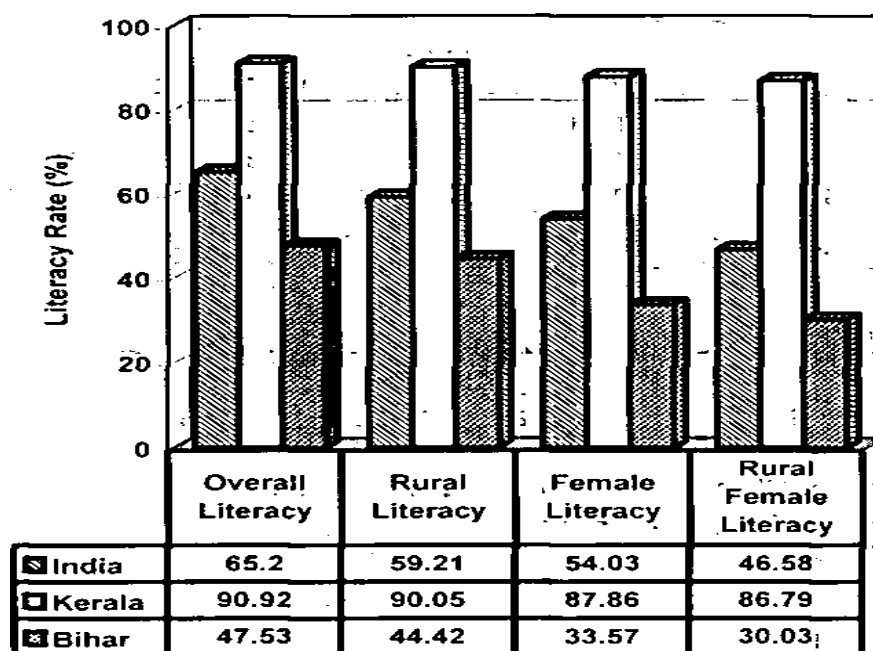
Kerala's life expectancy is 73.3 years in 2001 which is 12.2 years higher than the national average and 18.1 years higher than Madhya Pradesh²⁰⁻³. Similarly, Kerala achieved the replacement-level of fertility²³, i.e a Total Fertility Rate (number of live births a woman is expected to deliver during the reproductive age of 15-49 years) of 2.1 by 1996-97 even when the Indian average was 3.4. Total Fertility Rate (TFR) in Kerala³ was 1.8 in; 2001. Kerala also had the least crude death rate (per thousand population) in 1997. Kerala's crude death rate of 6.2 was 1.7 less than the national average and 4-8 less than Madhya Pradesh which means that Madhya Pradesh had 77.4 per cent higher death rate than that of Kerala.

Kerala is on the top in reducing IMR as well. Kerala's IMR in 2001 was 42 in comparison to the Indian average of 77; and IMR in Madhya Pradesh was 216.7 per cent higher than that of Kerala. In fact, Kerala's IMR has been below the national average²⁴ ever since 1911. Although Kerala had an IMR lower than the national average all the way, what is noteworthy has been its progress over the years. The pace of Kerala's progress with regard to IMR can be judged from the fact that the gap between Kerala and rest of India has been widening over the years so much that the difference in IMR between Kerala and the national average rose from 12.9 percent in 1911 to 80 percent²⁰ in 2001. Health professionals attended 94.1 per cent of births in Kerala in 1998-99 while the proportion was only 42.3 per cent at the national level and a mere 21.5 per cent in Assam³. The difference between Kerala and other states is much wider if we separate out rural areas. Health professionals attended 92.8 per cent of rural births in Kerala in 1998-99 compared to 33.5 per cent at the national level and 18.9 per cent in Assam,

Literacy is another area of domination by Kerala. Figure-1 reveals that Kerala had a literacy rate of 90.92 per cent in 2001 which was 1.4 times higher than the national average and 1.9 times more than the literacy rate of Bihar. Kerala's dominance is complete when the second-best state Maharashtra lies below Kerala by 13.7 per cent i.e. Maharashtra achieved 85 per cent of what

Kerala has attained. Kerala's achievements are truly remarkable if we analyse "the female and rural literacy. Kerala's dominance in female literacy in 2001 was 1.6 times higher than the national average and 2.6 times more than Bihar which lied at the bottom of the list on female literacy. Similar^ rural literacy in Kerala was 1.5 times higher than the national average and 2.1 times more than that of Bihar.-

Figure 1
Literacy Rates in India, Kerala and Bihar



Rural-urban difference in the literacy rate in 2001 was only 3.33 percent in Kerala while it was 20.85 per cent at the national level and 28.29 per cent in Bihar. This indicates that the rural literacy rate in Bihar was 28.29 per cent less than the urban areas. Rural literacy rate in Kerala was double of the rural literacy rate of Bihar and 200 per cent higher in the case of rural female literacy. Maximum literacy attained for any group of people (here urban men) was 96.07 per cent in Kerala while the national highest national average was 86.42 per cent and Bihar's highest was 80.8 per cent. The difference between Kerala and Bihar was 15.27. On the other hand, Kerala's lowest literacy rate was 56.76 per cent higher than

Bihar's lowest literacy rate. Hence, Kerala's real achievements in literacy are visible in rural areas, especially among the rural women. The variation in literacy rate between the best and the worst groups within the state was minimum in Kerala compared to the rest of India. For instance, the difference between the maximum (urban men) and minimum (rural women) literacy rates was 9.3 percent in Kerala, 39.84 per cent in India and 50.5 per cent in Bihar.

Future Prospects

While Kerala had a glorious past and dominant present, the positive side is that the difference between Kerala and other states is coming down over a period of time. This would help India achieve a higher overall growth in human development in the years to come. On the other hand, other states have a lot to learn from Kerala. However, questions are now being raised regarding Kerala's future human development prospects²⁵; Will Kerala improve its level of human development and sustain its human development dominance? Recent economic stagnation, growing unemployment and an acute fiscal crisis in the state have raised serious doubts about the sustainability of the Kerala Model. The fact that Kerala has not translated its human development achievements into comparable material production only adds doubts to the fear. If we closely look at the absolute level of human development in Kerala, one would realise that Kerala has not hit the ceiling yet and there is definitely scope for further improvement. Kerala's HDI of 0.638 falls short of both the theoretical (1) and practical (0.96) maximum. There are 110 countries in the world that are having an HDI which is more than that of Kerala. Hence, Kerala cannot remain complacent.

While one may describe 'Kerala Model' as a mystery to the nation or the world, Kerala itself is confronted with a mystery. Why has it not been possible for Kerala to attain an HDI of 0.9 though all the major human development indicators in the state have nearly touched the ceiling?

Countries with similar levels of human development indicators have much higher human development index than that of Kerala: Portugal, for instance, with a life expectancy rate of 74.6 years and adult literacy rate of 89.6 percent had an HDI of 0.89 in 1997. Similarly, Bahrain had an HDI of 0.87 even when its life expectancy and adult literacy rates were less than that of Kerala. Panama, another country with similar life expectancy and adult literacy rates as that of Kerala, had an HDI of 0.864. Many other countries such as Brazil, Bulgaria, Columbia, Cuba, Fiji, Indonesia, Kuwait, Malaysia, Mauritius, Mexico, Mongolia, Peru, Qatar; South

Africa, Sri Lanka, Turkey and Venezuela though have similar or less life expectancy and adult literacy rates as that of Kerala but have a higher HDI than Kerala. In other words, Kerala lags behind these countries in some aspects of human development. If we have a closer look at Kerala's progress, it has been highly imbalanced in favour of a few human development indicators such as life expectancy rate, IMR and literacy rate. There are other areas of human development such as economic growth or income generation, employment, human poverty and gender equality in which Kerala lags behind. Further improvement in human development index in Kerala would depend on how it progresses in these areas.

Nevertheless, past trends in human development suggests that Kerala is still moving ahead. Kerala had a positive, human development growth during 1981-2001; the average annual rate of growth of HDI during this period was 1.4 per cent. At this rate of growth, Kerala is poised to have an HDI of 0.945 by the year 2031. However, there has been a decline in the growth rate during the 1990s and the state has progressed at a rate of 0.8 per cent per annum during this period. If the state continues to progress at this rate, then it might attain an HDI of 0.937 by the year 2051. Hence, one can say that Kerala would take another 30-50 years to realise its full human development potential. The projections, however, may turn out to be ambitious if the declining trend in the rate of growth is not arrested. The state's progress has slowed from an annual growth rate of 1.82 per cent during 1981-91 to 0.8 per cent during 1991-2001.

Can Kerala sustain its dominance in human development? This question addresses the relative position of Kerala within India vis-a-vis human development. So far, Kerala has been on top.¹ Whether Kerala would retain it or not would depend not only on the progress to be made by Kerala in the years to come but also on the rate of progress of other states during that period. In this context, it is worthwhile to look at the progress of the neighbouring states of Tamil Nadu. Tamil Nadu's annual rate of growth of HDI was 3.6 per cent during 1981-91 and 1.4 per cent during 1991-2001 yielding an average annual growth rate of 2.74 per cent during 1981-2001. This is much higher than Kerala's annual growth rate of 1.4 per cent. If Tamil Nadu continues to sustain its average growth rate, then it would overtake Kerala by the year 2018. Like Kerala, Tamil Nadu too has experienced a slow growth rate of human development during the 1990s. Even if we apply the same rate of growth that Tamil Nadu had during the 1990s, Tamil Nadu is expected to overtake Kerala by the year 2035. The greatest advantage for Tamil Nadu is its superior economic growth. The significant growth rate of per

capita Net State Domestic Product (NSDP) of Tamil Nadu was 5.3 per cent during 1993-2000 which was 3.6 per cent for Kerala⁴. Tamil Nadu's economy is projected to grow at the rate of 8 per cent during the Tenth Five-Year Plan period (2002-'07) while Kerala's growth would be 6.5 per cent. Tamil Nadu also has the advantage of a higher per capita NSDP base.

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यद्यपि मानव विकास पर विश्वव्यापी वाद-विवाद सन् 1960 से ही पर्व ही प्रारम्भ हो गया था, किन्तु भारत की सर्वप्रथम मानव विकास रिपोर्ट वर्ष 2002 में जारी की गई थी। प्रथम मानव विकास रिपोर्ट जारी होने के पश्चात अब राज्यों द्वारा भी अपनी मानव विकास रिपोर्ट जारी की जा रही हैं तथा राज्यों में अपनी मानव विकास में स्थिति में सुधार लाने के लिए स्वस्थ प्रतियोगी भावना देखने में आई है। मानव विकास को भारत में अकस्मात् उच्च राजनीतिक स्तर प्राप्त होने के परिणाम स्वरूप नीति-निर्माताओं, शिक्षाविदों, व्यवसायिकों, राजनीतिज्ञों, सामुदायिक समूहों, मीडिया एवं लोगों द्वारा मानव विकास के बारे में विचार विमर्श करने में रुचि ली जाने लगी है। इस संदर्भ में, इस लेख में भारत में मानव विकास संबंधी स्थिति तथा इसके भावी परिप्रेक्ष्य के बारे में विश्लेषण किया गया है।

परिणामों से यह संकेत प्राप्त होता है कि मानव निवेश एक बहुमूल्य निवेश है। उच्च तथा वहनीय प्रतिफल प्राप्ति के अतिरिक्त, इसके द्वारा मानव हित में भी योगदान दिया जाता है। भारत द्वारा वर्ष 1981-2001 की अवधि में मानव विकास में अच्छी प्रगति की गई है, इस अवधि में एच.डी.आई. में 56 प्रतिशत वृद्धि हुई थी। किन्तु राज्यों में व्यापक भिन्नता विद्यमान है, केरल चीन के साथ 111 वें रैंक में होगा जबकि बिहार भूटान (160वें) के स्तर तक होगा। बिहारको वर्ष 1980 में केरल द्वारा की गई प्रगति तक पहुंचने में दो या दो अथवा तीन दशकों का समय लग सकता है। तथापि राज्यों द्वारा एक दूसरे से अपना अन्तर बहुत कम किया जा रहा है, ताकि तमिलनाडू सन 2018 तक भी केरल से आगे निकल सके।

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CONTRACEPTIVE PRACTICES IN NEWLY MARRIED WOMEN IN SUB-URBAN BANGALORE

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ABSTRACT

This study attempts to explore some of the aspects of contraceptive usage among the newly married women with particular reference to their socioeconomic and demographic characteristics in sub-urban Bangalore. The study reveals that (i) the newly married women who were within one year of their marriage had no good attitude towards the use of contraceptives as compared to the other married women, (ii) due to various socio cultural and demographic factors, they were at the risk of teenage pregnancy leading to pre-term labour and delivering low birth weight babies; and (iii) a significant correlation was found between the usage of contraception and the educational status of the sample women and their monthly family income.

The authors recommend that education on human sexuality which is currently not being addressed adequately in our society can also be included in the school curriculum.

Keywords: Contraceptive, Married women, Teenage pregnancy, Education and Sexuality.

India is the first country in the world to launch a family planning programme across the country in 1952, however, records show that birth control clinics have been functioning in the country since 1930¹. Unfortunately, it has lagged behind many countries in family planning because of its vast population with various castes, religions, illiteracy, poverty, ignorance, strong cultural beliefs, etc.

During 1960-'65, the level of contraceptive use in the developing countries of Asia, Latin America and Africa comprised 9 per cent of married couples in the reproductive age group. In the 1990s, it was found that more than 50 per cent of the couples in developing countries were using contraceptives and its

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prevalence has been on the rise each year². In the areas under the coverage of a Primary Health Center (PHC), the contraception is provided by the PHC. Even in rural areas of India, where the contraceptive usage is as high as 75 per cent; the main sources of supply "of contraceptives, are still the government health facilities. There is evidence that family planning methods have been found to be acceptable by the people belonging to different cultures and socio-economic conditions. An important feature of India's current fertility transition is the spread of contraceptive use among the uneducated women³. Sterilization is the most commonly used contraceptive method world-wide. .China has the highest number of sterilized population (70 million) followed by India (36 million) in the world⁴.

However, the newly married women in India who are within one year of their marriages, should be targeted to motivate them to use contraceptive methods due to the following factors:

- Although the law states that women should have attained the age of 18 years at the time of marriage but the number of women married before they reach 18 years is quite high.
- Taking their age into consideration, their knowledge about contraception can be expected to be quite low.
- Due to their low level of knowledge about contraception and the pressure from their elders to conceive immediately after marriage, the newly married women are at risk of conceiving in their late teens.
- The incidences of low birth weight (LBW) babies and pre-term labour in this age group are higher as compared to the women in their twenties⁵.
- In-addition, pregnancy in late teens would cause loss of work for them and they remain housewives taking care of the children. Early sexual debut is also considered as a risk factor for carcinoma cervix⁶;

All the above factors indicate that the newly married women can be motivated for the use of contraception which would lead to postponement of pregnancy. Delayed pregnancy can make a positive difference in the socio-economic status of the individual, the family and the community as a whole.

This study attempts to explore some of the aspects of contraceptive usage among the newly married women with particular reference to their socio-economic and demographic characteristics in sub-urban Bangalore.

METHODOLOGY

This household survey was conducted in different rural communities residing near a health centre on the outskirts of Bangalore city. Purposive sampling was adopted to collect information from 132 newly wed women regarding the use of contraception[^] who were within one year of their marriage. Following the interview, a general discussion with the sample women on various issues related to family planning and their possible impact on general health and family welfare was held.

Interviews were also conducted with the Female Health Assistant of the nearby primary health centre (PHC) and the medical officers of the health centre to get a more clear picture of the issues under study.

Data were analyzed using the standard statistical software package. Chi-square test was applied to establish any significant association between different variables and the outcome.

FINDINGS

Out of the 132 newly married rural women interviewed (Table 1), 54 were below the legally permissible marriageable age of 18 years and 45 were still in their teens (18 or 19 years of age). Except one woman (0.8%), all of them were married before 25 years of age. From among the total women, 48 had studied less than 8th standard and three (2.3%) had graduate level of education. Majority of the subjects (81) and their husbands (73) had an education between 8th and 12th standard. By occupation, out of the total of 132 women, 115 (87.1%) were housewives. It was observed that majority of them (118) were Hindus followed by Muslims (12) and Christians (2). The mean age of their husbands was 24.4 years. It was noticed that only 14 women had used contraception of which 13 had an education of above 8th standard which is statistically significant. Similarly, of the 14 women who used contraceptives, 10 of their husbands had studied above 8th standard which denotes that education is complementary to contraceptive use (Table 2). The most common reason for not using contraception was the 'want of a child' was cited by 92 respondents followed by 'lack of information' by 13 respondents. By and large, this group had no interaction with the health worker of the nearby PHC. From an interview with the health worker posted at the concerned primary health centre, it was found that the newly married women were not targeted for family planning by the health workers but they approached the women who had at least a child.-

TABLE 1
SELECTED DEMOGRAPHIC CHARACTERISTICS OF HUSBANDS AND WIVES

Characteristic	Wife	Husband
<i>Age Distribution</i>		
14-15	03 (2.3)	-
16-17	51 (38.6)	-
18-19	45 (34.1)	06 (4.5)
20-21	19(14.4)	22(16.7)
22-23	07 (5.3)	50(37.9)
24-25	06(4.5)	33 (25.0)
26-27	01 (0.8)	14(10.6)
28-29	~	03(2.3)
30+	-	03 (2.3)
Unknown		01 (0.8)
<i>Education</i>		
Uneducated	25 (18.9)	17(12.9)
< 8* Standard	23 (30.4)	16(12.1)
8*10 12* Standard	81 (61.4)	73 (55.3)
Graduate	03 (2.3)	16(12.1)
Professional	--	01 (0.8)
Unknown	-	09 (6.8)
Occupation		
Housewife	115(87.1)	NA
Unskilled Worker	04 (3.0)	26(19.7)
, Skilled Worker	11 (8.3)	73 (55.3)
Professional	01 (0.8)	08 (6.1)
Business	01 (0.8)	21 (15.9)
Farmer	-	02(1.5)
Unemployed		02(1.5)

Table 2 further shows the results of the statistical tests indicating a significant difference in some of the demographic characteristics of users and non-users of any method of contraception. The χ^2_{*est} showed significant associations between the use of contraception and the educational status of the husband and wife independently. It was also seen that like education, monthly household income was also associated with the level of contraceptive use. From the 14 contraceptive users, it was found that 11 of them had a monthly household income of more than Rs. 3000/-. 7th standard was used as cut-off point for education assuming that sex education is obtained in high school and family income cut-off point was fixed at Rs. 3000/--per month.,

Characteristic	Users	Non- users	Remarks
Monthly Income			
< Rs. 3000	3	62	Significant
>Rs. 3000	11	49	$X^2 = 5.90$ $p > 0.05$
Religion			
Hindu	12	105	Fischer Exact = NS
Others	2	12	$P > 0.05$
Wife's Education			
< 8 th Standard	1	47	Significant
8 th Standard+	13	71	$X^2 = 5.78$ $p > 0.05$
Husband Education			
< 8 th Standard	4	35	$X^2 = 5.78$
8 th Standard+	10	83	$p > 0.05$

DISCUSSION

Though the national average use of family planning methods by the couples in the age bracket of 15 to 49 years is 48.2 per cent⁷, the use of contraception among the newly wed couples is about 10.6 per cent in the current study. The study findings establish significant associations between the use of contraceptive methods and various socio-economic factors such as educational status of the wife and her monthly family income. According to the findings of a previous study, the little use of contraception by the non-Hindu community was not significant and may not be related to education or economic status alone⁸ which is in contrast to the results of another study which shows that even among the non-Hindu community, the contraceptive practice rates vary according to their socioeconomic status⁹: Higher gross national product is correlated with lower total fertility rate except for China, Sri Lanka and Kerala in India. In communities where children contribute to the family economy, birth control is regarded negatively. Whereas in societies where the family's expenditure towards the child's education is high, contraceptive use is also high¹⁰. Though many authors have focussed on increasing involvement of males in reproductive health^{11,12}, Mason and Smith¹³ contend that the proportion of couples with differing fertility goals is small in most communities. The findings in the current study strongly stresses the need for increased dissemination of the information regarding the postponement of the first pregnancy by the women since most of them get married during their late teens.

RECOMMENDATIONS

As the study results show that a large number of women married before the age of 18 years, the authors emphasise on the need" to enhance the dissemination of the information on the benefits of delayed first-pregnancy. It is also felt that there should be an improvement in the campaign on the promotion of contraceptive use by the Health Assistants with a special focus on this age group. Small cash incentives as provided for family welfare programme in Tamil Nadu¹⁴ may also be considered for both the service' providers as well as for the contraceptive acceptors. In spite of chapters on reproduction in school textbooks, children turn to peers or the informal media to gather information on sexuality. So, authors have the view that education in human sexuality can be included in the school curriculum, as this need is currently not being addressed adequately in our society¹⁵.

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इस अध्ययन में उप-शहरी बंगलौर की नवविवाहित महिलाओं में गर्भनिरोधक के प्रयोग संबंधी कुछ पक्षों का उनकी आर्थिक तथा जनांकिकीय विशेषताओं के निश्चित संदर्भ में गवेषणा की गई है। इस अध्ययन से यह पता चलता है कि (1) ऐसी महिलाये जिनका विवाह हुए एक वर्ष हुआ था, उनका अन्य विवाहित महिलाओं की तुलना में गर्भनिरोधकों का प्रयोग करने के प्रति अच्छा दृष्टिकोण नहीं था, (2) विभिन्न सामाजिक-सांस्कृतिक तथा जनांकिकीय कारकों के कारण उन्हें किशोरावस्था आयु में ही गर्भधारण का जोखिम उठाना पड़ा था, जिसके परिणामस्वरूप उन्हें समय-पूर्व प्रसव तथा कम जन्म भार वाले शिशु जन्में थे, (3) सैम्पल महिलाओं में गर्भनिरोधकों के प्रयोग तथा उनकी शैक्षिक स्थिति एवं मासिक पारिवारिक आय के बीच महत्वपूर्ण सहसंबंध पाया गया था।

लेखकों द्वारा यह संस्तुति की गई है कि मानव यौन संबंधी शिक्षा, जिसे फिलहाल हमारे समाज में पर्याप्त रूप से आचार व्यवहार में नहीं लाया गया है, को स्कूली पाठ्यचर्या में शामिल किया जा सकता है।

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INDIVIDUAL AND SOCIETAL FACTORS OF VIOLENCE: A STUDY FROM ASSAM

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ABSTRACT

The study was conducted in two tertiary care hospital settings; one a government hospital, the Assam Medical College Hospital and the other is a well-known private hospital, the Aditya Hospital, Assam. The study revealed that (i) the male victims of violence outnumbered their female counterparts but suicides and self-harm attempts were almost equal for both the sexes; (ii) interpersonal violence cases were more prevalent in the case of males (931) in comparison to females (256); (iii) violence was more common among the illiterates (26.04%) while the prevalence rate of violence was zero in case of professionally qualified people; (iv) married people were more involved in self-inflicted (52.87%) and interpersonal violence (52.81%) cases as compared to the unmarried respondents; and (v) the study noticed that 90 per cent of the self-inflicted violence occurred at the homes of the victims whereas 54.30 per cent of the inter-personal violence occurred on the streets.

Keywords: Violence, Individual factors, Social factors, Health burden and Suicide.

Violence has a major share in deaths and diseases. Assaulted violence was estimated to account for 1.3 per cent of the total global health burden of 17.5 DALYs in 1990. If such violence continues to prevail at the current pace, it would be the twelfth leading cause of DALYs in the world¹.

Violence is historically a human phenomenon. According to Ardrey, man's development and evolution are due to his inborn aggression. Violence is an outcome of norms, values, customs, attitudes, material traits, socialization processes, interpersonal relationships, etc. Although, Hippocrates explained 24 centuries ago; how health care was inseparable from lifestyle; violence has been seen as a public health issue in the modern world recently only. Violence can be

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prevented and its impact could be reduced like the public health efforts have prevented and reduced pregnancy related complications, work place injuries, infectious diseases and illnesses resulting from contaminated food and water in many parts of the world.

Violence was once seen as the exclusive domain of the police and the criminal justice system but this is no longer the case. Now social, political and behavioural scientists as well as mental and public health specialists are taking a very active interest in the issues concerning violence. These conditions and situations include the social forces that influence the individuals and societies to initiate or tolerate violent acts².

METHODOLOGY

The study was conducted in two tertiary care hospital settings; one a government hospital, the Assam Medical College Hospital and the other is a private hospital, the Aditya Hospital, Assam. Deaths were traced from the Forensic Department, Assam Medical College, Dibrugarh. The study was carried out from May 2003 to April 2004 in which 2090 cases of violence, were registered. Data were collected through a pre-tested schedule.

FINDINGS AND DISCUSSION

It was interesting to note that 1007 (48/16%) of the 2090 violence, victims were in the age group of 15-29 years followed by 698 victims (33.40%) in the age group of 30-44 years. The least number of victims (4) belonged to the age group of 0-4 years (Table 1). Age plays a significant role in violence victimization. Some earlier studies have also established a similar predisposition with the young age³⁻⁵.

TABLE
AGE-WISE DISTRIBUTION OF VOILENCE VICTIMS

Age groups	No. of cases	Percentage
0 to 4	4	0.21
5 to 14	79	3.79
15 to 29	1007	48.16
30 to 44	698	33.40
45 to 59	194	9.27
>60 "	108	5.15
Total	2090	100.00

Violence involving youth can develop in different ways. Some children exhibit, behavioural problems in early childhood that gradually escalates to more severe forms of aggression before and during adolescences^{6,8}. There is a need to create healthy family environment and influence inter-personal relationships. Professional help and support for dysfunctional-families are also desired.

In the study, it was also noted that male victims outnumbered their female counterparts. However, suicides and self-harm attempts were almost equal for both the sexes (Table 2). Remarkably, a higher number of male victims (78.45%) of interpersonal violence came to the hospital. Inter-personal violence cases were more prevalent in the case of males (931) in comparison to females (256). The editorial of the British Medical Journal⁹ also says that men are more at risk of violence. Some previous studies elsewhere have also shown a higher percentage of male involvement in violence cases³⁵.

TABLE 2
SEX-WISE DISTRIBUTION OF VIOLENCE VICTIMS

Type of violence	Male		Female	
	No.	%	No.	%
Self-inflicted	,450	49.88	453	50.12
Inter-personal	931	78.45	256	21.55
Total	1381	66.08	709	33.92

Data presented in Table 3 show that violence was more common among the illiterates (26.04%) while the prevalence rate of violence was zero in case of professionally qualified people. Low educational level of the youths was found to be a major factor for youth violence. Another study undertaken in Delhi¹⁰ has also shown that illiterates are the most affected in violence. Impulsiveness, attention problems, low intelligence and low educational attainment, each has an impact on the other, are interrelated and seem to be the factors responsible for violence.

Interestingly, the figures depicted in Table 4 reveal that married people were more involved in self-inflicted (52.87%) and inter-personal violence (52.81%) cases as compared to the unmarried respondents. This' is very contrary to the usual belief that loneliness and frustrations orily breed violence. It brings to light a very important issue in our culture that needs an immediate attention. Cultural factors are also responsible for the cause of violence in a society. For instance, some cultural or customs endorse violence as a normal method of resolving

conflicts and push or force the young people to adopt the norms and values that support violent behaviour¹¹⁻¹². Exposure to various forms of violence in the mass media has also dramatically influenced the behaviours of young minds. Self-inflicted violence involving widows or the widowers was 5.17 per cent only and it was zero for inter-personal violence (Table 4).

TABLE 3
DISTRIBUTION OF VICTIMS OF VIOLENCE BY THEIR EDUCATIONAL STATUS

Education	Self-inflicted violence		Inter-personal violence		Total	
	No.	%	No.	%	No.	%
Illiterate	764	29.34	270	22.73	544	26.04
Literate	127	2.99	40	3.41	67	3.20
Up to primary school	168	18.56	196	16.48	366	17.52
Up to middle school	135	14.97	324	27.27	441	21.12
Secondary school	233	25.75	310	26.14	542	25.95
Graduate	76	8.38	47	3.98	129	6.18
Professional	0	0.0	0	0.0	0	0.0
Total	903	100.00	1187	100.00	2090	100.00

TABLE 4
DISTRIBUTION OF VICTIMS ACCORDING TO THEIR MARITAL STATUS

Marital Status	Self-inflicted Violence		Inter-personal Violence	
	No.	%	No.	%
Married	477	52.87	627	52.81
Unmarried	379	41.95	560	47.19
Widowed	47	5.17	0	0.00
Total	903	100.00	1187	100.00

With regard to the place of violence, the study noted that 90 per cent of the self-inflicted violence occurred at the homes of the victims whereas 54.30 per cent of the inter-personal violence occurred on the streets (Table 5). In the current study, it was noted that 86.31 per cent of men were assaulted on the streets while 92.94 per cent of women were assaulted at homes (Table 6) which conform the findings of another study³. But, no self-inflicted or inter-personal violence was reported to have taken place in schools except 0.64 per cent of inter-personal violence involving only males in the schools.

TABLE 5
DISTRIBUTION OF VOILENT EVENTS ACCORDING TO LOCATION

Location	Self inflicted		Inter-personal	
	No.	%	No.	%
Street	29	3.16	645	54.30
Home	813	90.00	332	27.96
Work	5	0.53	45	3.76
School	0	0.00	6	0.54
Someone else's home	24	2.63	57	4.84
On the open/ paddy field	33	3.60	102	8.60
Total	903	100.00	1187	100.00

TABLE 6
DISTRIBUTION OF VIOLENCE BY LOCATION" AND SEX

Location	Self-inflicted		Inter-personal	
	Male (%)	Female (%)	Male (%)	Female (%)
Street	0.44	5.96	60.37	32.42
Home	86.31	92.94	19.33	59.38
Work	1.10	-0.0	4.83	0.0,
School	0.0	0.0	0.64	0.0
Someone else's home	4.19	1.10	6.12	0.0
In the open/ paddy field	7.28	0.00	8:70	8.20
Total	100.00	100.00	100.00	100.00

60.73 per cent of inter-personal violence victims' 'knew the accused person(s) or the culprit(s) and only 19.37 per cent of the victims had no knowledge about, the accused persons or culprits (Table 7). The degree "of social integration within a community also affects the rate of violence. Social capital is a concept that attempts to measure such community integration¹³. Roughly speaking, It refers to the rules, norms, obligations, reciprocity and trust that exist in social relations and institutions. A previous study has shown that indices of social capital reflecting low social cohesion and high levels of inter-personal mistrust were linked with both higher homicide rates and greater economic inequality¹⁴.

TABLE 7
RELATIONSHIP OF THE VICTIM(S) WITH THE CULPRIT(S)
IN INTER-PERSONAL VOIENCES

Relation	Number	Percentage
Family member	174	14.66
Known person	721	60.73
Stranger	230	19.37
Mob	62	5.24
Total	1187	100.00

56.11 per cent of interpersonal violence occurred in urban areas which again speaks" of the importance of social cohesion. Suicides and self-inflicted violence cases were more common,(52.78%) in rural areas (Table 8). In various parts of the world, cultural specificity and tradition are sometimes given a justification for-particular socialpractices that perpetuate violence. Cultural norms must be dealt with sensitively and respectfully in all kinds of prevention efforts because of people's passionate attachment to their traditions, cultures, etc. It should be done respectfully because so often, culture is a source of protection against violence. Experiences show that involvement' of religious and traditional leaders, peer-group leaders and prominent figures in the community such as traditional healers can help formulating and implementing violence control measures.

TABLE 8
DISTRIBUTIONOF VICTIMS OF VIOLENCE RURAL AND URBAN AREAS

Setting	Self-inflicted		Inter-personal		Total	
	No.	%	No.	%	No.	%
Urban	212	•23.49	666	56.11	879	42.06
Rural	477	52.78	372	31.31	849	40.62
Tea Garden	214	23.73	149	12.52	363	17.37
Total	903	100.00	1187	100.00	2090	100.00

CONCLUSION

Violence compromises mental and physical health and often results in the loss of life, disability and psychic trauma. This needs to be tackled by (i) assessing the magnitude of violence, (ii) determining the risks and causes of violence, (iii) testing what works, and (iv) implementing that works on a large-scale. Public

health, with its emphasis on reliable data and surveillance mechanisms, can bring a practical and simple approach to violence.

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प्रस्तुत अध्ययन दो तृतीयक परिचर्या अस्पताल स्थिति, एक सरकारी अस्पताल असम मेडिकल कालेज अस्पताल तथा एक अन्य एक प्रसिद्ध प्राइवेट अस्पताल, आदित्य अस्पताल, असम में संचालित किया गया था। इस अध्ययन से यह पता चलता है कि (1) हिंसाग्रस्त पुरुष पीड़ितों द्वारा अपने पारिवारिक सदस्यों की संख्या अधिक बताई गई थी, किन्तु दोनों लिंगों में आत्महत्या तथा स्वयं को हानि पहुंचाने वाले व्यक्तियों की संख्या लगभग समान ही थी, (2) महिलाओं (256) की तुलना में पुरुषों (931) के संबंध में अन्तरवैयक्तिक हिंसा के मामले अधिक व्याप्त थे, (3) अशिक्षितों (26.04%) में हिंसा अधिक सामान्य पाई गई थी, (4) अविवाहित-उत्तरदाताओं की तुलना में विवाहित व्यक्ति स्वयं को पीड़ा पहुंचाने (52.7%) में अधिक संबंध पाए गए थे, तथा (5) अध्ययन में यह नोट किया गया है कि स्वयं को पीड़ा पहुंचाने से संबंधित 90 प्रतिशत हिंसा पीड़ितों के घरों में घटित हुई थी, जबकि 54.30 प्रतिशत अन्तर-वैयक्तिक हिंसा गलियों में हुई थी।

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**STUDIES ON CONTROL STRATEGY OF COST-EFFECTIVENESS
ANALYSIS (CEA) FOR LYMPHATIC FILARIASIS- A REVIEW**

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ABSTRACT

'Health for All' in India remains a major national goal, as it is still a distant dream for millions of Indians. In this context, Cost Effectiveness Analysis (CEA) assumes importance as a powerful tool for policy makers to take adequate care while scientifically working out the low cost (affordable) health care and optimum effectiveness control strategies for diseases. The CEA helps health planners and programme managers ensure the benefits possible from the scarce resource at their disposal. CEA can be used to undertake disease control strategies both at micro and macro levels.

Keywords: Economic evaluation, Cost effectiveness analysis (CEA), Lymphatic filariasis, Parasite .and Disease control strategies.

Good health is an important pre-requisite for socio-economic development of a country. "Health for all" was the national goal set by the policy makers more than two decades back. Since then, some concerted efforts have been made towards planning and increasing the government outlay for improving the status of human health in both rural and urban areas. However, even after 56 years of independence, the social sector has not been receiving the necessary allocation of funds. This is evident from the NFHS-II report and India Development Report 1999-2000. Health care still remains a distant dream for millions of Indians.

Economic evaluation of health investments and programmes can provide health professionals and policy makers with answers to two basic questions: (i) Whether limited resources are being used in the best possible way? and (ii) What is the value received from the resources spent? The World Bank and the WHO, propose to use cost-effectiveness analysis as a tool to select health intervention for public financing subject to budgetary constraints. Cost Effective Analysis (CEA) is an important source of guidance for achieving value for money in health spending. In this context, CEA assumes high significance, -from both, academic and policy perspectives.

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Problem

Lymphatic filariasis is a serious public health and socio-economic burden in many tropical, and subtropical countries. Globally, it has been estimated that 4,120 million people are at risk of this infection out of which 436.85 million people are Indians. According to recent global estimates, about 120 million people in 73 countries are infected with filariasis and 22 million of them are children below 15 years of age¹. Filariasis has been listed, as the second most important disease causing permanent disability. The disease impairs mobility and affects day-to-day activities resulting in 27 per cent of labour productivity loss and economic loss². It also affects the sexual and marital life of the infected person. The disease is estimated to be responsible for the loss of about 0.63 per cent of per capita Gross National Product in India³.

The International Task Force for disease eradication has recently identified the disease as an "eradicable" infectious disease and the World Health Assembly has passed a resolution to eradicate the disease considering it as a global public health problem. The total direct and indirect costs incurred by filariasis patients in India were estimated to be US \$ 45 million and US\$1.5 billion respectively.

Although many studies conducted in different parts of the world have examined the efficacy of different dose regimens of Diethylcarbamazine (DEC), and Ivermectin (IVER) both, singly and in various combinations but none of them has addressed the issue of cost effectiveness of these regimens^{4, 5}. The lack of detailed information on the programme costs and benefits of intervention is the one reason why many health planners and governments pay less attention to its control. In this context, the collection of data on the costs and outcomes of large-scale control strategies has become even more important. Such relevant data should enable the governments, health programme managers and policy makers to prioritize control; allocate resources and collaborate with funding agencies and NGOs in the control activities. Therefore, there is a need to identify the most cost effective regimen for the control of filariasis.

Transmission of Lymphatic filariasis in a community can be interrupted only when the mosquitoes can no longer pick up the microfilariae and transmit the same to others. Since its discovery in 1947, DEC has been the drug of choice for treating the affected individuals. This drug is given as a dose at the

ratio of 6 mg/kg body weight for 12 days to kill the microfilariae (mF) carriers as per the recommendation of the World Health Organization. Ivermectin (IVER), a synthetic macrolide belonging to the avermectin group of compounds was also found to be effective against filariasis. Ivermectin has replaced DEC as the drug of choice for the control of onchocerciasis. A single dose of ivermectin (200-400mg/kg) is effective against lymphatic filarial parasites also⁶. Recent studies have shown that DEC+IVER combination is likely to produce better results than either of the drugs alone in the clearance of 99 per cent of the mF.

Shrinking of resources and rising costs of health care have led to the growth of health economics as a separate speciality in the world. Hence, studies and literature whatever available are disease specific with reference to medical and surgical interventions. There are a very few studies on economics of public health and disease control programmes. Generally, studies on health economics fall under four groups namely; (i) studies on socio-economic impact on diseases, (ii) studies on cost analysis (CA) of different disease control programmes, (iii) studies on cost-benefit analysis (CBA) of different control interventions; and (iv) studies on cost-effectiveness analysis (CEA) of different control strategies. The present paper falls under the purview of the last category which reviews only those studies on cost effectiveness analysis of different disease control strategies adopted from 1960 to 2002.

Studies on Cost Effectiveness Analysis

Economic evaluation techniques[^] assessing the health care delivery systems, particularly cost-effectiveness analysis (CEA), have gained momentum in the past few years. CEA can be a powerful tool for choosing any of the different disease control interventions. Resources for health sector in the existing economy are scarce. When resources are finite, at the same time, the potential demand for health care is infinite. Further[^] not all forms of health care are equally effective nor all the means of health care delivery are efficient. The provision of health care is also expected to reflect the preferences of the community. Taking the limited financing in public health care delivery system into consideration, the World Bank and, the World Health Organization proposed to use CEA as a tool for selecting health care programmes in 1993. It is felt that public expenditure on health care should fulfill the norms of maximum efficiency.

There are two relevant concepts of efficiency- namely;¹ (i) technical efficiency; and (ii) allocative efficiency: The first one' tries to explore the effectiveness; precisely, it assesses whether the service is effective in 75 per cent of cases or 95 per cent. The second one tries to ensure the best allocation of resources for different health care services. This helps in deciding the point of trade off between preventing new infections and treating cases⁷. Under the CEA approach; effectiveness measures are stated in terms of health outcomes', such as years of life gained, days of morbidity saved or percentage reduction in premature mortality rate or disease incidence and percentage reduction in the infection⁸.

The application' of economic evaluation methods to parasitic control programmes is increasing and becoming' a central tool for- assessing the programmes⁹. The five steps calculation of CEA for a programme involves* (i) defining the programme's' objectives, (ii) identifying the possible ways of achieving these objectives, (iii) identifying and measuring¹ the costs of each option, (iv) identifying and measuring the effectiveness of each option; and (v) calculating the cost-effectiveness ratios of each option and interpreting the results.

Application of cost-effectiveness in medicine is very wide. Cost-effectiveness analysis determines whether a treatment or intervention is cost-effective or not. In this context, an understanding of the various uses and misuses of the terms is important. Agreement on how the term should be used is a necessary prelude to meaningful interpretation of claims that an intervention is cost-effective.

CEA of health sector interventions was first applied in the 1960s based on the methods developed to analyse military investments. Since 1970, the number of published studies using cost-effectiveness has been steadily rising reflecting a growing concern for the appropriate use of scarce health sector resources¹⁰. Initially; most of the cost-effectiveness studies reported the results using indicators such as the cost per case diagnosed and treated for a particular disease' or the cost per a fully immunized child.- These studies used more general measures of health outcome like costs per Quality Adjusted Life Year (QALY) or the other general health measures which made it possible to get the comparisons of the cost-effectiveness of interventions concerning different health problems. League tables of the cost-effectiveness of different

interventions are a natural consequence¹¹ of the 'various studies already conducted.

In recent 'years, there have- been discussions on the alternative theoretical frameworks governing the cost-effectiveness analysis.for resource allocation in the health sector. These frameworks are generally centred on the validity of QALY maximization as a goal for the health sector, the nature of individual preferences for'health, and how these preferences are incorporated into QALYs¹². Marginal costs that change as a function of output helps in knowing the effect of intervention-specific fixed costs. '

The findings of studies on cost-effectiveness' provide information on the average cost per unit of health output, such as a-DALY. Average cost per unit of health outputs equal to the sum of general or Infrastructure fixed costs; programme specific fixed costs and variable costs divided by the total output¹³. Control options for lymphatic filariasis are diverse and range from chemotherapy to vector control by the application of insecticides, "polystyrene beds and biocides¹⁴. Seven different control techniques were applied in a group of villages in Kerala, a study reported. Cases prevented and their costs were calculated for each technique and the best ranking was achieved by indoor spraying which costs \$11.79 per case a: year. Three of the seven techniqueswere" totally-ineffective and-were riot analysed in detail¹⁵. A study of a mass chemotherapy experiment fn Kenya reported a cost of only \$5.65 per prevented case" a" yean though in this instance,, the disease was bancroftiori rather than brugian filariasis.

The majority of the filariasis studies did-not yield cost-effectiveness estimates for control programmes but it was on the effects of the disease oh health, mostly related to prevalence and disability rates. These studies reported widely varying impressions about the disease ranging from dramatic to trivial- Another study suggested that DEC was applied as an additive to common table/cooking salt is equally effective as a xoritrol agent and may have the "advantages of easy access a"nd reduced costs¹⁶:

Despite-these advances, the problem of optimal programme design' continues to pose a major constrainno-the wide application of chemotherapy as', an" intervention measure. No study has-so far addressed the cost of applying various chemotherapy Alternatives. Until "such" costs are integrated with programme effectiveness, the affordability and cost-effectiveness of

delivering filariasis chemotherapy to endemic communities will remain uncertain. Recently, a study in Tanzania has shown four different mass DEC chemotherapy regimens namely; (i) standard dose; (ii) semi-annual single dose; (iii) low monthly dose; and (iv) DEC-medicated salt in reducing microfilaria (mF) prevalence at the community level. Costs were estimated for each intervention in relation to both ingredients and activities by derivation and use of detailed itemized, cost menus. The study concluded that DEC salt intervention was the most expensive and the most effective strategy in reducing community mF prevalence over the last two years whereas 'low monthly dose' was the most cost-effective DEC treatment¹⁷.

The review of literature on various aspects of this tropical disease, lymphatic filariasis, reflects an inadequacy of data on costing and CEA, which are essential for developing or re-planning appropriate treatment regimens for its control. Many studies have examined the efficacy of different dose regimens of DEC, IVER and DEC+IVER in various combinations in different parts of the world¹.

Economic evaluation techniques, to assess the health care interventions have been standardized in recent years and are being used, to identify cost-effective options to control parasitic diseases²¹⁻²². However, their application in lymphatic filariasis is limited and consequently information on the costs and benefits of control strategies under operational settings are scanty²³⁻²⁴. Experts have analysed the epidemiological, biological and curative aspects of filaria from the theoretical and methodological points of view. However, so far, the socioeconomic burden and the economics of the control strategies of diseases have received less attention in the country. Therefore, the present paper deals with further development of theoretical and methodological cost-effective approaches in this regard.

Since health care sector is constrained by limited resources across the world, it is difficult to implement all possible worthwhile interventions. The lack of comparative field information on the costs and benefits of control strategies poses the constraint. Even to improve the efficiency of the existing programme, economic analysis remains the prerequisite²⁵. In the context of meagre allocation for the health sector and the consequent resource constraints faced by various health care programmes, CEA is of great importance from both academic and policy perspectives. Even a small difference in the cost

effectiveness of different health care programmes may make a large difference in the over all cost of programmes.

CONCLUSION

The population exposed to the risk of filaria infection in India is 436.85 million and India contributes nearly 50 percent of infected population to the global disease burden. While the annual economic, loss due to lymphatic filariasis is estimated to be US \$ 1,545 million, it is an irony that a far meagre amount of US \$ 1 million is being spent on filariasis control programme. The financial allocation for health sector by the Government of India is only one per cent of the-GDP during the 10th Five-Year Plan. In the context of meagre allocation for the health sector and the consequent resource constraints faced by different disease control programmes, it is highly essential now to. choose most cost-effective option for the control of a disease. The policy makers should know that even a small difference in the cost-effectiveness of different control programmes may make a large difference in the overall cost of the disease control programme. Hence it is high time for the regional as well as national level policy makers to scientifically workout a low-cost chemotherapeutic option for disease control programmes.

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भारत में "सभी के लिए स्वास्थ्य" एक महत्वपूर्ण लक्ष्य है, जबकि लाखों भारतीयों के लिए अभी भी यह एक दूरदर्शी स्वप्न की भांति है। इस संदर्भ में, लागत प्रभावकारिता विश्लेषण को नीति-निर्माताओं के लिए वैज्ञानिक ढंग से अल्प-लागत (वहनीय) स्वास्थ्य परिचर्या तथा रोग संबंधी सर्वाधिक प्रभावकारी नियंत्रण रणनीति तैयार करने के लिए सशक्त यंत्र के रूप में माना गया है। लागत प्रभावकारिता विश्लेषण द्वारा स्वास्थ्य योजनाकारों तथा कार्यक्रम प्रबंधकों को उनके पास उपलब्ध कम संसाधनों से यथासंभव लाभ सुनिश्चित करने में सहायता प्राप्त होती है। लागत प्रभावकारी विश्लेषण को सूक्ष्म तथा वृहत दोनों स्तरों पर रोग नियंत्रण रणनीतियों तैयार करने के लिए भी प्रयोग किया जा सकता है।

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**INVOLVEMENT OF TEACHERS, PARENTS AND HEALTH
CARE PROVIDERS IN VARIOUS GOVERNMENT AND PRIVATE
SCHOOLS OF DELHI**

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ABSTRACT

Using a multi-stage random sampling method, 24 schools from Delhi, eight each from three broad categories of (i) corporation schools, (ii) other government schools and (iii) private schools were included in this study. The study findings revealed that the involvement of teachers and parents in the school health services (SHS) was more in the private schools as compared to the government-run schools. Most of the health care providers in the government schools were found to be fully involved in the school health functioning as compared to the private schools. However, the frequent transfer of the health care providers outside the SHS created a lot of disturbances in the routine functioning of SHS. Regarding expectations of the school teachers and parents, majority of the government school teachers and government school children's parents expected frequent medical check-up and follow-up of activity for school children. It was also found that involvement of teachers in SHS has a significant role which was practiced in only one, of the 24 schools. The findings of the study suggest that major changes in the policies of SHS are required for its improvement where teachers, parents and health care providers are supposed to play key roles.

Keywords: School health services; Malnourished, Health team, NGO, Check-up and Vaccination.

The health of its children is a nation's biggest asset. In 1950, the World Health Organization's expert committee on school health services (SHS) noted that children need good health to learn effectively¹. Good health is essential for the overall growth and development of students and more importantly, for their success in studies. The performance of sick, weak or malnourished children is

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poor in studies than healthy, well-fed students. Education plays an important part in improving the pupils' health and nutrition. Out of the 175 million children in the 0-14 years of age group in India, 62 million fall in the primary school age group. This age is the formative stage in the growth and development of a child; physically, mentally, emotionally and socially. School health is an economical and powerful means of raising health of the community. In addition to providing a site where interventions against many specific diseases can efficiently and economically be implemented, school can also provide a setting to introduce health information to the children. Health habits formed at this stage will be carried forward to the adult age, old age and even to the next generations². Preventive measures taken during this period of growth may have a beneficial life long effect. For the wholesome care of a child, the role of teachers, parents¹ and health care service providers is essential which help the child from preventing accidental hazards, diseases and other serious behavioural problems.

OBJECTIVES

The study was undertaken to (i) find out and compare the extent of involvement and expectation of teachers, parents and health care service providers of school health services (SHS) in various government and private schools of Delhi; and (ii) identify the bottlenecks and suggest measures for improving the functioning of school health services in different government and private schools in Delhi.

METHODOLOGY

The study was conducted in 24 schools drawing sample from both government and private-run schools in the city of Delhi from 1 May 2004 to 30 April '2005. The schools were classified into three broad categories such as (i) corporation schools; (ii) other government schools; and (iii) private schools; Eight schools from each category were selected by using a multi-stage stratified random sampling method.

In the first stage, five different types of organizations were selected from the government set-up on the basis of their structure and functioning such as MCD, NDMC, Delhi Administration, Cantonment Board and Kendriya Vidyalaya. In the second stage, two school health clinics attached to each of these organizations were selected randomly except the Cantonment Board in which only one school health clinic was functioning and the same was selected. In the third

stage, two school health clinics were randomly selected excluding the KV clinic and St. Stephen Hospital. From the category of corporation schools (MCD and NDMC), eight schools were selected which were looked after by four school health clinics. Eight schools were also selected from the other broad category comprising Delhi Administration (DA), Kendriya Vidyalaya (KV) and Cantonment Board (CB) schools. To give adequate representation to the government schools that get the SHS from NGOs, two schools were included where the SHS were provided by the NGO named St. Stephen Hospital. Equal number of private schools (eight) was also randomly selected to compare them with the eight government schools.

A series of focus group discussions (FGDs) were conducted to extract information from the respondents with regard to the extent of their involvement in SHS and expectation from SHS. The study population comprised the staff of school health clinics, and parents and teachers of the respective schools. 23 determinants were included in the FGDs with the teachers, while 22 and 17 determinants were discussed in the FGDs with the parents and SHS providers respectively with regard to their expectations from SHS.

In each randomly selected school, two FGDs were conducted, one with the parents and another with the teachers. In addition to these FGDs, one FGD was also conducted with the health care service providers of each organization. Since there were a very few in number of health care service providers in DAV and LPS, only one combined FGD was conducted with them. In MCD, the school health services were provided by zonal school health services where two FGDs were conducted, one in each of the two randomly selected zones (Table 1). In all, 161 FGDs were conducted, 25 each with both teachers as well as with parents and 11 with health care providers. Similarly, out of the total of 174 teachers included in the study, 28 were from MCD-managed schools, 29 from NDMC, 7 from DPS and 13 from Kendriya Vidyalayas. 160 parents were part of the FGDs out of which 13 each were selected from Cantonment Board, Kendriya Vidyalaya and St. Stephen's. The study also included 75 health care providers, including 14 from MCD followed by 8 each working under the Delhi Administration and St. Stephen (Table 2).

TABLE 1
NUMBER OF FGDs CONDUCTED WITH
TEACHERS, PARENTS AND HEALTH CARE SERVICE PROVIDERS

	MCD	NDMC	DA	CB	KV	St. Ste	SHA	Foe.	DPS	DAV	LPS	Total
Teachers	4	4	4	2	2	2	2	2	1	1	1	25
Parents	4	4	4	2	2	2	2	2	1	1	1	25
Health care providers	2	1	1	1	1	1	1	1	1	1		11
Total	10	9	9	5	5	5	5	5	3	5		61

TABLE 2
DISTRIBUTION OF RESPONDENTS FOR THE FOCUS GROUP DISCUSSIONS

	MCD	NDMC	DA	CB	KV	St. Ste	SHA	Foe.	DPS	DAV	LPS	Total
Teachers	28	29	27	12	13	14	14	13	7	9	8	174
Parents	26	27	27	13	13	13	15.	7		6	7	160
Health care providers	14	7	8	6	6	8	6	7	7	6		75
Total	68	63	62	31	32	35	35	27	20	36		409

Depending upon the staff -structure: of different organizations under the study, a few groups were formed consisting of doctors (MOs I/C, GDMOs, medical officers or specialists, etc.); nurses (PHNs.GNMs, ANMs or school health nurses);, school attendants (health assistants, ward boys, nursing orderlies, MPWs or helpers), other workers (pharmacists, health educators, laboratory technicians/attendants, optometrists, dental hygienists or ward ayas) and health care providers for FGDs.

FINDINGS

The study observed that out of the eight private schools, three schools namely; Delhi Public School, Lovely Public School and DAV school have their own SHS. Four schools get the SHS from NGOs; two by 'Focus' and another two by 'SHARP.' In the Little Cherub school, the school authorities did not grant permission for the study (Table 3).

FGDs with Teachers

Satisfaction of Teachers with School Health Services

The study revealed mixed kind of responses from the teachers-regarding the SHS. Most of the schoolteachers working in the schools like the MCD, NDMC and Delhi Administration as well as teachers from St. Stephen's stated that the health teams regularly perform the health check-up of the students in their respective schools and they were satisfied with the existing health care service for the students. The school teachers of DPS, DAV and LPS where the SHS is provided by private health care agencies also expressed satisfaction with the prevailing health care service for their respective¹ school students. However, the school teachers of Cantonment Board, Kendriya Vidyalaya and the school teachers of other different schools where the health services provided by the NGOs 'SHARP' and 'Focus', were not satisfied with the overall health services for the school children.

School	Sources of SHS
Delhi Public School, Vasant Kunj (DPS)	DPS
Lovely Public School, Priyadarsni Vihar (LPS)	LPS
DAV school, Dyanand Vihar (DAV)	DAV
Bal Mandir Academy School, Radhey Shyam Road	NGO 'Focus
Vashnav Public School, Pitam Pura	NGO 'SHARP'*
New Happy school, Anarkali Extention	NGO 'Focus
Sachdeva English School, Pashchim Vihar	NGO 'SHARP'*

(*SHARP – School Health Annual Report Programme

Permission for study was not granted)

Extent of Involvement of Teachers in School Health Services

It was observed that there was no direct involvement of school teachers in SHS in most of the government schools like MCD, NDMC, Delhi Administration and Cantonment Board. It was further observed that though the teachers of these schools were very hesitant initially, but later on they described their role in filling up of teacher's observation in the health cards, assisting in the medical examination of children and giving health talk to the children. However, most of them were not able to perform these tasks due to their busy schedule in teaching and frequent

involvement in non-teaching activities. Similarly, the involvement of teachers of DPS, DAV and LPS was also less. In contrast, in the schools where St. Stephen Hospital provided the health services, teachers informed that they were very much involved in school health activities and they had got training on how to involve all the students in the SHS. The teachers of *Kendriya Vidyalaya* as well as the school teachers of different schools where the health services provided by NGO 'SHARP' and 'Focus' were also involved in SHS. In these schools the teachers were mainly involved in conveying the information about the medical examination to the children, accompanying the school children during their medical examination and filling up of the teachers observation column of the health card.

Teachers' Views on Referral Services

On the issue of referral services, most of the teachers informed that if the health team referred any case to the hospital or School Health Clinic (SHC) for a specialist opinion, then they convey this message to the parents of children. However, most of the time, the health team doesn't give them any referred case list. The teachers of DAV, DPS and LPS told that they have no role in it as the MO himself contacts the concerned children's parents on phone. Findings of FGDs also suggested that neither government school teachers nor the private school teachers accompanied the referral students to SHC/hospital as they faced a lot of problems in reimbursement of transport charges and in private schools, the principals did not allow them to escort the students in school hours.

FGDs with Parents

Satisfaction of Parents with School Health Services

It was noticed that the major expectations of school teachers of most of the government operated, school health, service were frequent medical check-up, follow-up of activity for school children, medical examination of teachers and punctuality of the health teams. In the schools where the SHS provided by NGOs, they expected a permanently located SHC from where the students can get medicines. The major expectations of private school teachers were health education through different audio-visual aids, proper immunization to the children and the use of latest drugs in SHC.

Views of Parents on Health Education Activity

Replying to questions on health education activity undertaken by the health teams in schools under the SHS, most of the parents of those wards studying in different government schools complained about the performance of the school health teams. However, the parents of DAV and DPS school children were happy and informed that; the health education activities were performed in the schools jointly -by the school health teams and teachers. Further, the study revealed that most of the parents of wards studying in government schools had knowledge about the rallies organized for school children to create awareness on Pulse. Polio Immunization. Similarly, the parents of MCD school children knew about the Dengu. homework .card; But according to the parents of the children studying in schools where the health services provided by NGOs, the health education activities performed by the health team was not satisfactory.

Extent of Parents' Involvement in School Health Services

On the issue of their extent of involvement in school health activities most of the parents of children studying in schools under MCD, NDMC, DA and St. Stephen hospital had no idea about the date of medical examination of their wards in their respective schools. As a result, they even could not inform the chronic and other diseases of their children to the respective health teams. The parents of the children in private schools like' DAV, OPS and LPS had informed about the immunization status of their children and other details as required by the health team. In contrast, most of the parents of those children studying in *Kendriya Vidyalaya* and the schools where the health services provided by the NGO stated that the school authorities just fool them by taking money and that was the reason why. they are not getting Involved in .SHS. A number of parents mentioned that they wrote sometimes the illnesses of their wards on a piece of paper which they sent through their wards during these medical activities but the SHT neither looked at the slips nor examined their children.

Parents' Views on Immunization Activities in Schools

It was observed that most of the parents of students studying in different schools expressed that immunization programmes were very useful for their children and school .should organize from time-to-time immunization camps. However, most of the parents of school children where, the health services

provided by NGO didn't prefer to take these vaccines during these vaccination camps as they found that the cost of the vaccines were very high.

Parents' Views on Referrals

While taking the referred children to the referral hospital, most of the parents of children in different government schools had to face a lot of problems due to absence of special counter and heavy rush in hospitals. However, the parents of CB school children did not face any problem as the school health team was functioning in CB hospital itself. But they face problems in taking their children to the hospital as it is not centrally located and there' is no direct bus for reaching there. Similarly, the school health clinic of MCD is also not centrally located. In contrast to the above findings, the parents of *Kendriya Vidyalayas* and different private schools were not facing any problem of registration but the referred private hospital's consultant charges are quite high.

Expectations of Parents from SHS

The major expectations of the parents of the wards studying in government schools were frequent medical check-up of school children, laboratory services in SHC and no loose medicine distribution to the- children. The major expectations of the "parents of private school-children were health education through audio-Visual aids, giving prescription slip during medical examination, medical examination by reputed doctors and frequent specialist camps.

FGDs with SHS Health Care Providers

Extent of Involvement of Health Care Providers in SHS and Their Views on its Functioning and Method of Delivery

The health care providers of MCD,- NDMC, Delhi Administration and private schools like DPS, DAV and LPS informed that they were fully involved in the health service provision in the schools. However their frequent posting outside the SHS and transfers create a lot of disturbances in the routine functioning. In contrast, the health care providers of NGO told that they were not much involved in the health services provision in the schools as they are basically functioning in the private nursing homes and are contracted only for a short period for doing the medical examination in school.

Most of the health care providers ,of government schools expect improvement in the working condition in SHCs, vehicles forgoing to schools and reduction in the workload. Private school health care providers wanted an increase of their monthly pay and frequent continuing medical education (CME) programmes concerning the latest trends in the management of childhood illness.

DISCUSSION

Involvement of Teachers in School Health Services

As the teachers are in constant contact with the children, they are in a position to notice any deviation of the children from their normal health and behaviour. Further, teachers are highly regarded and their words are highly valued by the school children. Various authors, committees and study groups³⁻⁵ on school health have emphasized on the role of teachers in the SHS. Involvement of teachers; in SHS in private schools was more than in the government schools because the concerned private school principals directly supervise the school health activities..

The involvement, of teachers in SHS in- the government schools was affected due to shortage of staff. The teachers were not intimated in advance about the exact date of medical examination for which the school principal could not make appropriate internal arrangements to keep them free on that day. Involvement of teachers in NGO St. Stephen hospital operated SHS is very good. Here teachers were trained for screening the illness during the child-to-child approaches well as participated in different committees like health and hygiene, first aid and safety, environment and sanitation and nutrition. The teachers were sincere about the health check-up of the students. They expect frequent medical check-ups proper immunizations coverage of children and supply of good quality drugs to them when they suffer from any illness.

Involvement of Parents in School Health Services

pupils'-health is the primary responsibility of their parents. Parents should be responsible for taking remedial and corrective measures for the good health of their children. However, the findings of FGDs suggested that the involvement of parents in the school health activity was very poor. But the involvement of the parents of children studying in private schools was more as compared to the parents of children studying in government schools. This might be due to the fact

that the teachers in most of the government schools don't inform the visit of the school health team to the school to the parents in advance though it is mandatory on the part of the school management. Unfortunately in most of the government schools, even after medical examination of children, their parents are not informed about the outcome of the medical check-up whereas most of the private schools send the health cards of the children to their parents for signature. Majority of parents whose wards studying in government schools expected frequent medical examinations of the students. On the other hand, parents of students of private schools don't have faith on the medical officers doing¹ the medical examination in schools who wanted medical examination to be conducted by reputed doctors and medical examination reports of their wards.

Involvement of Health Care Providers in School Health Services

The health care providers of government schools are fully involved in the school health functioning. However, their frequent posting outside the SHS creates a lot of problems in its routine functioning. The involvement" of health care providers in SHS is limited in Kendriya Vidyalaya and the schools where :the school health services are provided by NGOs because they are contracted for a short period only for undertaking the medical examination of students. Majority of the health care providers expected that participation bfteache'rs in SHS and the budgetary allocation to SHS in schools may be increased.

RECOMMENDATIONS

Based on the study findings, the authors suggest the following measures for proper arid effective functioning of the SHS:

- (i) Proper co-ordination among the school teachers, parents and health care workers needs to be improved;
- (ii) Orientation courses of short durations for teachers may be organized, to ensure their active involvement in the school health activity as practiced in the Kendriya Vidyalaya;
- (iii) Circulation of the medical examination or immunization health card of the children to their parents to note down the past chronic and immunization history of their children prior to the medical examination should be made compulsory;
- (iv) Parents should be informed about the outcome of the medical check-up of their children so that they could take appropriate actions;

- (v) Wide publicity about the functioning of the SHS is needed to raise awareness amongst the parents; and
- (vi) In-service training opportunities should also be provided for medical and para-medical staff through workshops, seminars and symposia to raise the qualitative and quantitative standards of SHS.

CONCLUSION

It is seen that though there is a proper set-up for the implementation of the SHS, some lacunae from the policy makers side cripple the resulted-oriented functioning of SHS which-need to be rectified very soon. The involvement of parents is found to be inadequate in most of the organizations although parents have a major role in increasing the coverage of school health as well as in reinforcing the impact of health messages on their children.. Teachers should motivate both the children as well¹ as their parents for screening of illnesses which was found in only one of the organizations in the present study. The authors also advocate frequent in-service training for the health care providers so as to implement the SHS more efficiently in different schools.

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इस अध्ययन में बहुचरणीय यादृच्छिक सैम्पलिंग विधि का प्रयोग करके दिल्ली के 24 स्कूलों, प्रत्येक आठ में से तीन व्यापक वर्गों (1) नगर निगम स्कूलों (2) अन्य सरकारी स्कूलों तथा (3) प्राइवेट स्कूलों को शामिल किया गया था अध्ययन से प्राप्त निष्कर्षों से यह पता चला है कि स्कूलों स्वास्थ्य सेवाओं में शिक्षकों तथा माता-पिता की संबद्धता सरकार द्वारा संचालित स्कूलों की तुलना में प्राइवेट स्कूलों में अधिक थी। प्राइवेट स्कूलों की तुलना में सरकारी स्कूलों की तुलना में प्राइवेट स्कूलों अधिक थी। प्राइवेट स्कूलों की तुलना में सरकारी स्कूलों में अधिकांश स्वास्थ्य परिचर्या सेवा प्रदाता स्कूली स्वास्थ्य कार्यप्रणाली से पूर्णतः संबद्ध पाए गए थे। किन्तु, स्वास्थ्य परिचर्या सेवा प्रदाताओं का बार-बार बाहर स्थानांतरण होने से स्कूली स्वास्थ्य परिचर्या सेवाओं नियमित कार्य प्रणाली में बहुत रुकावटें आई थीं। स्कूली शिक्षकों तथा माता-पिता की अपेक्षाओं का जहां तक प्रश्न है, अधिकांश सरकारी स्कूली शिक्षक तथा सरकारी स्कूली बच्चों के माता-पिता अपेक्षा करते थे कि बच्चों की बार-बार स्वास्थ्य जांच तथा उनकी गतिविधि का अनुवर्तन किया जाना चाहिए। यह पाया गया था कि स्कूली स्वास्थ्य सेवाओं में शिक्षकों की संबद्धता की महत्वपूर्ण भूमिका है, जो 24 स्कूलों में से केवल एक स्कूल में प्रचलन में थी। अध्ययन से प्राप्त निष्कर्षों में यह सुझाव दिया गया है कि स्कूली स्वास्थ्य सेवाओं में सुधार लाने के लिए तत्संबंधी नीतियों में प्रमुख परिवर्तन किए जाने अपेक्षित हैं, जिसमें शिक्षकों, माता-पिता तथा स्वास्थ्य सेवा प्रदाताओं द्वारा महत्वपूर्ण भूमिका निभाई जानी है।

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