CONCLUSIONS OF THE SAREC/WHO WORKSHOP ON BIRTH–WEIGHT DISTRIBUTION – AN INDICATOR OF SOCIAL DEVELOPMENT[1]

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There was a consensus among the participants that health is a direct result of social development. In addition it is an important component of the causal complex that determines social

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development. National developmental programs have resulted in a notable improvement in health and nutritional status, education, and social well-being. These improvements are associated with increasing average birth-weight, decreasing proportion of LBW babies and less distorted distribution of birth weights within the community.

Furthermore, most of the available statistics show that LBW rates are significantly related to some characteristics of underdevelopment such as malnutrition, high rates of infections, underprovision or underutilization of health services, illiteracy, lack of hygiene, overcrowding, and short birth intervals. High incidence of LBW rates closely correlates with increased perinatal and infant morbidity and mortality.

On the other hand, uncontrolled development in rich countries can be harmful. It may result in decreased birth spacing and lactation performance, increasing incidence of alcohol and drug addiction and smoking during pregnancy.

There can also be development without a change in the birth-weight distribution as it occurred during the past six years in Cuba and in Sweden. In these two countries LBW rates have been constant, while other health statistics like perinatal mortality have shown improvement. The reverse may also occur in small population groups where birth weights may rise without fundamental changes in social development; as occurs when local food supplementation programs are introduced.

The working groups concluded that birth-weight distribution can be a useful indicator of the overall health conditions of a particular community. It was felt that birth-weight distribution can help to assess major health problems in the underdeveloped countries, specifically: malnutrition (during mother's infancy and childhood and during gestation), common infection, unfavourable fertility and suboptimal mental development.

In the rich countries, differences in birth-weight could help to identify inequitable distribution of resources and underutilization of existing services. Mean birth-weights at the national level are of little significance because they mask a wide range of situations and groups within the country. Birth-weight statistics are most useful if collected and presented as distribution of weight groups.

Among the indicators which could be considered as measures of development, birth-weight distribution has a high potential usefulness as a yardstick of socio-economic development.

The main rationale behind this conclusion can be summarized as follows:

1) It entails a high predictive value of events related to social development and social justice which have occurred in the past, or are occurring at present.

2) The predictive value is valid both for the degree of social development of a population and to assess changes in development across different populations and time periods.

3) Use of this indicator provides motivation for action: it encourages family and community concern for health care and therefore it can be used as tool for education and motivation for community involvement.

4) In comparison with other social indicators, birth-weight distribution has measurement advantages in terms of reliability, objectivity, comparability, validity, sensitivity and specificity.

The workshop considered community participation in the use of birth-weight as a yardstick of socio-economic development within the general context of community participation in a set of action programs.

Attention was focused primarily on community participation at the village level. This can be effectively developed by including the measurement of birth-weight in birth registration, and integrating this practice as a first step in the health care of newly born infants. It was considered that most of the basic principles and guidelines are also applicable to bigger communities and sophisticated health structures, including hospitals.

In order to implement community participation, the following aspects were considered important:

- Several approaches are possible according to the socio-political organization of each community.

- Introduction of birth-weight measurements should be carefully planned to maximize its acceptability. It should be integrated with all other programs in the community, including primary health care.

- Adopting the method of measurement and interpretation of data appropriate to the technological status of the community.

- Continuing positive and dynamic interaction between health workers and the community should be reinforced.

- Acting on the basis of findings on some of the glaring causes of abnormal birth-weight distribution in order to increase community's appreciation of the vulnerability of the problem to prevention.

- Community participation should be built on the socio-cultural patterns of the villagers. The community concepts of the size and weight of newborns must be studied.

- Although there are several potentially effective approaches to develop community participation, individual motivation of the villagers is a basic prerequisite and the first step to this aim.

Birth-weight should become an obligatory component of routine birth registration. To this aim, some suggestions were presented:

- To use non-health motivation factors (i.e., political or religious).

- To take advantage of the felt needs of the mothers, families and the entire community as a whole.

- To approach informal leaders including women groups and folk midwives.

- To perform action when required on LBW and sick babies.

- To provide information about consequences of LBW and use of birth-weight distribution as an educational tool.

- To integrate data collection on birth-weight with primary health care systems.

Instruments used for measurement should be simple, affordable, cheap, precise, exact and sturdy. The construction of such instruments is a real challenge to those concerned with appropriate technology in health. Preferably the observer should be one of the villagers or a primary health care worker. If possible, birth-weight should be measured during the first 72 hours of life.

Data collection on birth-weight should be part of the continuing registry of the growth and health of the child. Growth charts kept by the mother should be considered as effective means to reach this goal. Registry and periodic data flow to upper levels should be simple and feasible enough to facilitate surveillance at both the village and the national level within the relatively short time span of about one year. The main responsibility for registry and data flow should be kept at the village level.

The workshop concluded that evaluation should be a continuing process, oriented to the objectives of the program and allowing for fast feedback. It should be used to reinforce the motivation of the villagers and the health workers. In deciding precisely what should be evaluated the appropriateness of the community participation approach within the socio-political framework should be reviewed very carefully, in light of national and regional objectives. It was also recognized that the efficiency of action programs is another measurement of community participation.

Finally, it was stressed that an evaluation of community participation should be performed in a simple, cheap and feasible way. This could be done by obtaining comparable results that slice across regions and times. The evaluation process should be carried out by the villagers and the health workers at periodic time intervals. Therefore, it should allow for continuing short and long term surveillance and it must begin with the planning of the evaluation process. It should be performed first in the village and thereafter in clusters of villages, regions and, finally, at the national level.

Considerable discussion centered around the use of birth-weight as an indicator of development. It could be argued *a priori* that if optimal health is a consequence of socio-economic conditions, then development efforts must be geared to this primary condition. The use of a single indicator may be subject to the same criticism as that levelled at GNP. However, the bulk of the evidence suggests that, unlike GNP, birth-weight simultaneously

measures *per capita* production and the degree of distribution of goods and services. Birth-weight distribution at the national level may be of significance in indicating national development status provided the variation between population groups is minimal. It is possible that important high-risk groups may be masked by the "national average". The applicability of the birth-weight at the community and defined-population groups cannot be questioned. Although the measurement of birth-weight is technically simple, may less-developed countries have no infrastructure to collect reliable data of births and deaths. For many, the very fact of beginning to consider the ways and means of achieving notification is a desirable development. Thus, for the time being the feasibility of the use of birth-weight in development planning at the national level may not be realistic to the prevailing conditions in many Third World countries. However, on the sub-national or regional level, it could be used as a reliable indicator of socio-economic development and make international comparisons possible.

From whatever point of view one approaches the problem, the societal cost of LBW is staggering. Inherent in such calculations, however, are the effects LBW has on individual development. Whatever the solution at the community level, the workshop was convinced that a cost/benefit or cost/effectiveness analysis could be useful to convince decision-makers about possible areas of action.

The participants at the Sigtuna workshop emphasized that birth-weight distribution is not only an index of health, nutrition and social justice, both present and ancestral, but also of the degree of progress required for the future. The national interventional programs carried out in, for instance, Cuba and France have resulted in definite reductions of perinatal death ratios. The modes of action taken comprised diverse ingredients but were both preceded by careful epidemiological research delineating the problem. The encouragement by the success of others is an obvious learning experience. Furthermore, it should be emphasized that both these countries had a fairly low LBW rate before action was taken. Thus, most countries in the Third World would be in the position to achieve even greater success with well designed culturally acceptable health care packages.

It was felt that the community approach, in which the inhabitants themselves evaluate and learn to improve their quality of life, is the best method of approach. Birth-weight as a yardstick of community development has many advantages as outlined in

this publication. It could become an entry point to self-reliant development, focussing on the least favourable among the poor, the women and the children. The participants of the Sigtuna workshop who had a great variation of theoretical and practical experiences reached a consensus that the hypothesis of birth-weight as an indicator of social development merits an urgent testing.