Ramanathan, Mala: Reproductive Health Index: Measuring Reproduction or Reproductive Health?. Economic and Political Weekly. 33(49). Dec, 5-11, 1998. P. 3104-3107.

Reproductive Health Index: Measuring Reproduction or Reproductive Health?

Mala Ramanathan

The newly-constructed reproductive health index by excluding such indicators as maternal mortality and childlessness among women is more appropriate for measuring the status of the family planning programme than the reproductive health status of women.

The Population Foundation of India has recently published a monograph 'State of India's Population' in which, among other things one finds estimates of the human development index (HDI) the gender related health index (GRHI) and the reproductive health index (RHI). The discussion that follows centres on the last of these three composite indices, the RHI. Composite indices are generally used to measure phenomenon that are multidimensional in terms of conceptualisation. Several variables measured in different units or on different scales are combined to obtain a single dimension to represent the phenomenon being studied. Reproductive health is the complex construct that is being measured here using an index.

This index is said to measure the reproductive health status in 16 major states of India. However, it does not really consider reproductive health. Instead it takes into account several variables that measure the dynamics of reproduction within the states. It seems to be biased by the need to have low fertility rates and thus can be seen as a measure that evaluates the effectiveness of the family planning programme rather than reproductive health status.

The International Campaign on Abortion, Sterilisation and Contraception founded in Europe in 1978 was the first to articulate the concept that is now accepted as a definition of reproductive rights `women's right to decide whether, when and how to have children - regardless of nationality, class, race, age, religion, disability, sexuality or marital status - in the social, economic and political conditions that make such decisions possible' [Correa 1994]. Diverse women's groups from both the north and the south were to one opinion that women should be seen as subjects and not objects of population policies [Dixon-Mueller 1993]. It was out of this belief that the concepts of reproductive rights and health developed. Reproductive health is seen as inextricably linked to the concept of reproductive rights and takes into account the ethical regard for

'women's integrity and self-determination'. It is thus intertwined with the concept of women's human rights [Correa 1994].

These initiatives by women's health activists (WHAs) and feminists had developed almost independently of the population establishment. But, in the 1990s, the concept of reproductive health has gradually been integrated into the mainstream with its acceptance by international donor agencies such as the Ford and the MacArthur Foundations [Correa 1994] and by national governments, especially in the post-International Conference on Population and Development, 1994 period (see for instance the Manual on Target Free Approach in Family Welfare Programme, Government of India, 1996). Other UN bodies and multilateral agencies like the Population Council have accepted the need for a quality of care framework and the World Bank has included a set of recommendations on reproductive health (Word Development Report, 1993). The WHO has also extended its mandate to include co-ordination of the global research effort in the field of reproductive health [Benagiano 1994]. In spite of these efforts towards the integration of the reproductive health concept by mainstream researchers, feminist researchers and WHAs have been wary of the co-opting of this concept by the previously population control oriented establishment. Hartmann (1993) expresses this wariness when she refers to the new mainstream discourse as 'population doublespeak'.

The RHI under discussion is the result of the ongoing integration in India between the old population control regime and the new reproductive health approach advocated by feminists. However, it is ideologically closer to the concepts of fertility control than to reproductive health thus reinforcing the belief of 'doublespeak' by the population control establishment.

The reproductive health index is said to measure the reproductive health status of the states of India. It is a composite index constructed by taking into account seven variables, representing different aspects of reproductive health. They are: (1) total fertility rate (TFR); (2) age specific fertility rate for the age group 15-19 (ASFR 15-19); (3) birth order; (4) the type of attention at birth, (5) perinatal mortality rate; (6) couple protection rate; and (7) educational attainment. Each of these variables has been converted into individual indices I1 to I7 that measure the relative position of each state in India.

(1) Total Fertility Rate

The total fertility rate (TFR) is a summary measure of fertility that gives the average number of children that would be born to women, if they continue their reproduction at the current levels of fertility. To situate the state, relative to others within the country, the maximum possible range of the TFR is used to

norm the TFR. The TFR is said to range between 6 and 1.6 and thus, the index becomes,

I1 = (6-TFR)/(6-1.6) x 100

The measure reflects the reductions in fertility, which have been attained relative to a possible high of six. The higher these reductions, higher the index value and better the performance of the state.

(2) Age Specific Fertility Rate for the Age Group 15-19 (ASFR 15-19)

This measures the risk of childbirth that women are exposed to. The ASFR was found to vary between 120 to 4 and hence have been considered as the upper and lower limits. This index would thus become,

I2 = [120 - ASFR (15-19)]/(120-4) x 100

A higher index value indicates low risk of childbirth in the ages 15-19 years and better the performance of the state with respect to maternal and infant mortality rates.

(3) Birth Order

With implementation of a family planning programme, it is expected that the proportion of births of higher order would come down. This proportion usually varies between 5 per cent and 40 per cent. Using these percentages, the index for birth order was constructed as:

I3 = (40 - the observed proportion)/(40-5).

The higher the value of this index; lower the percentage of births of order four and above.

(4) Medical Attention at Birth

To account for percentage of both births occurring in institutions and those attended by trained professionals, this index consider both in the ratio 3:1, to get the index, I4.

(5) Perinatal Mortality

Perinatal mortality is considered one of the sensitive indicators of the condition of the mother during childbirth. It consists of two components, the still births

and the live births dying during the first week of life. For computation, the perinatal mortality is considered as all deaths occurring in the first seven days of birth and the number of still births. Using various country experiences from the 1960s, the upper and lower limits to PMR have been fixed at 75 per thousand live births (live and still) and two per thousand live births respectively. The distance from the higher limit against the total range of perinatal mortality has been considered as the index of perinatal mortality, I5 given by;

I5 = (75-P)/(75-2) X 100, where P is the perinatal mortality rate.

(6) Couple Protection Rate due to Sterilisation

This gives the percentage of eligible couples effectively protected by sterilisation. A maximum CPR of 90 and a minimum CPR of 5 has been assumed. The index has been calculated as,

I6 = (CPR-5)/(75-5) x 100

The higher the value of the CPR due to Sterilisation for a state is higher the value of the index I6.

(7) Index of Education

This has been calculated as the weighted average of middle school enrolment ratio for girls and adult literacy rate for females. The weights were in the ratio 1:2.

RHI

This is a simple average of the above seven indices. It is expected to measure the impact of health and family planning service delivery but also opportunities for education of women. The index value ranges between 0 to 100.

Reproduction or Reproductive Health?

WHAs and other affiliates over the world made extensive efforts to get reproductive health on the agenda of the world's policy-makers and donors [McIntosh and Finkle 1995]. The formation of a women's platform preparatory to the International Conference for Population and Development, and the consequent acceptance of a reproductive rights and health-oriented approach to population policies by this global forum has given it respectability even among the population control oriented groups. This has resulted in kindling the interests of other academics and there has been a spate of research exercises, both

theoretical and empirical in the area of reproductive health. The construction of the RHI is the consequence of one such exercise. Because of the overwhelming acceptance of the notions of reproductive health by major donor agencies and governments, it has been accepted even by the articulators of a population control ideology.

The notion of reproductive health is not the exclusive property of any one group(s) or players. However, the reproductive health perspective, by articulating the rights of the individual over the needs of the state to 'arrest population growth' or promote 'low fertility rates', may represent a paradigm shift in the evolution of population policies that enunciated 'decreasing growth rates' or 'reaching Net Reproduction Rate of 1' [Srinivasan 1995]. It is for this reason the construction of an index for measuring reproductive health needs to be moored to an ideological position. The RHI developed here represents continuity with the previous fertility control-oriented policies and programmes in terms of its content. It includes variables that are more suited to evaluate a family planning programme and the consequent impact on fertility rather than reproductive health per se. Thus, overtly it seems to measure reproduction instead of reproductive health.

Had the index been labeled differently considering its components such as fertility and contraceptive use index instead of reproductive health index it would have been apt. As it stands, this index has been constructed with very little understanding of the ideological shift involved in moving from population control to reproductive health. It fulfils the need of the population control regime to measure how effective the birth control programme was, and how many women were saved from having too many or too little children. In terms of the variables selected for computation of the index, concern for individual women's health does not seem paramount.

Component Selection

Of the seven variables used, three are indicators of the levels of fertility and one of the family planning programme performances. Only the remaining three variables can in any sense be said to indicate the reproductive health status of women. Of the group of four variables that are indicators of fertility and family planning, the TFR indicates the current levels of fertility prevailing in the community. Admittedly, a woman who has fewer children may be expected to be in good health, on the basis that low TFR is indicative of better maternal health. But TFR does not have a linear relationship with reproductive health. By this we mean that while it is true that TFR of 6+ in a developing country situation may reflect low reproductive health status, it cannot be said that 0 TFR is indicative of the highest level of reproductive health. The existence of women

with fewer of children or no children could also be indicative of primary or secondary infertility, which cannot be indicative of a healthy state but of severe reproductive ill health. Rather than using the TFR the maternal mortality rate could have been used in the index of reproductive health.

Alternatively, the percentage of married women who remained childless in the age's 40-44 years or 45-49 years could have as well been used to indicate the women's health status. This measure has the limitation that it also would include voluntary childlessness. However, in a country like India where children are valued and a married woman's status within the household, the extended family and the community depends on her child bearing [Mendelbaum 1970; Jeffery, Jeffery and Lyons 1989], the levels of voluntary childlessness may be negligible.

The second fertility related variable used in this index is the age specific fertility rate for the age group (15-19). This variable is included to reflect the proportion of high-risk early pregnancy and child-bearing. In countries like India teenage fertility is mostly within marriage and socially sanctioned unlike in developed countries where such pregnancies are cause for both medical and social concern. Instead of this variable, the proportion of women continuing education within the ages 15-19 years could have been considered as an indicator of the lack of exposure to the risk of early child bearing or to sexually transmitted diseases. As such the variable suggested incorporates empowerment through education and lack of exposure to risk of child-bearing together.

Birth order is the third fertility indicator, which is selected to indicate the effectiveness of the family planning programme in reducing the higher order births. There is no mention of the higher reproductive health risks associated with higher order births; rather, the underlying emphasis is on the need to prevent 'undesirable higher order births'. The undesirability of the birth is with respect to the state's notion of how many are desirable and thus has no bearing on individual women's preferences.

The next two indicators used, viz., medical attention at birth and perinatal mortality are indeed directly related to the reproductive health status of women and their selection cannot be questioned. PMR consists of still births, which are usually caused by the lack of proper medical check-up of pregnant women, lack of nutrition and lack of anti-natal care. Mortality during the first week of birth is most often caused by lack of attention at the time of childbirth and immediately after unhygienic practices during delivery and maternal mortality.

The sixth indictor used in this reproductive index is the couple protection rate due to sterilisation. This variable may be indicative of the family planning program performance, but to what extent it indicates women's reproductive

health status is debatable. The sterilisation surgery could itself result in ill health or the acceptance of sterilisation may be forced (as it happened during India's brief period of political emergency). Acceptance of a permanent method of contraception may be most desirable from the perspective of a state that adopts a deliberate policy of family size limitation. But for women it could be the only option available for avoiding pregnancies. High levels of acceptance of sterilisation could be indicative of low quality of services with respect to other methods [Ravindran 1995; Ramanathan 1995].

The last of the seven indicators, the index of education indicates women's level of knowledge of health and hygiene, their ability to accept new ideas and indirectly perhaps the extent to which they are empowered to function independently. As such, it could play a crucial role in illness prevention and health promotion.

The quantification of the concept of reproductive health is to be welcomed, provided the operationalising of the theoretical concept takes cognisance of the complexity of the concept and its ideological framework. Such exercises are not without their limitations but the need to have a quantifiable measure justifies their construction. The researchers here recognise the need to include other reproductive health related indicators like childlessness maternal mortality in the index but cite lack of accurate data as the reason for not using the same. The exclusion of maternal well-being from the calculus of reproductive well-being reduces the utility of the RHI. With all the inherent limitations it would have been advisable to consider these other indicators of reproductive health like maternal mortality, proportion of women remaining childless at ages 45-49 to construct the RHI.

Index Construction

An analysis of the computed RHI reveals that the variability among the seven variables is not uniform.

Table inherent that the variance within the data set is rather high, the coefficient of variation for the variables ranged from a low of 24 per cent to as high as 76 per cent. Such a composite index should have take cognisance of the inherent variance structure of the data and thus have used appropriate weights instead of uniform weights as has been done here. Moreover one cannot say that all of these selected components have a linear relationship with reproductive health. Barring TFR all the other selected indicators can be said to have a linear association with reproductive health. But for TFR the relationship would be curvilinear. Therefore its inclusion in the composite index is questionable.

Quantification of complex concepts is indeed important, but such exercises have to be undertaken with caution. It is but the means to facilitate understanding and not an end in itself. In this case, quantification has been undertaken without considering the theoretical basis for the concept. There is a need for a composite index since there are several dimensions that need to be considered while measuring a complex concept such as reproductive health. However, such an index should include variable that are selected carefully keeping in mind the concept being measured and the empirical justification for their inclusion.

References

1. Benagiano, G (1994): `From Fertility Regulation to Reproductive Health' in Challenges in Reproductive Health: Biennial Report 1992-93, WHO, Geneva, pp 31-33.

2. Correa, Sonia (1994): Population and Reproductive Rights: Feminist Perspectives from the South, Zed Books and Kali for Women, New Delhi, pp 56-97.

3. Dixon-Mueller, Ruth (1993): `Women's Rights and Reproductive Health: A Policy Agenda' in Population Policy and Women's Rights: Transforming Reproductive Choice, Praeger Publishers, Westport, pp 191-219.

4. Hartmann, B (1987): Reproductive Rights and Wrongs: The Global Politics of Population Control and Contraceptive Choice, Harper and Row, New York.

5. Jeffery, Patricia; Roger Jeffery and Andrew Lyon (1989): Labour Pains and Labour Power, Zed Books, London and Manohar, New Delhi.

6. McInthosh, Alison C and Jason L Finkle (1995): `The Cairo Conference on Population and Development: A New Paradigm?' Population and Development Review, Vol 21, No. 2, pp 223-61.

7. Mendelbaum, D G (1970): `Family Roles: Girl and Women's in Society in India: Continuity and Change, Vol 1, University of California Press, pp 82-94.

8. Ramanathan (1996): `Quality of Care in Family Planning Services in Kerala, India: An Assessment using Client Flow Analysis' in Proceedings of the Networking Workshop on Gender Reproductive Health and Population Policies Project, Victoria Falls, Zimbabwe, June 13-18, 1995, Het Spinhuis Press, Amsterdam, pp 92-115.

9. Ravindran, Sundari, T K (1993): `Women and the Politics of Population and Development', Reproductive Health Matters, No 1, May 1993, pp 26-38.

10. Srinivasan, K (1995): `Population Policies and programmes since Independence' in Regulating Reproduction in India's Population Efforts, Results and Recommendations, Sage Publication, New Delhi, pp 26-66.