Reproductive Health of Women in India: An Interstate Analysis

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Abstract: This research paper is an attempt to quantify the concept of reproductive health on the basis of interstate secondary data in the public domain. In order to measure the reproductive health status of women a composite index of reproductive health (IRH) has been developed on the basis of four dimensions such as Desire for women to have a child irrespective of whether it's a boy or a girl; Birth Interval; Control of women over contraception; and Desire to limit childbearing by women. It is disturbing that most of India is not in the high range of reproductive health. An improvement in the reproductive health status of women steps should be taken not only to increase development and educational level but also to remove social discrimination against women.

Keywords: Reproductive health, Women, Desire for women to have a child, Birth Interval, Control of women over contraception, childbearing by women.

1.1 Introduction

Reproductive health according to the guidelines of UN deals with the reproductive processes, functions and system at all stages of life. It is a state of complete physical, mental and social wellbeing. Although it is a universal concern, it has special importance in the context of women. It shows women's ability to control their own bodies. When women are aware of their reproductive health rights and can decide when to become a mother then they are truly empowered. Thus, we can say that reproductive health reflects women's status and wellbeing in life.
Many researchers have tried to measure the reproductive health status and also its determinants on the basis of cross sectional data.

Ramanathan, M. (1998) discussed in detail the composite index developed by Population Foundation of India using seven variables such as total fertility rate, age specific fertility rate for the age group 15 – 19 (ASFR 15- 19), birth rate, prenatal mortality rate, couple protection rate and educational attainment.

Wang and Pillai (2001) examined the relationship between reproductive rights and reproductive health in 125 developing countries. The result has shown the importance of fertility decline and reproductive rights in predicting reproductive health. There was an inverse direct relationship between women's reproductive health and their economic status. They argued for a gender sensitive human rights approach for women's reproductive health.

Roy, T. K. et al (2003) compared women's actual behaviour with their stated intentions regarding fertility and family planning in central India. They investigated women's intentions and desire to have a child and practice family planning in the future. The result suggested that women's intentions about contraceptive use are more definite than their plans about childbearing.

Kim, J. (2005) investigated the effect of prenatal sex selection on fertility in India, China and Korea. The study found, when the cost of gender detection test falls, the sex ratio at birth rises due to more selective abortions, but fertility can rise or fall with rising sex ratio. Similarly the paper shows that the sex ratio can rise or fall, when fertility decreases as the cost of children increases.

Lhila, A. and Simon, K. (2008) observed parent's prenatal health investment decisions with reference to unborn child's sex in context of India and China. Prenatal health investments were gauged by maternal choice during pregnancy, such as number of prenatal care visits, sufficiency of weight gain and alcohol and tobacco use during pregnancy. They found evidence consistent with sex-selective abortion among mothers from India and China.

Lin and Adsera, A. (2012) in their analysis of developing countries like India state that higher female infant mortality rates , differentially lower access to health care and more education for girls than for boys are root causes of son preference. They used survey of Indian households (NFHS-3) to check whether son preference is associated with girls bearing a larger burden of housework than boys. They used two stage models to estimate the participation in housework (and also other types of work) in addition to hours. They concluded that discrimination in girl's treatment is due to mother's male-preference in India.

Barcellos et al (2014) analyzed the effect of child gender on parental investment in India by using time use survey. The result shows that not only boy child gets on an average 10 percent more investment than girls but also better quality of childcare. They observed also preference for boy in a family because of more expectation from their boy in the future. In case of other countries such type of discrimination does not appear.

1.2 Material and Methods

The data sources of the research paper are from National Family Health Survey (NFHS3) of India. In order to measure the reproductive health status of women a composite index of reproductive health (IRH) has been developed on the basis of the following four dimensions.

a) Desire for women to have a child irrespective of whether it's a boy or a girl

This was taken because it was normally the preference for a son which leads families to subject women to illegal method of sex determination and consequent medical termination of pregnancy often by spurious doctors leading to health complications and sometimes death. In order to

measure this dimension, the indicator chosen was "percentage of women aged 15 to 49 by states who want more daughters than sons".

b) Birth Interval

This has been taken because frequent child birth has a negative impact on women's health and it has been the effort of government agencies to encourage space between children. In order to measure the dimension "median numbers of months since preceding birth have been used".

c) Control of women over contraception

This reflects women's control over their own bodies. In order to measure this indicator chosen is "knowledge of any modern method of contraception by women". The emphasis is on modern methods like Injectibles, Pill, IUD and emergency contraception etc.

d) Desire to limit childbearing by women

In order to measure this "percentage of currently married women aged 15-49 who want no more children" has been taken by state.

In order to make the data scale free it has been normalized using the formula

$$d_i = \frac{A_i - m_i}{M_i - m_i}$$

Where,

A_i is the actual value,

m_i is the lower limit of the value of dimensions (d_i),

M_i is the upper value of the value of d_i.

Although a reproductive health index (RHI) was developed a few years back by the Population foundation of India this research paper has used different aspects of reproductive health. This is because the RHI was based on indicators which reflect dynamics of reproduction rather than reproductive health. Therefore in the present research the four dimensions chosen are positive dimensions i.e. a higher value of the dimension reflects better reproductive health status of women.

A composite index of reproductive health status has been constructed for each state by using the below formula:

$$IRH = 1 - \frac{\sqrt{(1-d_1)^2 + (1-d_2)^2 \dots + (1-d_n)^2}}{\sqrt{n}}$$

In the above formula $d_i \dots d_n$ are the various dimension indices. In order to arrive at the above formula all dimensions are considered to be equally important in measuring the reproductive health status of women.

1.3 Calculations

UNDP uses a simple arithmetic average in the case of HDI. However, in this paper the distance from the ideal method (Nathan, 2008) has been used for calculating IRH.

The formula in this specific case will be:

$$IRH = 1 - \frac{\sqrt{(1-d_1)^2 + (1-d_2)^2 + (1-d_3)^2 + (1-d_4)^2}}{\sqrt{4}}$$

The table below gives the index of reproductive health of twenty states and one union territory (Delhi). The states have been divided into three categories (L) low, (M) medium, and (H) high on the following basis depending on the value of the IRH:

a) $0.5 \leq IRH \leq 1$ = high

b) $0.3 \leq IRH < 0.5$ = medium

c) $0.0 \leq IRH < 0.3$ = low

Table 1: Index of Reproductive health (IRH)

S. N.	States	d_1	d_2	d_3	d_4	IRH
1	Delhi	0.04	0.38	1	0.85	0.42(M)
2	Haryana	0.00	0.14	0.93	0.84	0.34(M)
3	Himachal Pradesh	0.04	0.1	0.93	1	0.34(M)
4	Jammu & Kashmir	0.09	0.27	0.9	0.77	0.40(M)
5	Punjab	0.02	0.09	0.93	0.89	0.33(M)
6	Rajasthan	0.01	0.13	0.98	0.62	0.32(M)
7	Uttarakhand	0.04	0.3	0.91	0.81	0.40(M)
8	Chhattisgarh	0.11	0.35	0.99	0.65	0.42(M)
9	Madhya Pradesh	0.03	0.05	0.99	0.74	0.31(M)
10	Uttar Pradesh	0.02	0.1	0.97	0.58	0.30(M)
11	Bihar	0.00	0.1	1	0.46	0.28(L)
12	Jharkhand	0.05	0.23	0.66	0.45	0.31(M)
13	Orissa	0.06	0.41	0.97	0.7	0.42(M)
14	West Bengal	0.11	0.52	0.96	0.77	0.48(M)
15	Arunachal Pradesh	0.18	0.17	0.66	0.55	0.35(M)
16	Assam	0.04	0.67	0.93	0.67	0.46(M)
17	Manipur	0.14	0.54	0.93	0.52	0.45(M)
18	Meghalaya	0.73	0.25	0.3	0	0.27(L)
19	Mizoram	1.00	0.16	0.88	0.4	0.48(M)
20	Nagaland	0.40	0	0	0.54	0.20(L)
21	Sikkim	0.22	0.47	0.97	0.95	0.53(H)
22	Tripura	0.10	0.83	0.96	0.79	0.53(H)
23	Goa	0.13	0.7	0.9	0.49	0.47(M)
24	Gujarat	0.05	0.05	0.95	0.74	0.32(M)
25	Maharashtra	0.08	0.26	0.98	0.83	0.40(M)
26	Andhra Pradesh	0.07	0.22	0.95	0.76	0.38(M)
27	Karnataka	0.16	0.13	0.86	0.79	0.38(M)
28	Kerala	0.21	1	0.93	0.67	0.57(H)
29	Tamil Nadu	0.09	0.22	0.99	0.87	0.40(M)

Source: Author's own calculation

1.4 Results and Discussion

a) From the above table it is clear that there is low reproductive health status in three states namely Bihar, Meghalaya and Nagaland.

b) High reproductive health status is found in three states i.e. Sikkim, Tripura and Kerala.

c) The rest of India displays medium reproductive health status. In the medium range it is clear that Delhi, Jammu & Kashmir, Uttarakhand, Chhattisgarh, Orissa, West Bengal, Assam, Manipur, Mizoram, Goa, Maharashtra, and Tamil Nadu are towards the upper end.

d) The highest IRH is found in Kerala and the lowest is Nagaland. However even Kerala is not approaching the value of one.

1.5 Conclusions

This research paper was an attempt to quantify the concept of reproductive health on the basis of interstate secondary data in the public domain. It is assumed looking at Kerala that education seems to be playing an important role in improving the reproductive health. However, it is not as simple as this because the three states which are in the high category namely Kerala, Sikkim and Tripura have culture and tradition of giving women equal status.

It is disturbing that most of India is not in the high range of reproductive health. Most of the so called BIMARU states are in the low and medium categories but these states are also known for a dominant tradition of patriarchy. Thus it can be concluded that for an improvement in the reproductive health status of women steps should be taken not only to increase development and educational level but also to remove social discrimination against women.

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