IMPACT OF INDIAN GOVERNMENT HEALTH EXPENDITURE ON WOMEN'S TOTAL FERTILITY RATE IN INDIA

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ABSTRACT

Health and education are the basic areas for investment for people's betterment sustainable economic growth. On the other hand, health is influenced by economic growth and affluence. This paper tries to find out whether total fertility rate in India is related with public expenditure in women's health. Many of the health problems of Indian women are related to or exacerbated by high levels of fertility. There is urgent need to design national population policy to achieve goal of fertility reduction because good and quality human resource can contribute in economic development. Bivariate Correlation analysis of Time series data has been applied to explore the relationship between government health expenditure and total fertility rate.

Keywords: Public expenditure, indicators, total fertility rate,

JEL codes: H51, I12

INTRODUCTION

A nation having good health inputs tends to be productive output results in uplifting of economic and societal development which in turn improve the indicators of health status and quality of life. Investment for physical capital formation was regarded as basis for economic growth which trickles down by its own over time. (Solow, 1956). But, new theories are emphasizing on the investment in human capital. Health and education are the basic areas for investment for people's betterment sustainable economic growth. On the other hand, health is influenced by economic growth and affluence. The achievement of better health level is significantly dependent on population stabilization, as also on corresponding efforts from other social sectors like provision of better drinking water supply and basic sanitation, adequate nutrition etc., which minimize the exposure of health risks. Progress of India in the field of health needs much stress and effort. In

case of health status of women, it has multi-dimensional nature and very difficult to measure precisely. But health status of women can be measured in terms of life expectancy at birth, fertility rate, and maternal mortality rate, crude birth rate of female, sex ratio and Morbidity rate.

OBJECTIVES

The main objective of this paper is to examine about the effect of public health expenditure on women's health of India through one of the indicators i.e. Total Fertility Rate.

METHODOLOGY AND DATA SOURCES

This paper is based on secondary data. The data on total fertility rate obtained from various sources such as sample registration system (SRS), NITI Aayog, economic survey of India and various version of census of India have been used to examine, analyzed the issue in depth.

To analyze the impact of public expenditure in health on total fertility rate, bivariate correlation analysis has been applied with time series analysis. Time period of 2005-15 has been taken for data analysis.

The finding from the data analysis were arranged and discussed in order to reveal the results to answer the research question for this paper. SPSS Software is used to perform statistical analysis.

RESEARCH QUESTION

RQ1: Is there statistically significant negative relationship between PEX and TFR?

Current Scenario of women's health in India:

India, with a population of 1,21,01,93,422 is the world's second most populous country out of which female population is 58,64,69,174 and that of male is 62,37,24, 248 (Census of India, 2011). It is one of the few countries where males significantly outnumber females, and this imbalance has increased over time. From a global perspective, Indian accounts for 19 percent of all lives births and 27 percent of all maternal deaths (Dasgupta,2006). Though there is little difference between life expectancy of men and women in India yet Indian women have high mortality rate, especially during childhood and during reproductive years.

Some of the following indicators reveal the status of women health in India:-

i) Total Fertility Rate

ii) Sex Ratio

iii) Maternal Mortality rate

iv) Life Expectancy of Female, etc.

Total Fertility Rate:-

Total number of children a woman would have by the end of her reproductive period if she experienced the currently prevailing age-specific fertility rates throughout her childbearing life. Many of the health problems of Indian women are related to or exacerbated by high levels of fertility. Overall, fertility has been declining in India; by 2000, the total fertility rate was 3.2 which decrease up to 2.3 in 2015. (NITI Aayog 2018)

Figure 1: total fertility rate of India (2000-15)
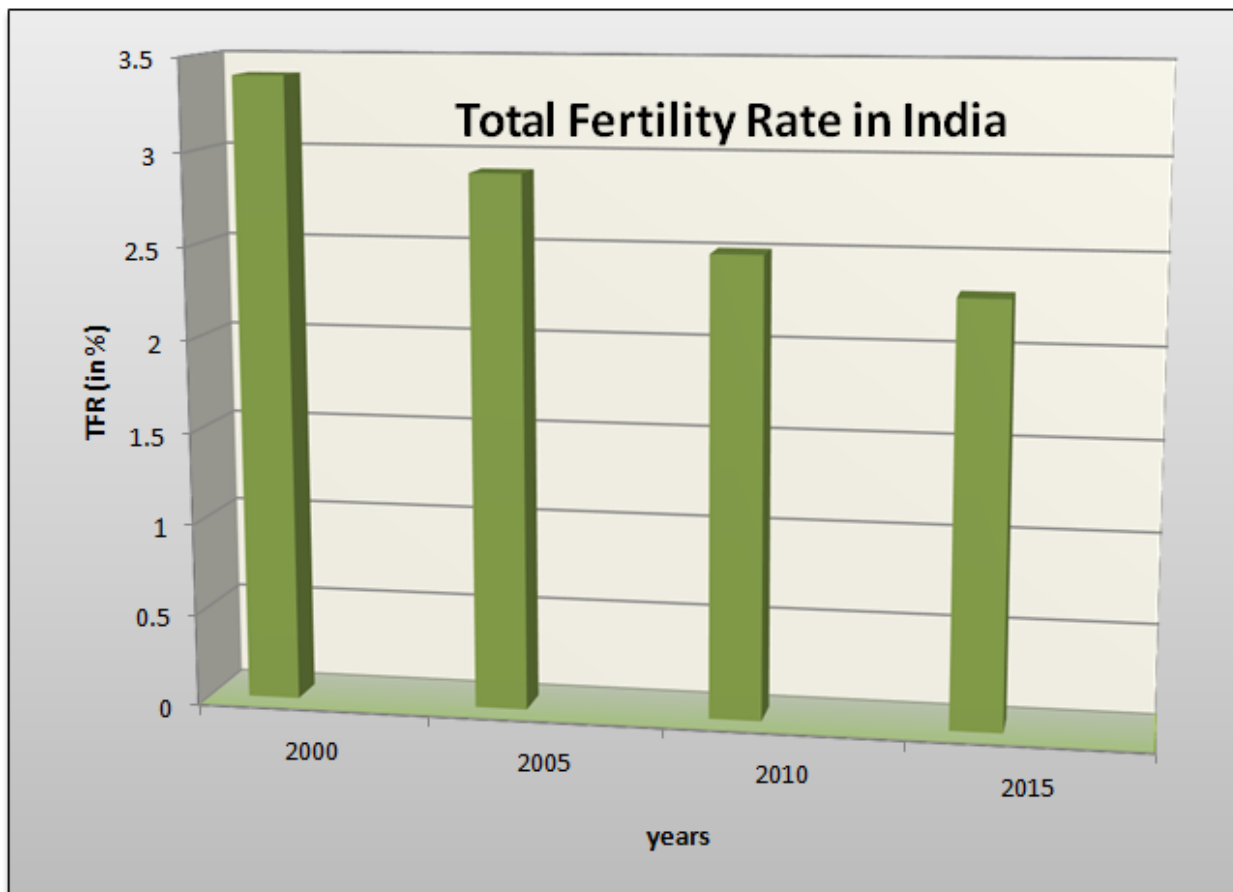
Source: sample registration system, NITI Aayog, (2018).

Public Expenditure on Health: Public expenditure on health is one of the components of expenditure of state or central government on social services which are considered as development expenditure. Thus, expenditure on health is directly related to development of an economy. In any developing and emerging economy Social Sector plays a significant role. The ultimate objective of development planning is human development or increased social welfare and wellbeing of the people. Education, Health and Social Justice & Empowerment are the main component of the Social Sector. Increased social welfare of the people requires a more equitable distribution of development benefits along with better living environment. To examine pattern of public expenditure, budgetary expenditure of Indian government on health must be taken under consideration. Table 1 shows that government expenditure on health is slightly increased from 0.6 in 2005 to 0.8 in 2015. This increment is very low as compare to other developing countries.

Table 1: Public Expenditure in Health and Total Fertility Rate in India (2005-2015)

YEARS	Public Expenditure On health (in % of total expenditure)	Total Fertility Rate (In %)
2005	0.6	2.9
2006	0.6	2.8
2007	0.6	2.7
2008	0.6	2.6
2009	0.6	2.6
2010	0.7	2.5
2011	0.6	2.4
2012	0.6	2.4
2013	0.7	2.3
2014	0.7	2.3
2015	0.8	2.3

Source: Sample registration system (NITI Aayog) 2018

Source: Budget documents of the state government, RBI publications 2017.

*It includes revenue expenditure and capital outlay.

FINDINGS

By using bivariate correlation analysis, finding were arranged and discussed in order to reveal the results to answer the research question for this paper. As a statistical tool, correlation method is used to asses a possible linear relationship between two variables.

The data depicted in figure-2 was stimulated from bivariate normal distribution of 11 observations with mean 0.645 & 2.527 and standard deviation 0.688 & 0.2102 public expenditure on health and total fertility rate. The figure shows that there is a linear relationship exists between the two variables, which were found by creating scatter plot using SPSS to plot dependent variable against independent variable. Few observation were scattered widely which can affect the optimum result.

Scatter plot shows $0< R^2 <1$, which indicates good linear relationship. In this case, some but not all of the variation of TFR is explained PEX.

Figure 2: scatter plot diagram of TFR by PEX
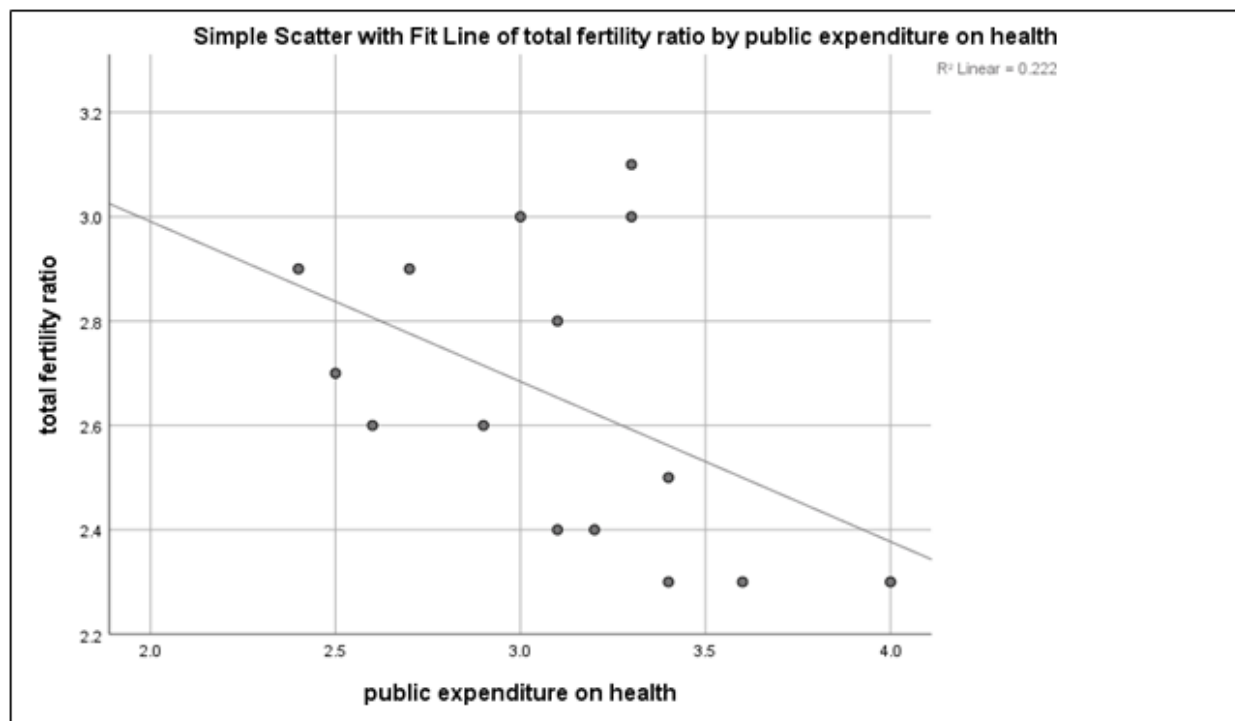
The research question tested to see whether there was a negative relationship between PEX and TFR. The Pearson correlation coefficient between two variables was calculated.

Figure 3 shows a correlation of -0.648 when compared. We can say that they are highly correlated in negative direction.

Figure also indicates that correlation coefficient of -0.648 is significant at the 0.05 level. The interpretation is that there is a small probability (31 in 1000) that observed correlation coefficient was due to chance.

Figure 3: Pearson's Correlation Coefficient

Correlations			
		PUBLIC EXPENDITURE ON HEALTH	TOTAL FERTILITY RATE
PUBLIC EXPENDITURE ON HEALTH	Pearson Correlation	1	-.648[*]
	Sig. (2-tailed)		.031
	N	11	11
TOTAL FERTILITY RATE	Pearson Correlation	-.648[*]	1
	Sig. (2-tailed)	.031	
	N	11	11
*. Correlation is significant at the 0.05 level (2-tailed).			

CONCLUSIONS

If government population policy and trend of public expenditure on health were taken into consideration, then we can easily conclude that amount of public expenditure is very small.

So, there is urgent need to design national population policy to achieve fertility reduction. Indian government has to increase public expenditure to attain this goal because reduction in fertility results in improvement in overall health of Indian women. Improvements in health output will contribute to economic growth by creation of efficient and quality human resources.

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