

The Study On Impact Of National Rural Health Mission In Child Health Indicator Of Southern State Of India With Special Reference To Infant Mortality Rate Male & Female

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Abstracts: *NRHM launched by Government of India holds great hopes and promises to the need of the people. Especially, NRHM has been implementing so many projects exclusively to reduce gender (male & female) inequality large disparity in India. The paper intends to study the impact of NRHM in the southern States of India in term of IMR of male and female. This present study is based on the available secondary data. The data has collected from various government reports. This study has employed various statistical and econometric tools like table; graph and paired sample T test in order to analysis and interpretation of data. Thepaired samples T test result indicating thatAfter NRHM in the southern States of India IMR of male and female is significant reduction. But, reduction of IMR in male is much faster and much higher than IMR in female.This paper suggested that to further reduction of IMR of male & female, the Government should be continuous effectively this programme like HBNBC in all regions in India. Then only, its Infant Mortality can reduce as per the requirements of Millennium Development Goals.*

Introduction

Health is described as the state of complete physical, mental and social well-being (WHO). According to Webster Dictionary: Health is a state of being hale sound, or whole, in body, mind, especially, the state of being free from physical disease or pain.

Health is an important form of human capital. It can enhance workers' productivity by increasing their physical capacities, such as strength and endurance, as well as their mental capacities, such as cognitive functioning and reasoning ability. Low levels of human capital will be a barrier to development and impede improvements in productivity and competitiveness. But, human capital performance mainly has been linked to levels of education and some other factors such as innovation, technical progress and research and development and also health and nutrition as conditioning factors to growth. Sustained growth depends on the levels of human capital whose stock increases as a result of better

education, better health, and new learning and training activities. Therefore, promotion of good health must be prime objective of every country's development program. It is precursor to improve the quality of life for a major portion of mankind. The preamble to the WHO constitution also states that enjoyment of the highest attainable standard of health is fundamental right of every human being and Governments are responsible for the health of their people and that they can fulfil that responsibility by taking appropriate and social welfare measure. Health has found an important place in the constitutions of all nations of the world. Therefore, countries like economically developed and developing economy have started paying adequate role on improving the health status of people in the last three decades or so. A considerable portion of the Gross Domestic Product (GNP) has been earmarked for health promoting activities and health care represented by the number of medical institutions and availability of medicines.

In India, Consider into account the above factors in 2005 National Rural Health Mission was launched our country. It is also called as National Health Mission. It provides effective health care to rural population, throughout the country particularly states which have weak public health indicators and weak infrastructures. Also, it seeks to provide universal access to reasonable, cheap and excellence health care. Which is answerable and approachable to the need of the people, reduction of child and maternal deaths as well as population standardization, gender (male & female) and demographic balance. It would also help to achieve the goals set under the NRHM policy and millennium Development Goals.

Review of Literature

Amarjeet Sinha (2009) studied about the NRHM in India. The researcher identified that the National Rural Health Mission provides a large canvas and platform for health action. Throughout the short period of its presence there is sufficient signal to show that the mission has been moving in the right direction, crafting a reliable public system of health care provision opening from the village and going up to the district level.

Zakir Hussain (2011) critically evaluates the success of the government intervention strategies under NRHM scheme. This paper attempts a desk review of the progress of the National Rural Health mission with respect to its core strategies- provisioning of health services to households through accredited social health activists, support rural public

facilities, increasing capacity of panchayat to regulate and manage provisioning of health services and standing of an effective health management information system.

S. Bhattacharyya, A. Srivastava, B. Avan, W. J. Graham 117 (2012) accesses facilitating factors and tasks in providing quality delivery care and creates context-specific operation lessons in three diverse states in India. The analysis presented is qualitative and descriptive. The Analysis shows that NRHM has filled new life in terms of infrastructure improvements, advance lower-level facilities but tasks remain like inadequate human resources, non-utilization of allocated funds and poor observing.

The study on impact of National Rural Health Mission on per natal in rural India by **Sharad Kumar Singh and Ravinder Kaur (2012)**. The researcher find out that innovations under national rural health mission have paved the way for increased utilization of hospitals for childbirth. The relationship of increase in hospital deliveries with deterioration in the prenatal mortality rate in rural India after the introduction of NRHM in 2005 was measured using the sample registration system reports.

Dr. Navitha Thimmalah and Mamatha K.G- (2014) intends to study the impact of NRHM in term of health infrastructure and to study the impact of NRHM on health indicators like IMR, MMR, CDR and TFR in Karnataka. The researcher found that the number of sub centres, primary health centres and community health centre has enlarged between 2005 and 2010. Also IMR, MMR, CDR and TFR have come down after the execution of national rural health mission.

Objectives of the Study

1. To examine the impact of NRHM in term of IMR male between southern state of India
2. To analysis the impact of NRHM in term of IMR female between southern state of India

Hypotheses of the Study

- There is significant reduction in IMR male after implementation of NRHM
- There is significant reduction in IMR female after implementation of NRHM

Scope and Methodology of the Study

This present study is related to NRHM and its impact on IMR in the southern state of India on the basis of secondary data available. The data has collected from Sample Registration System Statistical Reports for different years, Office of RGI, New Delhi. And SRS Bulletins

for different years, Sample Registration System, Office of RGI, New Delhi. In addition, <http://niti.gov.in/content/infant-mortality-rate-imr-1000-live-births>. This study has employed various statistical and econometric tools like table; graph and paired sample T test in order to analysis and interpretation of data.

Result and Discussion of Infant Mortality Rates Male & Female in Southern States of India

Table Infant Mortality Rates (male) in southern States of India (1999-2016)

year /state	India	TamilNadu	Kerala	Andhra Pradesh	Karnataka
Before Implementation Of NRHM					
1999	70	50	14	69	59
2000	67	49	15	66	65
2001	64	45	14	65	59
2002	62	46	9	64	56
2003	57	44	11	59	51
2004	58	43	14	59	49
2005	56	35	14	56	48
After Implementation of NRHM					
2006	56	36	14	55	46
2007	55	34	12	54	46
2008	52	30	10	51	44
2009	49	27	10	48	41
2010	46	23	13	44	37
2011	43	21	11	40	34
2012	41	21	10	40	30
2013	39	20	10	39	30
2014	39	20	12	39	29
2015	37	19	12	37	28
2016	33	17	9	33	22

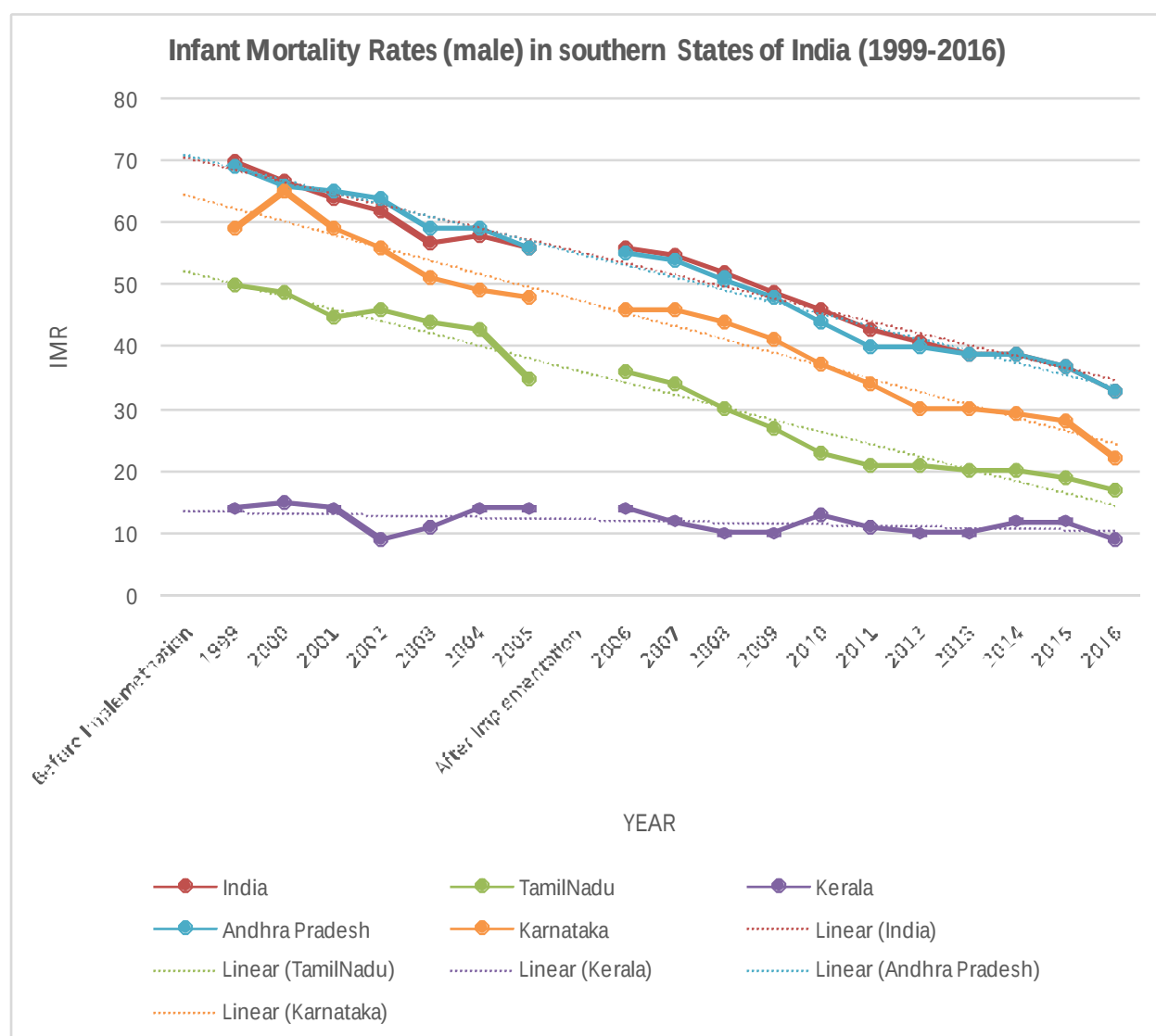
*Source: 1. Sample Registration System Statistical Reports for different years, Office of RGI, New Delhi.

*SRS Bulletins for different years, Sample Registration System, Office of RGI, New Delhi

*http://www.censusindia.gov.in/vital_statistics/SRS_Report_2016/8.Chap%204-Mortality%20Indicators-2016.pdf

From table 4.30, it is clear that in the year 2005 when NRHM was launched, there were IMR 35 in TNs, 14 in KLS, 56 in APs, 48 in KAs and 56 in India. In the year 2013, the IMR of TN from 35 to 20, KL from 14 to 10, AP from 56 to 39, KA from 48 to 30 and over all India from 56 to 39 decreased respectively.

Fig Infant mortality rate (male) in southern states of India (1999-2016)



The fig shows the Infant mortality rate (male) in southern states of India. From the fig, it is clear that Infant mortality rate (male) southern states of India have gradually decreased along the years and after NRHM as well. Similarly comparing the southern states of India the Infant mortality rate (male) in southern states of India is lowest in Kerala and High in Andhra Pradesh.

Paired sample t Test Results on Infant Mortality Rates (male) in southern States of India

States	Statistical value	Before NRHM	After NRHM	Decreasing Mean	Std.D	CO.R	t.Value	df	Sig
India	Mean	62.0000	48.8571	13.14286	1.57359	.964	22.098	6	.000
Tamilnadu	Mean	44.5714	27.4286	17.14286	3.43650	.829	13.198	6	.000
Kerala	Mean	13.0000	11.4286	1.57143	2.50713	.143	1.658	6	.148
Andhra Pradesh	Mean	62.5714	47.4286	15.14286	2.19306	.962	18.269	6	.000
Karnataka	Mean	55.2857	39.7143	15.57143	2.14920	.941	19.169	6	.000

Paired 't' Test Results on Infant Mortality Rates (male) in southern States of India

- H₀: There is no difference in IMR (male) pre and post NRHM period in southern States of India.
- H_A: There is difference in IMR (male) pre and post NRHM period in southern States of India.

In the paired sample T test result table, it indicates that the Tamilnadu M.D value is 17.014286 and its STD. Deviation value 3.43650. The t statistic is significant at 1% ((df: 6, t: 13.198, sig0.000) level. Therefore, the null hypothesis of no difference in IMR pre and post NRHM period in Tamilnadu is rejected and alternative hypothesis of significant difference is accepted. With respect to Kerala, the M.D is 1.57143 and its STD. deviations 2.50713. The t statistic is significant at 1% ((df: 6, t: 27.543, sig0.148) level. Hence, the null hypothesis of no difference in IMR pre and post NRHM period in Kerala is rejected and alternative hypothesis of significant difference is accepted.

On the other hand, AP M.D value is 15.14286 and its STD.deviation value 2.19306. The t statistic is significant at 1% (df: 5, t: 18.269, sig0.000) level. Hence, the null hypothesis of no difference in IMR pre and post NRHM period in AP is rejected and alternative hypothesis of significant difference is accepted. In the case of KR, M.D value is 15.57143 its STD. Deviation value 2.14920. The t statistic is significant at 1% ((df: 6, t: 19.169, sig0.000) level. Hence, the null hypothesis of no difference in IMR pre and post

NRHM period in KR is rejected and alternative hypothesis of significant difference is accepted.

Whereas, India M.D value is 13.14286 and its STD. Deviation value 1.57359. The t statistic is significant at 1% ((df: 6, t: 22.098, sig0.000) level. Hence, the null hypothesis of no difference in IMR pre and post NRHM period in India is rejected and alternative hypothesis of significant difference is accepted. Over all the above analysis's reveals that value of STD.deviation value to TN, AP and KA is higher than other state KL and in India. Therefore, TN, AP and KA are good performed state than other in IMR pre and post NRHM period. On whole, HA: There is difference in IMR pre and post NRHM period in southern States of India is accepted.

Table Infant Mortality Rates (Female) in southern States of India (1999-2016)

year /state	India	TamilNadu	Kerala	Andhra Pradesh	Karnataka
Before Implementation Of NRHM					
1999	71	55	15	64	57
2000	69	54	13	64	47
2001	68	54	9	68	58
2002	65	43	12	60	53
2003	64	41	12	59	52
2004	58	38	11	58	49
2005	61	39	15	58	51
After Implementation Of NRHM					
2006	59	37	16	58	50
2007	56	36	13	55	47
2008	55	33	13	54	46
2009	52	29	13	50	42
2010	49	24	14	47	39
2011	46	23	13	46	35
2012	44	22	13	43	34
2013	42	21	13	40	32
2014	39	20	12	39	29
2015	37	19	12	37	28
2016	36	17	11	35	27

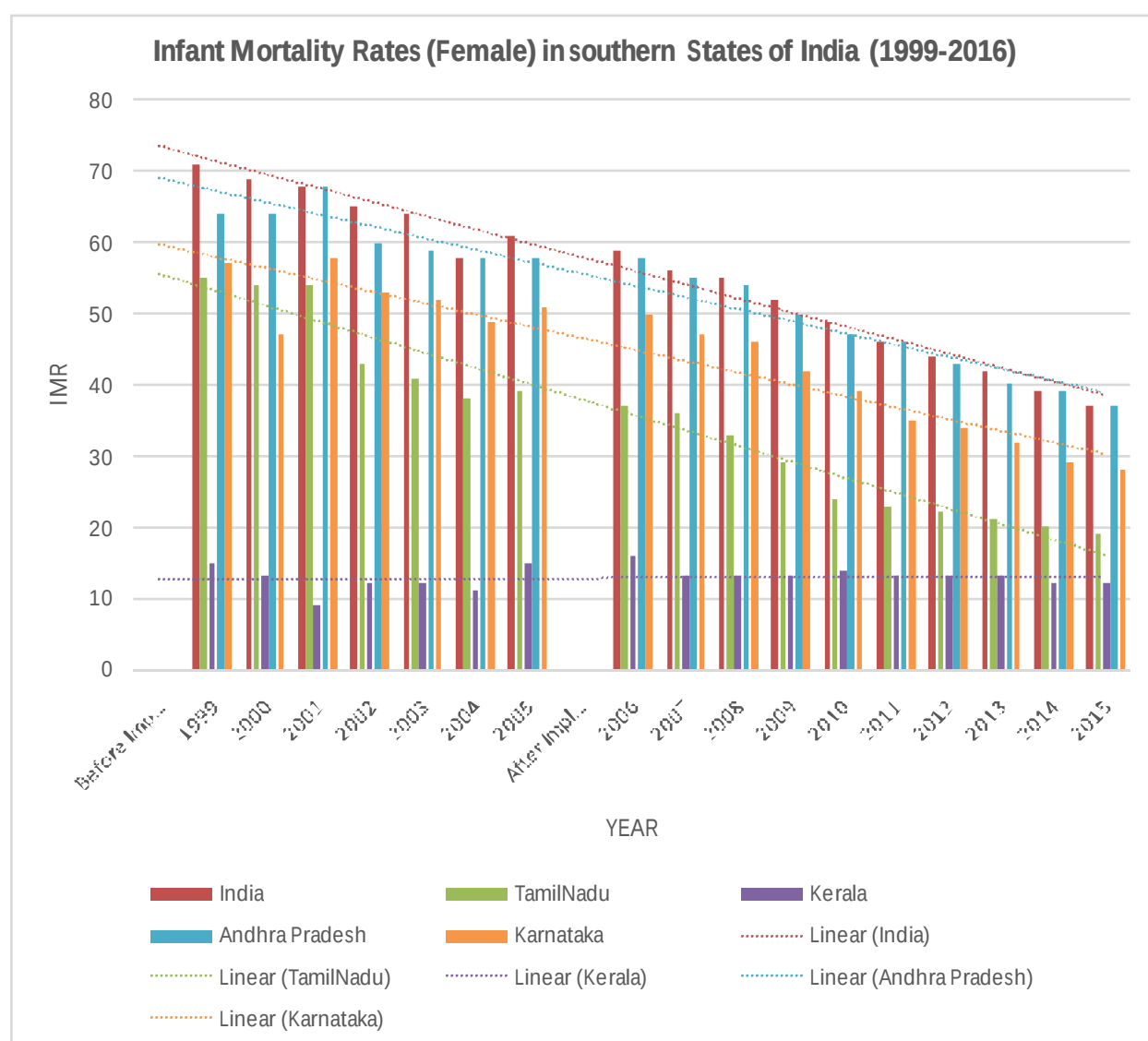
*Source: Sample Registration System Statistical Reports for different years, Office of RGI, New Delhi.

*SRS Bulletins for different years, Sample Registration System, Office of RGI, New Delhi.

*http://www.censusindia.gov.in/vital_statistics/SRS_Report_2016/8.Chap%204-Mortality%20Indicators
2016.pdf

From the table, it shows that in the year 2005 when NRHM was launched, there were IMR (female) 39 in TNs, 15 in KAs, 58 in APs, 51 in KAs and 61 in India. In the year 2013, the IMR (female) of TN from 39 to 21, KL from 15 to 13, AP from 58 to 40, KA from 51 to 32 and over all India from 61 to 42 decreased respectively.

Feg. Infant Mortality Rate (Female) in southern states of India



The above fig shows the Infant Mortality Rate (Female) in southern states of India. From the fig it is clear Infant Mortality Rate (Female) in southern states of India has gradually decreased along the years and after NRHM as well. Similarly comparing the southern states of India the Infant Mortality Rate (Female) is lowest in Kerala and High in Andhra Pradesh even after NRHM.

Paired 't' Test Results on Infant Mortality Rates (female) in southern States of India

States	Statistical value	Before NRHM	After NRHM	Decreasing Mean	Std.D	CO.R	t.Value	df	Sig
India	Mean	65.1429	51.5714	13.57143	1.81265	.951	19.809	6	.000
Tamilnadu	Mean	46.2857	29.1429	17.14286	2.26779	.967	20.000	6	.000
Kerala	Mean	12.4286	13.5714	-1.14286	1.86445	.498	-1.622	6	.156
Andhra Pradesh	Mean	61.5714	50.42	11.14286	3.07834	.835	9.577	6	.000
Karnataka	Mean	52.4286	41.8571	10.57143	5.56349	.464	5.027	6	.002

Paired 't' Test Results on Infant Mortality Rates (female) in southern States of India

- H₀: There is no difference in IMR (female) pre and post NRHM period in southern States of India.
- H_A: There is difference in IMR (female) pre and post NRHM period in southern States of India.

On the basis of analysis conducted by using paired sample T test, it indicates that the Tamilnadu M.D value is 17.014286 and its STD. Deviation value 2.26779. The t statistic is significant at 1% ((df: 6, t: 20.000, sig.0.000) level. Hence, the null hypothesis of no difference in IMR pre and post NRHM period in Tamilnadu is rejected and alternative hypothesis of significant difference is accepted. In case of Kerala state, the M.D is -1.14286 and its std deviations 1.86445. The t statistic is significant at 1% ((df: 6, t: -1.622, sig.0.156) level. Hence, the null hypothesis of no difference in IMR pre and post NRHM period in Kerala is accepted and alternative hypothesis of significant difference is rejected.

With respect to AP, M.D value is 11.14286 and its STD.deviation value 3.07834. The t statistic is significant at 1% (df: 5, t: 9.577, sig.0.000) level. Hence, the null hypothesis of no difference in IMR pre and post NRHM period in AP is rejected and alternative hypothesis of significant difference is accepted. On the other hand of KR, M.D value is 10.57143 its STD. Deviation value 5.56349. The t statistic is significant at 1% ((df: 6, t: 5.027, sig.0.002) level. Hence, the null hypothesis of no difference in IMR pre and post NRHM period in Tamilnadu is rejected and alternative hypothesis of significant difference is accepted.

Whereas, India M.D value is 13.57143 and its STD. Deviation value 1.81265. The t statistic is significant at 1% ((df: 6, t: 19.809, sig.0.000) level. Hence, the null hypothesis of no difference in IMR pre and post NRHM period in India is rejected and alternative hypothesis of significant difference is accepted. Over all the above analysis's reveals that value of STD .deviation value to TN, AP and KA is higher than other state like KL and in India. Therefore, TN, AP and KA are good performed state than other in IMR pre and post NRHM period. Particularly, TN state IMR female reduction is much better than other state. On whole, HA: There is difference in IMR pre and post NRHM period in southern States of India is accepted but except the Kerala state.

Policy recommendation

1. Government should bring reforms in the health system in the rural areas of southern States of India like HBNBC. For that, The Public, Private and NGO/Third Sectors Partnership should take combined effort.
2. Government should enlarge successfully the health facility to the hilly region people and tribal people particularly programme like HBNBC.
3. After the implementation of NRHM health indicators like IMR male & female has been reduced significantly. But for the further reduction, Government should promote this programme extensively in high IMR regions in the southern States of India.

Discussion & Conclusion

NRHM launched by Government of India holds great hopes and promises to the need of the people, reduction of child and maternal deaths as well as population standardization, gender (male & female) and demographic balance. Especially, NRHM has been implementing so many projects exclusively to reduce gender (male & female) inequality large disparity in India. This study is concluding that after NRHM in the southern States of India IMR of male and female is

significant reduction. But, reduction of IMR in male is much faster and much higher than IMR in female. To further reduction of IMR of male & female, Government should be continuous effectively this programme like HBNBC in all regions then there is no doubt that the southern States of India can reduce its Infant Mortality as per the requirements of Millennium Development Goals.

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