

Impact of the Mission Parivar Vikas Programme: Evidence from National Family Health Surveys¹

The 'Mission Parivar Vikas' was launched in 2016 for increasing the access to contraceptives and family planning services in the identified 146 high fertility districts in seven states, which had a Total Fertility Rate (TFR) more than 3. Various promotional schemes, activities and campaigns were organized to increase demand, while capacity building of health professionals and logistics management systems were intensified to strengthen the supply side. District level key indicators from the two rounds of the National Family Health Surveys (NFHS) provided an opportunity to examine changes in the intervention districts, as compared to non-intervention districts, in the states. A multivariate statistical analysis was used to estimate the impact of the programme. The findings indicate that the districts under Mission Parivar Vikas (MPV) programme had lower levels of family planning outcomes prior to the programme, compared to non-MPV districts. During the implementation, the uptake of modern contraceptives improved faster in the programme districts with a statistically significant difference-in-differences, thus indicating a positive impact of MPV interventions. Despite significant improvement over the years, the current levels of use of reversible methods are still very low and requires immediate attention.

Background

India has achieved replacement levels of fertility but marked geographical variations persist. Family planning is one of the most crucial interventions to address high fertility and maternal and new-born morbidities and mortality. Taking this into account, the Ministry of Health and Family Welfare (MoHFW) conceived 'Mission Parivar Vikas' in 2016 with a stratified approach for substantially increasing the access to contraceptives and family planning services in identified 146 high fertility districts (Total Fertility Rate > 3) across seven states. These districts constitute about 28% of India's population and contributes to around 30% of maternal deaths.

A five-pronged strategy was developed, with the following:

1. Delivering assured services;
2. Building additional capacities for enhanced service delivery;
3. Ensuring commodity security;
4. Implementing new 'Promotional Schemes'; and
5. Creating an enabling environment

Some of the highlights of these activities for assured delivery of services in the identified districts include rolling-out of Injectable Contraceptives (Antara) till sub-centre; augmentation of PPIUCD services to all delivery points; condom boxes at strategic locations; social marketing of condoms and pills; 'Mission Parivar Vikas' campaigns etc. The programme also initiated promotional schemes such as 'NAYI PAHEL' – an family planning (FP) kit for newly-weds, *Saas Bahu Sammelan*, SAARTHI - awareness on Wheels and local radio spots with messages from local actors. On the supply side, highlights included the operationalization of logistic management systems and capacity building of Medical Officers (MOs) and Nurses.

Objectives

The objective of the study is to measure the impact of Mission Parivar Vikas (MPV) on family planning performance in the intervention districts compared with non-MPV districts. The analysis is based on the data from the latest two rounds of the National Family Health Surveys (NFHS-4 and 5). Since district level key family planning indicators are provided by

¹ The Population Dynamics Team of UNFPA-India carried out the analysis and views expressed are that of the researchers and do not reflect those of the organization.

the survey, it is possible to compare progress in MPV districts before and after the introduction of the programme and subsequently comparing it with non-MPV districts, in seven states.

Data Source

An elaborate and specific management information system of the MPV programme was developed, which mainly monitors the processes. However, availability of population-based data from NFHS provides an opportunity to measure outcome level variables, thus, the impact of MPV programme, by applying appropriate statistical tools. The previous round of NFHS-4 conducted in 2015-16 provides the district level key indicators, just prior to the implementation of the MPV programme, which served as a baseline. The latest round of NFHS-5 was conducted after about five years of its previous round; hence this allows to estimate the changes in key indicators of family planning during the five years of implementation. The district level key indicators were obtained from the Fact Sheets of NFHS-5.

Methodology

A quantitative approach of estimating impact of the programme was used by applying a multivariate statistical technique called the 'Difference in Differences' (DID). This is a quasi-experimental research design that makes use of data from treatment (MPV districts in this case) and control groups (non-MPV districts in seven states), before and after the intervention, and obtain an appropriate counterfactual to estimate a causal effect by comparing the average change over time. DID combines before-and-after changes in the outcome for treatment and control groups to estimate the overall impact of the programme. The information from NFHS-4 serves the observations before the programme and NFHS-5 provides outcomes after the implementation of programme. The MPV districts are considered as a treatment group (146 districts), while non-MPV districts (135 districts) from these seven states are regarded as a control group.

The first difference in the key outcome indicators of family planning is the before-after difference in a treatment group (MPV districts) and controls for factors that are constant over time in this group. To capture time-varying factors, the second difference takes the before-after difference in the control group (non-MPV districts in seven states), which was exposed to the same set of environmental conditions as the treatment group. Finally, difference-in-differences cleans all time varying factors from the first difference by subtracting the second difference from it. This provides the impact estimation using this method. DID assumes that in the absence of treatment or programme, the difference between the 'treatment' and 'control' group is constant over time.

STATA version 17 is used to compute DID and to estimate the standard error of the diff-in-diff, with statistical significance. The key outcome variables chosen for this study are i) the current use of any methods of family planning among women 15-49 years of age; ii) current use of any modern methods by these women; iii), unmet need for family planning' and iv) percentage of non-users of family planning ever talked about various methods by a health worker. These are important dimensions related to the family planning programme. The diff-in-diff and the level of statistical significance determine whether MPV intervention has had any impact during last 4-5 years.

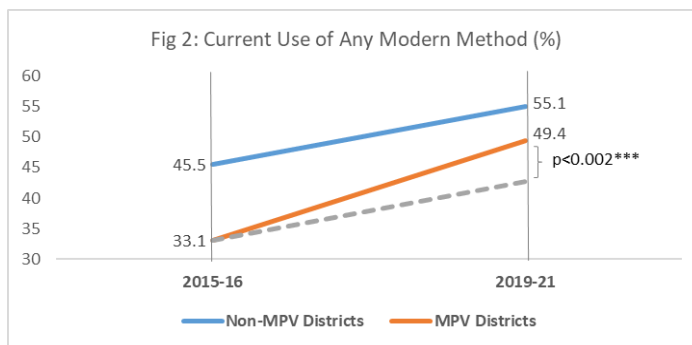
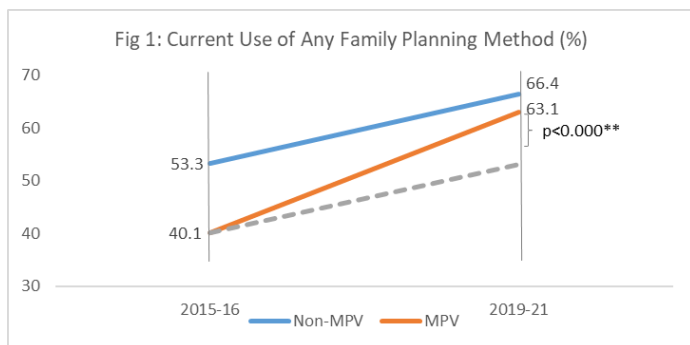
Findings

In 2015-16, the MPV districts had lower levels of achievements on the key indicators selected under this study. This is perhaps the strong justification of selecting these high fertility districts as an outcome of the lower level of family planning indicators for the MPV programme.

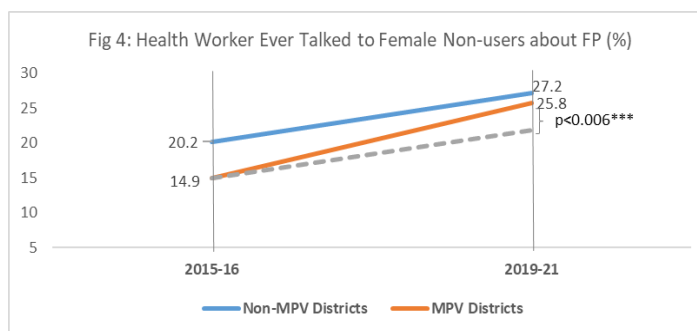
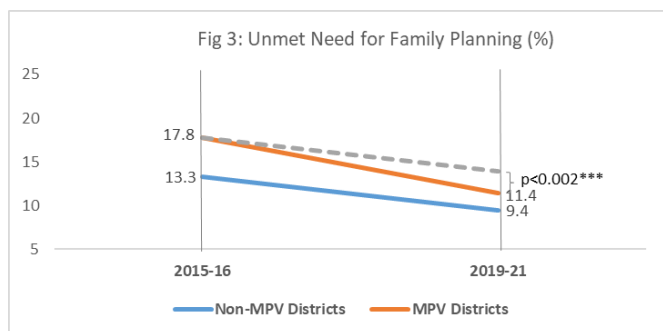
Only one third (33.1%) of women in their reproductive ages living in MPV districts were using any modern method of family planning as against 45.5% among those from non-MPV districts. The unmet need for contraceptive was 4.5% points higher at 17.5% in MPV districts versus 13.3% in non-MPV districts. Similarly, the information on various aspects of family planning was provided only to 14.9% of non-users in MPV districts while such contacts were slightly higher in non-MPV districts in 2015-16.

Overall, the improvements in these key indicators are observed between the last two rounds of the survey, but the improvement has been more rapid in MPV districts as compared non-MPV districts. Thus, the time dimension captures improvement in both the groups and difference in the pace of improvements in the treatment group (MPV districts), indicating the effect of the programme. The off take of the family planning programme is higher in MPV districts as compared to the comparable group. For example, current use of any modern method of family planning increased from 33.1% to 49.4% in MPV districts, while the improvement in the control group is from 45.5% to 55.1%. The diff-in-diff turns out statistically significant, which suggest that the programme had an impact on improving the current use of modern contraceptives in the MPV districts (Fig 2 and Table 1). The same inference is also found true in the case of

current use of any family planning method (Fig 1). These figures also depict the slope (dotted line) of improvements comparable with the non-MPV district over the period, which represents the counterfactual. The difference between the dotted line and the actual increase in the performance is the programme effect.



The success of the family planning programme is also measured through reduction in the unmet need due to increasing access to contraceptives among those who want to adopt them. Overall, there has been a reduction in the unmet need for family planning among couples in the age group of 15-49 in both treatment and control groups. In MPV districts, it reduced from relatively higher levels (18%) before the introduction of the programme to 11% after the implementation of the programme. However, the diff-in-diff in this case is also statistically significant, indicating faster decline in unmet need in the MPV districts, which can be attributed to the efforts of the programme (Fig 3). Several activities such as the availability of injectable contraceptives at lower levels of health facilities and PPIUCD at all delivery points, and several campaigns reaching out to couples would have led to improving family planning use and thereby a decline in the unmet need.



One of the process indicators reflecting the quality of family planning services, e.g., health workers who have ever talked to female non-users about family planning, has shown improvements in both groups, but the diff-in-diff is statistically significant, indicating the impact of the programme (Fig 4). In MPV districts, the capacity building of the grassroots health functionaries was conducted to reach out to couples, especially among newly-weds and young couples with family planning kits, and providing relevant information and contraceptives, which would have led to fulfilment of the demand of family planning among eligible couples.

The analysis with respect to improvement of individual contraceptives suggests that the diff-in-diff is significant only in the case of use of condoms, while for other spacing methods such as injectables, oral pills and IUCD there was no significant improvement in MPV districts as compared to the control group. The use of condoms in MPV districts increased from 5.6% to 11%, while in the control group, the increase from a similar level went up to only 8.4% (Table 2). Hence, the overall increase in the offtake of family planning methods seems to be driven by the high use of condom. Though, the overall impact of the programme seems to be statistically significant, current use of modern methods are still about 6% points lower in MPV districts (at 49%) than the control group districts as per NFHS-5. Similarly, the levels of spacing methods use is just around 1% for injectables and IUCD and about 3.5% for oral pills. A lot more can be learned from non-MPV districts where use of oral pills is relatively better at around 6%– 8% in both rounds of the survey.

Conclusions

The Mission Parivar Vikas (MPV) programme was launched in 2016 in 146 identified districts from seven states, which had low levels of family planning indicators and high fertility. The programme has shown an impact across certain key family planning indicators estimated through difference-in-differences methods, applying on the secondary data

obtained from the last two rounds of NFHS. The fourth round is before the implementation of the programme and fifth round is after about 4-5 years of programme implementation. The evidence suggests a significant improvement in almost all family planning indicators including current use of any or modern contraception, reduction in unmet need and significant increase in update of condom in MPV districts compared to non-MPV districts. Recently, the Government has scaled-up this programme in all districts of the seven states and has also included a few North-Eastern states. The findings suggest that the programme has demonstrated its efficacy in increasing the uptake of contraception, though the current levels of a few indicators, especially use of reversible methods are still very low in MPV districts. Even after the implementation of the programme, the unmet need in MPV districts, though it reduced significantly, is still higher than the national average and compared to non-MPV districts, which is around 9.4%. The health workers in MPV districts are reaching only around one-fourth of non-users, which is slightly higher in non-MPV districts, and thus needs more attention for the overall improvements in the family planning programme. The use of reversible contraceptives such as injectables and IUCD are very low and only around 1% of couples adopt these methods. The need of the hour is to focus more on increasing these reversible methods.

Table 1: Difference-in-Differences on key family planning indicators in MPV and Non-MPV districts, NFHS-4 & 5

Outcome	Current Use of any method of FP			Current Use of any Modern method			Unmet Need for Family Planning			Health Worker Ever Talked to Female Non-users about FP		
	%	t	p-value	%	t	p-value	%	t	p-value	%	t	p-value
2015-16												
Non-MPV	53.3			45.5			13.2			20.2		
MPV	40.1			33.1			17.8			14.9		
Diff	-13.2	-8.7	0.000***	-12.5	-8.2	0.000***	4.5	7.5	0.000***	-5.2	-5.3	0.000***
2019-21												
Non-MPV	66.4			55.1			9.5			27.2		
MPV	63.1			49.4			11.4			25.9		
Diff	-3.3	2.2	0.030**	-5.7	3.7	0.000***	1.9	3.2	0.002***	-1.3	1.4	0.166
Diff-in-Diff	9.8	4.6	0.000***	6.7	3.1	0.002**	-2.6	3.0	0.002**	3.8	2.7	0.006**

Inference: * $p < 0.01$; ** $p < 0.05$

Table 2: Difference-in-Differences on spacing methods in MPV and Non-MPV districts, NFHS-4 & 5

Outcome	Current Use of Injectables			Current Use of Condom			Current use of IUCD/ PPIUCD			Current use of Oral Pills		
	%	t	p-value	%	t	p-value	%	t	p-value	%	t	p-value
2015-16												
Non-MPV	0.415			5.379			1.424			6.644		
MPV	0.988			5.586			0.821			1.782		
Diff	0.573	6.11	0.000***	0.207	0.25	0.801	-0.603	-4.03	0.000***	-4.862	-5.16	0.000***
2019-21												
Non-MPV	0.430			8.397			2.098			8.476		
MPV	1.040			11.062			1.204			3.454		
Diff	0.611	8.50	0.000***	2.665	3.26	0.001***	-0.894	7.30	0.000***	-5.021	5.33	0.000***
Diff-in-Diff	0.038	0.28	0.777	2.458	2.12	0.034**	-0.290	1.92	0.094	-0.160	0.12	0.905

Inference: * $p < 0.01$; ** $p < 0.05$