Journal of Cardiovascular Disease Research
ISSN: 0975-3583, 0976-2833 VOL14, ISSUE 08, 2023

Original Article

Evaluation Of The Effectiveness Of JSY Scheme In Raigad District

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Abstract

Background: National Rural Health Mission seeks to provide universal access to equitable, affordable and quality health care which is accountable and at the same time responsive to the needs of the people.

Objective: To evaluate the effectiveness of JSY scheme in Raigad district

Methods: This study was conducted at Primary Health Centres (PHCs), located in Raigad District, Maharashtra State, which is the district under which Department of Community Medicine, M.G.M. Medical College, Navi Mumbai is located.

Results: JSY is a centrally funded scheme hence the lot of central fund is been directed to the states in order to facilitate the institutional deliveries in the state. The overall ANC registration along with the ANC services has been good with respect to the prevalent reproductive age population in the district of Raigad. Hence the scheme is showing the improvement however much more need to be done with the emphasis on the availability of the skilled staff in the district with overall managerial communication in order to channelize the specialist to the PHCs in the Raigad district

Conclusions: JSY beneficiaries have increase in the Raigad district & it can be proven by the statistical tests.

Keywords: Effectiveness, JSY scheme, Raigad district

Introduction

The National Rural Health Mission (NRHM) was launched on 12 April, 2005, to be completed in a time frame of seven years [1] 2005-2012, with a view to bringing about dramatic improvement in the health system and the health status of the people, especially those living in the rural areas of the country. The 'architectural correction' of the health sector is a key objective for the NRHM, to be carried out through integration of vertical programs and structures; delegation and decentralization of authority; involvement of Panchayati Raj Institutions and other supportive policy reform

measures in the areas of medical education, public health management, incorporation of Indian Systems of Medicine, regulation of healthcare providers, and new health financing mechanisms.

Under the NRHM, the one of the main component is - the Janani Suraksha Yojana (JSY), which was introduced in April 2005 to promote institutional deliveries. High maternal mortality in India is a serious public health challenge. [2] Demand side financing interventions have emerged as a strategy to promote access to emergency obstetric care. Under NRHM program, Janani Suraksha Yojana (JSY) was designed and implemented to reduce financial access barriers that preclude women from obtaining emergency obstetric care. JSY, a conditional cash transfer, awards money directly to a woman who delivers in a public health facility. As per DLHS II (2002-04) report institutional deliveries conducted in Raigad district (63.4%) was higher than in comparison with the overall institutional deliveries reported in Maharashtra state (57.9%).

Maternal mortality rate (MMR) in India is 212 per 1, 00,000 live births in 2007-09 (Registrar General, 2011) & 149 in Maharashtra. As per these figures there is vast improvement in MMR in Maharashtra after the launch of NRHM in Maharashtra. Thus in order to compare with regard to these factors, the present study looked into maternal morbidity & mortality parameters in Raigad district to check the overall outcomes of MMR. [3] Hence this study was conducted to evaluate the effectiveness of JSY scheme in Raigad district

Materials and Methods:

Community & Primary Health Centre (Hospital) Based Cross Sectional Comparative Observational Study was conducted at Primary Health Centres (PHCs), located in Raigad District, Maharashtra State, which is the district under which Department of Community Medicine, M.G.M. Medical College, Navi Mumbai is located. Duration of study was August 2011 to November 2013.

Sampling method: Simple random sampling using table of random numbers

Study Sample: There are 15 talukas & 52 PHCs & 287 sub-centres in the Raigad district. Out of total 15 talukas, 7 are selected randomly in order to represent the total district. Only 7 talukas are chosen due to time & resource constraint. The each taluka has 2-6 PHCs. Randomly selected talukas are considered in totality & hence all PHCs under these talukas are chosen for the study. A Sub-centre is selected using the convenient sampling. A Sub-centre located near to the PHCs is selected for the interview of ANM & ASHA worker.

All the selected PHCs were informed in advance regarding the study along with official letter from District Health Officer (DHO) along with questionnaire to be studied in order to obtain the old data of 2005 or 2007 whichever is available in order to serve that as base line data.
Total Sample Size = 7 Talukas, 20 PHCs.

Sampling size determination- Population served by the individual PHCs are indirectly assessed by the records maintained in the PHCs & crossed checked by the records at Taluka Health Office (THO).
Sampling technique: Simple Random sampling

Inclusion criteria:
- All the selected PHCs are chosen those who are responded to the preliminary communication over telephone.

Exclusion criteria:

- All those PHCs who are not responded to the preliminary communication,
- All those PHCs who are not responded to the questionnaire along with proper & authentic records, PHCs who doesn't divulge the data

Sampling unit: Individual Taluka & PHCs were randomly selected & Sub-centers using convenient sampling.

Data collection

The study was conducted in four phases.

Phase I: Designing study tool

A pre-designed, pre-tested semi structured questionnaire in English & local language, Marathi was developed under expert guidance. The questionnaire contained information about following aspects:

- General demographic information of the PHCs
- Details of present status of various differentials of NRHM.
- Past track record of the individual PHCs in various differentials of NRHM.

Phase II: Pilot study

The questionnaire was pilot tested in 2 individual PHCs of neighboring area of the MGM Medical College & Hospital, Kamothe, Raigad, for the clarity of language, understanding of questions and to assess the feasibility of study. The questionnaire was then modified as per the local language and validated by a panel of experts of the institute.

Phase III: Ethical considerations before commencement of the study

Permission to conduct the study and ethical clearance was obtained from the Institutional Ethics Committee. Participants i.e. ANMs & ASHAs were fully informed about the purpose, procedures, benefits and risks of participation in the study. Participation in this study was voluntary; as such no participant was forced to take part. Participants were informed that all records pertaining to the study will be confidential, and that numbers instead of names will be used to identify participants.

Phase IV: Main study:

Simple Random sampling was used to select individual talukas & hence all PHCs under the jurisdiction of these talukas are considered for the study. The PHCs who are willing to share the data of their performance was visited. The Sub-centers was contacted for the availability of ANM & ASHA and their time for visit is noted & followed for the interview. ANM & ASHA who were informants, were explained the purpose of the study. Written informed consent was obtained from the individual ANM & ASHA. Those ANM & ASHA who consented to participate in the study were interviewed. ANM & ASHA were interviewed with help of pretested predetermined semi structured questionnaire.

Data analysis:

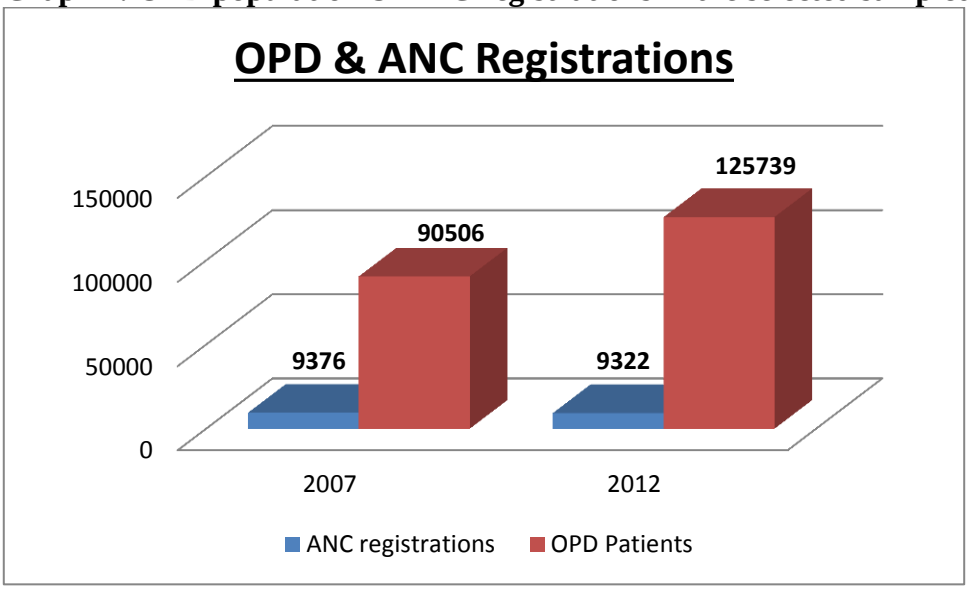
Data was recorded on a pre-designed proforma and managed on Excel spread sheet. All the entries were double checked for any possible key-board error. Data was analyzed using SPSS 17.0 Further statistic analysis was performed with the help of statistical tests such as z- test. The level of significance was set at 5%. All p value less than 0.05 will be treated as significance

Results:

Out of 7 talukas selected in the present study, all 7 have provided the required data of the activities. However out of 20 PHCs only 3 PHCs has not shared the full data in respect to their outreach activities. That data is compensated from the field visits & interview of ANM & ASHAs.

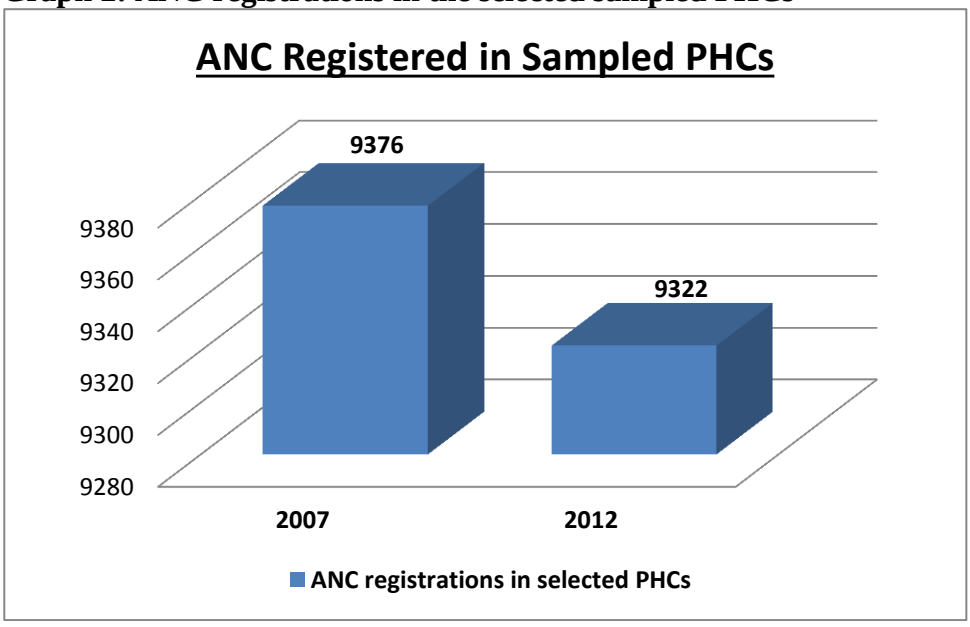
The population of the Raigad district of Maharashtra is growing rapidly due to the increase industrial & economic activities. The population load is also increasing over the period of time. The same is evident from the Table 1 which shows the increase in the population in the selected Primary Health Centres (PHC) functional area. The estimated population for the year has been derived from the 2001 census data which is available online. The population of the respective PHCs is hence estimated for the year 2007 for which no data was available. This is the baseline population for the estimation of the relevance of the proportionate changes in the data obtained from the PHCs.

Graph 1: OPD population & ANC registrations in the selected sampled PHCs



The significant increase in the number of out-patient department patients however the corresponding change has not shown in the ANC registration in all sampled PHCs across the Raigad district. The slight decrease in the number of OPD patient has been observed. This shows that the people in the majority of the PHC area either did not get the necessary ANC services which are quite unlikely due to high literacy level. This most probably suggest that people are moving to private clinics in the area which gives good & significantly quality health care services.

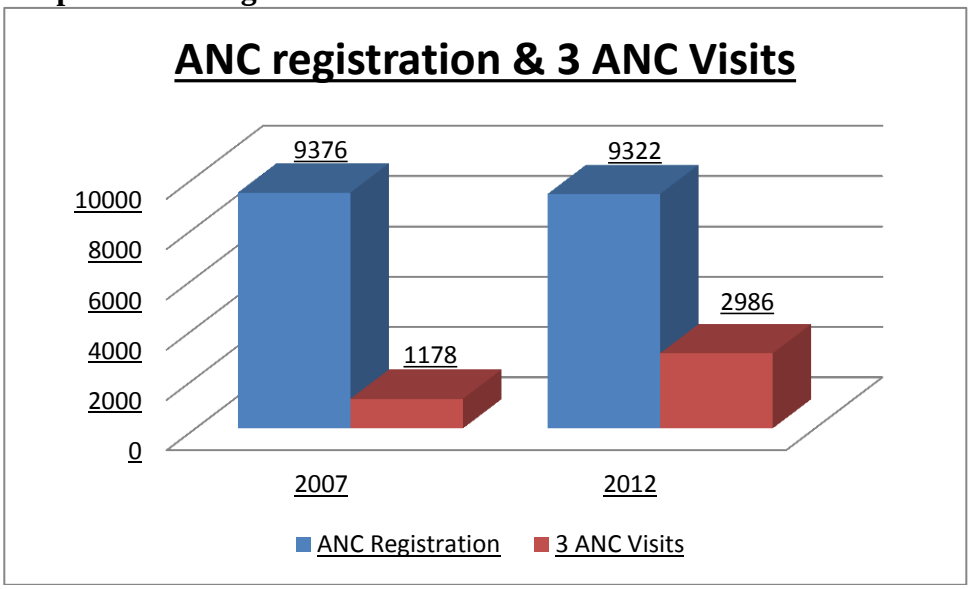
Graph 2: ANC registrations in the selected sampled PHCs



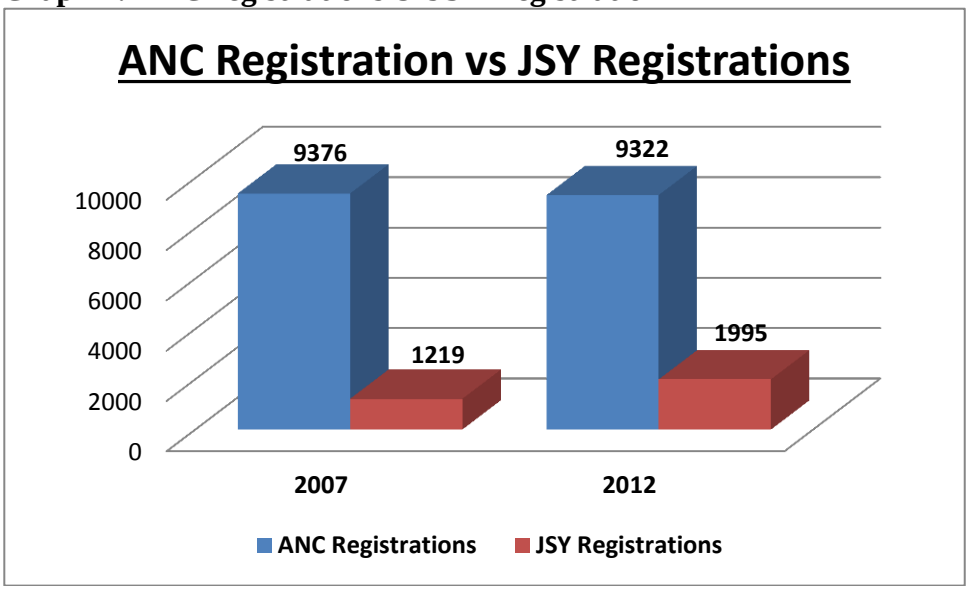
The Ante Natal Checkup (ANC) registration is the important indicator for the overall benchmark of MCH services. The graph 1 shows the gradual reduction in the registration of ANC number of ANC registrations. Thought the reduction is of 54 point, this reduction is significant with respective to the prevalent population of reproductive age group of 15- 49 years in corresponding years. Proportion in 2012 is less than 2007 as the number of ANC registration decreases with increase in population.

The follow up with the ANC registered cases, that to for minimum 3 visits, is showing the decline trend in all PHCs in Raigad district. The overall cases with respect to the population in the PHCs are increasing but the corresponding ANC services has not kept the pace with respect to the health delivery system. This is significant on z-test which is 25.10 with p-value of <0.00

Graph 3: ANC registrations & 3 ANC Visits



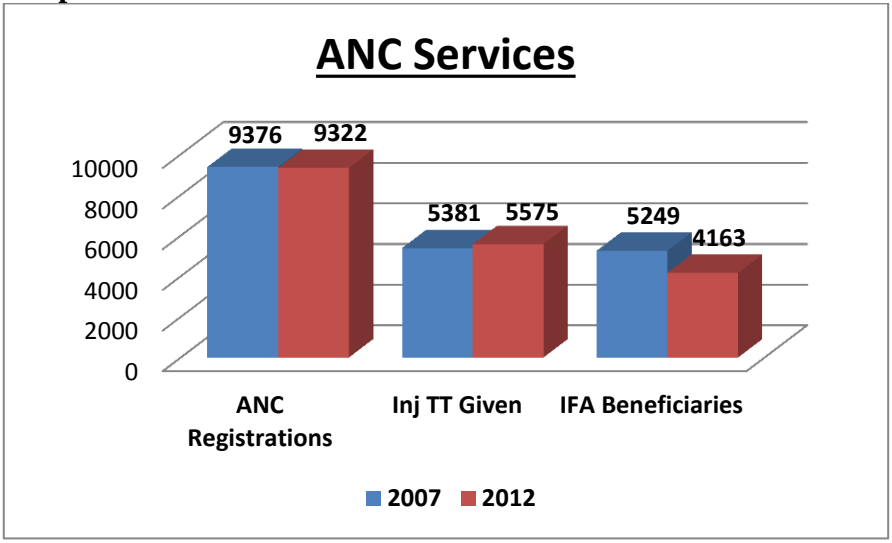
Graph 4: ANC registrations & JSY Registration



The overall change in the Janani Suraksha Yojana (JSY) beneficiaries is statistically significant. The increase in the population of PHCs shows the corresponding increase in the JSY registration. The proportion increase however is below expectation. The JSY is a cash incentive scheme hence was expected to increase more institutional JSY beneficiaries' registration. However it is statistically

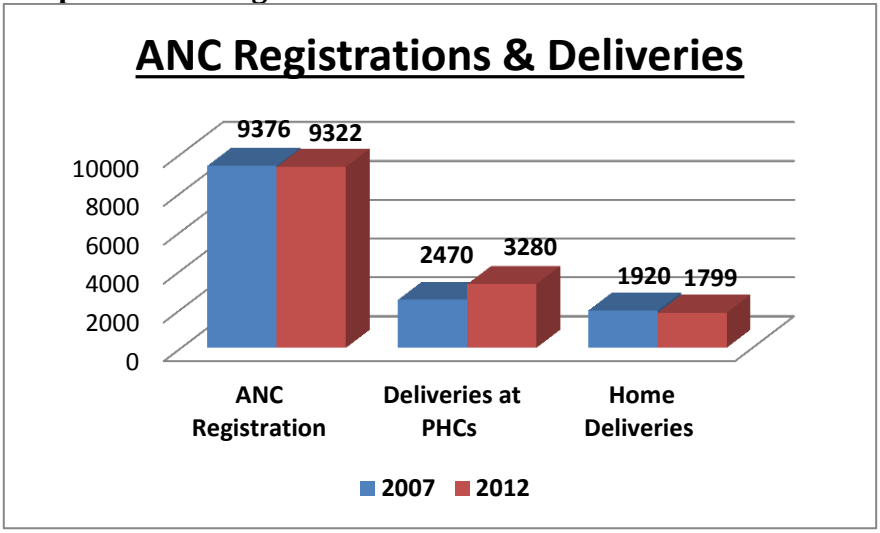
significant when compared with the reproductive age population (15-49 years) of the corresponding PHCs with z-value of 15.22 & p-value of <0.001.

Graph 5: ANC Services



The various ANC services with respective to the total ANC registration. The services like injection Tetanus Toxoid & Iron Folic Acid supplements are given free of cost to all pregnant women irrespective of the JSY status. The graph 5 show that the total number of beneficiaries in proportional term is significant with z-valus of 3.35 & p-value at < 0.001 for injection TT & z-value of 15.4869 with p-value of < 0.001. This shows the significant proportional increase in the ANC beneficiaries in the PHCs jurisdictional area.

Graph 6: ANC Registration & Deliveries



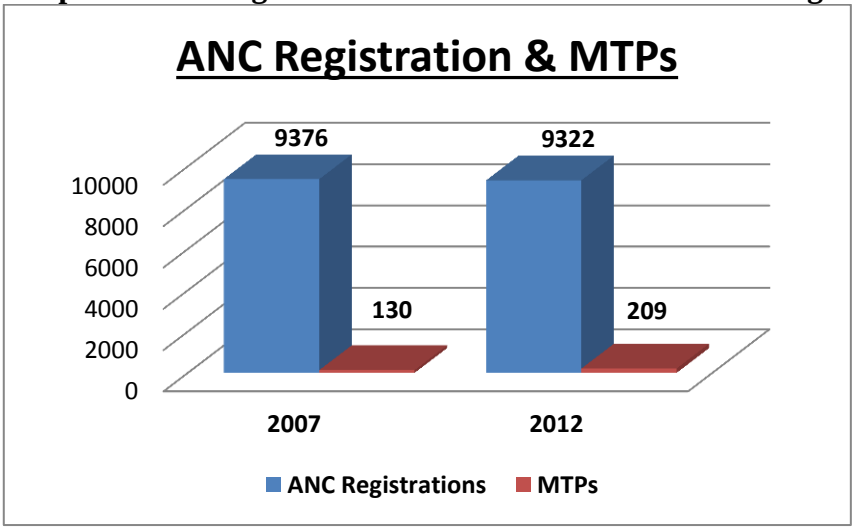
The ANC registered case & place of deliveries. The graph indicates the deliveries at institutional place i.e. PHC & deliveries at home. JSY was launched with the objective of reducing the home deliveries & increasing the institutional deliveries. The concept of 24*7 PHC has not been observed in any of the studied PHC. However it is statistically significant when compared with the reproductive age population (15-49 years) of the corresponding PHCs with z-value of 8.672 & p-value of <0.001.

The relationship between ANC registration & MTPs conducted at sampled PHCs. The major observation was that the only 2 PHCs have maintained the data related to the MTPs & only those

PHCs are only doing MTPs & rest don't perform any. This is despite of the NRHM facilitating for the expert services on contractual basis & paying honorarium from the JSY fund. This is mainly due to the non-availability of the specialized services, which is very unlikely as majority of PHCs are surrounded by the cities & with good road connectivity. Another reason may be the honorarium & its method of payment. The lack of management was between the medical officers of the PHCs & a specialist is evident which lead to poor service to the needy. The OT facility is also not available at 4 PHCs & 1 PHC has recently developed the OT but is non functional due to lack of staff.

Statistically it is significant when compared to the ANC registration with z-value of 4.384 & p-value of < 0.001.

Graph 7: ANC Registration & Medical Termination of Pregnancy (MTP)



The total ANC registration & the maternal deaths reported in the sampled PHCs. The maternal death is considered to be significant even if it is a single death related to the pregnancy. Hence the data analysed shows the z-value of 0.7012 & p-value of 0.484 which is not statistically significant as the maternal deaths are on decline trend due to better ANC services either in the PHC level or in the private set up. This is a good sign of ANC services

The various methods of family planning adopted by the eligible couples in the population of the sampled PHCs. The trend shows the more emphasis on condom distribution & oral contraceptive pills. Intrauterine devices & permanent sterilisation methods are on decline trend.

Graph 8: ANC registration & Maternal Deaths

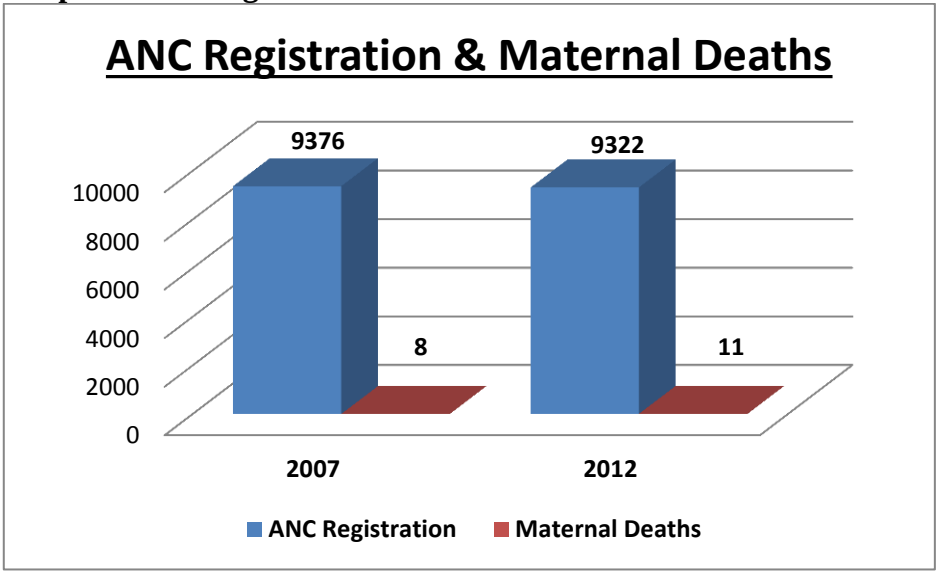


Table 2: various methods of family planning

Years	Permanent Methods	OC Pills	Condoms	IUCDs
2007	3264	4277	13171	2237
2012	2103	4376	28836	1820
Z-value	18.3	1.903	74.10	8.6128
p-value	< .001**	<0.0574	< .001**	<.012*

Hence statistically condom & permanent method are significant in proportion to the 2007 & 2012 data when calculated to the reproductive age population.

Discussion:

There is a significant increase in the number of out-patient department patients over the period of the NRHM; however the corresponding change has not shown in the ANC registration in all sampled PHCs across the Raigad district. The slight decrease in the number of OPD patient has been observed. This shows that the people in the majority of the PHC area either did not get the necessary ANC services which are quite unlikely due to high literacy level. This most probably suggest that people are moving to private clinics in the area which gives good & significantly quality health care services.
The Ante Natal Checkup (ANC) registration is the important indicator for the overall benchmark of MCH services. There is gradual reduction in the registration of ANC registrations. The reduction is significant with respective to the prevalent population of reproductive age group of 15- 49 years in corresponding years. Proportion in 2012 is less than 2007 as the number of ANC registration decreases with increase in population. Study by IIPS shows that about more than one quarter of the beneficiaries registered at the at the health sub centre followed by PHCs. This registration is less than 1/4th the population. The present study shows that the z-value of 64.87 also indicates that the less than 1/3rd of the population is registered with the facilities. This shows the past trend is still continued in 2012.

The follow up with the ANC registered cases, that to for minimum 3 visits, is showing the decline trend in all PHCs in Raigad district. The overall cases with respect to the population in the PHCs are increasing but the corresponding ANC services have not kept the pace with respect to the health delivery system. This is significant on z-test which is 25.10 with p-value of <0.001. 59 percent pregnant women given 3 ANC visits as per the study conducted by the IIPS.[1] Hence the present

study shows the marked reduction in the follow up visits. This may be due to the fact that ANM were interviewed in IIPS study than ASHA in this study.

Share of JSY beneficiaries is highest among women from 'scheduled caste' & 'scheduled tribe' as compared to women belonging to other classes (11 percent) as per the IIPS study in 2008. Hence there is improvement in the identification & registration JSY beneficiaries in the Raigad district.
ANC services like injection Tetanus Toxoid & Iron Folic Acid supplements are given free of cost to all pregnant women irrespective of the JSY status. This study shows the significant proportional increase in the ANC beneficiaries in the PHCs jurisdictional area as comparative to the IIPS study where it was 60 percent women were given IFA prophylaxis study area.

Majority of the women used private vehicles to reach facility for delivery (46 percent) as per the IIPS study. This finding is confirmed again in the present study as per the log records of the respective PHCs.

The study in 2008, the Ministry of Health and Family Welfare commissioned a concurrent evaluation of the NRHM, organised by the International Institute of Population Sciences (IIPS) [1] Mumbai, shows the average monthly JSY deliveries per PHC as 28 which is twice the average of the present study. The institutional set up hence shows the decline trend in the institutional deliveries.
Majority of the JSY deliveries (85 percent) were normal and very few (4 percent) were assisted as per the IIPS study. This is similar to the findings of the present study.

More than two third of the women received JSY money in cash and remaining 30 percent received it by cheque as per the IIPS study however in the present study all beneficiaries receive the incentives by cheque. The most common problem faced by the beneficiaries was 'time taken to get the money was too much' or 'incentive money paid by cheque/draft however this situation has been changed to the better as per the records in the present study.

Awareness about initiation of breastfeeding within an hour of delivery was almost universal among the surveyed ASHAs as per the IIPS study. This is counter confirmed again by the present study.

MTPs conducted at only 2 PHCs hence the record have maintained the data related to the MTPs & rest PHCs don't perform any MTPs. This is despite of the NRHM facilitating for the expert services on contractual basis & paying honorarium from the JSY fund. Statistically it is significant when compared to the ANC registration with z-value of 4.384 & p-value of < 0.001[4].

The maternal death is considered to be significant even if it is a single death related to the pregnancy. [5] Hence the data analyzed shows the z-value of 0.7012 & p-value of 0.484 which is not statistically significant as the maternal deaths are on decline trend due to better ANC services either in the PHC level or in the private set up. This is a good sign of ANC services.

Conclusion:

NRHM is a six year old programme which was started as a mission. It has since then has tried to change the face of the health care system in India. In Raigad, Maharashtra NRHM has however shows the improvement in the overall aspects of the different components of this study. JSY beneficiaries which when compared with the selected reproductive age population of age 15-49 years of total ANC population is 7.137 on z-test & p-value of <0.001.

JSY beneficiaries have increase in the Raigad district & it can be proven by the statistical tests. Many beneficiaries has visited the sub center during the VHND day has affirm the working of both ANM & ASHA workers.

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