Maternal health of women: A comparative analysis of northern states of India

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Abstract
Health is a primary aspect of our lives, especially for women. Every country emphasizes on maternal health care. In 2005, maternal mortality rate was 296 per 100000 live births worldwide and 286 per 100000 live births in India (WHO, 2015). According to Millennium Development Declaration, maternal mortality rate should be reduced by three-quarter since 2015. Government of India launched Janani Suraksha Yojana on 12th April 2005 under the National Rural Health Mission. The aim of the JSY was to reduce maternal mortality and infant mortality rate by increasing institutional deliveries. The states of India divided into Low performing states and high performing states on the basis of maternal mortality rate. Low performing states are highly focussed under JSY than High Performing States. Even the cash incentives also vary in these two types of states. The aim of the analysis was to assess the impact of JSY on maternal health by comparing northern states; Punjab (HPS) and Uttar Pradesh (LPS). The data of National Family Health Survey-3 (2005-06) and National Family Health Survey -4 (2015-16) was compared for various aspects of maternal health in these two states. The aspects of maternal health included in this study were antenatal care, delivery care and postnatal care. The results have shown that Punjab retains its status of a high performing state, it had performed very well in areas of Antenatal care, Delivery care and postnatal care, whereas the performance of UP had not been too good in the above mentioned areas. Despite the bleak scenario in UP in term of performance, the cash incentives being handed out in UP (49%) were much greater as compared to those being given in Punjab (19%).

Keywords: Maternal health, maternal mortality, Janani Suraksha Yojana, antenatal care, postnatal care

Introduction
Maternal health is a significant aspect of women’s life. The level of maternal health helps to understand the status of women in society. Various socio-economic aspects i.e. literacy, poverty, employment etc. determine the women’s position and health. Women’s health is a considerable point because she gives birth to a child. Healthy women can provide a healthy generation to the society. So, every country focuses on maternal health services. But globally, 295000 maternal deaths occurred in 2017 and nearly 810 women die per day due to preventable causes of pregnancy and child birth (WHO, 2017). In 2005, maternal mortality rate was 296 per 100000 live births worldwide and 286 per 100000 live births in India (WHO, 2015) According to Millennium Development Declaration, maternal mortality rate should be reduced by three-quarter since 2015. According to Sustainable Development Goal, maternal mortality rate should be less than 70 per 100000 live births by 2030. In 2017, Maternal mortality rate reduced 211 per 100000 live births worldwide and 145 per 100000 live births in India. Government of India launched Janani Suraksha Yojana (JSY) in 2005 under the supervision of National Rural Health Mission (NRHM). The aim of the JSY is to reduce maternal and infant mortality and increase institutional delivery rate. Cash incentives are given to beneficiaries. Accredited Social Health Activist (ASHA) has a valuable association between beneficiaries and government. It focuses on Empowered Action Group (EAG) states such as Bihar, Jharkhand, Chhattisgarh, Orissa, Madhya Pradesh, Uttaranchal and Uttar Pradesh, Rajasthan, north-eastern states, Jammu & Kashmir and Himachal Pradesh. These states characterized as Low performing states (LPS) and other states characterized as high performing states (HPS). There is wide difference in all states of India regarding maternal health care. JSY had been contributed in reducing maternal mortality ratio in India. Maternal mortality rate was 192 per 100000 live births and 440 per 100000 live births in Punjab and Uttar Pradesh respectively. This ratio decreased by 122 and 201 per 100000 live births in 2014-16.
Objective
The aim of the paper was to compare Low Performing States and High Performing States of North India regarding various aspects of maternal health after the implementation of JSY.

Material and methods
The secondary data was used for this descriptive research and the main source of the data was National Family Health Survey fact sheet of two northern states; Punjab and Uttar Pradesh. The data of NFHS-3 (2005-06) and NFHS-4 (2015-16) was compared for various aspects of maternal health in these two states. The aspects of maternal health included in this study were Antenatal care, Delivery care and postnatal care.

Results and Discussions
Maternal health refers to the women’s health at the time of pregnancy, childbirth and postpartum period. These periods are very sensitive and demand a serious attention of women. Antenatal care, delivery care and postpartum care are associated with these three periods of maternal health. Antenatal care is that care which a pregnant woman receives from health professionals during pregnancy. According to the guidelines of Janani Suraksha Yojana, there are four antenatal check-ups required and the visit for first antenatal check-up must be attended in first trimester of pregnancy. Data presented by NFHS-4 in Table no.1 had shown that two-third (68.5%) and 27 percent mothers had attended at least four antenatal visits in Punjab and Uttar Pradesh respectively. While according to NFHS-3 the data had shown 60 percent antenatal visits in Punjab and 11 percent in Uttar Pradesh. It shows that antenatal visits were lower in Uttar Pradesh than Punjab but in ten years from 2005-06 to 2015-16, these antenatal visits were increased by more than 15 percent in Uttar Pradesh, whereas in case of Punjab, it had increased 8 percent only.

| Table 1: Distribution of women had minimum four antenatal care visits |
|---------------------------------|
| States                  | NFHS-3 | NFHS-4 |
| Punjab                  | 60.2   | 68.5   |
| Uttar Pradesh           | 11.1   | 27.0   |

In the table 3 and 4, the consumption of iron and folic acid is much lower in Uttar Pradesh. Merely 13 percent of pregnant women consumed IFA in 2015-16. In Punjab, consumption is higher (42.6%) than UP but not sufficient according to NFHS-4 which increased from 13 percent and six percent in Punjab and Uttar Pradesh respectively. Similar observations were made in a study done in rural area of Amritsar (Punjab) where 36.2 percent of women consumed Iron Folic Acid tablets. (Kaur, 2015) 98 percent of women consumed hundred IFA tablets in Kerala. (Sumithra, 2006) Protection of mothers against tetanus increased in both states. (Table no 3, 4)

| Table 2: Distribution of women had first antenatal check up in the first trimester |
|---------------------------------|
| States                  | NFHS-3 | NFHS-4 |
| Punjab                  | 60.4   | 75.6  |
| Uttar Pradesh           | 25.7   | 45.9  |

| Table 3: Distribution of women had received tetanus toxoid |
|---------------------------------|
| States                  | NFHS-3 | NFHS-4 |
| Punjab                  | 83.0   | 92.0  |
| Uttar Pradesh           | 64.5   | 86.5  |

| Table 4: Distribution of women consumed IFA for 100 days or more |
|---------------------------------|
| States                  | NFHS-3 | NFHS-4 |
| Punjab                  | 13.0   | 42.6  |
| Uttar Pradesh           | 6.0    | 12.9  |
Full ANC refers to minimum four antenatal check-ups, minimum one tetanus toxoid (TT) injection and provision of IFA tablets for 100 days for the pregnant women. In Punjab about one-third of the women had full antenatal care while in Uttar Pradesh this percentage is much lower which 5.9 percent. The data was observed 11.8 percent and 2.7 percent in Punjab and Uttar Pradesh respectively.

### Table 5: Distribution of women who had full ANC

| States         | NFHS-3 | NFHS-4 |
|----------------|--------|--------|
| Punjab         | 11.8   | 30.7   |
| Uttar Pradesh  | 2.7    | 5.9    |

Figures in the parenthesis indicates percentage

JSY promotes institutional deliveries to reduce maternal mortality and infant mortality rate. According to NFHS-3, when JSY came into existence, half of the deliveries in Punjab and about eighty percent in Uttar Pradesh were occurred at home. Both states had increased the institutional delivery rate within ten years and Punjab’s institutional delivery rate is higher than Uttar Pradesh. According to NFHS-4, Institutional delivery rate in Punjab is 92% and in Uttar Pradesh it is 68%. Similar results had shown in a study of Punjab where hospital deliveries observed three-fourth in study subjects. (Kaur, 2015) Deliveries occurred at government institutions are also important component of JSY scheme. Both states performed well to increase deliveries’ rate at government health facilities. In Uttar Pradesh, rate of institutional deliveries in public facilities was seven percent as per NFHS-3. This ratio had increased by 44 percent in 2015-16. Similar observations can be found in a study of Uttar Pradesh where hospital deliveries increased from 37 percent in 2005-06 to 63 percent in 2009. (Deepthi, 2010).

### Table 6: Distribution of the respondents on the basis of institutional deliveries

| States         | NFHS-3 | NFHS-4 |
|----------------|--------|--------|
| Punjab         | 52.7   | 67.8   |
| Uttar Pradesh  | 20.6   | 67.8   |

Figures in the parenthesis indicates percentage

Postnatal care refers to the care which given to the mother and her newborn baby, after birth to first six weeks. Early postnatal care is crucial for mother and child. 91 percent of women received postnatal care in Punjab as per the data of NFHS-4 which increased to 63.7 percent in 2005-06. The percentage of women in Uttar Pradesh regarding postnatal care is 62 percent which is increased from 15 percent as per the record of NFHS-3 showed. Similar results had found in a study which conducted in Agra district of Uttar Pradesh where 69.51 percent of women received postnatal check-ups which was only 45.93 percent in pre-JSY implementation phase (Kumar, 2015) [6].

### Table 7: Distribution of the respondents on the basis of institutional deliveries in public facility

| States         | NFHS-3 | NFHS-4 |
|----------------|--------|--------|
| Punjab         | 12.3   | 51.6   |
| Uttar Pradesh  | 6.6    | 44.5   |

Figures in the parenthesis indicates percentage

### Table 8: Distribution of women who received postnatal care

| States         | NFHS-3 | NFHS-4 |
|----------------|--------|--------|
| Punjab         | 63.7   | 91.0   |
| Uttar Pradesh  | 15.0   | 62.0   |

Figures in the parenthesis indicates percentage
Under the scheme of JSY, cash incentives are given to those beneficiaries who got their deliveries at health facilities. There is a difference in Low Performing States (LPS) and High Performing States regarding cash incentives. In LPS, payments are almost double than HPS. According to NFHS-4, 48.7% of women receive cash incentives under JSY whereas in Punjab the percentage is much lower by 19% only. In both the states, rural women were more likely to received cash incentive than urban women.

Table 9: Distribution of women who received cash incentives

| States         | NFHS-4 |
|----------------|--------|
| Punjab         | 19     |
| Uttar Pradesh  | 48.7   |

Figures in the parenthesis indicates percentage

Conclusion
The comparison of the data of two states have shown that Punjab retains its status of a high performing state, it had performed very well in areas of Antenatal care, Delivery care and postnatal care, whereas the performance of Uttar Pradesh had not been too good in the above mentioned areas. Despite the bleak scenario in Uttar Pradesh in term of performance, the cash incentives being handed out in Uttar Pradesh (49%) were much greater as compared to those being given in Punjab (19%). Although Punjab remained good in terms of Antenatal care, Delivery care and postnatal care but the data obtained from NFHS-3 and NFHS-4 had revealed that Uttar Pradesh as a high focussing state, improved well after implementation of Janani Suraksha Yojana (JSY). As compared to Punjab, Uttar Pradesh improved its status in other aspects of maternal health such as Antenatal checkups, institutional delivery and post natal checkups except the consumption of Iron Folic Acid. The socio-economic factors had been contributed in availing maternal health services in both states.

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