



A Cross-Sectional Analytical Study To Compare Impact Of Strengthening Healthcare Services On Postnatal Care In Two Districts Of Himachal Pradesh

¹Dr. Rakesh Thakur, ¹Dr. Sumit Sharma, ³Dr. Gurmeet Singh, ⁴Dr. Jai Gopal Vohra, ⁵Dr. Vikas Thakur

^{1,2,5}Junior Resident, ³Professor & Head, ⁴Associate Professor,
Department of Community Medicine,

^{1,2}Indira Gandhi Medical College Shimla (H.P), India

^{3,4,5}Maharishi Markandeshwar Medical College and Hospital Kumarhatti Solan (H.P), India

***Corresponding Author:**

Dr. Vikas Thakur

Junior Resident, Department of Community Medicine, Maharishi Markandeshwar Medical College and Hospital Kumarhatti Solan (H.P), India

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Abstract

Aims & Objectives: to compare impact of strengthening healthcare services on postnatal care services in two districts of Himachal Pradesh.

Methods: cross-sectional analytic study where data of 2010-11 before introduction of newer approaches was compared with 2019-20.

Results: status of newborns weighed at birth out of total number of live births conducted in the given year which is great step to screen out low birth weight newborns. Newborns weighed at in 2010-11 in H.P were 94.8% which enhanced to 99.6% in 2019-20. Similarly enhancement in Solan District was 99.6% in 2019-20 from 97.4% in 2010-11 and in Mandi District it was noticed 98.7% in 2019-20 from 93.93% in 2010-11. Pregnant Women receiving 1st post-partum checkup between 48 hours and 14 days out of total number of live births, which exhilarated remarkably in H.P, Solan and Mandi Districts of (H.P). It was 45%, 29.11 % and 46.38 % respectively in H.P, District Solan and District Mandi in 2010-11. Hepatitis-B0 (Birth Dose) given out of total number of live births, which was not being given during 2010-11 later after its introduction its figure in H.P was 84.4%, 71.8 % in District Solan and 92.68% in District Mandi in 2019-20.

Conclusions: There has been great improvement in postnatal health care services comparing 2010-11 with 2019-20. HBNBC visits have increased with constant emphasis on skill development of ASHAs and ANMs scope for further betterments still exists.

Keywords: OPV, post-partum, HBNBC, ASHA, ANM

Introduction

Women and children constitute a large demographic proportion (60%) in India. Like many other developing countries they are most neglected group of community-socially, culturally, economically and availability of health care.. It is vulnerable group in terms of disease, death, discrimination and disability. World Health Organization (WHO) theme “Make every mother and child count” launched on world health day 2005, the WHO adopted the theme for

greater access to life saving care and interventions. It also advocated “quantum of care” approach for women and children that begins before pregnancy and extends through childbirth into childhood. The number of women and girls who died each year from complications of pregnancy and childbirth declined from 532,000 in 1990 to 303,000 in 2015. Sub-Saharan Africa and South Asia account for 88 per cent of maternal deaths worldwide.^[1] Annual infant deaths have declined from 8.8 million in 1990 to 4.1 million

in 2017.^[2] In 2017, neonatal mortality – the probability of dying in the first 28 days of life – was estimated at 18 deaths per 1,000 live births globally. The probability of dying after the first month and before reaching age 1 year was 12 per 1000 live births and the probability of dying after age 1 year and before reaching age 5 years was 10 per 1000 live births. The under-5 mortality rate, including these three age groups above was estimated 39 deaths per 1000 live births.^[3] Every year, 2.6 million babies die before turning one month old. One million of them take their first and last breaths on the day they are born. Another 2.6 million are stillborn. Each of these deaths is a tragedy, especially because the vast majority is preventable. More than 80 per cent of newborn deaths are the result of premature birth, complications during labor and delivery and infections such as sepsis, meningitis and pneumonia. Similar causes, particularly complications during labour, account for a large share of stillbirths.^[4] The first 28 days of life is the most vulnerable time for a child's survival. Children face the highest risk of dying in their first month of life at an average global rate of 18 deaths per 1,000 live births in 2017. In 2017 about 2.5 million children died in the first month of their life worldwide. About 7,000 neonatal deaths occur every day – most of which occurred in the first week with about 1 million dying on the first day and close to 1 million dying within the next six days.^[5] Infant Mortality Rate (IMR) of India is 34 per 1000 live births for year 2016 and IMR of Himachal Pradesh has improved from 40 in 2010 to 25 for year 2016.^[6] Most of these children die due to malnutrition, infections and lack of health care. These deaths can be prevented with available interventions. In earlier decade efforts were made to improve Maternal and Child Health (MCH) care. There were separate programmes for women, newborn, immunization and nutrition etc. There was need for universal MCH care. Women and children constitute a large demographic proportion (60%) in India. Like many other developing countries they are most neglected group of community-socially, culturally, economically and availability of health care.. It is vulnerable group in terms of disease, death, discrimination and disability. World Health Organization (WHO) theme “Make every mother and child count” launched on world health day 2005, the WHO adopted the theme for greater access to life saving care and interventions. It also advocated

“quantum of care” approach for women and children that begins before pregnancy and extends through childbirth into childhood. The number of women and girls who died each year from complications of pregnancy and childbirth declined from 532,000 in 1990 to 303,000 in 2015. Sub-Saharan Africa and South Asia account for 88 per cent of maternal deaths worldwide.^[7]

Government of India has launched Janani Shishu Suraksha Karyakaram (JSSK) on 1st June, 2011.^[8] Rashtriya Bal Swasthya Karyakram (RBSK) was launched in February, 2013 under National Rural Health Mission. This initiative aims to screen and manage children from birth to 18 years of age for Defects at Birth, Deficiencies, Diseases and Developmental Delays including disabilities.^[9] Poshan Abhiyaan (National Nutrition Mission) is India's flagship programme to improve nutritional outcomes for children, pregnant women and lactating mothers was launched in March 2018 with targeted approach to reduce the level of stunting, under-nutrition, anemia and low birth weight in children, adolescent girls, pregnant women and lactating mothers, thus holistically addressing malnutrition^[10] Home Based Newborn Care (HBNBC) by Accredited Social Health Activist (ASHA) & Auxiliary Nurse Midwife (ANM) has a great advantage in imparting valuable Postnatal health care services.

Material And Methods

Study Area; Secondary data of Antenatal services provided in Solan, Mandi and Himachal Pradesh of year 2010-11 was compared with 2019-20.

Study Design: cross-sectional study.

Study Period: 1st January 2019 to 31st August 2020.

Sampling technique: Data to compare independent variables was collected from HMIS data operators posted at respective office of Medical Officer Health (MOH), Solan and Mandi Districts of Himachal Pradesh (H.P).

Study tools : Secondary data was collected from HMIS Data Operators.

Study variables: Dependent

Statistical Analysis: Data collected was analyzed with the help of Statistical Methods.

Ethical consideration: After getting the approval from Institutional Ethics Committee, the research work was started.

Result

Table 1: Status of newborns weighed at birth out of total number of live births conducted.

	Before introduction of new approaches in 2010-11						After introduction of new approaches in 2019-20					
	H.P N=102226		SOLAN N=8354		MANDI N=13781		H.P N=88410		SOLAN N=8784		MANDI N=9866	
Total number of live births conducted in the given year												
Parameter	N	%	N	%	N	%	N	%	N	%	N	%
Newborns weighed at birth	96901	94.8	8137	97.4	13178	93.9	88043	99.6	8783	99.6	9738	98.7

Table 1/ Fig. 1 reveals the status of newborns weighed at birth out of total number of live births conducted in the given year which is great step to screen out low birth weight newborns. Newborns weighed at in 2010-11 in H.P were 94.8% which enhanced to 99.6% in 2019-20. Similarly enhancement in Solan District was 99.6% in 2019-20 from 97.4% in 2010-11 and in Mandi District it was noticed 98.7% in 2019-20 from 93.93% in 2010-11.

Fig. 1: Revealing status of newborns weighed at birth out of total number of live births conducted

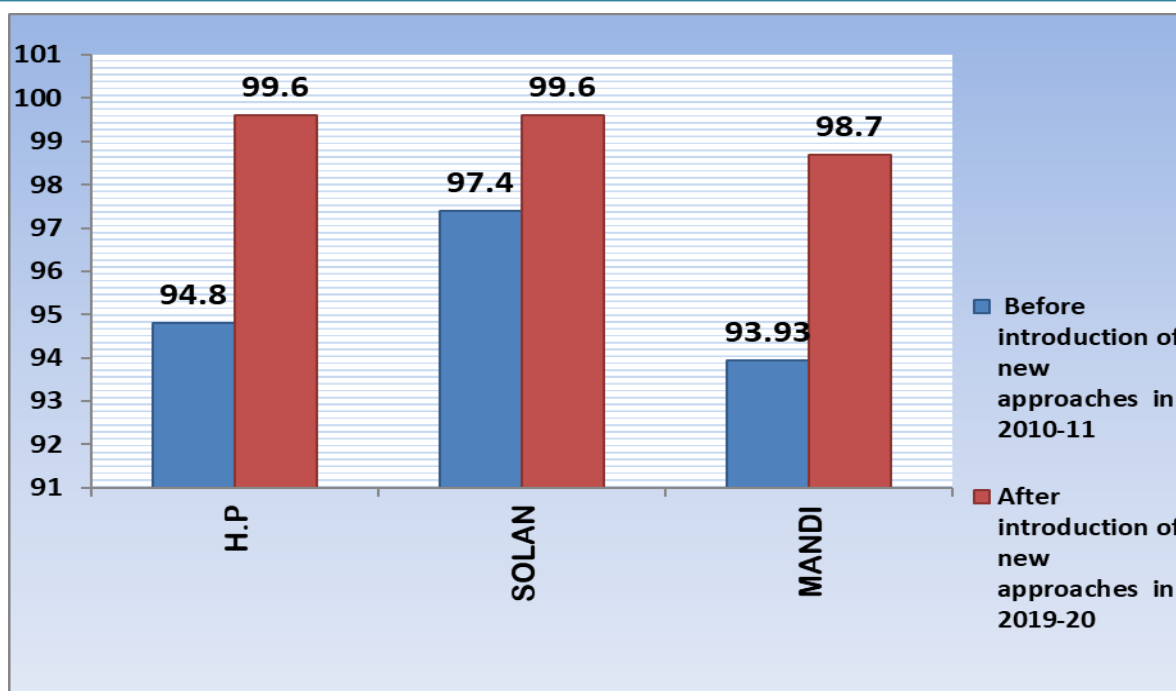


Table 2: Status of Newborns breast fed within 1 hour out of total number of live births.

	Before introduction of new approaches in 2010-11						After introduction of new approaches in 2019-20					
	H.P		SOLAN		MANDI		H.P		SOLAN		MANDI	
Total number of live births conducted in the given year	N=102226		N=8354		N=13781		N=88410		N=8784		N=9866	
Parameter	N	%	N	%	N	%	N	%	N	%	N	%
Newborns breast fed within 1 hour	80704	78.9	7743	92.7	12560	91.1	81776	92.5	8232	93.7	8650	87.7

Table 2/Fig. 2 expressing newborns breast fed within 1 hour out total number of live births conducted in the given year which was 78.9% in 2010-11 in H.P and escalated to 92.5% in 2019-20. There was slight uplift in Solan District from 92.7% to 93.7% and decline in Mandi District from 91.1% to 87.7% for same time period.

Fig. 2: Expressing status of Newborns breast fed within 1 hour out of total number of live births.

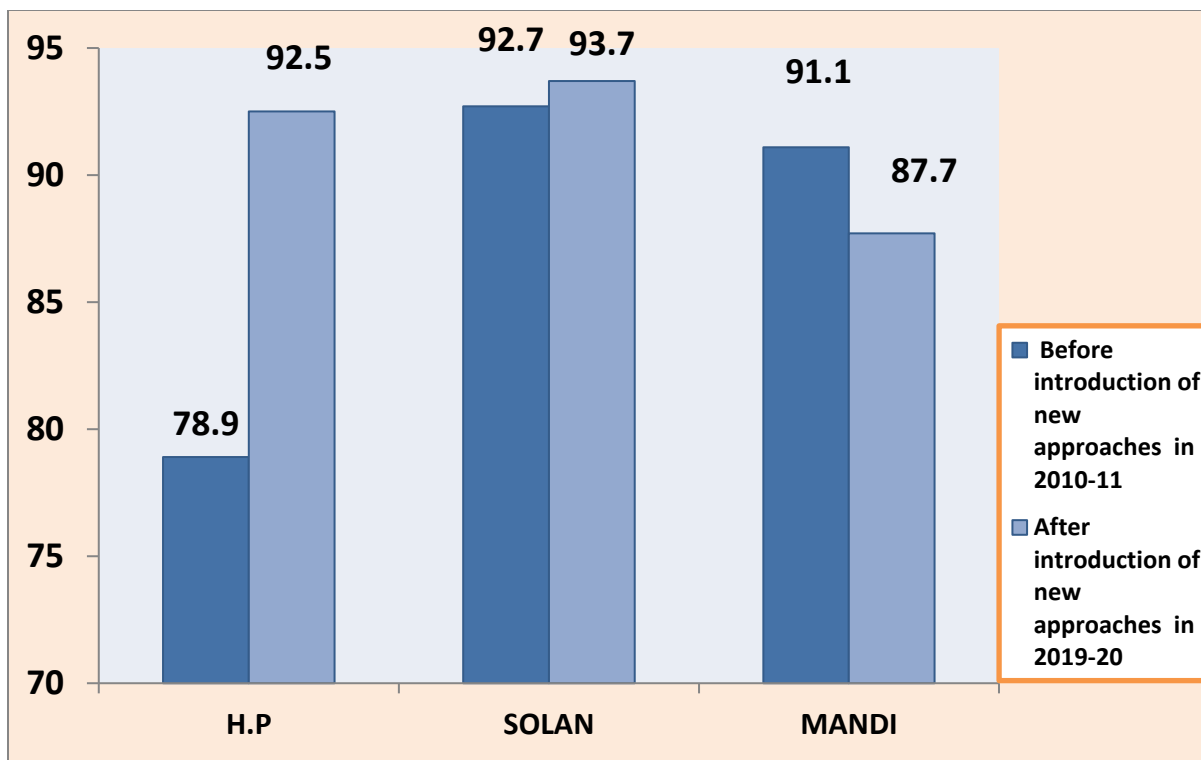


Table 3: Status of Pregnant Women receiving 1st post-partum checkup between 48 hours and 14 days out of total number of live births

	Before introduction of new approaches in 2010-11						After introduction of new approaches in 2019-20					
	H.P		SOLAN		MANDI		H.P		SOLAN		MANDI	
Total number of live births conducted in the given year	N=102226		N=8354		N=13781		N=88410		N=8784		N=9866	
Parameter	N	%	N	%	N	%	N	%	N	%	N	%
Pregnant Women receiving 1st post-partum checkup between 48 hours and 14 days	46816	45.8	2424	29.11	6392	46.38	86393	97.4	8307	94.2	9336	94.5

Table 3/ Fig. 3 exhibits status of status of Pregnant Women receiving 1st post-partum checkup between 48 hours and 14 days out of total number of live births, which exhilarated remarkably in H.P, Solan and Mandi Districts of (H.P). It was 45%, 29.11 % and 46.38 % respectively in H.P, District Solan and District Mandi in 2010-11. These checkups boosted up to 97.4 %, 94.2% and 95.5% in H.P, Solan and Mandi Districts respectively.

Fig. 3: Showing status of Pregnant Women receiving 1st post-partum checkup between 48 hours and 14 days out of total number of live births.

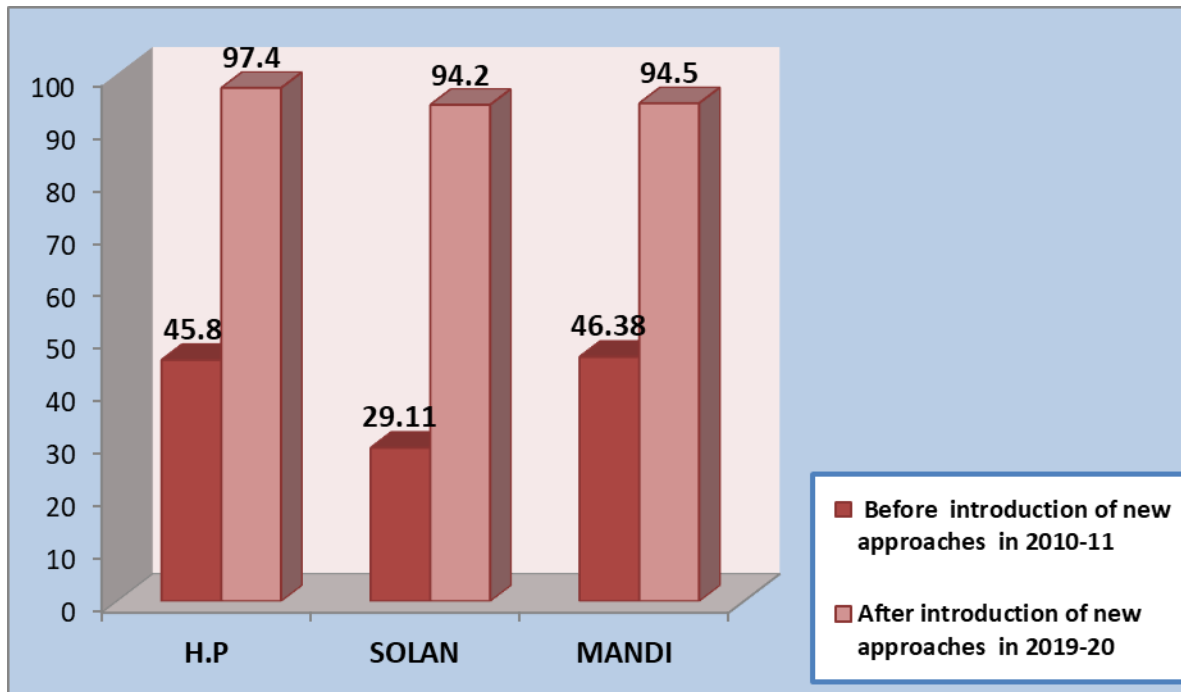


Table 4 : Status of OPV 0 (Birth Dose) given out of total number of live births.

	Before introduction of new approaches in 2010-11						After introduction of new approaches in 2019-20					
	H.P N=102226		SOLAN N=8354		MANDI N=13781		H.P N=88410		SOLAN N=8784		MANDI N=9866	
Total number of live births conducted in the given year												
Parameter	N	%	N	%	N	%	N	%	N	%	N	%
OPV 0 (Birth Dose)	35330	34.6	2327	27.94	39602	28.22	80090	90.6	6424	72.85	9275	93.81

Table 4

4/Fig.

depicting status of OPV 0 (Birth Dose) given out of total number of live births which was 34.6% in H.P, 27.94% in District Solan and 28.22% in District Mandi in 2010-11. There was remarkable surge in these figures to 90.6% in H.P, 72.85% in District Solan and 93.81% in District Mandi in 2019-20.

Fig. 4: Status of OPV 0 (Birth Dose) given out of total number of live births

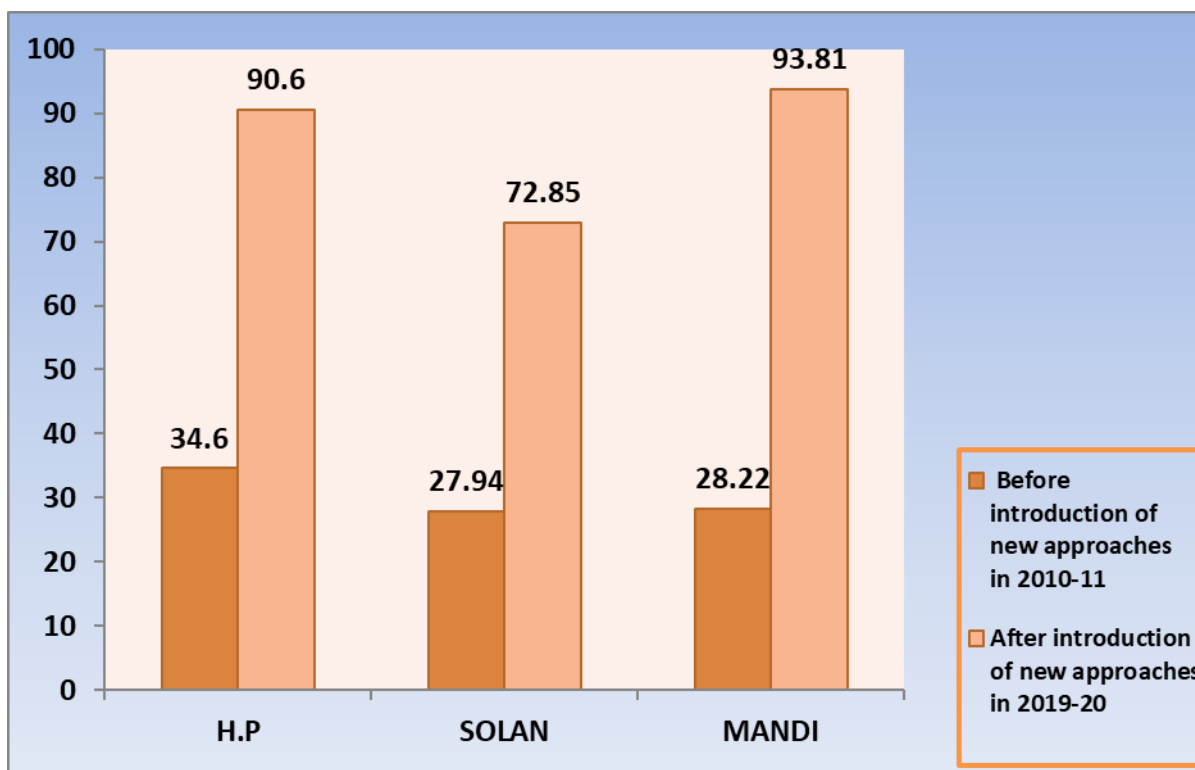
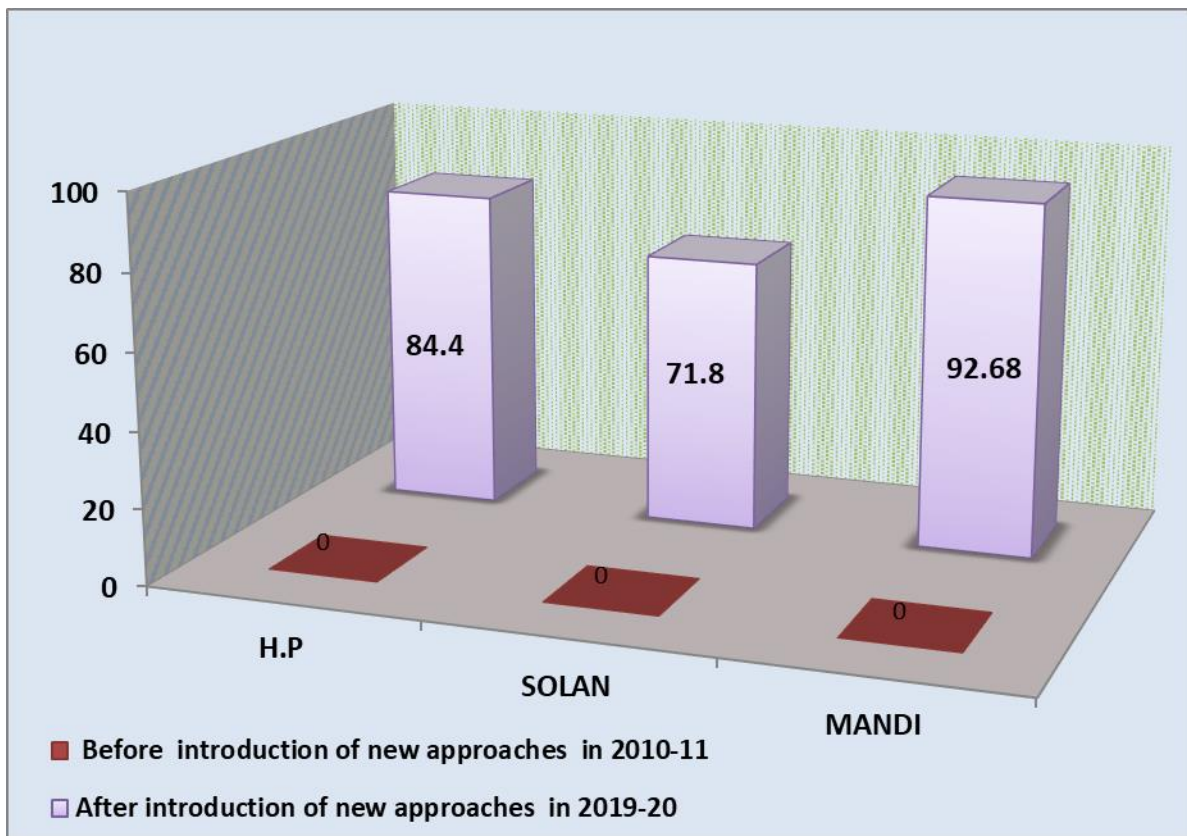


Table 5 : Status of Hepatitis-B0 (Birth Dose) given out of total number of live births

	Before introduction of new approaches in 2010-11						After introduction of new approaches in 2019-20					
	H.P		SOLAN		MANDI		H.P		SOLAN		MANDI	
Total number of live births conducted in the given year	N=102226		N=8354		N=13781		N=88410		N=8784		N=9866	
Parameters	N	%	N	%	N	%	N	%	N	%	N	%
Hepatitis - B0 (Birth Dose)	0	0	0	0	0	0	74583	84.4	6332	71.8	9164	92.68

Table 5/Fig. 5 illustrating Hepatitis-B0 (Birth Dose) given out of total number of live births, which was not being given during 2010-11 later after its introduction its figure in H.P was 84.4%, 71.8 % in District Solan and 92.68% in District Mandi in 2019-20.

Fig. 5 : Reflecting Status of Hepatitis-B0 (Birth Dose) given out of total number of live births.



Discussion

Babies born with low birth weight are usually due to IUGR or preterm deliveries. Practice of weighing newborns after delivery is best way to screen out LBW babies because these babies need extra care and are more susceptible to morbidities and mortalities. Status of newborn weighing at birth has increased in H.P by 5.1%, in Solan district by 2.3 % and in Distrit Mandi by 5.1 %. In a study Khan, *et al.*, their data analysis, used the third and fourth round data of the NFHS, which is India's Demographic and Health Survey (DHS). The proportion of missing data on birth weight decreased from NFHS-3 (63%) to NFHS-4 (18%), indicating an improvement in data reporting on birth weight between two rounds of the NFHS. Overall, the prevalence of LBW decreased from NFHS- 3 (20%) to NFHS-4 (16%), and the decrease was significant in children of almost all segments of population and background characteristics.^[11] In our study 99.6 % of the newborns were weighed at birth in H.P which is 4% higher than national average for the year 2019-20.

In present studies it was found that initiation of breast feeding within 1 hour after delivery have improved by 17.24 % while this gain in Solan District was 1.1 % while a slight decrease was noticed in Mandi district by 3.37 % comparing values of 2010-11 with 2019-20.

An analytic study was done by Phukan, *et al.*, which was based on India Human Development Survey-II (IHDS-II). The study indicated that less than 40% of women were practicing breastfeeding their babies within 1 h of birth in some districts of Rajasthan, Punjab, Haryana, Bihar, Uttar Pradesh and North-East. There are huge variations in children who have breastfed within 1 h of birth across the districts. The districts of Kerala, Tamil Nadu, Maharashtra, Odisha, Chhattisgarh, Madhya Pradesh, Himachal Pradesh, Uttarakhand and some districts of the North-East babies were having early initiation of breastfeeding. In children from the districts of Bihar, Uttar Pradesh, Haryana, and Punjab there was delayed initiation of breastfeeding, resulting in high neonatal deaths^[12]. This study corresponds well with findings of our study where it clearly correlates with lesser infant mortality rate and higher practice of early breast feeding prevails in Himachal Pradesh. It is further noticed that initiation of breast feeding within 1 hour of birth of H.P is 2.6 % higher than our national average for the year 2019-20.

In Himachal Pradesh there has been significant hike in post-natal mothers receiving 1 post-partum checkup between 48 hours and 14 days. Out of total number of live births the post-partum visits has jumped by 112.64

% in H.P, 223.6 % in District Solan & 103.8% in District Mandi since 2010-11 to 2019-20. This gain in Solan District is more as number of PNCs in Solan were very low during 2010-11. Pandey D, *et al.*, in their study done in Jabalpur district Assessment of postnatal visits showed that 58.33% mothers received 3 or more post-natal visits, while 3.3% did not receive a single postnatal visit. 93.9% mothers received first postnatal check-up within 24 hours, 1.11% of mothers between 2-3 days and 1.67% of mothers received first postnatal checkup between 4-7 days while 3.33% of mothers didn't receive any post-natal check-up.^[13] Comparing values of H.P with India for the year 2019-20 it is found that post-natal checkups are 7.5% higher.

While comparing values of 2010-11 with 2019-20, in present study in Himachal Pradesh it was found that there is improvement of administering Zero OPV dose by 161.85%. Corresponding improvements in figures for Solan and Mandi district are 160.73% & 226.64% respectively. In a similar kind of study done by Dr. Samadhan Prakashrao Debaj, *et al.*, 'zero dose polio vaccination status of children and factors influencing it' undertaken in the all ten Rural Block CHC's of Pali District in Rajasthan, Children found to be vaccinated with OPV Zero dose (53%).^[14] These values are higher in our present study and it is found that coverage of OPV given at birth in H.P is 90.6% which higher than national average by 3.3% for the year 2019-20.

In our study it's found that during 2010-11 HEP B O dose given was not reported which in accordance to 2019-20 is found to be 84.4%, 71.8% & 92.68% respectively in H.P, Solan & Mandi district. The National Viral Hepatitis Control program Increase Hepatitis B zero dose immunization to over 90%, which is a step to combat hepatitis and achieve country wide elimination of Hepatitis B by 2030.^[15] A study done by Narayana Holla, *et al.*, in a Private Rural Medical College for raising the coverage Responding to the Global concern of raising Hep-B birth dose vaccine, before interventions it was 19%. It rose to 100% after completion of intervention period.^[16] A study done for gap analysis with respect to Hep-b birth doses by Bierhoff, *et al.*, at Maharaj Nakorn Hospital, Chiang Mai (CM), or at Shoklo Malaria Research Unit (SMRU) on the Thailand border with Myanmar, the birth dose was high with a total of (95.8%) infants receiving the birth dose and only in small proportion, delay was expected in infants with a birthweight of

less than 2000 grams.^[17] In a similar study done by Pragyan Paramita Parija, *et al.*, found that in 2015 despite high rates of institutional deliveries the birth-dose coverage was only 45% in India, with large variations across states.^[18] Corresponding figures have improved in H.P and are 12.4% higher than the national average for the year 2019-20.

Conclusion

PNC and HBNBC have a great role in maternal and newborn care. Pregnant Women receiving 1st PNC between 48 hours and 14 days out of total number of live births, which exhilarated remarkably it was 45%, 29.11% and 46.38% in H.P, District Solan and District Mandi in 2010-11 respectively. These checkups boosted up to 97.4%, 94.2% and 95.5% in H.P, Solan and Mandi Districts respectively. There has been great improvement in postnatal health care services comparing 2010-11 with 2019-20. HBNBC visits have increased with constant emphasis on skill development of ASHAs and ANMs scope for further betterments still exists.

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