

# Scenario of Newborn Care Practices in Private Healthcare Setting in India: An Insights From NFHS-5 Survey

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## ABSTRACT

**Background:** The private sector contributes significantly to health care service delivery in India. Study shows the prevalence of newborn care practices like early initiation of breastfeeding, kangaroo mother care, and hepatitis B birth dose practices in private sector hospitals across India.

**Methods:** We conducted a basic analysis of unit-level data from the NFHS-5 survey; to understand the newborn care practices in private hospitals in India.

**Result:** The place of the delivery has a significant impact on newborn care practices like kangaroo mother care, early breastfeeding within an hour of birth, and hepatitis-B vaccination at birth. The private sector accounts for 20.73 percent of deliveries wherein, 39.56 percent of private sector hospitals follow EIBF practice. Pre-lacteals were provided to 14.95 percent of the children within the first three days after birth. The better practice of kangaroo mother care was seen in the public sector. The prevalence of the hepatitis B vaccine at birth is very low with 3.25 percent in India.

**Conclusion:** Newborn care practices in private hospitals are not followed as expected compared to the public sector in India. The private sector's healthcare staff need to be aware; and engage in their capacity building to improve the outcomes.

**Keywords:** EIBF, Hepatitis-B vaccine, KMC, Newborn care practices, NFHS, Pre-lacteals, Kangaroo mother care, Private Sector

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## INTRODUCTION

Newborn care practices are essential in reducing neonatal and infant morbidity and mortality. Global evidence has proven that quality care at childbirth might save up to 1.49 million stillbirths and maternal and newborn deaths annually and significantly improve maternal and infant survival.<sup>1,2</sup> To lessen unfavourable outcomes for mothers and newborns, it is crucial to provide high-quality treatment during delivery.<sup>3</sup> The World Health Organization introduced early essential newborn care (EENC) which consists: of early initiation of breastfeeding to promote colostrum intake, skin-to-skin contact to promote mother and infant bonding, and exclusive breastfeeding.<sup>4</sup>

Newborn care practices like Early Initiation of Breastfeeding (EIBF), Kangaroo Mother Care (KMC), and Hepatitis-B vaccination within 24 hours of birth, are essential for the survival of weak newborns. Breastfeeding is natural food that fulfils all nutritional requirements of a child<sup>5</sup> and also helps in reducing infant and child morbidity and mortality<sup>6</sup>. EIBF helps in promoting resistance to infection among children, stimulating breastmilk production and releasing oxytocin for uterine contraction and postpartum haemorrhage reduction.<sup>7-12</sup> Delaying initiation of breastfeeding increases the likelihood of resorting to pre-lacteal feeding i.e. less nutritious substance other than breastmilk within first three days of birth. It increases the risk of infection in child.<sup>13-16</sup> Kangaroo Mother Care plays pivotal role in keeping the child warm and is simple and cost-effective intervention for saving the lives of newborns.<sup>17</sup> The urgency of addressing hepatitis in children requires immediate action. The Hepatitis B vaccine is readily available with proven effectiveness. But Hepatitis B vaccine coverage at birth is very low despite the high rates of institutional deliveries in India.<sup>18</sup>

This necessitates a focus on both public and private healthcare institutions for newborn care service delivery. 80% of all outpatient care and up to 60% of all inpatient care provided by the private sector in India, which shows that the private sector contributes significantly to institutional delivery across the world<sup>19</sup>. Delivering high-quality newborn care across both the public and private health systems is essential, especially when a significant proportion of deliveries occurs in private sector hospitals that are not directly controlled by governments.<sup>20</sup> Although there is a perception of higher quality services in the private sector, there are still uncertainties regarding the advantages of private healthcare.<sup>21</sup> With the increasing utilization of private sectors for mother and newborn care, the gaps and missed opportunities must be addressed. In this context, it is essential to understand prevailing practices regarding newborn care in the private healthcare sector<sup>22</sup> and to address gaps in newborn care delivery.

This study aims to understand newborn care practices; such as EIBF, KMC, and hepatitis B birth dose

practices in private-sector hospitals across India from the unit-level data of the National Family Health Survey-5, 2019-20 (NFHS-5).<sup>23</sup>

## METHODOLOGY

National Family Health Survey (NFHS) is a nationally representative cross-sectional study using multi-stage cluster sampling with internationally validated instruments. This survey is conducted every five years under the stewardship of the Ministry of Health and Family Welfare, Government of India, and coordinated by the International Institute of Population Sciences, Mumbai. The main purpose of NFHS is to offer national-level data on key indicators like fertility, family planning, infant and child morbidity and mortality, maternal and reproductive health, and the nutritional status of mothers and infants.<sup>6</sup> The present study is an analysis of unpublished data from the NFHS-5 during 2019-20.

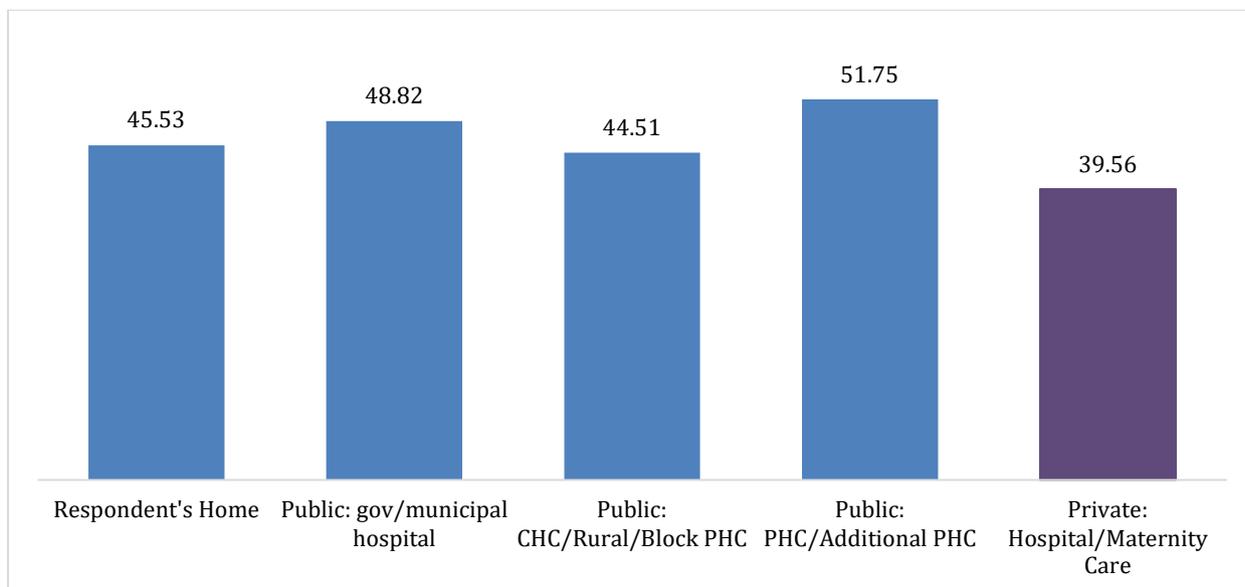
One of the important survey instruments in NFHS-5 was the women's questionnaire which collected detailed information on birth history, place of delivery, early initiation of breastfeeding, pre-lacteals, kangaroo mother care, hepatitis B vaccination on birth, and related information on mothers and children. These data provided an opportunity to understand newborn care practices in private hospitals in India.

This study used unit-level data from the NFHS-5 survey and analysed for detailed review based on place of delivery (N=232920), early initiation of breastfeeding immediately after birth within one hour (N=220087), kangaroo mother care (N=232920), pre-lacteals (N=166512) and hepatitis B at birth (N=132447). We used Statistical Software STATA/SE 12.1 for analysis of the dataset of NFHS-5. The figures and the maps were prepared using MS Office Excel (version 2019).

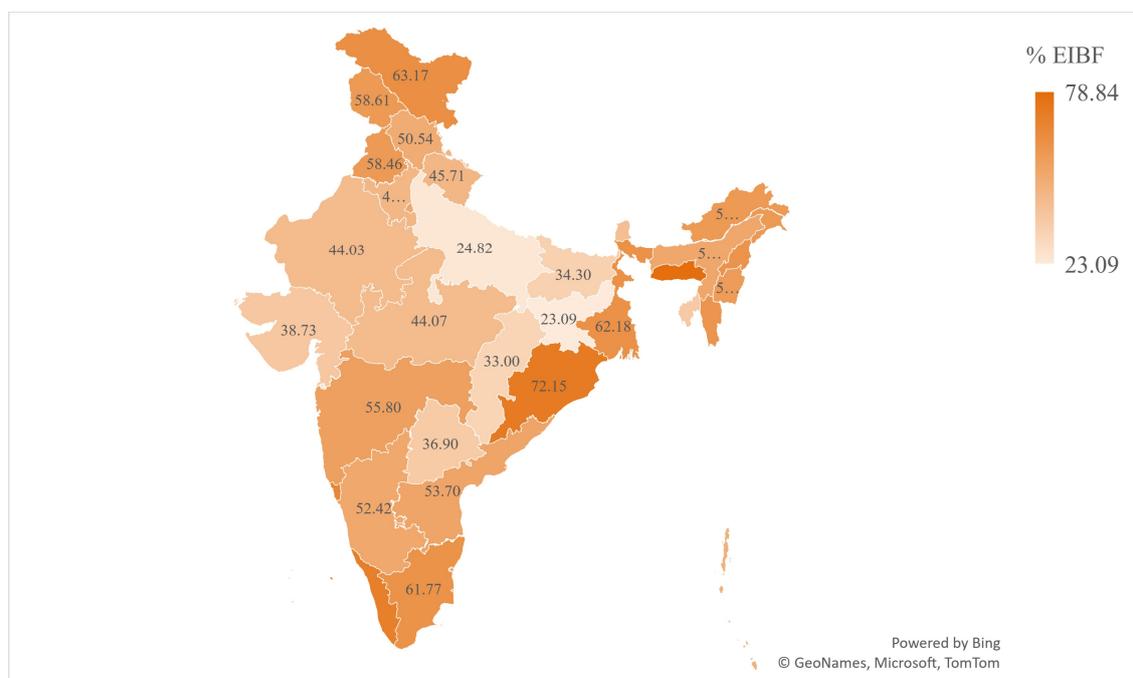
## RESULTS

**Place of Delivery:** The majority of deliveries in India occur at public health facilities (29,14%), such as government or municipal hospitals, CHC/Rural/Block PHC centres (23.86%), and PHC/ Additional PHC centres (7.13%). However, a significant proportion of deliveries also occur at private hospitals or maternity care hospitals, which account for 20.73% of all deliveries in India. Interestingly, the findings also showed that there is significant variation in the percentage of deliveries in the private sector across different states and union territories in India. Kerala had the highest percentage of deliveries in the private sector at 63.86%, followed by Telangana, Gujarat, Andhra Pradesh, and Goa. In contrast, Ladakh had the least number of deliveries in private hospitals at only 0.19%. Figure-1 presents the percentages of places of delivery in India from NFHS-5. State and Union Territory wise percentage of deliveries in the Private sector is shown in Map-1 and Annexure.





**Figure 2: Percentage of children put to the breast immediately after birth in public and private sector in India; NFHS-5**

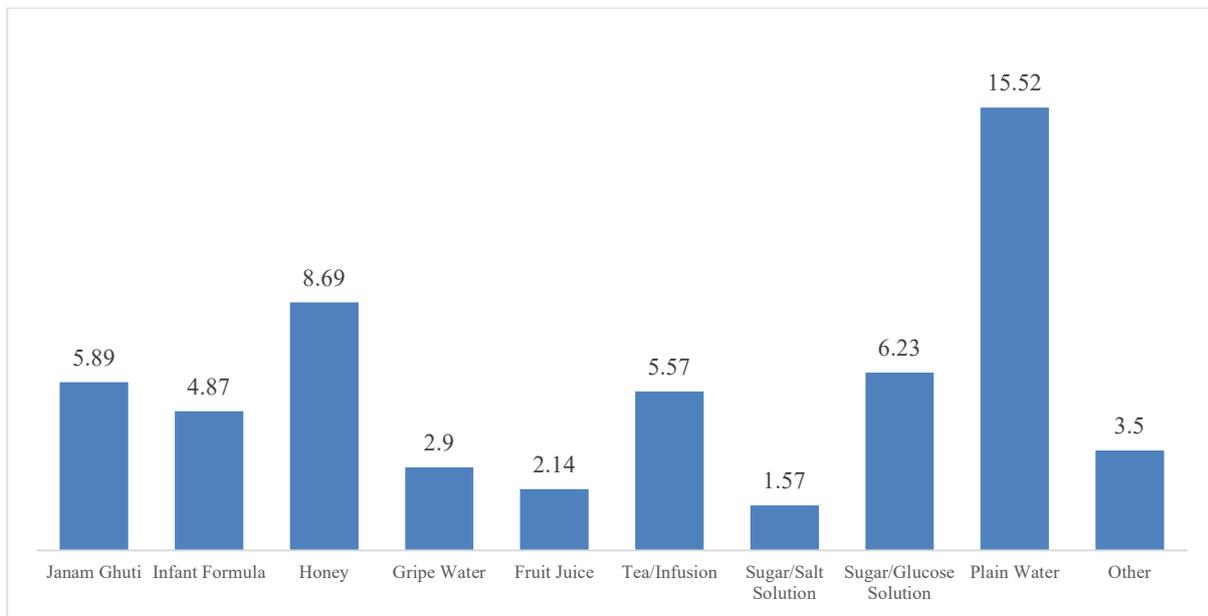


**Map-2: Percentage of Child put to the breast immediately after birth in public and private sector in India; NFHS-5**

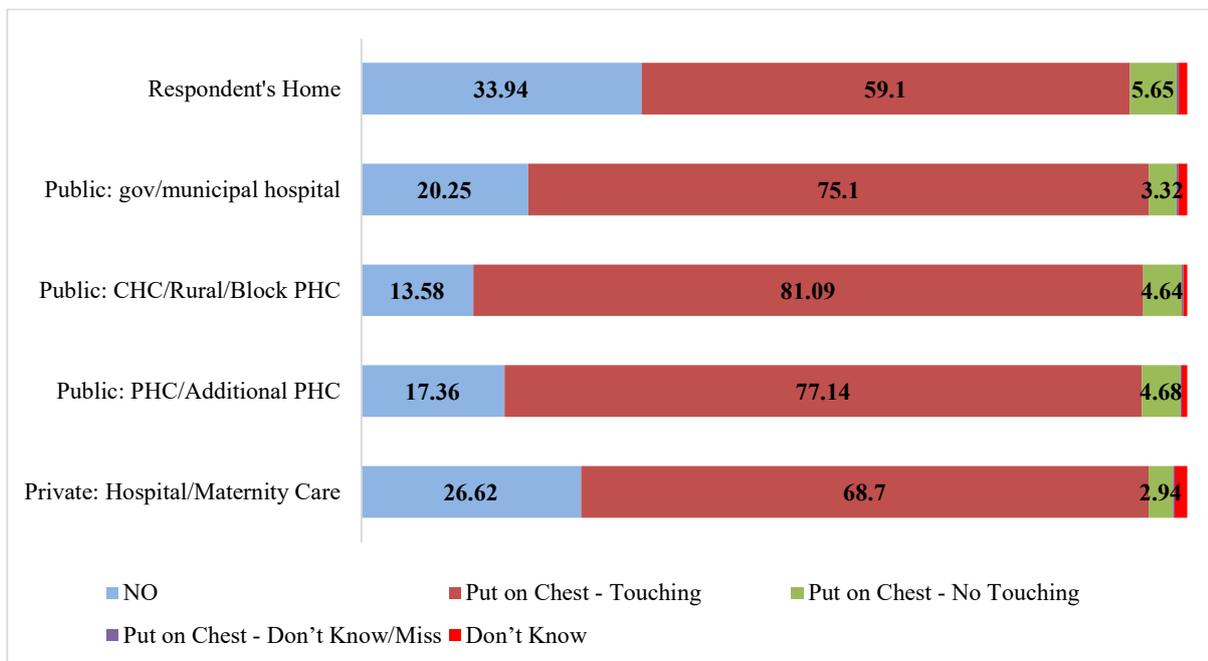
**Kangaroo Mother Care:** Compared to public health facilities the private sector shows 26.62 per cent of children had not put on their mother’s chest and bare skin after birth and 68.7 per cent of children put on their mother’s chest and bare skin after birth. Figure-4 shows the details of percentage of children put on mother’s chest and bare skin after birth.

**Hepatitis B at birth:** In public facilities, a total of 64.66 percent born in the government/municipal hospital received the hepatitis-B vaccine at birth as per vaccination date on the card. In case of private hospitals and maternity care units, 37.28 percent have not received the birth dose of the hepatitis-B

vaccine. Figure-5 suggests the percentage of children who received Hepatitis B vaccine at birth in public and private sector in India; NFHS-5. The prevalence of children receiving a hepatitis-B vaccine at birth within 24 hours is 3.25 per cent in India. Goa has the highest prevalence with 6.45 per cent, followed by Lakshadweep, Chandigarh, Jammu & Kashmir, Manipur, Andhra Pradesh, Maharashtra, and Ladakh; etc. State/UTs like Puducherry has the lowest prevalence at 1.76 per cent for hepatitis-B vaccine on birth. State and Union Territory-wise percentage of children put to the breast immediately after birth is given in Map-3 and Annexure.



**Figure-3: Percentage of children given anything other than breastmilk (pre-lacteals) in first three days; NFHS-5**

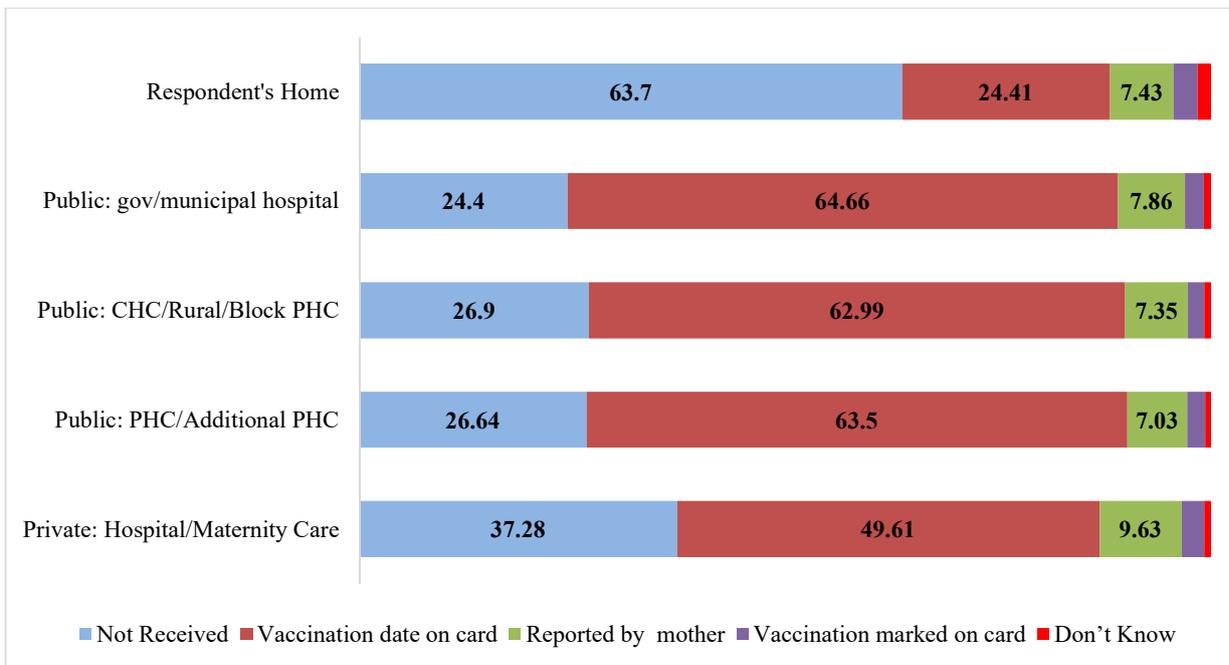


**Figure-4: Percentage of Children put on mother's chest and bare skin after birth in public and private sector; NFHS-5**

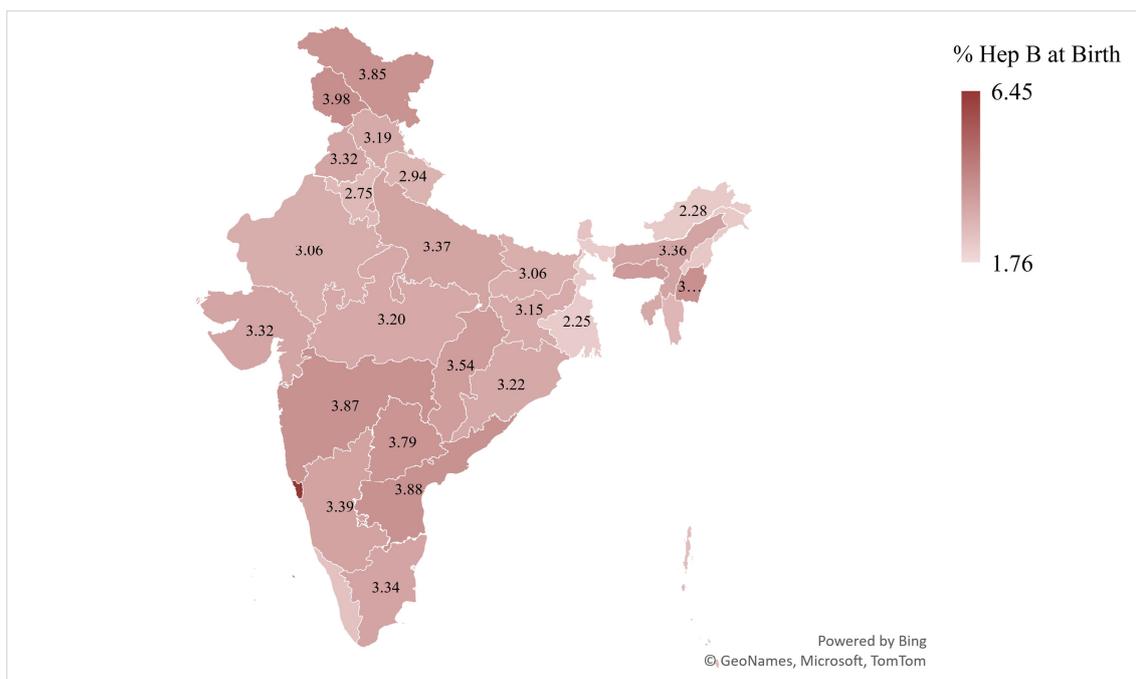
## DISCUSSION

The place of delivery greatly impacts on newborn care practices. The majority of deliveries occurred at public health facilities; however significant proportion of deliveries also occurred at private sectors in India. Even sharing the significant proportion by the private sector, the prevalence of early initiation of breastfeeding was low in private hospitals compared to the public sector. This study shows one-third (39.56%) of the mothers have initiate breastfeeding within one hour of birth, which is considered as "fair" (range 30 to 49%) as per WHO criteria.<sup>24</sup> This highlights the need for increased awareness and educa-

tion about the importance of exclusive breastfeeding in the first six months of life. Few prospective cohort studies in India have revealed that infants delivered by caesarean section were nearly four times less likely to early initiation of breastfeeding compared to those born through vaginal delivery.<sup>25</sup> Nonetheless, international evidence suggests that with sufficient support, a caesarean section is not necessarily a barrier to the timely initiation of breastfeeding.<sup>26</sup> However, private hospitals in India demonstrate favourable practices regarding EIBF compared to European countries such as the Republic of North Macedonia (21%) and Montenegro (25.2%).<sup>27</sup>



**Figure-5: Percentage of Children who received Hepatitis B vaccine at birth in public and private sector in India; NFHS-5**



**Map-3: Percentage of children received Hepatitis-B vaccine on birth in India; NFHS-5**

Pre-lacteals are being given to a small portion (14.95%) of newborns within the initial three days of birth. In a cross-sectional study conducted in Maharashtra, a pre-lacteals prevalence of 49% was observed<sup>28</sup>, while another cross-sectional study from Uttarakhand reported a prevalence of 66.8%<sup>29</sup>. Despite the lower prevalence found in the current study compared to the studies above, it draws attention as one in every seven infants received pre-lacteal feed. Also, it is possible that pre-lacteal feeding was underreported or recall bias, as the mother was not al-

ways aware if relatives had administered pre-lacteal feed to the infant. Whereas, the divergence of data on pre-lacteals practice in private settings is missing in NFHS.

Kangaroo Mother Care is being practised better in public healthcare facilities than in the private sector. In a study from Eastern Philippines, we found that the type of healthcare facility significantly affects the practice of kangaroo mother care. Nurses in referral health units exhibited positive attitude toward kangaroo mother care compared to other types of

healthcare facilities including Private hospitals.<sup>30</sup> We found a lack of research on kangaroo mother care within the private healthcare sector in the Indian context. The limited adoption of kangaroo mother care in the private sector may stem from inadequate hospital policy and a lack of adequately trained personnel.<sup>31</sup>

The prevalence of the Hepatitis B vaccine at birth is very low as per NFHS-5. One-third of children who delivered in the private sector did not receive the Hepatitis B vaccine birth dose; which is reasonable from a study conducted by *Lahariya et al.* that the causes behind the poor coverage were concerns about vaccine wastage and inadequate knowledge among healthcare workers.<sup>32</sup> The difference of Hepatitis-B vaccine at birth in private sector is more compared to public sector.

Overall, the findings of the study highlight the need for continued efforts to improve newborn care practices in India. While there have been significant improvements in recent years, there is still much work to be done to ensure that all newborns receive the highest quality care possible.

## STRENGTH AND LIMITATIONS

The data of NFHS provide a comprehensive representation of the entire country. Although, it offers lesser insights into newborn care practices in private sector due to restricted scope of published indicators. Our study offers limited insights, and further research is required to explore more into newborn care practices within the private healthcare sector.

## CONCLUSION

The present study tried to understand newborn care practices in the private sector of India from the unit data of the NFHS-5 survey. The private sector accounts for more than one-fifth of deliveries. However, practices for newborn care like early initiation of breastfeeding and kangaroo mother care are not at par with public health facilities. Furthermore, suboptimal coverage of the Hepatitis B vaccine within 24 hours of birth in private-sector deliveries underscores gaps in vaccination practices.

## RECOMMENDATIONS

It is imperative to establish effective newborn care practices within private healthcare settings through awareness and training to encourage vaginal delivery, promote skin-to-skin contact, and facilitate immediate rooming-in, all of which contribute to early initiation of breastfeeding at birth.<sup>26</sup> At the same time, it is important to acknowledge the private healthcare staff with SAGE recommendations for Hepatitis B birth dose schedule i.e. administration up

to 7 days after birth, which can notably improve Hepatitis B vaccine coverage at birth.<sup>33</sup>

A collaborative effort between the public and private healthcare sectors needs to strengthen. We should continue to prioritize efforts to enhance newborn care practices within the private healthcare sector, to reduce neonatal and infant mortality and morbidity and to improve overall health outcomes. Despite there has been significant progress in improving access to and utilization of maternal healthcare services, there is still a long way to go to improve newborn care practices.

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**Annexure:** State and Union Territory wise percentage of deliveries in the Private sector, EIBF and Hepatitis B at birth, NFHS-5

State/UTs	% Deliveries in Private	State/UTs	% EIBF	State/UTs	% Hep B at Birth
Kerala	63.86	Lakshadweep	78.84	Goa	6.45
Telangana	45.38	Meghalaya	77.50	Lakshadweep	4.44
Gujarat	44.86	Chandigarh	74.07	Chandigarh	4.23
Andhra Pradesh	43.88	Odisha	72.15	Jammu & Kashmir	3.98
Goa	41.46	Kerala	70.25	Manipur	3.89
Punjab	38.87	Goa	66.77	Andhra Pradesh	3.88
Puducherry	37.60	Ladakh	63.17	Maharashtra	3.87
Haryana	35.11	West Bengal	62.18	Ladakh	3.85
Lakshadweep	34.78	Tamil Nadu	61.77	Telangana	3.79
Tamil Nadu	32.29	Nagaland	61.33	Meghalaya	3.63
Maharashtra	31.81	Mizoram	60.54	Chhattisgarh	3.54
Delhi	28.36	Arunachal Pradesh	58.70	Delhi	3.44
Karnataka	28.32	Jammu & Kashmir	58.61	Dadra & Nagar Haveli	3.40
Dadra & Nagar Haveli	28.05	Punjab	58.46	Karnataka	3.39
Uttar Pradesh	21.94	Manipur	57.76	Uttar Pradesh	3.37
Uttarakhand	20.01	Maharashtra	55.80	Assam	3.36
Bihar	17.88	Puducherry	55.47	Tamil Nadu	3.34
West Bengal	17.00	Andhra Pradesh	53.70	Gujarat	3.32
Manipur	16.71	Delhi	52.84	Punjab	3.32
Jharkhand	15.83	Assam	52.69	Tripura	3.22
Rajasthan	15.58	Karnataka	52.42	Odisha	3.22
Chandigarh	14.37	Himachal Pradesh	50.54	Madhya Pradesh	3.20
Himachal Pradesh	13.89	Andaman & Nicobar Island	48.34	Himachal Pradesh	3.19
Chhattisgarh	11.48	Uttarakhand	45.71	Jharkhand	3.15
Odisha	10.97	Haryana	45.63	Rajasthan	3.06
Sikkim	10.48	Madhya Pradesh	44.07	Bihar	3.06
Tripura	9.93	Rajasthan	44.03	Uttarakhand	2.94
Assam	8.45	Sikkim	42.15	Mizoram	2.84
Madhya Pradesh	8.40	Gujarat	38.73	Haryana	2.75
Andaman & Nicobar Island	7.16	Tripura	37.22	Andaman & Nicobar Island	2.59
Mizoram	6.93	Telangana	36.90	Kerala	2.51
Meghalaya	6.22	Bihar	34.30	Sikkim	2.48
Nagaland	5.93	Chhattisgarh	33.00	Nagaland	2.34
Jammu & Kashmir	4.58	Dadra & Nagar Haveli	26.31	Arunachal Pradesh	2.28
Arunachal Pradesh	3.89	Uttar Pradesh	24.82	West Bengal	2.25
Ladakh	0.19	Jharkhand	23.09	Puducherry	1.76