Trend Analysis of low birth weight in Maharashtra

by

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Abstract.

Low birth weight is the leading cause of infant and child mortality and contributes to several poor health outcomes. Proper knowledge of low birth weight risk factors is important for identifying those mothers at risk and planning and taking appropriate actions. The delivery complications are the predictors of low birth weight, whereas caesarean and instrumental delivery had positive effects on preventing low birth weight. More than 20 million infants, representing about 15.5% of all births, are born with low birth weight; 95.6% of them live in developing countries, accounting for 17% of all births in developing countries. The aim of the present study is to assess the prevalence of LBW children in the district of Maharashtra using HMIS data from 2018-19 to 2022-23. The results show that about 12.61% in 2018-19 and 11.99 % in 2022-23 were born as LBW in Maharashtra. The prevalence is higher in the districts of Yavatmal and Nandurbar, Gadchiroli due to tribal districts The study recommends that there is a need for proper monitoring and rigorous implementation of the existing MCH, and special attention should be given to tribal and backward districts

Introduction:

Low birth weight is one of the most serious challenges in maternal and child health in both developed and developing countries. According to a UNICEF report, about 28 percent of babies born in India are of low birth weight (citation). Low birth weight is a public health problem worldwide, affecting around 16% of births, and is the major cause of neonatal deaths and growth failure. Its implication is to identify causes, prevent trans generational links of nutrition-related problems and promote the health of future generations. Birth weight is the single most important factor determining the survival chances of the new born. Many of the new-born die during their first year of life. The infant mortality rate is higher for all low birth weight babies than for other babies. The lower the birth weight, the lower the survival chance of the new-born. There were 1.8 million infant deaths in the world in 2003. Most of them occurred in developing countries, and approximately one-half took place during their neonatal period. Low birth weight babies can be managed at the time of Antenatal period. Many mothers go on to enjoy near-normal life if their babies are properly managed. Early intervention is important, especially for the management of feeding, handling, cleanliness, and prevention of infection. The mother's knowledge about the care of the baby reflects the health and nutritional status of the baby. Nurses play a significant role in empowering the mother of LBW with reliable methods of management. Structure teaching and counselling of mothers of LBW babies by nurses may help the mother to get relieved of their worries and to join hands with the nurses in the care of low birth weight babies.

Maharashtra is the second most populous state and the third most urbanised in the country. The state capital Mumbai is India's undisputed financial capital, yet about 50 per cent of its residents live in slums. The state attracts thousands of migrants from across the Country searching for work every year. The State is the wealthiest in terms of annual gross domestic product. The Kelkar Committee surmised that the infant mortality rate of tribal areas in Maharashtra is 60-70 per cent higher than the state average. In Maharashtra one in every ten children are born with low weight, and one in every three mothers of under two-year-old children record a Body Mass Index (BMI) of less than 18.5, which increases the risk of low birth weight babies. Child survival indicators remain the last mile issue in tribal areas and urban slums. The prevalence of child marriage is lower than the national average and mostly occurs among girls between 16 and 18 years. However, there are acute regional variations with 17 districts having higher child marriage prevalence than the state average. UNICEF India- Low birth weight is a term used to describe babies who are born weighing less than 5 pounds, 8 ounces (2,500 grams). An average

new-born usually weighs about 8 pounds. A low-birth-weight baby may be healthy even though he or she is small. But a low-birth-weight baby can also have many serious health problems. Low birth weight is most often caused by being born too early (premature birth); before 37 weeks of pregnancy. A premature baby has less time in the mother's womb (uterus) to grow and gain weight. Much of a baby's weight is gained during the last weeks of pregnancy. Another cause of low birth weight is a condition called intrauterine growth restriction (IUGR). This occurs when a baby does not grow well during pregnancy. It may be because of problems with the placenta, the mother's health, or the baby's health.

Infection during pregnancy, not gaining enough weight during pregnancy, Previous pregnancy with a low-birth-weight baby, Smoking, Alcohol or drug use, women age less than 17 years or more than 35 years are risk factor for low birth of children (Stanford Medicine Children's Health, 2017). Further there are several socio-economic factors which affect the child growth in womb and during first months of life. The prevalence of low birth weight of children is a very sensitive indicators of socio-economic development of any society or country. It directed shows the medical advancement and health system performance. If the prevalence of low birth is high, it indicates the poor performance of the health system. From demand side it also shows the less utilization of the maternal health care services by the pregnant women which are meant to prevent the LBW. The supply and demand side factors are influence by the regional heterogeneity, economic development. However, economically developed regions also show the higher prevalence of LBW among total births. Hence this study focuses on Maharashtra one of the developed state of India.

About Maharashtra

In Maharashtra, out of the 36 districts, 13 districts have a population of over 30 lakhs, 9 districts have a population between 20-30 lakhs, 12 districts have a population between 10-20 lakhs and only 1 district has a population less than 10 lakhs (Annexure 1.1, State Profile). The State's sex ratio at birth (880 females for every 1000 males) is lower than the national average (899 females for every 1000 males) (Annexure 1.2). It is estimated that 16% of the total population is in 10-19 years' age group, 58.6% between 20 to 59 years' age group; and 11.6% is 60 years and above (Figure 2). The crude birth and death rates have declined from 19 and 6.7 in 2005 to 15.3 and 5.4 in 2019 respectively (Annexure 2, Figure 2). The literacy rate increased from 76.88% in 2001 to 82.33% in 2011, with male & female literacy rates being 88.38% and 75.87% respectively (Annexure 1). As per ESAG 2018 report, the Gross Enrolments Rate (GER)i is 29.9% for higher education, 67.81% for senior secondary education, 89.95% for secondary

education, 98.3% for elementary education, and 97.74% for primary education (Health Dossier 2021: Reflections on Key Health Indicators, Maharashtra).

Need of the study:

Low birth weight remains an important unresolved public health problem across the world. The incidence of low birth weight varies widely between regions of the world. Public health system at increased risk of reduced efficiency includes healthcare services for women and children. According to the World Health Organization, babies that weigh less than 2.5 kg at birth fall under the low birth weight category, one of the primary causes of infant deaths. This in turn could reverse all the progress in India. Low birth weight is one of the main cause of notional deaths in the country. In Maharashtra, in the year April 2022 to March 2023 total Low births 224684 shows HMIS data on the portal.

Objectives of the Study:

1. To assess the Low birth in Maharashtra at district level.
2. To examine the trend in Low birth in Maharashtra at district level.

Data and methods

The Health Management Information System (HMIS) data from 2018-19 to 2022-23 have been analysed to fulfil the study objectives. Simple trends analysis has been used for the data presentation. Percentage of low birth weight (LBW) were calculated as follow:

% LBW children = No of children reported LBW (<2500 grams in a given year)/ Total number of live born children in that year.

Findings

Table 1 shows the total number of live births in Maharashtra. The 2018-2019 years show the height of live births trend of the districts Pune, Mumbai, Thane, Nashik, and Ahmednagar districts, which show the highest live births in Maharashtra. The low live birth trends of districts in 2018-2019, Shindudurg, Washim, Bhandnra, and Gadchiroli, show the low trend in the districts. 2019-2020 shows the height of live birth trends in the districts Solapur, Pune, Amravati, Nagpur, and Nashik, with the highest live births in Maharashtra. The low live births trends of districts in 2019-2020 are districts Buldhana, Jalna, Bhandnra, Nan durbar, and Latur, which show a low trend in the districts. 2020-2021 shows the height live birth trend of the districts Palghar, Solapur, Jalgaon, Gadchiroli, and Nagpur districts showing top height live births in Maharashtra. The low live birth trends of districts in the year 2020-2021 districts, Mumbai, Nan Durbar, Yavatmal, Thane, and Satara show the low trend of the districts. 2021-2022 shows the height of live births in Hingoli, Palghar, Dharashiv, Latur, and Gadchiroli districts. Districts show top heights of live births in the state of Maharashtra. The low live births trends of districts in the years 2021-2022 are districts Sangali, Buldhana, Thane, Amravati, and Nashik, which show the low trend of the districts. Year.2022-2023 shows heights live births trend of the districts Gondia, Hingoli, Wardha, Yavatmal, and Chandpur districts show heights live births in the state of Maharashtra. And low live births trends of districts are in the year 2022-2023 are districts Ratnagiri, Mumbai Suburban, Jalgaon, Amravati, and Nagpur. are shows low trend of the districts

Table 1: Total live births in the last five years, Maharashtra.

Name of District	**Live Birth - Total**				
	2018 - 19	**2019 - 20**	**2020 - 21**	**2021 - 22**	**2022 - 23**
Akola	32967	32429	27825	30883	32457
Amravati	40103	41561	41101	44657	46845
Buldhana	41156	41977	42611	43013	43719
Washim	14948	13297	13458	15485	15723
Yavatmal	41892	41498	41378	41158	39063
Chhatrapati Sambhajinagar	70086	71021	70313	70424	73800
Hingoli	16858	16328	15501	18798	16847
Jalna	31235	35197	34817	38123	35460
Parbhani	34187	32596	32997	33279	32468
Kolhapur	45762	56725	56845	59949	53940

Ratnagiri	17169	16001	15748	14748	13863
Sangli	43425	45914	44190	41262	40742
Sindhudurg	7370	7348	7312	6387	6396
Beed	46789	46023	45584	44060	45709
Dharashiv	22854	22079	22496	24082	22950
Latur	43354	41459	41975	43557	44608
Nanded	60903	60769	60882	61042	60683
Mumbai	146609	148692	33301	37034	41901
Mumbai Suburban	0	0	94504	82212	89312
Bhandara	16690	16454	16501	18267	16227
Chandrapur	30908	27244	24879	25500	24939
Gadchiroli	16802	16288	16792	18976	16803
Gondia	17232	17305	16344	18100	16650
Nagpur	70103	71317	71125	73546	69778
Wardha	16973	17243	15600	17141	15040
Ahmednagar	73402	73144	72692	72762	73948
Dhule	39497	38306	37160	37469	38590
Jalgaon	69435	72787	73945	73112	77122
Nandurbar	27599	30871	30949	32301	34194
Nashik	95480	109600	110987	109373	112691
Pune	150363	169721	167333	162045	162418
Satara	43226	44435	44669	43477	39197
Solapur	70645	73616	77023	75099	72074
Palghar	52407	55858	55888	52966	50422
Raigad	37073	40362	41178	44417	42874
Thane	135462	150752	151032	122360	126554
Maharashtra	**1720964**	**1796217**	**1766935**	**1747064**	**1746007**

(Source-HMIS Data 2018-2023)

Table 2 shows total pregnancies live births + Still births+ abortions percentage trend shows five top districts and lowest five districts trend percentage top percentage districts. in the year 2018-2019 top districts are Mumbai suburban, Nandurbar, Parbhani, Washim, and Yavatmal. And low trend districts Chandrapur, Latur, Bhandara, Gondia, And Mumbai districts. And in the year 2019-2020 top percentage districts of the total pregnancies are heights in Nadurbar, Parbhani, Yavatmal, Dhule, and Washim districts. And low percentage districts are Chandrapur, Gandia, Dharashiv, Gadchiroli, and Bhandra. districts. then year 2020-2021 top percentage districts are Nagpur, Nandubar, Raigad, Thane, and Bhandara. Districts. and low percentage districts are Buldhana, Nashik, Palghar, Sangali, and Solapur districts. and the year 2021-2022 top percentage districts are Wardha, Gandia, Solapur, Sangli, and Nandurbar. Low percentage districts are Yavatmal, Amravati, Dharashiv, Satara and Akola districts in the state. And the year 2022-2023 top percentage districts are

Sindhudurg, Gondia, Chatrapatti Sambhajinagar, Satara, and Kolhapur districts. and the low percentage districts are Raigad, Jalgaon, Latur, Nanded, and Amravati districts in the Maharashtra.

The Health Management Information System (HMIS) is the only source that monitors critical health indicators below the state level on a monthly basis. Identifying districts that consistently have a high incidence of infants born with a weight below 2.5 kg is critical for targeted intervention. Between FY 2017-18 and 2019-20, high percentages of low-birth-weight infants were reported by 8 districts—Palghar, Amravati, Chandrapur, Nandurbar, Gadchiroli, Bhandara, Gondia, and Sindhudurg. However, Gadchiroli, Chandrapur, and Amravati featured among the five districts with the highest incidence over the three years. Chandrapur which reported the highest incidence.

Table 2: Percentage of live births to total pregnancies (total live birth+ still births+ abortions) in the districts of Maharashtra, 2018-19 to 2022-23

Districts	**2018 - 19**	**2019 - 20**	**2020 - 21**	**2021 - 22**	**2022 - 23**
Akola	95.9	96.1	96.4	95.6	96.4
Amravati	98.5	97.9	95.7	95.2	91.6
Buldhana	96.9	97.5	97.5	97.7	97.6
Washim	99.3	98.6	98.5	98.7	97.9
Yavatmal	99.2	98.8	98.5	98.7	97.3
Chhatrapati Sambhajinagar	94.0	95.9	95.8	94.4	92.1
Hingoli	96.7	97.1	96.1	97.1	96.8
Jalna	95.8	96.6	96.0	98.5	96.9
Parbhani	97.3	99.4	98.5	98.7	97.5
Kolhapur	97.9	98.1	97.8	98.5	97.1
Ratnagiri	95.9	96.0	95.6	96.1	94.5
Sangli	96.6	96.8	97.5	98.2	97.6
Sindhudurg	95.4	95.8	95.9	94.3	94.9
Beed	97.1	96.7	97.3	97.0	97.2
Dharashiv	96.7	93.5	94.7	95.0	94.4
Latur	2.4	95.9	97.0	97.0	96.6
Nanded	98.2	98.3	97.8	97.6	95.3
Mumbai	93.5	96.1	93.3	92.0	92.6
Mumbai Suburban	0	0	97.2	96.3	96.3
Bhandara	92.8	94.8	93.8	93.0	91.3
Chandrapur	91.7	88.8	91.9	92.0	89.8
Gadchiroli	96.7	94.7	93.0	92.9	89.3
Gondia	93.2	93.1	93.0	92.9	91.3

Nagpur	97.1	98.5	97.5	97.2	95.9
Wardha	98.0	98.2	97.4	97.9	96.3
Ahmednagar	94.9	95.0	95.6	96.3	96.5
Dhule	97.2	98.6	98.1	97.5	98.3
Jalgaon	97.7	97.7	97.8	97.7	97.3
Nandurbar	85.5	90.5	89.3	90.8	95.8
Nashik	97.1	97.6	98.9	98.1	97.7
Pune	94.4	95.6	97.0	96.1	95.4
Satara	95.5	95.9	96.4	96.8	96.0
Solapur	97.4	97.1	97.0	97.0	97.0
Palghar	97.5	97.6	97.8	97.4	97.4
Raigad	99.1	98.5	99.0	98.6	98.5
Thane	93.8	95.8	98.2	96.8	95.7
Maharashtra	93.61	96.83	97.27	96.92	96.04

(Source-HMIS Data 2018-2023)

Table 3 shows Percentage of live births weighed at births in top five districts of Maharashtra. 100% weighed at births Mumbai, Bhandara, Ratnagiri, chatrapati Sambhajinagar, and satara districts weighed percentage are top in the districts of Maharashtra. Somehow low percentage weighed at births districts are chandrapur, Nashik, Dhule, Sangali, and Pune districts are shows low weight percentage in the year 2018-2019.and the year 2019-2020 heights percentage are five top districts are Gadchiroli, Chatrapati Sambhajinagar, Satara, Raigad, and Gondia. Districts. And low percentages districts are Nashik, Pune, Nagpur, Hingoli and Jalna districts. Year 2020-2021 heights districts are Mumbai suburban, Sindhudurg, Chatrapati Sambhajinagar, Gadchiroli, and Jalna districts. low percentage districts are Akola, Nashik, Chandrapur, Dhule and Nanded districts. year 2021-2022 five top district are Buldhana, Amravati, Hingoli, Sindhudurg, and Washim district. low percentage districts are Raigad, Nan durbar, Nashik, Jalgaon, and Beed districts Year 2022-2023 heights percentage districts are chatrapati Sambhajinagar, Washim, Akola, Pune, and Bhandara district. low percentage districts are Solapur, Nashik, Amravati, Hingoli, and Jalgaon districts in the state of Maharashtra. In the state of Maharashtra total live births weighed at births with the total live births percentage are shown in last five years from 2018 to 2023 99.80 to 99.87% are every year institutional births are weighed in the state.

Table 3: Percentage of live birth weighted at birth to total live birth in the districts of Maharashtra, 2018-19 to 2022-23

Name of District					
	2018 - 19	**2019 - 20**	**2020 - 21**	**2021 - 22**	**2022 - 23**
Akola	99.59	99.45	89.64	99.96	100.00

Amravati	96.67	97.80	97.35	97.18	95.84
Buldhana	99.43	99.43	99.40	99.77	99.49
Washim	99.14	99.71	99.97	99.94	97.00
Yavatmal	99.24	99.36	99.17	99.75	99.61
Chhatrapati Sambhajinagar	98.00	97.00	97.00	98.00	96.00
Hingoli	99.48	96.95	99.54	99.20	98.17
Jalna	97.28	97.45	99.82	99.76	99.85
Parbhani	97.06	99.40	99.49	99.53	99.91
Kolhapur	97.95	99.44	99.52	99.16	99.68
Ratnagiri	96.00	99.70	98.40	99.78	99.86
Sangli	93.68	97.92	98.94	96.73	99.83
Sindhudurg	98.48	97.75	96.00	97.46	99.89
Beed	99.20	99.25	99.82	99.78	99.70
Dharashiv	99.58	99.76	99.60	99.42	99.93
Latur	99.27	99.48	97.84	99.04	99.81
Nanded	96.80	97.88	97.01	99.72	99.58
Mumbai	97.01	99.66	97.42	98.02	99.94
Mumbai Suburban	0.00	0.00	96.15	98.02	99.81
Bhandara	97.00	99.76	99.44	99.93	99.99
Chandrapur	89.08	98.55	96.41	99.28	99.82
Gadchiroli	99.44	100.00	99.99	99.96	99.98
Gondia	99.63	99.77	99.80	99.99	99.69
Nagpur	99.75	96.37	99.54	99.71	99.66
Wardha	99.80	98.56	99.87	99.96	99.87
Ahmednagar	99.92	99.64	99.70	99.79	99.37
Dhule	93.20	98.08	96.55	98.67	99.87
Jalgaon	99.67	99.17	98.92	97.96	98.95
Nandurbar	97.72	99.19	98.68	98.05	99.75
Nashik	90.58	92.32	91.90	93.42	95.22
Pune	94.11	93.17	97.94	99.96	99.99
Satara	99.95	99.96	97.38	99.98	99.64
Solapur	99.30	99.54	99.03	98.72	95.13
Palghar	99.13	99.18	99.02	99.60	99.22
Raigad	99.90	99.90	99.83	99.98	99.75
Thane	96.06	99.67	99.35	99.71	99.70
Maharashtra	97.55	98.13	98.33	99.00	99.12

(Source-HMIS Data 2018-2023)

Table 4 shows Percentage of Low births weight trend of Maharashtra district wise percentage show the district of low births trend in last five years in the table top low births weight five districts of Maharashtra and small percentage five districts of Maharashtra year wise districts in the year 2018-2019 shows five top low births districts are Gadchiroli, Bhandara, Amravati,

Sindhudurg, Gondia, and Chandrapur district. low percentage of the birth weight districts are Jalgaon, Yavatmal, Buldhana, Beed Parbhani, Washim, and Nanded districts of Maharashtra.

Year 2019-2020 top low births districts are Gadchiroli, Gondia, Chandrapur, Nan durbar, Bhandara districts. low percentage district in this year Jalgaon, Buldhana, Ahmednagar, Nanded, Latur, and Yavatmal districts.

Year 2020-2021 top low birth districts are Gadchiroli, Gandia, Chandrapur, Mumbai, Bhandra, Akola districts. and low percentage district Yavatmal, Jalgaon, Ahmednagar, Buldhana, Nanded, Jalna and Thane districts of Maharashtra.

Year 2021-2022 Top low births districts are Gadchiroli, Chandrapur, Mumbai, Nandurbar, Palghar districts. and low percentage of districts are Nanded, Parbhani, Yavatmal, Buldhana, Ahmednagar, and Jalna districts.

Year 2022-2023 Top low births weight districts are Gadchroli, Chandrapur, Gondia, Bhandra, Akola districts ate top low births districts. And low percentage districts are Nanded, Beed, Buldhana, Ahmednagar, Yavatmal and Kolhapur districts are low percentage districts in this year of the Maharashtra. The state's low birth weight percentage in the years 2018-2019 in the state 12.61% then the year 2019-2020 low birth percentage of 12.10% in the years 2021-2022-10.63% reduced the percentage in the other two years respectively 13.02% and 11.99% shows in the respective years in the state.

Table 4: Percentage of low births weight (less than 2.5 kg.) children to total weighted live births in the districts of Maharashtra, 2018-19 to 2022-23

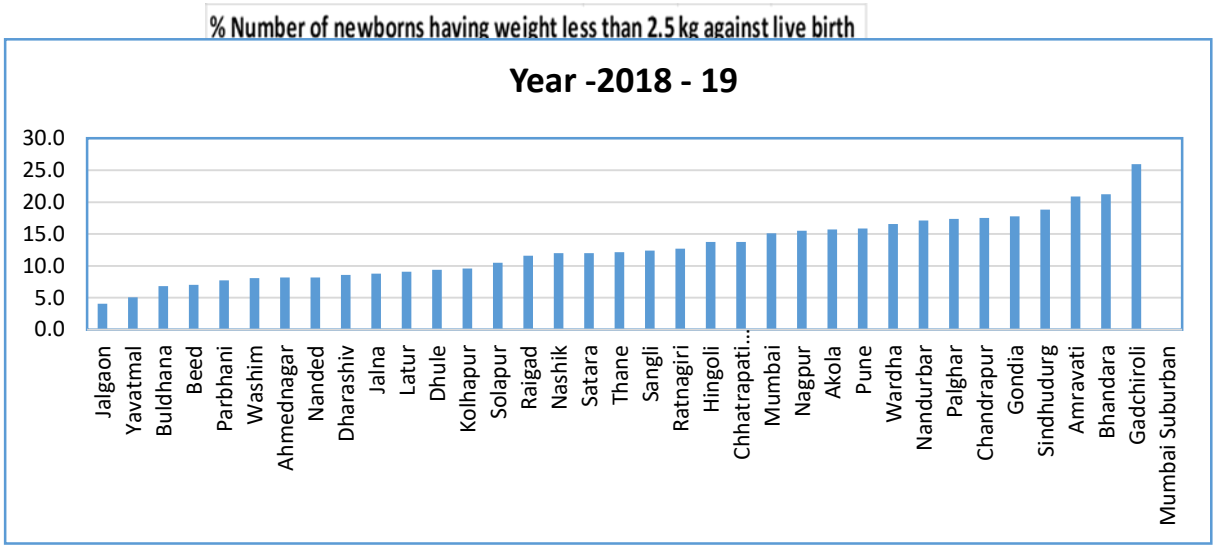
Districts	**2018 - 19**	**2019 - 20**	**2020 – 21**	**2021 - 22**	**2022 - 23**
Akola	15.7	18.2	18.6	18.5	20.0
Amravati	20.9	20.6	15.6	13.2	16.0
Buldhana	6.8	6.7	6.2	7.5	7.3
Washim	8.1	12.9	10.6	13.6	11.4
Yavatmal	5.1	8.3	5.1	6.7	7.7
Chhatrapati Sambhajinagar	13.8	9.8	10.2	15.9	14.5
Hingoli	13.8	11.9	10.2	9.2	9.4
Jalna	8.8	11.9	6.6	8.5	8.6
Parbhani	7.7	8.3	7.9	5.8	9.7
Kolhapur	9.6	8.4	8.1	9.0	8.2
Ratnagiri	12.7	16.9	17.3	14.5	15.4
Sangli	12.4	13.4	10.7	11.0	12.3

Sindhudurg	18.8	19.4	18.3	18.1	19.7
Beed	7.0	10.6	12.9	8.8	6.4
Dharashiv	8.6	9.5	10.0	9.0	10.9
Latur	9.1	7.7	11.4	10.6	12.5
Nanded	8.2	7.3	6.2	3.9	4.4
Mumbai	15.1	14.9	22.0	23.0	18.6
Mumbai Suburban	0	0	9.8	13.1	10.7
Bhandara	21.2	19.8	19.6	18.2	21.0
Chandrapur	17.5	21.3	22.0	23.2	24.9
Gadchiroli	26.0	26.7	25.2	24.6	30.0
Gondia	17.8	23.3	22.4	20.4	23.1
Nagpur	15.5	11.6	9.5	16.7	12.7
Wardha	16.5	14.2	15.3	11.8	14.4
Ahmednagar	8.2	6.9	5.9	8.3	7.5
Dhule	9.4	14.2	8.1	13.2	11.0
Jalgaon	4.0	6.6	5.6	10.0	8.4
Nandurbar	17.1	19.8	17.0	20.8	15.5
Nashik	12.0	11.7	10.5	13.0	12.3
Pune	15.9	12.9	9.6	13.8	10.9
Satara	12.0	12.6	12.5	14.0	16.2
Solapur	10.5	9.0	7.2	12.0	10.4
Palghar	17.4	15.7	17.8	20.7	17.9
Raigad	11.6	9.4	12.0	10.3	11.3
Thane	12.2	9.4	6.9	14.4	10.1
Maharashtra	12.61	12.10	10.63	13.02	11.99

(Source-HMIS Data 2018-2023).

Across the districts of Maharashtra, low birth weight is highest districts viz. Gadchiroli, Bhandra, Chandrapur, Akola, Yavatmal, Washim, Parbhani, and Dharshiv, and lowest low births developed districts are according to HMIS (2018 to 2022-2023), across the districts in Maharashtra, has been found highest low birth trend in the districts.

figure 1. District wise percentage Low birth weight in the state of Maharashtra in the year 2018-2019.



The low-birth-weight highest percentage district in the state of Maharashtra is Gadchiroli district. in the year 2018-2019 -26 % Low weight births, this year the lowest low birth weight district was Jalgaon district 4% low births in the district.

Figure 2. District wise percentage Low birth weight in the state of Maharashtra in the year - 2019-2020.

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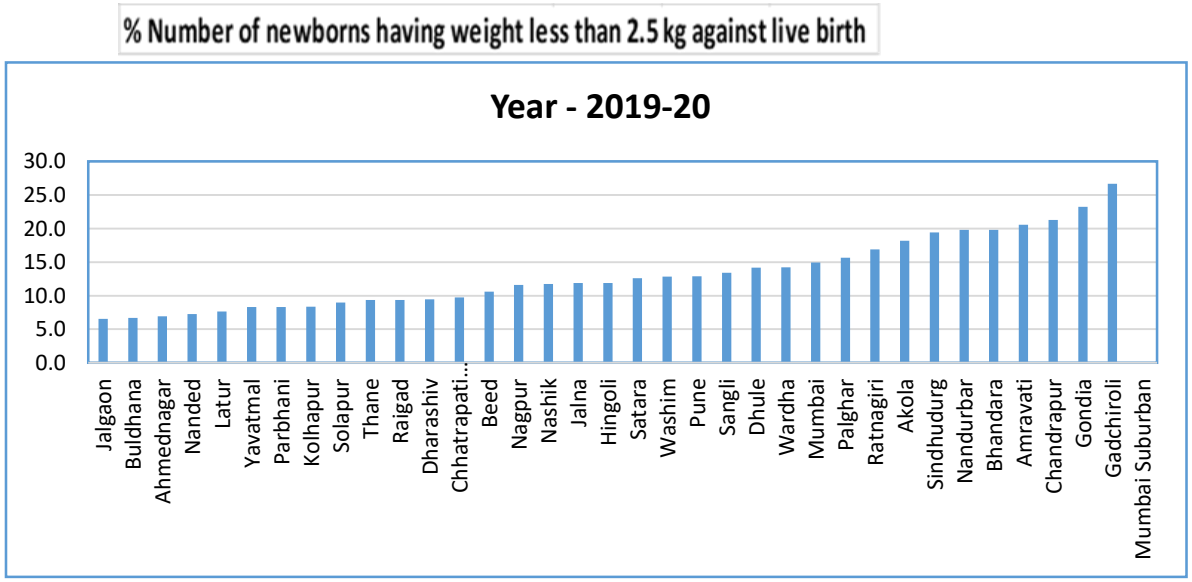
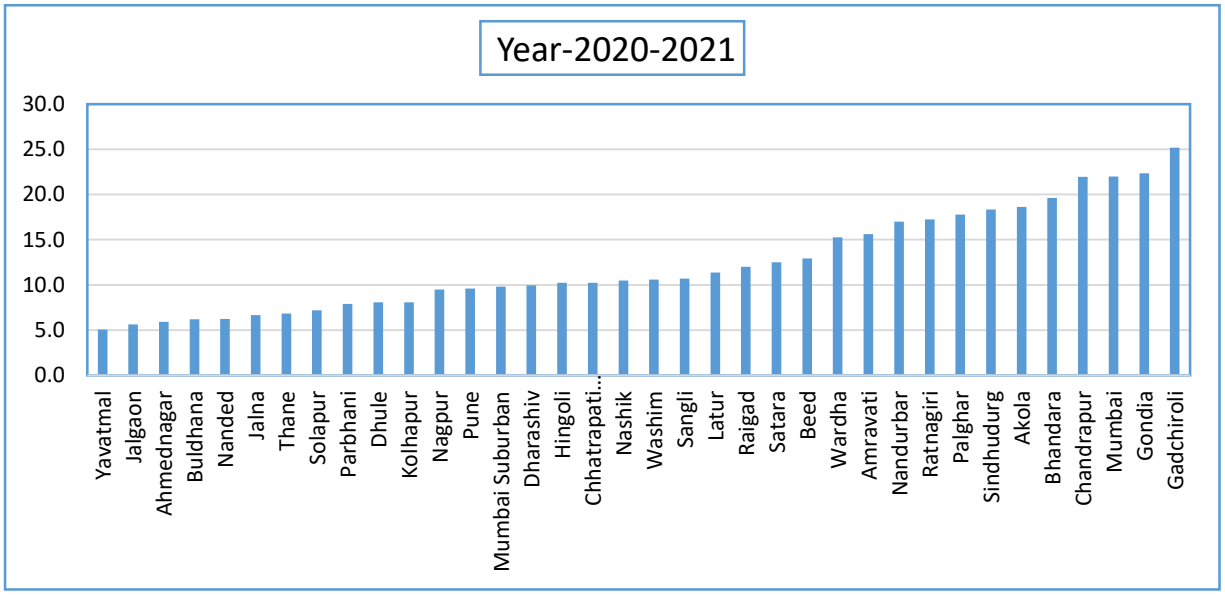


Shows highest and lowest percentage of the low births in the state of Maharashtra in the year - 2019-2020.

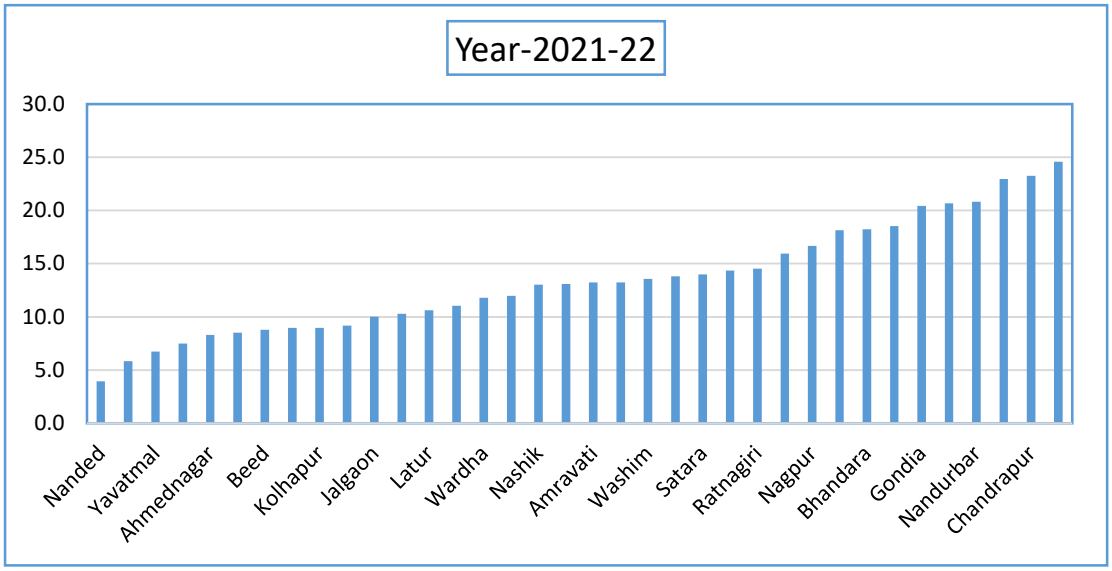
The low-birth-weight highest percentage district in the state of Maharashtra is Gadchiroli district. in the year 2019-2020 -26.7 % Low weight births, this year the lowest low birth weight district was Jalgaon district 6.6% low births in the district.

Figure No 3. District wise percentage Low birth weight in the state of Maharashtra in the year – 2020-2021.



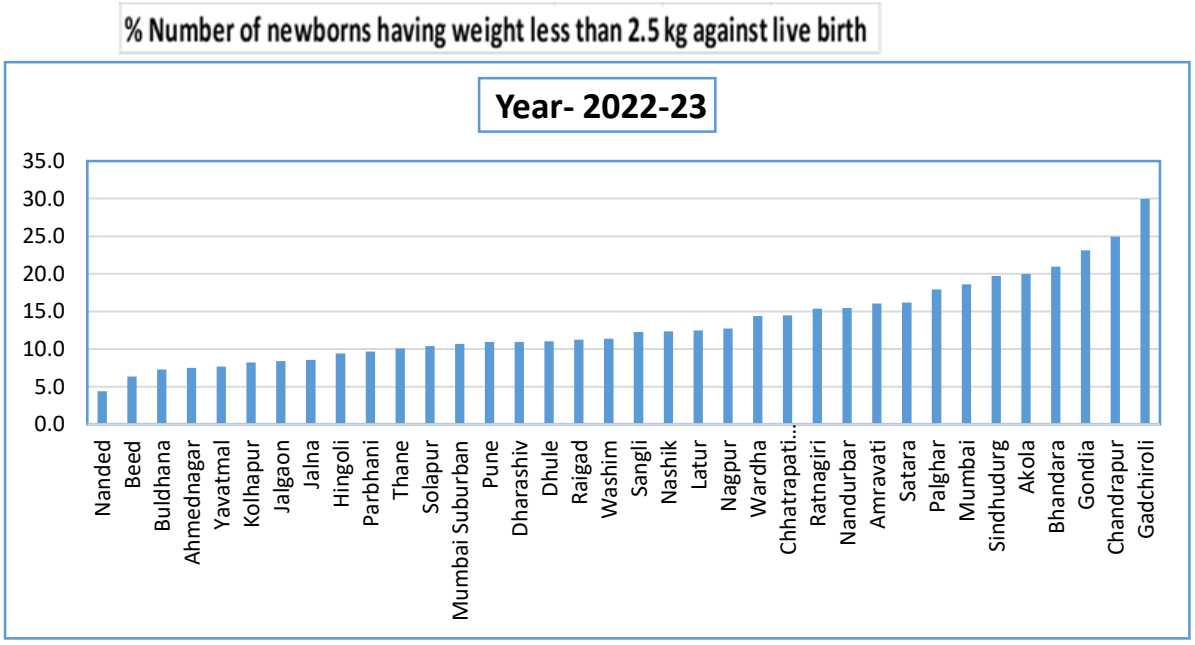
The low-birth-weight highest percentage district in the state of Maharashtra is Gadchiroli district. in the year 2020-2021 -25.2 % Low weight births, this year the lowest low birth weight district was Yavatmal district 5.1% low births in the district.

Figure 4. District wise percentage Low birth weight in the state of Maharashtra in the year -2021-2022.



The low-birth-weight highest percentage district in the state of Maharashtra is Gadchiroli district. in the year 2021-2022 -24.6 % Low weight births, this year the lowest low birth weight district was Nanded district 3.9% low births in the district.

Figure 5. **District wise percentage of Low birth weight in the state of Maharashtra in the year -2022-2023.**



The low-birth-weight highest percentage district in the state of Maharashtra is Gadchiroli district. in the year 2022-2023 -30.0 % Low weight births, this year the lowest low birth weight district was Nanded district 4.4% low births in the district**.**

Last five years Gadchiroli district has had a high percentage low birth percentage shown in HMIs data from 2018-2019 to 2022-2023 all five years high percentage of lowbirths in the district. this is a tribal district and many blocks are hilly areas in the district. there is a shortage of health facilities. This district is underdeveloped in the state.

Summary and discussion:

In India, nearly 20 percent of new-borns are born with low birth weight (LBW). The calorie requirement for a LBW new-borns may be higher than that of an appropriate gestational age (AGA) baby (a baby with healthy weight), due to their specific needs for catch-up growth and development. Many strategies can be followed to address this concern, including special dietary modifications and specific caregiving practices. Maharashtra is the second most populous state and the third most urbanised in the country. The state capital Mumbai is India's undisputed financial capital, yet about 50 per cent of its residents live in slums. The state attracts thousands of migrants from across the Country searching for work every year. The State is the wealthiest in terms of annual gross domestic product. The Kelkar Committee surmised that the infant mortality rate of tribal areas in Maharashtra is 60-70 per cent higher than the state average. In Maharashtra one in every ten children are born with low weight, and one in every three mothers of under two-year-old children record a Body Mass Index (BMI) of less than 18.5, which increases the risk of low birth weight babies. Child survival indicators remain the last mile issue in tribal areas and urban slums.

In The State of Maharashtra high low births weight districts. all tribal population districts. Gadchiroli, Bhandra, Chandrapur, Gondia, and Yavatmal district are high low birth weight in the districts. these districts are health low performing districts of Maharashtra. There is no sufficient infrastructure and health facilities, so underdeveloped districts show high low births weight babies. And rest of the district of Maharashtra is health performs are better good and health infrastructure is good in the other developed districts in the Maharashtra. So there is health awareness is good and health facilities are available in the state so low birth trend shows good in all other districts in Maharashtra many districts are under developed in the state in that districts low birth babies are higher than developed district in state of Maharashtra. It is need for close monitoring in the state. And to improve the health infrastructure.

In the state of Maharashtra Yavatmal district in Akola circle is low births weight is very low in the last five years in the state low birth trend. In the year 2018-2019 trend show in this year 5.1% other respective years shows 2019-2020-8.3%, 2020-2021-5.1%,2021-2022-6.7%2022-2023-7.7% low births trend shows in the district of Maharashtra. This percentage is total institunal births weighed in the hospital.

Policy recommendations

1. There is a need to focus high priority and tribal districts in terms of rigorous implementation of the public health care scheme.
2. The existing Maternal Health Care Programmes such as VHND, Poshan Abhiyaan, etc., need to contextualise their dietary guideline with due importance given to locally available food.
3. The high rate of low birth weight babies also indicates the lack of utilization of prenatal services and counselling during pregnancy, hence, there should be a continuum of care of maternal health care services throughout the course of pregnancy.
4. Exclusive breastfeeding optimal supplement to breastfeeding by adding extra calories, proteins to low birth weight babies.
5. Frequent feeding Increase the frequency of feedings. LBW infants may not be able to feed a large amount at once due to their smaller stomach capacity. Feeding them in smaller amounts but more frequently can help them gain weight.
6. Skin-to-skin contact Encourage frequent skin-to-skin contact between the baby and the parent or caregiver. This practice, also known as kangaroo care,
7. Close monitoring Regular check-ups to assess weight gain, growth, and development can help monitor progress. If there is a consistent lack in any of these, medical advice should be sought.
8. Get advice from a feeding specialist Sometimes, the infant may have difficulties feeding due to certain underlying issues with the mother or baby. In such cases.
9. Maintenance of digital records with Health Management Information Systems.
10. Mother and Child Tracking System should be considered. Second, it is imperative to strengthen the existing maternal and new-born health program

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