Maternal and Child Health Status and Health Seeking Behaviour among Tribals in Odisha: Insight from NFHS Reports

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Abstract

Employing the NFHS-5 and NFHS-4 reports, this paper examines maternal and child health status and health-seeking behaviour of tribal in Odisha. Findings suggest that tribals have achieved better pregnancy outcomes through institutional delivery, but sizeable number have not favoured it. Teenage pregnancy and son preference is predominant among them, which deteriorates the health status of women. Accessing ANC and post-natal checks have improved, but it is in substandard state. High delivery cost adds an extra burden and remains a constraint for institutional delivery for tribals.The situation of early childhood mortality is shoddier among tribals. Fever, diarrhoea, ARI, and anaemiaare common critical health issues which has rapidly increased over time because many failed to access proper treatment. Despite possessing a vaccination card, many tribal children have not obtained all necessary immunizations. Although the number of tribal women using ICDS services has grown recently, attaining 100% provision of supplemental food, health check-ups, diet and wellness education for mothers (tribals) throughout pregnancy. However, breastfeeding remains a challenge.Disparities in maternal health status and access to MCH care persist and are increasing throughout the state across socioeconomic groups.

Keywords: *Tribal Health, MCH, JSY, Ante-natal, disease, nutrition, Immunization*

INTRODUCTION

Tribals are the most marginalized communities, living in poor socioeconomic condition and are vulnerable in term of their health. The situational analysis of tribal health suggests that their health status is shoddier thanthe national average (Joshi &Upadhyaya, 2017).Except for the sex ratio, all health indices of tribal are in poor shape. It is upsetting regarding mother and child health (Balgir, 2015). The government spent more on Maternal and Child Health (MCH) than general health (Xaxa ,2014). MCH services are prioritizedto meet the needs and demands of mothers and children from all social groups. However, its accessibility and utilization are uneven due to their remote location and variation in socioeconomic status (Chaudhury, 1990). Findings of the High-Level Committee (Xaxa, 2014) report appointed by the Ministry of Tribal Affairs suggests that tribals in India are economically vulnerable and are still confronted with health issues such as high mortality and morbidity, undernutrition, anaemia, sickle cell, malaria, diarrhoea, and so on. Poverty, superstition, illiteracy, and secluded location create a barrier to availing MCH services. Such a situation is rampant among tribals in Odisha. According to Health and Family Welfare Statistics of India (2019-20), Odisha ranked third in infant mortality rate (41%) and under-5 mortality rate (47%) and rank second in neo-natal mortality rate (32%), whereas in early neonatal mortality rate(24%), it shares first position with Madhya Pradesh(HFWSI, 2019-20).It hasperformed poorly in maternal mortality rate (16.8%) and ranked 5thamong low-performing states in India. To improve the dwindling MCH situation, government has devised integrated MCH services through collaborative efforts of stakeholders to improve health care through effective intervention. Through its community outreach program, government has introduced healthcare programs such as NRHM, JSY, vaccination, nutrition supply, immunization, financial support, etc by assuring these services at doorstep delivery (Tarafdar,2008). Thus, this paper has assessed the maternal and child health status and health seeking behaviour of tribals in Odisha; using data from NFHS-5(2019-2021) and NFHS-4(2015-16) reports which are a large-scale, multi-round survey taking a representative sample of all social categories

throughout India on several health indicators. This study is divided into four sections, excluding introduction and conclusion. First section has provided situational analysis of tribes of Odisha, discussing their population composition and development indicators. The Secondsection analysedreproductive behaviour of tribalssuch as fertility, teenage pregnancy, and sex preference; while the third section assessed maternal health indicators such as antenataland postnatal care, delivery habits, pregnancy registration, outcomes, and uses of ICDS services and so on. The fourth section addressed child-health including nutrition status, illnesses, treatment, feeding patterns, immunization, and vaccination.

1. OVERVIEW OF TRIBAL IN ODISHA

India occupies the world's second-largest tribal population, accounting for 8.6% (10.43 corers) of its total population, and majority of them inhabit in five states namely, Madhya Pradesh, Bihar, Odisha, Gujarat, and Maharashtra. Odisha holds a special place in the tribal map of Indiadue to the size of tribal populationand their rich and astounding cultural heritage. Odisha contains 62 tribal communities out of 705 notified tribes in India, accounting for 22.85% of the state's overall population and 9.17% of India's total tribal population (Census, 2011). Odisha ranks third and eleventh among states/UTs in terms of ST population proportion to total population, respectively. The majority of tribal villages are nestled close to forests andmountainsides. Koraput, Sundargarh, and Mayurbhanj districts account for half of Odisha's tribal population. Given their level of backwardness, 13 of Odisha's 62 registered tribal groups have been designated as PVTGs. Kondhs are the most populous tribe in Odisha, accounting for 16.27% of the total tribal population, followed by Santhal (8.95%), Gond (8.89%), Kolha (6.25%), Munda (5.59%), and Saora (5.35%)(Census, 2011).Compared to the tribal population of India, health of tribal in Odisha is precarious.

Medical facilities are placed far from their residences, and many fail to receive immunizations against life-threatening diseases, leaving them vulnerable. They live in a fragile economic situation, which makes livelihood strenuous and prevents them from meeting their basic needs. Hunting, gathering, shifting cultivation, and manuallabour are their primary occupations (Satpati& Sharma, 2020). Life expectancy among tribal is affected by poor economic and health conditions and unfavourable work environments. Many of the state's developmental projects are failing to reach them attributed to communication issues, rampant corruption, and the apathy of development actors. Superstition, ignorance, and illiteracy obstruct their access to medical care. Except for the sex ratio (1029), general development indices of Odisha's tribals are in a poor status. As per Annual Report (2021-2022), Ministry of Tribal Affairs, in Odisha, 63.9% and 39.7% of tribal people in rural areas and urban areas live in poverty.The overall literacyrate of tribals in Odisha is 52.2%, with female literacy (41.2%) being significantly lower than male literacy (63.7%). According tothe NCRB report of 2021, atrocities/crimes against tribals in Odisha amounted to 7.6% (676 instances) in 2021, ranking third in India behind Madhya Pradesh (2627 cases) and Rajasthan (2121 cases).Data from past decades on Maternal and Child Health (MCH) suggest that Odisha has done inadequately in terms of MCH service accessibility and utilization. The state's MCH status varies across caste, tribe, and rural-urban differences. It is found that a substantial proportion of the population (83.32%) in the state resides in rural regions, which are less privileged to benefit from current MCH services offered by the government compared to metropolitan areas (Census, 2011).

2. FERTILITY BEHAVIOUR

2.1. Fertility, Teenage Pregnancy, and Motherhood

The overall fertility rate in Odisha has decreased across all social categories between NFHS-5 andNFHS-4, but it is higher among tribals (2.11%) than SC (1.85%), OBC (1.70%), and the overall percentage in Odisha (1.82%). Similarly, women aged 15 to 49 years who are presently pregnant is

higher among tribals (4.1%) but has remained constant since NFHS-4. It could be argued that tribes in Odisha have a higher fertility propensity than other socioeconomic groups. Child marriage is a predominant practice among tribes which is one of the leading causes behind the high fertility rate. Child marriage leads to more adolescent pregnancy and a longer reproductive period, resulting in increased fertility (Bhagat,2016). In India (NFHS-5), the percentage of females aged 15 to 19 years who have commenced childbearing is greater among tribals (8.4%) than SC (7.3%), OBC (5.8%), and overall percentage of India (6.8%). Odisha's total proportion of females aged 15 to 19 years who have begun childbearing (7.5%) is higher than that of its neighbouring states, viz Bihar (11.4%), West Bengal (16.4%), and Jharkhand (9.8%). In Odisha, the percentage of tribal females aged 15 to 19 years who have started childbearing has decreased slightly from 10.0% (NFHS-4) to 9.3% (NFHS-5). Similarly, the percentage of tribal girls in the above age groups who have given birth has slightly declined to 6.1% (NFHS-5) from 7.6% (NFHS-4). However, it is worth noting that the percentage of tribal females aged 15 to 19 years who are now pregnant with their first child has improved to 2.7% (NFHS-5) from 2.4% (NFHS-4). This demonstrates a paradoxical scenario in which the proportion of tribal females who began childbearing and had a childbirth between the ages of 15 and 19 years has decreased, yet the percentage of childhood pregnancy has soared. The scenario is similar again for state's scheduled castes. Further, the percentage of SC females aged 15 to 19, who are pregnant with their first child has risen to 3.5% (NFHS-5) from 2.8 % (NFHS-4). Thus, tribals and SC's exhibit a similar trend in teenage pregnancy and motherhood, but tribals have a greater incidence of teenage pregnancy and motherhood in Odisha. Further, adolescent pregnancy and motherhood have faintly declined among tribals, but it has remained higher altogether. Teenage pregnancy causes many health issues for both mother and child and can even be fatal.

2.2. Sex Preferences and Pregnancy Outcome

One of the primary factors influencing fertility behaviour in India is son preference (Mitra,2014). Even though tribal communities are regarded as egalitarian and gender-neutral, son preference is

essential to their reproductive behaviour (Murthietal, 1995). In Odisha, the percentage of tribal women (17.5% from 21.3%) and men (18.1% from 22.4%) who prefer sons over daughters has decreased marginally in NFHS-5 against NFHS-4, respectively. Similarly, percentage of tribal women (2.8% from 3.1%) and men (1.8% from 4.7 %) who prefer daughters over boys has decreased between NFHS-5 and NFHS-4. Among tribal in Odisha, 85.9% of women and 78.4% of men desired at least one son, while 81.7% of women and 73.3% of men desired at least one daughter (NFHS-5). The number of tribal women who want 'at least one daughter' has climbed slightly from 80.7% to 81.7 %, but in the case of men, it is declined to 73.3 % (NFHS-5) from 82.7% (NFHS-4). It is observed that the preference for 'at least one son or at least one daughter' among tribal women and men has slightly declined in NFHS-5 compared to NFHS-4 but preference for 'at least a son among tribals is considerably higher. Daughter preference is lesser among tribals compared to sons; it is higher among men in general than women. One significant difference was that more tribal men wanted at least one son over one daughter. Although Odisha tribes have an excellent sex ratio, sex preference is an underlying practice. Odisha tribes exhibits outstanding performance in live births (90.5%, NFHS-5) but slightly decreased from NFHS-4 (90.8%). Similarly, among tribals, cases of abortions have also slightly declined to 2.2% (NFHS-5) from 2.8% (NFHS-4), but it is opposite in case of miscarriages, it has increased to 6.5 % (NFHS-5) from 5.7% (NFHS-4). The status of live birth is in a good state, and cases of abortion have also declined, but incidence of miscarriages is rising, which is a matter of concern. Tribals have attained better pregnancy outcomes than other counterparts in Odisha but cannot be considered a good state.

3. MATERNAL HEALTH INDICATORS

3.1. Antenatal Care

Antenatal care(ANC) is essential for both mother and child to ensure sound health and safe childbirth by protecting from risk factors. As per NFHS-5, majority of tribal women have received ANC

(84.3%) from a skilled provider, which has positively improved since NFHS-4(76.2%). Nevertheless, significant numbers have availed ANC from non-skilled providers (13.3%). Even now, 2.4% of tribal women have not received ANC. Among tribals in Odisha who got ANC from a trained provider, majority were from doctors (70.4%), followed by ANM/nurse/midwife/LHV (13.9%), Anganwadi (9.0%), and ASHA workers (3.6%). Thus, doctors are the key ANC providers for tribals and other additional skilled providers who account for a little more than one-quarter of total skilled health providers. However, Anganwadi Centre has emerged as a growing ANC provider for tribals with a significant increase in ANC delivery. Further, tribals (9.0%) have largely preferred ANC from Anganwadi Centre compared to SC (5.7%) and OBC (3.8%), as per NFHS-5. Contrastingly (NFHS-5), tribal (70.4%) are lagging behind SC (82.9%) and OBC (88.0%) in availing ANC from doctors as well as a skilled provider (Tribal- 84.3%, SC-89.7%, OBC-93.2%). Previously, Dai/TBA were necessary ANC providers for tribals, but it has declined gradually with the improvement of modern health facilities. Insignificant number of tribals have availed ANC from Dai/TBA (0.2%, NFHS-5), which has declined since NFHS-4(0.3%). The desire to use modern health care has surged among tribes aided by state, but for ANC, significant numbers of tribal have relied on non-skilled providers.

Odisha has outperformed in ANC indicators, particularly women ‘who had at least one ANC visit in first trimester of pregnancy (98.3%)’ and ‘who had four or more ANC visits (78.1 %,) compared to its neighbour states, West Bengal (91.1% and 76.7 %), Jharkhand (91.9 % and 38.7 %) and Bihar (81.6% and 25.2 %) as well as from overall India (92.6 % and 58.5 %), respectively (NFHS-5). Among tribals in Odisha, 'one ANC visit (69.9% from 59.9%)' or 'four or more ANC visits (59.9% from 73.9%)' has grown considerably between NFHS-5 and NFHS-4. Although there has been a drastic improvement in the percentage of tribal women who seek ANC in the first trimester of pregnancy, it remains lower from SC and OBC, regardless of tribals' growth rate in these metrics. In other ANC indicators, tribal women ‘who received two or more TT injections during the pregnancy

and ‘whose last birth was protected against neonatal tetanus’ slightly increased to 89.9% from 88.2% and 94.0% from92.5%, respectively, between NFHS-5and NFHS-4. Similarly, tribal women in Odisha who were given or bought IFA climbed to 96.6% (NFHS-5) from 91.8% (NFHS-4), but half of them took IFA for at least 100 days, although slightly less than one-third (32.4%) took IFA for 180 days (NFHS-5). However, many of them have not taken IFA on the prescribed days. Odisha outperformed the national average and neighbouring states on ANC indicators, but tribal growth has been modest and has drifted behind other social groups. Further, tribals are poor performers of availing ANC compared to other social groups in Odisha. Thus, it may be stated that tribals' participation in contemporary medical care is slowly and steadily expanding.

3.2. Pregnancy Registration and Ultrasound Test, Advice Received during Pregnancy

The government of India has undertaken outstanding steps through MCH services by employing health professionals to deliver knowledge, information, and advice on health care free of cost at citizens’ doorsteps. Pregnancy registration and distribution of Mother and Child Protection (MCP) cards to pregnant women are critical components of MCH care for monitoring pregnancy and delivering better MCH services. In Odisha, pregnancy registration among tribal has risen exponentially to 98.4% (NFHS-5) from 95.3 % (NFHS-4). Majority of tribals (88.2%) have registered their pregnancy during the first trimester, but substantial percentages have registered later (11.7%), while the registration process is unknown to 0.1%tribals (NFHS-5). However, the situation of getting MCP cards among tribal women is excellent, with data showing that it has grown to 99.3% (NFHS-5) from 96.0% (NFHS-4). Odisha has done well in pregnancy registration among tribals. Yet, a sizeable percentage of them are deprived of registering pregnancy during the first trimester, and a few are ignorant of it, which prevents them from availing of MCH services. Obtaining guaranteed hundred percent pregnancy registration is a severe concern for tribals and all social groups in Odisha.

In the indicators of advice received during pregnancy in Odisha (NFHS-5), tribals (importance institutional of delivery: 96.1%), cord care 93.7%, breast feeding96.9%, keeping baby warm94.9%, and family planning94.0%)have done well than the overall performance of Odisha(importance of institutional delivery94.5%, cord care91.5%, breastfeeding 95.7%, keeping baby warm 93.4%, and family planning 91.2%). In these metrics, tribal outperformed SC and OBC also. Thus, Odisha has achieved significant progress in delivering knowledge, information, and advice regarding MCH care to tribals. Although an ultrasound is an essential component of MCH treatment, it is expensive and unaffordable for many people. The percentage of ultrasound tests 58.7% (NFHS-5) during pregnancy among tribal has noticeably increased since to 45.9% (NFHS-4); nevertheless, a substantial portion, little more than one-fifth of them, are deprived of it. There is a considerable difference in ultrasound tests in pregnancy between tribals (58.7 %) and SC (73.7%), OBC (78.5%), and others in Odisha (72.7%), (NFHS-5). Even the situation of ultrasound tests in India (78.2%) is also dismaying. Thus, access to ultrasound tests during pregnancy is a severe issue for all social groups in India and Odisha, and it is considerably worse for tribals of Odisha.

3.3. Delivery and Postnatal Check-up

Institutional delivery among tribals in Odisha has increased sharply to 82.8% (NFHS-5) from 70.7% (NFHS-4); among them, majority (81.0%) preferred public health facilities while a very insignificant few have opted for private health facilities (1.9%), NFHS-5. Surprisingly, 82.8% (NFHS-5) tribal women had delivery assisted by health staff which declined since NFHS-4 (96.9%), which is alarming. Percentages of tribal ‘women with a postnatal check’ and ‘women with a postnatal check within two days of birth’ have slightly increased to 92.2 % from 91.8 % and 89.2 % from 89.0 % between NFHS-5 and NFHS-4, respectively. Institutional delivery and postnatal check-ups have appreciably improved among tribes in Odisha, but there remains a disparity, with tribes preferring institutional delivery over postnatal check-ups. It shows that a substantial percentage of tribal women

had childbirth without the assistance of a health professional, but post-birth, they opt for postnatal check-ups.

Postnatal check-ups of tribal women in the first two days after birth have tremendously increased to 85.9 %(NFHS-5) from 43.7% (NFHS-4); among them, 43.3% and 31.4% had check-up in 1-3 hours, and less than 1 hour, respectively (NFHS-5). A large percentage of tribal had deprived of postnatal checks as suggested by NFHS-4 (49.2%), but it has massively declined to only 10.2% (NFHS-5). Although there is a colossal decline in the percentage of tribal with no postnatal check-ups, a statistically significant portion is ignorant. The status of postnatal check-ups of tribals is lower than SC (4.6%), OBC (4.6%) and total population of Odisha (5.9%).

3.4. Delivery Costs and Financial Assistance

Institutional delivery is the costliest affair; in many cases, it is beyond means for tribals and backward communities. To alleviate the economic burden, the government has made provision of financial assistance for delivery through direct financial benefit (DBT). The average delivery cost for tribals in Odisha is Rs. 2,670/- and Rs. 20,438/- in public and private health facilities, respectively, and Rs. 3,097/- in any health facility (NFHS-5). However, the average delivery cost in public health facilities has declined since it was Rs. 3,053/-, as per NFHS-4. But it has climbed dramatically in private health facilities from Rs.14,074/- to Rs. 20,438/-. The average delivery costs in private health facilities (SC-Rs.24,777/- and OBC-Rs.23, 671/-) and public health facilities (SC-Rs.4,322/- and OBC-Rs.4,450/-) are much higher for SCs and OBCs than tribals, but it has increased to a higher rate in recent years (NFHS-5). To cover delivery costs JSY plan has been implemented. Surprisingly, the percentage of financial help received by tribals under the JSY system has dropped from 77.8% (NFHS-4) to 75.5% (NFHS-5). It reveals that many tribes have not benefitted from JSY, which adds financial burdens and obstructs institutional delivery.

4. Child Health Indicator

4.1. Early Childhood Mortality

Under-five mortality rate (66.2%), infant mortality rate (55.9%), and neonatal Mortality rate (41.0%) are significantly higher than post-neonatal (14.3%) and child mortality rate (10.9%) among tribals in Odisha (NFHS-5). Between NFHS-5 and NFHS-4, neonatal (41.0 % from 35.5 %) and infant mortality rates (55.9 % from 51.8 %) have increased whereas child mortality has risen to 66.2 %from 65.6%, respectively. There is a colossal disparity in early childhood mortality rates between tribal and their other counterparts in Odisha.SC has a neonatal mortality rate of 25.0% and an infant mortality rate of 36.0%, whereas OBC has a neonatal mortality rate of 18.8% and an infant mortality rate of 24.1%. Tribals have a much higher rate of new-born mortality (41.0%), infant mortality (55.9%), and under-five mortality (66.2%) than SC's (39.7%) and OBC's (26.6%). Thus, overall indicators of early childhood mortality among tribal are shoddier, whereas neonatal, infant and under-five mortality rates have worsened most in recent years compared to the past.

4.2. Vaccination of Children

Vaccination for infants at birth and later stages has been recommended as pivotal for healthy childhood development by protecting them from infections and risk factors. The government provides essential vaccines to children free of cost, such as BCG, DPT, Tetanus, Polio, MCV/Measles/MMR/MR, in hospitals and at residence. According to NFHS-5, percentage of all vaccinations (88.6 %) received by tribal children of age 12-23 months have considerably increased since NFHS-4(74.4%). Coverage of all essential vaccinations such as BCG (92.4 % to 97.0%), DTP (90.9 % to 96.6 %), and Polio (85.8 to 90.5%), MCV/Measles/MMR/MR (85.7% to 94.0%) have increased considerably between NFHS-4 and NFHS-5. Further, coverage of all three doses of vaccines for BGC (79.4% to 91.5%), DPT (87.4% to 92.0%), and Polio (79.7% to 89.8%) have substantially increased between NFHS-4 and NFHS-5, respectively but there remains a significant

gap between first and its subsequent doses. There is a slight dropout between the first and third doses of all vaccines such as BGC (96.1% to 96.5%), DPT (96.6 % to 92.0%), Polio vaccine (96.7% to 89.8%), and it has steadily decreased in second and subsequent doses. Many tribal children (97.4%) have been recognized with vaccination cards which have significantly increased since NFHS-4 (76.7%). However, only 79.9% have obtained all age-appropriate vaccinations, and only 1.8% have not received any vaccination. Thus, it can be argued that although coverage of all essential vaccinations among tribals has increased positively, sizeable number of children are exempted from these vaccinations with completion of recommended doses. Therefore, it poses challenges to the health condition of the state.

4.3. Prevalence of Diseases, Treatment, and Feeding Practices

Tribal children frequently suffer from infections such as ARI, fever, anaemia, and diarrhoea. NFHS-5 data depicts that sizeable numbers of tribal children under age 5 in Odisha have been identified with fever (9.6%) and diarrhoea (10.0%), but only a minuscule percentage have ARI (2.3%). Although children with ARI symptoms are lower, it has slightly climbed from 2.1% (NFHS-4). The status of ARI disease among tribals is comparatively lower than SC children (4.1%) and OBC's (2.6%) in Odisha (NFHS-5). Rate of children with ARI symptoms who sought treatment from health providers has increased to 58.2 % (NFHS-5) against 23.5% (NFHS-4). Similarly, the percentage of children with fever (60.7% versus 64.5%) and diarrhoea (46.5% versus 61.2%) for which treatment was taken from health providers has increased. Conversely, rate of tribal children with ARI and diarrhoea who took antibiotics has decreased to 6.7% (NFHS-5) from 12.0% (NFHS-4) and 12.1% (NFHS-5) from 13.0% (NFHS-4), respectively.

Routine intake of Zinc, ORS, and constant fluid is suggested for diarrhoea treatment. Among tribal children with diarrhoea, 59.0% have been given 'ORS or increased fluids,' whereas 53.6% have been given continuous feeding and ORT (NFHS-5). However, 37.9% and 29.3% were given 'zinc' and

'zinc or ORS,' respectively, whereas 12.1% and 2.9 % were given antibiotics and antimotility drugs respectively (NFHS-5). Among tribals, use of home remedies for diarrhoea has grown to 9.5% since NFHS-4(4.9%). Compared to zinc, antibiotic, and antimotility drugs, ORS, increased fluid, and continuous feeding with ORT have been largely used for diarrhoea treatment for tribal children.. NFHS-5 shows that none of the tribal children with diarrhoea have taken the intravenous solution, which was 0.2% in NFHS-4. A significant percentage of tribal children have 'not taken any treatment' (26.4%) for diarrhoea which has increased since NFHS-4(22.9%). It shows that a significant chunk of tribal children with diarrhoea have been exempted from any treatment, and rest who have taken treatment for diarrhoea are most dependent on ORS, fluids, and continuous feeding along with home treatment, and they are deprived of rest of the critical medicines/drugs.

4.4. ICDS Services Utilisation for Children and Mothers during Pregnancy and Breastfeeding

ICDS is an umbrella program under which Anganwadi units work as the key institutional mechanism which provides supplementary food supply, immunizations, health check-ups, early childhood care, weight assessment, monitoring health, preschool, and counselling mothers about child care, etc., free of cost. A significant improvement has been achieved in providing supplementary food (90.0% from 78.9%), immunization (78.0% from 64.4 %), and health check-up (86.3% from 71.7%) to tribal children of age 0-71 months between NFHS-5 and NFHS-4, respectively. Further, there is significant growth in weight measurement (90.1% from 78.9%) and counselling received by mothers after weight measurement (85.0% from 72.5 %) among tribal children aged 0-59 months between NFHS-5 and NFHS-4, respectively. Although significant improvement have been achieved in delivering ICDS services to tribals, a sizeable number of them have been deprived of these services remains a challenge. The dilemma is similar to early childhood care/preschool because availing early childhood care/preschool for tribal children aged 36-71 months at ICDS has considerably increased (67.1% to 79.0%). Still, a large number of children need this service. There is no doubt that a substantial percentage of tribal children have received ICDS services between NFHS-5 and NFHS-4, yet many

of them are exempted from it. Delivering supplementary food and weight measurement is in a good state, while immunization is inappreciable.

Anganwadi Centre has performed outstandingly in delivering ICDS services to tribal communities in Odisha. Receiving supplementary food (90.5% to 97.2 %), health check-ups (86.4 % to 95.1%), and health and nutrition education (82.9% to 97.4 %) from Anganwadi centres during pregnancy has remarkably increased among mothers who have children under6 years age, between NFHS-4 and NFHS-5. Further, there is significant growth in availing supplementary food (97. 3% from 87.4 %,) health check-up (93.9 % from 82.9%), and nutrition education (93.0 % from 80.1 %) among tribal women who has breastfeeding children under age 6, between NFHS-5 and NFHS-4, respectively. Although the number of tribal women using ICDS services has grown recently, attaining 100% provision of supplemental food, health check-ups, diet and wellness education for mothers (tribals) throughout pregnancy, and breastfeeding remains challenging. Tribal women have performed better in availing of ICDS services during pregnancy which has decreased after childbirth and during breastfeeding. Thus, tribals have outperformed SC's and the overall population regarding access to ICDS services.

4.5. Breastfeeding and Feeding Practices

Breastfeeding is recognized as the optimal feeding option for infants. Although a majority of tribal children in Odisha are breastfed, however, the rate of breastfeeding among tribal children born in the last two years has very slightly decreased to 96.4% (NFHS-5) from 96.6% (NFHS-4). According to NFHS-5, more tribal children have breastfed 'within one day of birth' (94.7%) than children who have breastfed 'within 1 hour of birth' (70. %). However, the rate of breastfeeding for tribal children 'within one day of birth'(67.8 %) and 'within 1 hour of birth' (94.0%) has slightly improved since NFHS-4. Prelacteal feeding is used as an alternative to breastfeeding; it is found that fewer (3.1%, NFHS-5) numbers of tribal children have been given Prelacteal feeding, and feeding this supplement

has declined since NFHS-4(4.5%). Tribal children are more likely to be breastfed within 1 hour after the delivery significant statistical difference between SC (67.3%) and OBC (70.4%), whereas in rectal feeding, tribal are behind SC (4.9%) and OBC (7.5%) in Odisha (NFHS-5). Further, slightly more numbers of tribal children have 'exclusively' (5.8 %) and 'predominantly breastfed' (6.6%) than SC (5.3% and 6.2%), OBC (5.0% and 5.4%), and the overall children of Odisha (4.9%, and 5.7%),(NFHS-5).

Feeding practices for breastfeeding young tribal children (age 6 to 23 months) in Odisha, 58.0% have provided 'food with minimum dietary diversity' whereas 'food with minimum meal frequency' 46.3% and 19.4% have given 'acceptable diet,' respectively (NFHS-5). Among non-breastfed young tribal children, 'minimum milk feeding frequency' (45.3 %) and minimum dietary diversity (42.2%)have given, whereas minimum meal frequency (39.2%) and minimum acceptable diet (19.5%), has also been given respectively. There is a significant difference in providing food with 'minimum dietary diversity' and 'minimum meal frequency' for breastfed and non-breastfed young tribal children. Still, it has less difference in the case of a minimum acceptable diet. However, among all tribal children (breastfed and non-breastfed), a majority have been fed breast milk or milk products (97.8%), and it is similar among SC, OBC, and overall children of Odisha. Except for providing food with minimum diversity for breastfeeding children, all other indicators of dietary practices are less than 50% which shows the substandard nutritional status of young tribal children in Odisha.

4.6. *Micronutrient Intake, Nutritional Status, and Anaemia*

Micronutrients such as vitamin A, Iron, etc., are essential for ensuring sound health of young children; deficiency of these nutrients contribute to poor health and childhood mortality. Among tribal infants (age 6-23 months) in Odisha, compared to food rich in iron (37.7%), majority have given vitamin A-rich food(74.7%) and Iron supplements (59.6%). Among children of age 9-35

months, 87.1 % have been fed 'vitamin A supplements' in the last six months of the survey, which is similar for SC(86.8%), OBC (88.3%) children with overall children of Odisha with slight variation in percentage (NFHS-5). Most tribal children are deprived of essential nutrients. vitamin A and iron supplements are higher than vitamin A and iron-rich food. So, there is a massive gap in consuming vitamin A and iron-rich food and supplement. Substantial numbers of tribal children are deprived of iron and vitamin A, and the percentage is higher in consuming iron (NFHS-5). Worm infection is a common problem among children, and surprisingly, compared to SC (71.5%), and OBC (69.3%), a considerable number of tribal children have been provided deworming medications (78.1%), (NFHS-5).

The nutritional status of under-five tribal children has improved over the years. 42.1% and 17.1% of tribal children under age 5 are 'stunted' and 'severely stunted,' respectively (NFHS-5). However, the percentage of stunted' and 'severely stunted' tribal children above specified age have slightly declined from 45.5% and 18.1% since NFHS-4, respectively. In Odisha, tribal have more numbers of stunted and 'severely stunted' children than SC (35.4%, 11.9%), OBC (25.0%, 8.7%) children, and overall children of Odisha (31.0%, 11.7%) as per NFHS-5, respectively. Similarly, Odisha has 18.1% 'wasted' children and 6.1% 'severely wasted,' but among tribals in Odisha, 22.8% are wasted, and 8.5 are severely wasted (NFHS-5). Still, the percentage of 'wasted' (27.8%) and 'severely wasted' (8.8%) children among tribal have slightly declined since NFHS-4. So, tribal has a higher percentage of wasted and severely children than their other counterparts (SC: 21.7%, 6.3%) and OBC: 4.6%, 4.8%). Further, the percentage of 'underweight' (42.1%) and 'severely underweight' (13.7%) children are higher among tribals, although it has declined since NFHS-4(48.5%, 15.8%), respectively. Overall nutritional status of under-five tribal children has improved towards a positive direction between NFHS-5 and NFHS-4. Still, a statistically significant percentage of them are stunted, wasted, and underweight, indicating that their nutritional status is precarious.

Tribal children are more vulnerable to anaemia and are disproportionately affected by it. The NFHS reports that it provides data on the prevalence of anaemia status based on haemoglobin levels in children aged 6 to 59 months. A considerable number of tribal children are affected by any anaemia72.9% (NFHS-5), which has grown dramatically from 58.4% (NFHS-4). According to NFHS-5, 41.1% and 31.7%tribal children of age 6 to 59 months are affected by 'moderate' and 'mild anaemia' respectively, whereas a small fraction of them are affected by severe anaemia (1.1%), which has risen marginally since NFHS-4(0.9%). In addition to any anaemia, both moderate (31.7% from 29.0%) and mild anaemia (28.5% from 40.1%) have grown dramatically between NFHS-5 and NFHS-4. Anaemia is a critical health issue for tribal children, and its prevalence has rapidly increased over time.

Conclusion

According to the Study, tribals' maternal and child health in Odisha has improved, but not to the expected extent. Tribals have a high reproductive proclivity, with greater rates of childhood pregnancy. Son preference is a prominent practice that influences reproductive behaviours of tribals, with the majority of males preferring sons to daughters over their female counterparts. The majority had live births, albeit this has somewhat decreased after NFHS-4. Although abortions have dropped, an increase in miscarriages portrays a negative image of maternal health. Obtaining ANC from a professional practitioner, registering for pregnancy, and using ANC in the first trimester of pregnancy have all significantly improved, but many indigenous women still rely on non-skilled providers for ANC.

The majority of tribal women (58.7%, NFHS-5) did not receive an ultrasound during their pregnancy; however this has changed substantially since NFHS-4 (45.9%). Among tribes, institutional birth and postnatal check-ups have significantly improved. Nonetheless, a sizable proportion of tribal women choose delivery without the help of a health professional, and the

proportion of tribal women who do not undergo postnatal check-ups has decreased dramatically. According to NFHS-5 statistics, 75.5% of women have benefited from the JSY plan, albeit this has decreased from NFHS-4, implying that many have not benefited from JSY, which increases financial pressures and impedes institutional delivery.

In terms of child health status, there is a considerable gap in early childhood death rates between tribal and non-tribal children in Odisha. As a result, general indices of early childhood death among tribal children are worse, with neonatal, newborn, and under-five mortality rates worsening in recent years compared to the past. Tribal children with immunization cards have grown dramatically, as have all age-appropriate vaccines. Furthermore, coverage of all three doses of BCG, DPT, and Polio vaccinations has improved significantly between NFHS-4 and NFHS-5. All vaccinations have a minor dropout between the first and third doses, and the percentages have gradually declined in the second and subsequent doses. A significant numbers of tribal children under the age of five have been diagnosed with fever and diarrhoea, but fewer had ARI.

The availability of ICDS services among tribal women has substantially improved, and Anganwadi Centre is among the best performers in Odisha for delivering ICDS services to tribals. Weight measurement counselling obtained by mothers following weight measurement among tribal children aged 0-59 months during NFHS-5 and NFHS-4 has increased significantly. Tribal women outperformed non-tribal women in terms of utilizing ICDS services throughout pregnancy, which declined after childbirth and during lactation. Breast milk or milk have been mostly favoured for tribal children, with a low preference for minimum meal frequency and minimum acceptable diet.

The majority of tribal children are deficient in key nutrients, with a significant percentage of tribal children deficient in iron and vitamin A. The nutritional status of indigenous children under the age of five has improved over time. Nonetheless, a statistically significant proportion of them are stunted, wasted, or underweight, indicating that their nutritional condition is unstable. Thus, while

mother and child health among tribals in Odisha has improved, there remain significant discrepancies in their health markers. Tribals fared better in maternal health than in child health. Although substantial progress has been made in providing health care to tribals, a large percentage of people remain unserved, which remains a difficulty. Despite the allocating enormous public funds on MCH services, yet no tribal specific heath initiative has been taken up. The target population and their complex set of problems demand immediate attention to set up Group-specific Plans and projects.

Abbreviations:

ANC- Antenatal Care

ARI- Acute Respiratory Infections

BCG- Bacille Calmette-Guerin

DPT- Diphtheria-pertussis-tetanus

ICDS- Integrated Child Development Schemes

IFA- Iron and Folic Acid

MCH- Maternal and Child Health

MCP- Mother and Child Protection

MCV- Mean corpuscular volume

MMR- Measles, Mumps, Rubella

MR- measles-rubella

JSY- Janani Suraksha Yojana

SC- Scheduled Castes

OBC- Other Backward Castes

ORS- Oral rehydration solutions

ORT- Oral rehydration therapy

NFHS- National Family Health Survey

Acknowledgement: This paper is a part of ICSSR, New Delhi, sponsored minor research project and I am thankful to ICSSR for providing me financial assistance for the same.

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