

A Comparative Analysis of Health, Nutrition, and Socio-Economic Development Indicators in Andhra Pradesh and Telangana: Evidence from NFHS-6 (2023–24)

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Abstract

The National Family Health Survey (NFHS-6, 2023–24) provides comprehensive information on demographic characteristics, health outcomes, nutrition, reproductive health, and socio-economic conditions across Indian states. This report presents a comparative analysis of Andhra Pradesh and Telangana using selected NFHS-6 indicators. The study examines population characteristics, household amenities, education, family planning, maternal and child health, immunisation, nutrition, non-communicable diseases, and women's empowerment. The analysis reveals that Andhra Pradesh performs better in health insurance coverage, family planning adoption, childhood immunisation, child nutritional status, and lower prevalence of tobacco and alcohol consumption, while Telangana demonstrates superior performance in educational attainment, digital inclusion, delayed marriage, institutional deliveries, and women's empowerment. The findings highlight the strengths and challenges of both states and emphasise the need for targeted policy interventions to improve health and human development outcomes.

Keywords: NFHS-6, Andhra Pradesh, Telangana, Health Indicators, Nutrition, Women's Empowerment, Comparative Analysis.

1. Introduction

The National Family Health Survey (NFHS) is India's largest and most reliable source of information on population, health, nutrition, and socio-economic indicators. Conducted under the Ministry of Health and Family Welfare, the survey provides state-level estimates that serve as a valuable resource for evidence-based policymaking and programme evaluation. The sixth round of NFHS (2023–24) offers updated information on demographic trends, maternal and child health, nutrition, reproductive behaviour, and women's empowerment.

Following the bifurcation of the erstwhile united Andhra Pradesh in 2014, Andhra Pradesh and Telangana have adopted different development strategies and policy priorities. Comparing their performance across key development indicators provides valuable insights into their progress and identifies areas requiring further attention.

This report presents a comprehensive comparison of Andhra Pradesh and Telangana using selected NFHS-6 indicators to assess achievements and challenges in public health, nutrition, education, and social development.

2. Objectives of the Study

The study aims to:

1. Compare demographic and household characteristics between Andhra Pradesh and Telangana.
2. Examine differences in maternal and child health outcomes.
3. Assess variations in child vaccination and nutritional status.
4. Compare adult nutritional status and non-communicable disease prevalence.
5. Evaluate women's empowerment and selected social indicators.
6. Identify policy implications for improving health and socio-economic development.

3. Data Source and Methodology

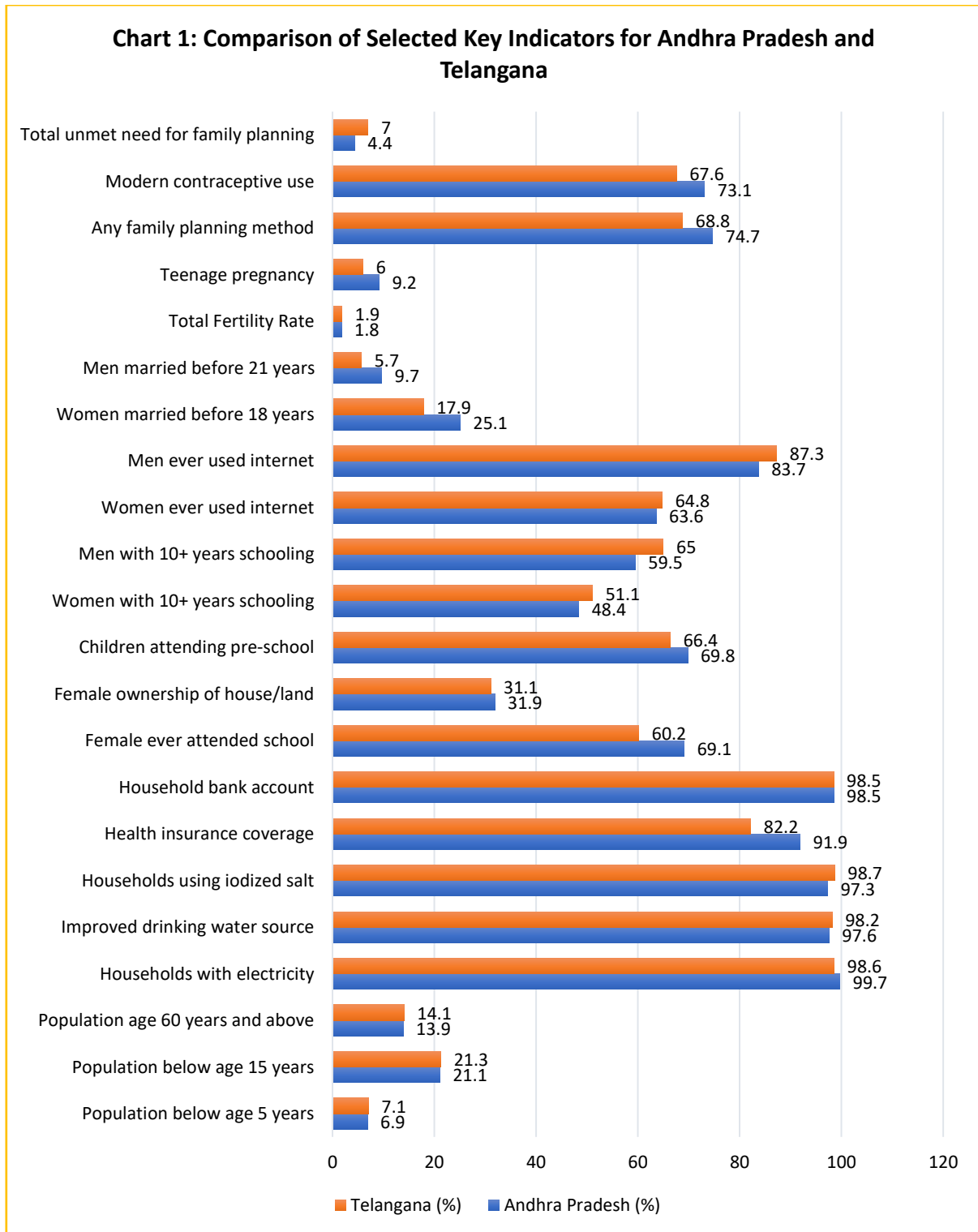
The study is based exclusively on data from the **National Family Health Survey (NFHS-6), 2023-24 Fact Sheets** for Andhra Pradesh and Telangana. The analysis uses state-level estimates of selected indicators covering demographic characteristics, education, health, nutrition, family planning, and women's empowerment.

A descriptive comparative approach has been adopted to examine differences between the two states. The indicators are presented in consolidated tables and analysed through comparative interpretation to identify relative strengths and weaknesses.

4. Comparative Analysis of Key Indicators

The comparison of selected demographic and socio-economic indicators reveals that both Andhra Pradesh and Telangana have made substantial progress in improving the living conditions and human development outcomes of their populations, although each state demonstrates distinct strengths. Andhra Pradesh records a slightly lower proportion of the population below 5 years (6.9%) and below 15 years (21.1%) than Telangana (7.1% and 21.3%, respectively), indicating a marginally lower child dependency ratio. Conversely, Telangana has a slightly higher proportion of elderly population (14.1%) than Andhra Pradesh (13.9%), reflecting demographic ageing and improvements in life expectancy (Char 1 & Table 1).

In terms of basic household amenities, Andhra Pradesh performs marginally better in electricity coverage, with 99.7 per cent of households having access compared to 98.6 per cent in Telangana. However, Telangana surpasses Andhra Pradesh in access to improved drinking water sources (98.2% versus 97.6%) and use of iodised salt (98.7% versus 97.3%), indicating better household health and sanitation practices. Both states have achieved near-universal financial inclusion, with 98.5 per cent of households holding bank or post office accounts, underscoring the success of these initiatives.



Source: NFHS-6

Educational indicators present a mixed picture. Andhra Pradesh has a higher proportion of females who have ever attended school (69.1%) compared to Telangana (60.2%), suggesting broader educational access for women over time. It also records slightly higher female ownership of house or land (31.9%) and greater participation of children in pre-school education (69.8%) than Telangana (31.1% and 66.4%, respectively).

However, Telangana has higher adult educational attainment: 51.1 per cent of women and 65.0 per cent of men have completed 10 or more years of schooling, compared with 48.4 per cent and 59.5 per cent in Andhra Pradesh. This suggests stronger retention and completion rates in secondary education.

Table 1: Comparison of Selected Key Indicators for Andhra Pradesh and Telangana

Indicator	Andhra Pradesh (%)	Telangana (%)	Better Performing State
Population below age 5 years	6.9	7.1	Andhra Pradesh
Population below age 15 years	21.1	21.3	Andhra Pradesh
Population age 60 years and above	13.9	14.1	Telangana
Households with electricity	99.7	98.6	Andhra Pradesh
Improved drinking water source	97.6	98.2	Telangana
Households using iodized salt	97.3	98.7	Telangana
Health insurance coverage	91.9	82.2	Andhra Pradesh
Household bank account	98.5	98.5	Equal
Female ever attended school	69.1	60.2	Andhra Pradesh
Female ownership of house/land	31.9	31.1	Andhra Pradesh
Children attending pre-school	69.8	66.4	Andhra Pradesh
Women with 10+ years schooling	48.4	51.1	Telangana
Men with 10+ years schooling	59.5	65.0	Telangana
Women ever used internet	63.6	64.8	Telangana
Men ever used internet	83.7	87.3	Telangana
Women married before 18 years	25.1	17.9	Telangana (lower is better)
Men married before 21 years	9.7	5.7	Telangana
Total Fertility Rate	1.8	1.9	Andhra Pradesh
Teenage pregnancy	9.2	6.0	Telangana
Any family planning method	74.7	68.8	Andhra Pradesh
Modern contraceptive use	73.1	67.6	Andhra Pradesh
Total unmet need for family planning	4.4	7.0	Andhra Pradesh

Source: NFHS-6

Digital inclusion is comparatively stronger in Telangana, where 64.8 per cent of women and 87.3 per cent of men have ever used the internet, slightly exceeding Andhra Pradesh's 63.6 per cent and 83.7 per cent. This indicates better access to digital technologies and communication infrastructure in Telangana.

Marriage and fertility indicators strongly favour Telangana. The proportion of women married before 18 years is considerably lower (17.9%) than in Andhra Pradesh (25.1%), while early marriage among men is also less common (5.7% compared to 9.7%). Teenage pregnancy is significantly lower in Telangana (6.0%) than in Andhra Pradesh (9.2%), reflecting improved reproductive health awareness and delayed marriage practices. Andhra Pradesh, however, records a slightly lower Total Fertility Rate (1.8) compared to Telangana (1.9), indicating lower fertility levels.

Family planning indicators reveal Andhra Pradesh's superior performance in contraceptive adoption. About 74.7 per cent of married women use some form of family planning compared to 68.8 per cent in Telangana, while modern contraceptive use is also higher (73.1% versus 67.6%). Consequently, Andhra Pradesh reports a lower unmet need for family planning (4.4%) compared to Telangana (7.0%), suggesting more effective reproductive health service delivery.

Overall, demographic and household indicators reveal that Andhra Pradesh performs better in female literacy, health insurance coverage, pre-school attendance, family planning adoption, and female property ownership. Telangana performs better in educational attainment beyond age 10, internet usage, delayed marriage, and access to drinking water. Both states have achieved near-universal financial inclusion and household electrification, reflecting the successful implementation of national development programmes.

4.2 Maternal and Child Health

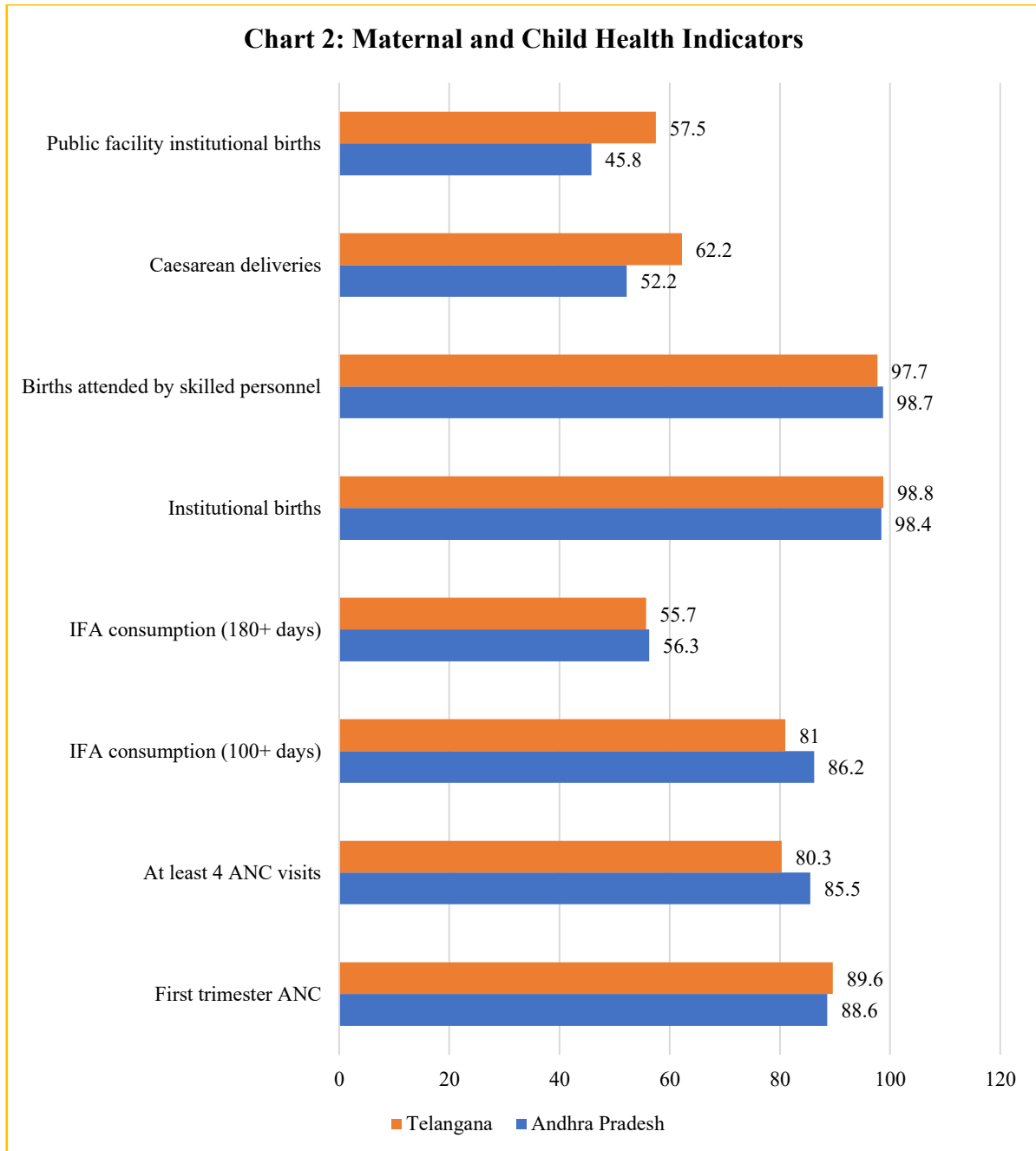
The comparison of maternal and child health indicators demonstrates that both states have achieved remarkable progress in maternal healthcare, with institutional deliveries and antenatal care approaching universal coverage. Telangana performs slightly better in early antenatal registration, with 89.6 per cent of mothers receiving antenatal care during the first trimester compared to 88.6 per cent in Andhra Pradesh (Chart 2 & Table 2). Early registration is crucial for timely monitoring and management of pregnancy-related complications.

However, Andhra Pradesh performs better in ensuring continuity of maternal healthcare services. About 85.5 per cent of mothers receive at least four antenatal check-ups compared to 80.3 per cent in Telangana, reflecting stronger follow-up mechanisms. Similarly, iron and folic acid supplementation during pregnancy is marginally higher in Andhra Pradesh, with 86.2 per cent of mothers consuming supplements for at least 100 days and 56.3 per cent for at least 180 days, compared to 81.0 per cent and 55.7 per cent in Telangana (Chart 2 & Table 2). These indicators are important for reducing maternal anaemia and improving birth outcomes.

Institutional deliveries exceed 98 per cent in both states, though Telangana records a marginally higher level (98.8%) than Andhra Pradesh (98.4%). Telangana also has a substantially higher proportion of institutional deliveries in public health facilities (57.5%) than Andhra Pradesh (45.8%), suggesting greater dependence on government healthcare infrastructure.

Births attended by skilled health personnel are marginally higher in Andhra Pradesh (98.7%) than in Telangana (97.7%), indicating excellent professional delivery care in both states. One notable area of

concern is the exceptionally high caesarean section rate in Telangana (62.2%), which significantly exceeds Andhra Pradesh's already high rate of 52.2 per cent. Such elevated caesarean rates may indicate over-medicalisation of childbirth and warrant closer monitoring of obstetric practices.



Source: NFHS-6

Table 2: Maternal and Child Health Indicators

Indicator	Andhra Pradesh	Telangana	Better Performing State
First trimester ANC	88.6	89.6	Telangana
At least 4 ANC visits	85.5	80.3	Andhra Pradesh
IFA consumption (100+ days)	86.2	81.0	Andhra Pradesh
IFA consumption (180+ days)	56.3	55.7	Andhra Pradesh
Institutional births	98.4	98.8	Telangana
Births attended by skilled personnel	98.7	97.7	Andhra Pradesh
Caesarean deliveries	52.2	62.2	Andhra Pradesh (lower)
Public facility institutional births	45.8	57.5	Telangana

Source: NFHS-6

Both states have achieved nearly universal coverage of institutional deliveries and antenatal care. Telangana performs better in early antenatal registration and utilisation of public health facilities, while Andhra Pradesh demonstrates stronger antenatal follow-up, iron supplementation, skilled birth attendance, and relatively lower caesarean section rates. The high prevalence of caesarean deliveries in Telangana requires policy attention to promote evidence-based obstetric practices.

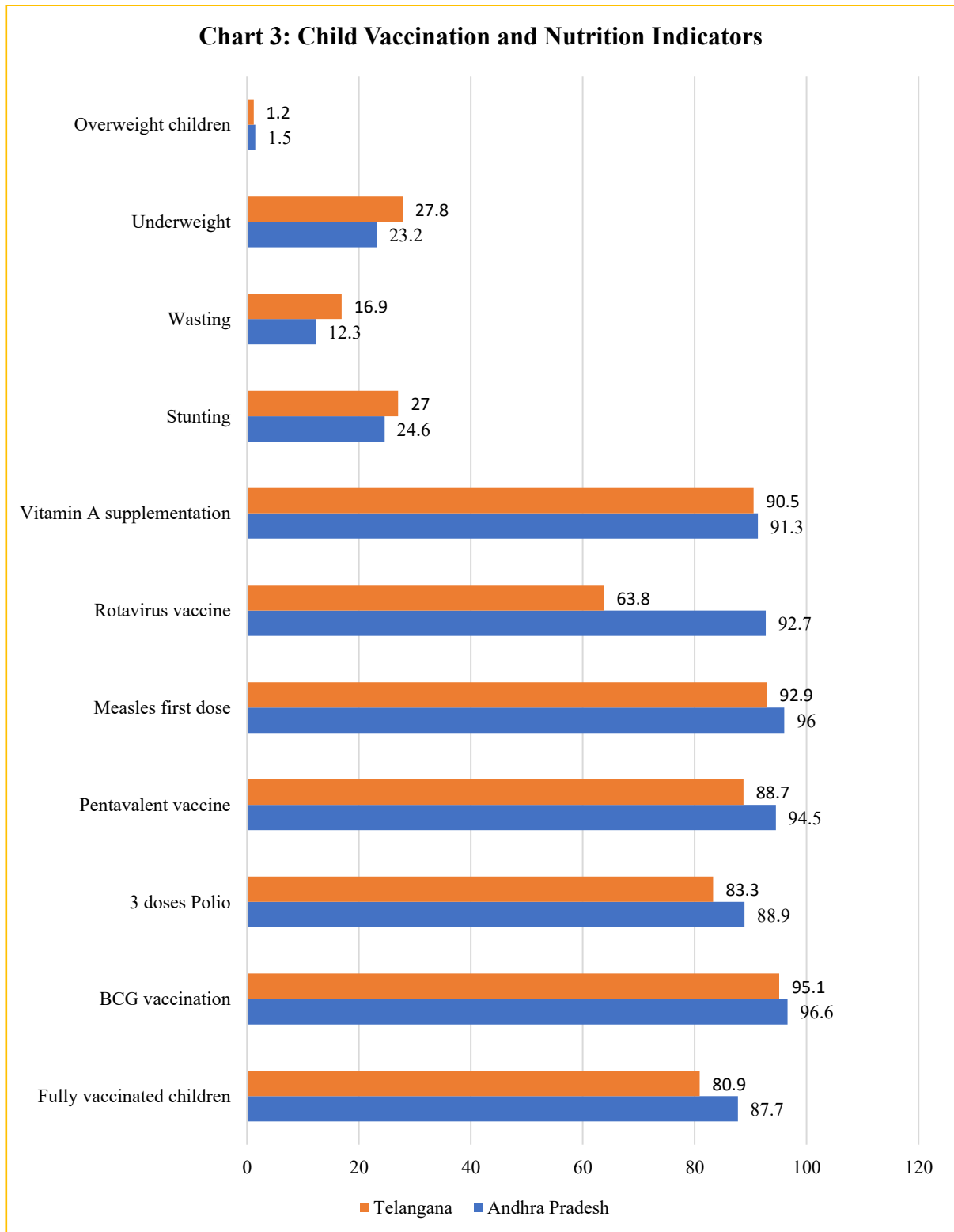
4.3 Child Vaccination and Nutrition

The comparison of child vaccination and nutritional indicators reveals a clear advantage for Andhra Pradesh across most dimensions of child health. Andhra Pradesh records higher full immunisation coverage (87.7%) than Telangana (80.9%), indicating better implementation of routine immunisation programmes. Coverage for BCG, three doses of the polio vaccine, the pentavalent vaccine, the measles vaccine, and vitamin A supplementation is consistently higher in Andhra Pradesh, indicating stronger outreach and service delivery ((Chart 3 & Table 3).

The difference is particularly striking for rotavirus vaccination, where Andhra Pradesh achieves 92.7 per cent coverage compared to only 63.8 per cent in Telangana. This substantial gap may have important implications for the prevention of childhood diarrhoeal disease and child survival.

Child nutritional outcomes also favour Andhra Pradesh. The prevalence of stunting, which reflects chronic malnutrition, is lower at 24.6 per cent compared to 27.0 per cent in Telangana. Similarly, wasting (12.3% versus 16.9%) and the prevalence of underweight (23.2% versus 27.8%) are considerably lower in Andhra Pradesh, suggesting better nutritional status among children.

The only indicator on which Telangana performs slightly better is childhood overweight, with only 1.2 per cent of children classified as overweight, compared to 1.5 per cent in Andhra Pradesh. Although childhood overweight remains low in both states, the increasing trend warrants continued monitoring.



Source: NFHS-6

Table 3: Child Vaccination and Nutrition Indicators

Indicator	Andhra Pradesh	Telangana	Better Performing State
Fully vaccinated children	87.7	80.9	Andhra Pradesh
BCG vaccination	96.6	95.1	Andhra Pradesh
3 doses Polio	88.9	83.3	Andhra Pradesh
Pentavalent vaccine	94.5	88.7	Andhra Pradesh
Measles first dose	96.0	92.9	Andhra Pradesh
Rotavirus vaccine	92.7	63.8	Andhra Pradesh
Vitamin A supplementation	91.3	90.5	Andhra Pradesh
Stunting	24.6	27.0	Andhra Pradesh
Wasting	12.3	16.9	Andhra Pradesh
Underweight	23.2	27.8	Andhra Pradesh
Overweight children	1.5	1.2	Telangana

Source: NFHS-6

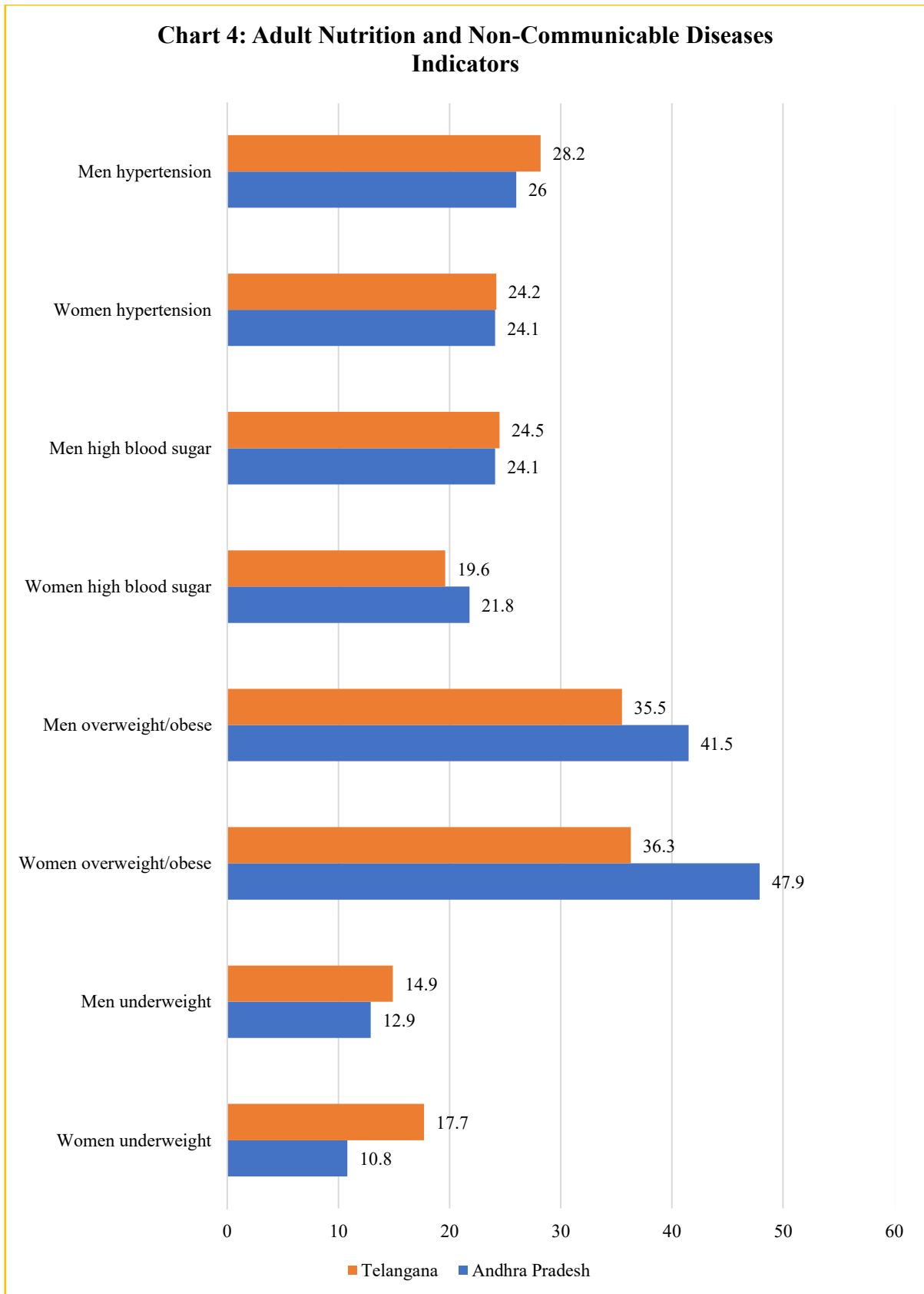
Overall, Andhra Pradesh significantly outperforms Telangana in child immunisation coverage across all major vaccines and records a lower prevalence of stunting, wasting, and underweight among children. Telangana's relatively low vaccination coverage and high levels of child malnutrition indicate the need for stronger immunisation campaigns and nutrition interventions. Childhood overweight remains low in both states.

4.4 Adult Nutrition and Non-Communicable Diseases

The comparison of adult nutritional status and non-communicable disease indicators presents contrasting health challenges in the two states. Andhra Pradesh performs substantially better at reducing undernutrition, with only 10.8 per cent of women and 12.9 per cent of men underweight, compared to 17.7 per cent and 14.9 per cent in Telangana. This indicates a relatively better nutritional status among adults in Andhra Pradesh (Chart 4 & Table 4).

However, Andhra Pradesh also experiences a higher burden of overweight and obesity. Nearly 47.9 per cent of women and 41.5 per cent of men are overweight or obese compared to 36.3 per cent and 35.5 per cent in Telangana. This reflects the ongoing nutritional transition associated with changing dietary habits, sedentary lifestyles, and urbanisation.

Regarding non-communicable diseases, Telangana performs marginally better in controlling high blood sugar among women (19.6% versus 21.8%), whereas Andhra Pradesh records slightly lower prevalence among men (24.1% versus 24.5%). Hypertension prevalence among women is almost identical in both states, although Andhra Pradesh records marginally lower rates among men (26.0% versus 28.2%).



Source: NFHS-6

Table 4: Adult Nutrition and Non-Communicable Diseases Indicators

Indicator	Andhra Pradesh	Telangana	Better Performing State
Women underweight	10.8	17.7	Andhra Pradesh
Men underweight	12.9	14.9	Andhra Pradesh
Women overweight/obese	47.9	36.3	Telangana
Men overweight/obese	41.5	35.5	Telangana
Women high blood sugar	21.8	19.6	Telangana
Men high blood sugar	24.1	24.5	Andhra Pradesh
Women hypertension	24.1	24.2	Andhra Pradesh
Men hypertension	26.0	28.2	Andhra Pradesh

Source: NFHS-6

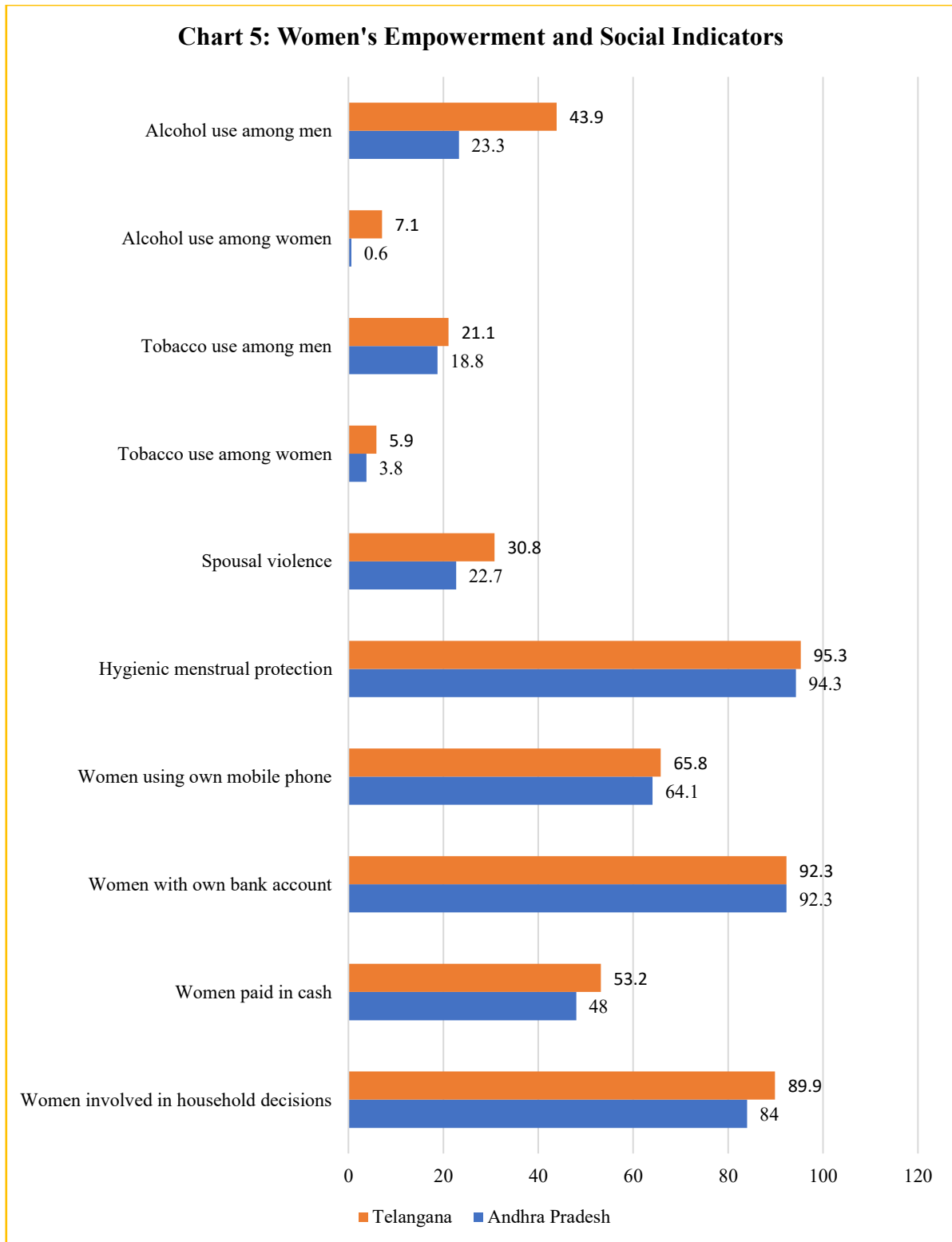
The analysis indicates that Andhra Pradesh has lower levels of adult undernutrition but higher prevalence of overweight and obesity among both men and women, reflecting an ongoing nutritional transition. Telangana shows slightly better outcomes regarding obesity but continues to face higher undernutrition. Both states are experiencing increasing burdens of diabetes and hypertension, highlighting the importance of preventive healthcare and lifestyle modification programmes.

4.5 Women's Empowerment and Social Indicators

Women's empowerment indicators suggest that Telangana has made relatively greater progress in promoting women's participation and autonomy. Nearly 89.9 per cent of married women in Telangana participate in major household decisions compared to 84.0 per cent in Andhra Pradesh, reflecting stronger decision-making power and gender equality within households. Similarly, a higher proportion of women receive cash payments for work (53.2% versus 48.0%), indicating better labour force participation and economic empowerment (Chart 5 & Table 5).

Both states have achieved identical levels of women's financial inclusion, with 92.3 per cent possessing and operating their own bank accounts. Telangana also records slightly higher ownership and use of mobile phones among women (65.8%) than Andhra Pradesh (64.1%), suggesting improved digital empowerment. The use of hygienic menstrual protection methods is also marginally higher in Telangana (95.3%) than in Andhra Pradesh (94.3%), reflecting greater awareness of menstrual hygiene.

Despite these achievements, Telangana faces significant social challenges. The prevalence of spousal violence is considerably higher (30.8%) than in Andhra Pradesh (22.7%), indicating persistent gender-based violence despite improvements in women's empowerment. Similarly, tobacco and alcohol consumption among both women and men is substantially higher in Telangana. Female alcohol consumption (7.1%) is nearly twelve times higher than in Andhra Pradesh (0.6%), while male alcohol consumption reaches 43.9 per cent compared to 23.3 per cent in Andhra Pradesh.



Source: NFHS-6

Table 5: Women's Empowerment and Social Indicators

Indicator	Andhra Pradesh	Telangana	Better Performing State
Women involved in household decisions	84.0	89.9	Telangana
Women paid in cash	48.0	53.2	Telangana
Women with own bank account	92.3	92.3	Equal
Women using own mobile phone	64.1	65.8	Telangana
Hygienic menstrual protection	94.3	95.3	Telangana
Spousal violence	22.7	30.8	Andhra Pradesh (lower)
Tobacco use among women	3.8	5.9	Andhra Pradesh
Tobacco use among men	18.8	21.1	Andhra Pradesh
Alcohol use among women	0.6	7.1	Andhra Pradesh
Alcohol use among men	23.3	43.9	Andhra Pradesh

Source: NFHS-6

These findings suggest that although Telangana demonstrates greater women's participation in household decision-making, higher economic participation, better digital access, and improved menstrual hygiene practices. However, it also records a substantially higher prevalence of spousal violence and tobacco and alcohol consumption. Andhra Pradesh performs better in reducing substance use and gender-based violence, but has comparatively lower indicators of women's decision-making autonomy.

5. Key Findings

- Andhra Pradesh performs better in health insurance coverage, female literacy, family planning adoption, childhood immunisation, child nutritional status, and lower prevalence of undernutrition.
- Telangana performs better in educational attainment, digital inclusion, delayed marriage, institutional healthcare utilisation, and women's empowerment.
- Child malnutrition and vaccination coverage remain major challenges in Telangana.
- Andhra Pradesh faces a growing burden of overweight, obesity, and lifestyle-related diseases.
- Both states have achieved remarkable progress in institutional deliveries, financial inclusion, and basic household amenities.

6. Policy Implications

- Strengthen immunisation and child nutrition programmes in Telangana.
- Promote healthy lifestyles and obesity prevention strategies in Andhra Pradesh.
- Enhance reproductive health awareness and reduce early marriage and teenage pregnancy through community-based interventions.

- Improve access to quality antenatal and postnatal care services in both states.
- Expand women's economic opportunities while simultaneously addressing gender-based violence.
- Develop integrated strategies to combat the dual burden of undernutrition and non-communicable diseases.

7. Conclusion

The comparative analysis of NFHS-6 (2023–24) indicators demonstrates that both Andhra Pradesh and Telangana have made significant progress in improving health, nutrition, education, and socio-economic conditions, although their achievements vary across different domains. Andhra Pradesh exhibits comparatively stronger performance in health insurance coverage, female literacy, family planning adoption, childhood immunisation, child nutritional status, and lower prevalence of undernutrition, substance use, and gender-based violence. These achievements reflect the state's effective implementation of public health and welfare programmes aimed at improving maternal and child health and expanding social protection.

On the other hand, Telangana performs better in educational attainment, digital literacy, later age at marriage, reduced teenage pregnancy, institutional delivery services, women's participation in household decision-making, and access to improved drinking water and hygienic menstrual practices. These indicators suggest substantial progress in human capital development, gender empowerment, and access to essential services. However, Telangana continues to face important challenges related to higher levels of child malnutrition, lower immunisation coverage, elevated caesarean section rates, greater prevalence of spousal violence, and higher consumption of tobacco and alcohol.

The findings also reveal that both states are undergoing an epidemiological and nutritional transition, where traditional problems of undernutrition coexist with rising levels of overweight, obesity, and non-communicable diseases. Addressing these dual challenges requires integrated policy interventions that combine nutritional security, preventive healthcare, behavioural change communication, and the strengthening of primary healthcare systems.

Overall, the comparison indicates that while Andhra Pradesh has achieved better outcomes in several public health indicators, Telangana has made notable advances in education, digital inclusion, and women's empowerment. Both states can benefit by adopting each other's best practices and strengthening evidence-based policy interventions to reduce regional disparities and improve the overall quality of life. Continued investments in healthcare, nutrition, education, gender equality, and social protection will be essential for achieving inclusive and sustainable human development in both states.

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