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Assessing Disparities in Maternal, Child Health, and Family Planning Outcomes: A Comparative Study of Purba and Paschim Bardhaman Districts, West Bengal, Using NFHS-5 Data

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Abstract

This comparative study assesses disparities in maternal, child health, and family planning outcomes between Purba and Paschim Bardhaman districts in West Bengal, India. Using data from the National Family Health Survey-5 (NFHS-5), this research investigates the socio-economic and geographic determinants of health disparities in these two districts. The study reveals significant disparities in maternal and child health indicators, including institutional delivery, antenatal care, immunization, and child nutrition. Family planning outcomes, such as contraceptive prevalence and unmet need for family planning, also vary significantly between the two districts. Multivariate analysis identifies education, wealth quintile, and caste as significant predictors of health disparities. This study contributes to the understanding of health disparities in West Bengal and highlights the need for targeted interventions to address the health and family planning needs of vulnerable populations. The findings have implications for policymakers, program implementers, and researchers working to improve maternal, child health, and family planning outcomes in India.

Keywords: *Antenatal Care, Post Natal Care, Child Immunization, Nutritional Status, Family Planning.*

Introduction:

Public health is a pressing concern for nations worldwide, particularly in today's complex geopolitical landscape. As public awareness about health grows, governments are increasingly focused on ensuring the well-being of their citizens. Maternal, child health, and family planning outcomes are crucial indicators of a country's overall health and development (WHO, 2019). Despite significant progress in reducing maternal and child mortality in India (NFHS-5, 2020), disparities in health outcomes persist across regions, socio-economic groups, and rural-urban divides (Ram et al., 2019). West Bengal, one of India's most populous states, has made notable strides in improving health outcomes, but intra-state disparities remain a concern (Mukherjee et al., 2018). A comparative analysis of

Purba and Paschim Bardhaman districts, located in the Burdwan division of West Bengal, reveals distinct socio-economic and demographic profiles (NFHS-5, 2020). This study leverages NFHS-5 data to examine health disparities in these districts, exploring the socio-economic and geographic determinants of maternal, child health, and family planning outcomes (Singh et al., 2020). By identifying the unique health needs of these districts, this research aims to contribute to the development of targeted interventions and policies.

Study Area:

The study area (Fig.No.-01) is geographically situated within the coordinates of 22º56´ North to 23º53´ North latitudes and 86º48´ East to 88º25´ East longitudes (Bengal District Gazetteers, 1997). It shares borders with Birbhum and Murshidabad districts to the north, Nadia District to the east, Hooghly District to the southeast, Bankura and Purulia districts to the southwest, and Dhanbad district of Jharkhand to the northwest (District Census Handbook, 2011).

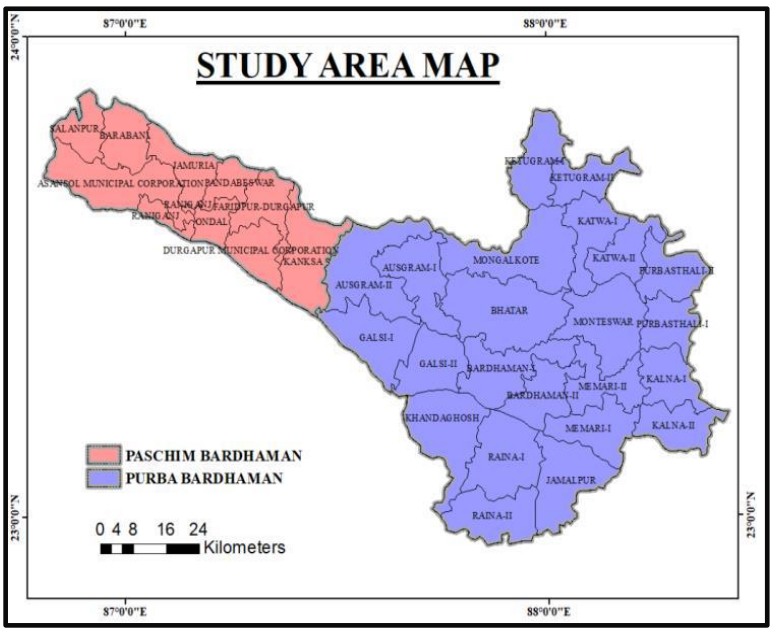

Fig.No.-01

Database and Methodology: This study utilizes data from the National Family Health Survey-5 (NFHS-5), conducted in 2019-20 by the International Institute for Population Sciences (IIPS), Mumbai, India. The NFHS-5 is a nationally representative survey that provides comprehensive data on population, health, and nutrition in India. The survey covers a wide range of topics, including maternal and child health, family planning, and reproductive health. For this study, data from Purba and Paschim Bardhaman districts in West Bengal were extracted and analyzed. This comparative study employs a quantitative research design, using NFHS-5 data to examine disparities in maternal, child health, and family planning outcomes between Purba and Paschim Bardhaman districts in West

Bengal. A comprehensive dataset was compiled, organized, and presented in tables and diagrams using MS Excel.

Results and Discussion:

A. Selected Maternal Health Parameters Status:

Maternal healthcare is a paramount aspect of reproductive health, encompassing a continuum of care that spans antenatal, postnatal, and delivery services. Access to high-quality, comprehensive maternal healthcare can profoundly impact maternal and newborn mortality rates, significantly reducing the risk of complications and fatalities. By empowering women with knowledge, autonomy, and access to maternal healthcare services, we can catalyze transformative change, fostering healthy families, communities, and societies.

i) Antenatal care (ANC)

Antenatal care (ANC) constitutes a comprehensive and multidisciplinary approach to prenatal healthcare, wherein a pregnant woman receives meticulous medical attention and guidance from a qualified healthcare provider, typically an obstetrician, midwife, or nurse practitioner. The primary purpose of ANC is to monitor the health and well-being of both the mother and the fetus, identify and mitigate potential complications or risks, provide personalized guidance on healthy pregnancy habits, and offer emotional support, education, and counseling on pregnancy, childbirth, and parenting. This integrated approach to ANC encompasses a range of essential services, including regular prenatal check-ups and physical examinations, diagnostic tests such as blood and urine analyses, ultrasound scans to monitor fetal growth and development, continuous blood pressure and weight monitoring, in-depth discussions on pregnancy options including birth planning and pain management, and personalized education on nutrition, exercise, and lifestyle habits during pregnancy.

Purba Bardhaman exhibits a higher percentage of ANC checkups in the first trimester, with 72.5% of pregnant women receiving timely care. In contrast, Paschim Bardhaman trails behind, with 70.3% of pregnant women accessing ANC services during the same period. Although the difference may seem marginal, it is essential to acknowledge that even a 2.2% disparity can have significant implications for maternal and fetal health outcomes. The slightly higher coverage in Purba Bardhaman may indicate better accessibility, awareness, or quality of ANC services in this district.

Table no.-01 shows that data on 4 Antenatal Care (ANC) visits reveals a significant difference between Purba Bardhaman and Paschim Bardhaman districts. Purba Bardhaman exhibits a notably higher percentage of women receiving 4 ANC visits, with 80.5% of pregnant women accessing this essential care. In contrast, Paschim Bardhaman lags behind, with only 70.4% of pregnant women receiving 4 ANC visits. This 10.1% disparity is substantial and may indicate varying levels of access to, awareness of, or quality of ANC services between the two districts. The higher coverage in Purba Bardhaman suggests that pregnant women in this district may have better access to healthcare facilities.

Based on the data on mothers consuming Iron Folic Acid (IFA) tablets for 180 days reveals a notable difference between Purba Bardhaman and Paschim Bardhaman districts. Purba Bardhaman exhibits a higher percentage of mothers consuming IFA tablets for the recommended duration, with 33.6% of mothers adhering to this essential regimen. In contrast, Paschim Bardhaman trails behind, with 30.8% of mothers consuming IFA tablets for 180 days. Although the difference is relatively modest, at 2.8%, it is still significant in the context of maternal health outcomes. The higher coverage in Purba Bardhaman may indicate better awareness, access, or adherence to IFA supplementation among pregnant women in this district.

ii) Post Natal Care (PNC)

Postnatal care (PNC) is a critical component of maternal and newborn healthcare, encompassing the medical attention and support provided to a woman during the postpartum period, typically spanning the first few weeks or months following childbirth. The primary objectives of PNC are to monitor the health and well-being of both the mother and newborn, facilitate a seamless transition to motherhood, identify and address any complications or concerns, provide personalized guidance on newborn care and parenting, and offer emotional reassurance and support. Comprehensive PNC typically encompasses a range of essential services, including immediate postpartum care, hospital or birth center stays, home visits or clinic appointments, check-ups with a healthcare provider, breastfeeding support and guidance, newborn care education, monitoring for postpartum complications, and family planning and contraception counseling. By providing holistic postnatal care, healthcare providers can ensure a healthy and empowering transition to motherhood, address any concerns or complications, and promote the overall well-being of both the mother and newborn.

Table No: - 01:
Maternal Health Parameters Status in Purba Bardhaman and Paschim Bardhaman Districts of West Bengal, 2019-20

Districts	ANC Service			PNC Service		Delivery Care		
	ANC Checkup in first trimester (%)	4 ANC visit (%)	Mothers consume IFA tab for 180 days (%)	Mothers received PNC within 2 days of delivery (%)	Children received PNC within 2 days of delivery (%)	Institutional birth (%)	Institutional birth in public facility (%)	C-section birth in public facility (%)
Purba Bardhaman	72.5	80.5	33.6	65.2	75	96	70.3	21.6
Paschim Bardhaman	70.3	70.4	30.8	64.1	70.5	89.8	62.7	24.8

Source: NFHS-5

Figure No. 02 reveals a slight difference between Purba Bardhaman and Paschim Bardhaman in mothers receiving Postnatal Care (PNC) within 2 days of delivery. Purba Bardhaman exhibits a marginally higher percentage of mothers receiving PNC within the recommended timeframe, with 65.2% of mothers accessing this essential care. In contrast, Paschim Bardhaman follows closely, with 64.1% of mothers receiving PNC within 2 days of delivery. The 1.1% difference between the two districts is relatively minor, suggesting that both districts have made significant progress in ensuring that mothers receive timely postnatal care. However, there is still room for improvement, as approximately 35% of mothers in both districts do not receive PNC within the recommended timeframe.

Purba Bardhaman surpasses Paschim Bardhaman in providing timely Postnatal Care, with 75% of newborns receiving care within 2 days of delivery. In contrast, Paschim Bardhaman trails behind, with 70.5% of newborns receiving PNC within 2 days of delivery. The 4.5% difference between the two districts is significant, indicating that Purba Bardhaman has made more progress in ensuring that newborns receive timely postnatal care. Receiving PNC within 2 days of delivery is critical for preventing neonatal complications, promoting healthy growth and development, and reducing infant mortality.

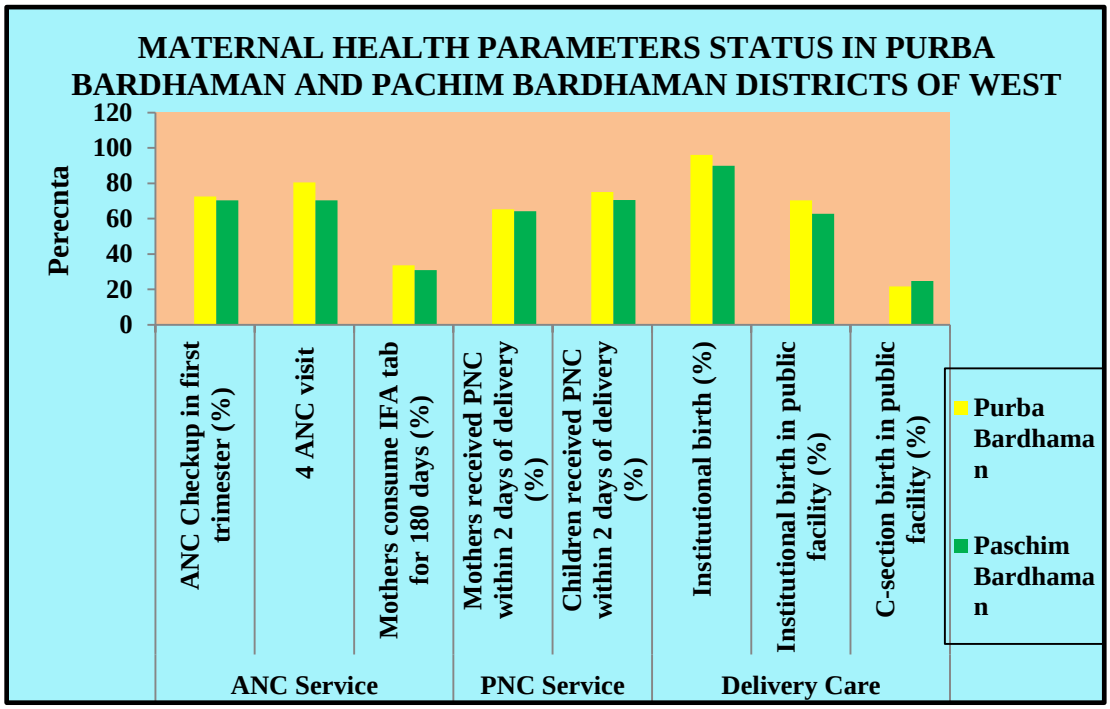

Fig. No.-02

iii) Delivery Care:

Delivery care encompasses the comprehensive medical attention and support provided to a woman throughout the childbirth process, from the onset of labor to the postpartum period, with the ultimate goal of ensuring a safe and healthy delivery for both the mother

and the newborn. This multifaceted care includes regular prenatal check-ups and monitoring to identify potential complications, meticulous support and monitoring during labor, incorporating pain management and fetal monitoring, skilled assistance with the birth process, encompassing both vaginal and cesarean deliveries, and postpartum care, including meticulous support for the newborn, assistance with breastfeeding, and provision of essential medical care, such as initial examinations, vaccinations, and screenings, to ensure the optimal health and well-being of both the mother and the newborn.

Figure no. 02 exhibits a comparative analysis of institutional birth rates reveals a notable gap between Purba Bardhaman and Paschim Bardhaman. Purba Bardhaman boasts an impressive 96% institutional birth rate, while Paschim Bardhaman lags behind at 89.8%, a 6.2% difference. This disparity highlights Purba Bardhaman's progress in promoting safe and institutional deliveries, which are critical for maternal and newborn health.

Institutional birth rates in public facilities vary significantly between Purba Bardhaman and Paschim Bardhaman, according to comparative data. Purba Bardhaman exhibits a higher percentage of institutional births in public facilities, with 70.3% of births taking place in government-run healthcare facilities. In contrast, Paschim Bardhaman trails behind, with 62.7% of institutional births occurring in public facilities. The 7.6% difference between the two districts is significant, indicating that Purba Bardhaman has made more progress in promoting institutional deliveries in public facilities. Institutional births in public facilities are crucial for ensuring equitable access to healthcare, particularly for vulnerable populations.

The rate of C-section births in public facilities varies significantly between Purba Bardhaman and Paschim Bardhaman, according to comparative data. Paschim Bardhaman exhibits a higher percentage of C-section births in public facilities, with 24.8% of births taking place via C-section in government-run healthcare facilities. In contrast, Purba Bardhaman trails behind, with 21.6% of C-section births occurring in public facilities. The 3.2% difference between the two districts is significant, indicating that Paschim Bardhaman has made more progress in providing access to C-section services in public facilities. C-section births are a critical component of maternal healthcare, particularly for high-risk pregnancies.

B. Selected Child Health Parameters Status

i) Child Vaccination:

Child vaccination is a crucial intervention that can effectively prevent the occurrence of numerous debilitating diseases, including tuberculosis, poliomyelitis, measles, diphtheria, pertussis, and tetanus (The World Bank, 1993). Despite the importance of universal immunization, many developing countries continue to grapple with inadequate coverage, disproportionately affecting the most vulnerable segments of society, with the poorest populations often receiving the least protection (Som et al., 2010)

Table No: 2.

Selected Child Health Parameters Status in Purba Bardhaman and Paschim Bardhaman Districts of West Bengal, 2019-20

Districts	Vaccination		Feeding Practice		Nutritional Status		
	12-23 months fully vaccinated children (%)	9-35 months children received vitamin A dose in last 6 months (%)	<3 year children breastfed within 1 hour of birth (%)	Total children 6-23 months receiving an adequate diet (%)	<5 Stunted children (%)	<5 Wasted Children (%)	<5 Underweight Children (%)
Purba Bardhaman	97.2	65.2	54.5	34.1	32.7	21.1	31.6
Paschim Bardhaman	69.7	60.6	59.3	31.1	39.7	25.5	41

Source: NFHS-5

The vaccination coverage gap between Purba Bardhaman and Paschim Bardhaman is striking, with Purba Bardhaman achieving nearly universal full vaccination among children aged 12-23 months at 97.2%. In stark contrast, Paschim Bardhaman trails behind, with significantly lower full vaccination coverage of 69.7%. The substantial 27.5% gap between the two districts is alarming, suggesting that Paschim Bardhaman faces significant challenges in ensuring that children receive timely and complete vaccinations. Full vaccination coverage is critical for preventing vaccine-preventable diseases, reducing child morbidity and mortality, and promoting overall public health.

Purba Bardhaman has a higher proportion of children aged 9-35 months receiving vitamin A supplementation, at 65.2%, surpassing Paschim Bardhaman's rate of 60.6%. The 4.6% difference between the two districts is significant, indicating that Purba Bardhaman has made more progress in ensuring that children receive essential vitamin A supplementation. Vitamin A is crucial for promoting healthy growth and development, preventing night blindness, and boosting immune systems.

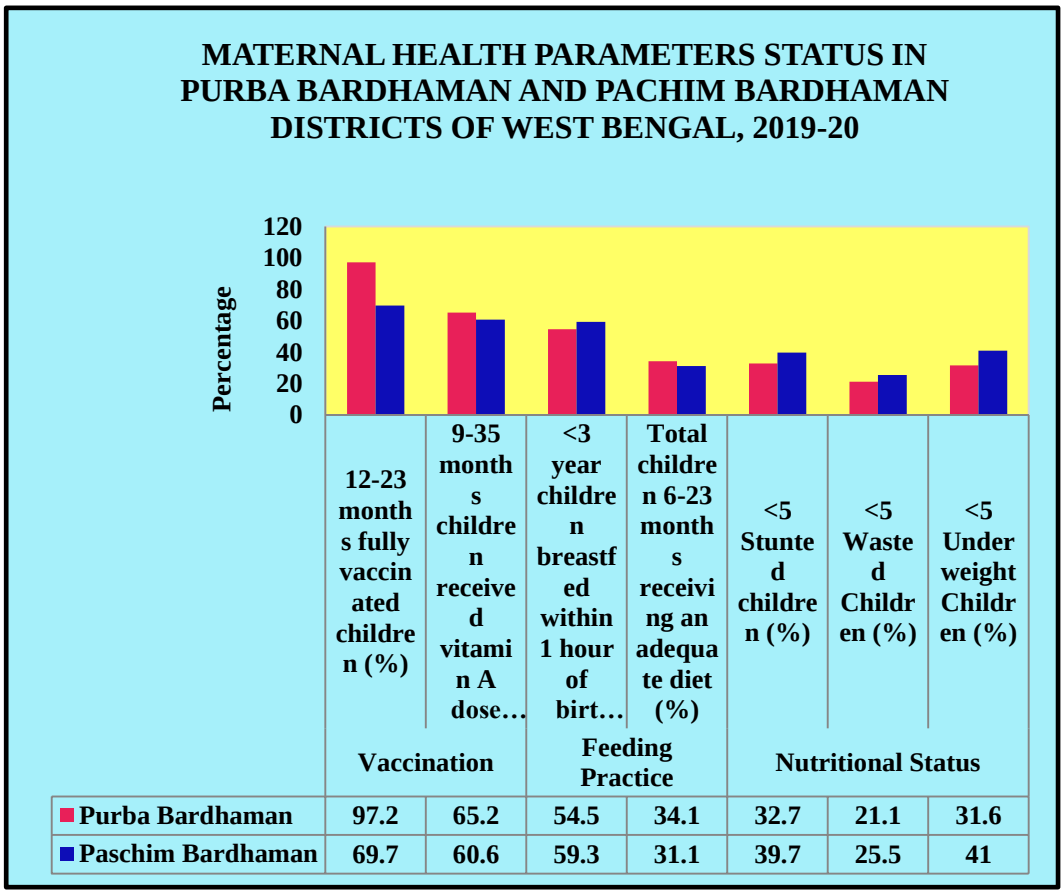

Fig. No.-03

ii) Child feeding practices:

Optimal child feeding practices are crucial for ensuring the nutritional well-being of infants and young children. Essential components of child nutrition include exclusive breastfeeding for the first six months, followed by continued breastfeeding alongside solid foods up to two years or beyond, adequate protein intake from breast milk, formula, lean meats, fish, eggs, dairy products, and legumes, and a balanced diet that incorporates a variety of foods from all groups, supplemented with essential vitamins and minerals, including vitamins A, C, D, E, and K, and minerals such as calcium, iron, zinc, and iodine. This discussion will focus on two critical aspects of child feeding practices, as presented in Table 2 below: the percentage of children under three years old who were breastfed within one hour of birth, and the percentage of children aged 6-23 months who received an adequate diet.

The data on breastfeeding initiation within the first hour of birth among children under 3 years indicates a significant difference between Purba Bardhaman and Paschim Bardhaman. Paschim Bardhaman leads with 59.3% of newborns breastfed within the first

hour, outpacing Purba Bardhaman's 54.5%. This 4.8% difference suggests Paschim Bardhaman has made greater strides in promoting timely breastfeeding, a crucial practice for newborn nutrition, immunity, and maternal bonding.

Comparative analysis of dietary data among children aged 6-23 months reveals a modest yet notable difference between Purba Bardhaman and Paschim Bardhaman. Purba Bardhaman has a slight edge, with 34.1% of children meeting dietary standards, compared to 31.1% in Paschim Bardhaman. This 3% difference suggests Purba Bardhaman has made incremental progress in providing young children with balanced and nutritious diets, essential for healthy growth, development, and cognitive function.

iii) Child nutritional status:

Child nutritional status is a critical aspect of pediatric health, necessitating a tailored approach to meet each child's unique nutritional requirements. Regular growth monitoring, encompassing precise measurements of height, weight, and Body Mass Index (BMI), is essential for ensuring optimal nutrition and healthy growth patterns. By meticulously tracking growth parameters and adjusting nutrition plans accordingly, children can receive the requisite nutrients for optimal growth and development. Three key indicators of child health, namely height-for-age, weight-for-height, and weight-for-age, serve as vital benchmarks for identifying stunting, wasting, and underweight conditions, thereby enabling targeted interventions to address these concerns.

Stunting rates among children under 5 years vary significantly between Purba Bardhaman and Paschim Bardhaman, according to comparative data. Paschim Bardhaman has a higher prevalence of stunting, affecting 39.7% of children under 5, whereas Purba Bardhaman's stunting rate is lower, at 32.7%. The 7% difference underscores the greater challenge Paschim Bardhaman faces in tackling childhood stunting, a key indicator of chronic malnutrition with lasting impacts on cognitive development, education, and economic prospects.

Data on wasted children under 5 years shows a significant disparity between Purba Bardhaman and Paschim Bardhaman districts. Paschim Bardhaman has a higher prevalence of wasting, affecting 25.5% of children under 5, whereas Purba Bardhaman's wasting rate is lower, at 21.1%. This 4.4% difference highlights Paschim Bardhaman's greater challenge in tackling childhood wasting, a key indicator of acute malnutrition that can lead to severe health consequences, including increased mortality risk, illness, and long-term developmental impairments.

Data comparison shows (Fig.no-03) a notable disparity in the prevalence of underweight children under 5 years between Purba Bardhaman and Paschim Bardhaman. With 41% of children underweight, Paschim Bardhaman faces a more significant challenge compared to Purba Bardhaman, where 31.6% of children are underweight. The 9.4% difference underscores the need for targeted interventions in Paschim Bardhaman to address childhood under-nutrition, which exacerbates vulnerability to illnesses, developmental delays, and long-term health consequences.

C. Selected Health Parameters Status on Anaemia and Family Planning

i) Anemia:

A pervasive and debilitating consequence of malnutrition, can manifest in varying degrees of severity, ranging from mild to moderate and severe (World Health Organization, 2015). This condition often culminates in chronic fatigue and weakness, disproportionately affecting vulnerable populations, including children, pregnant women, and lactating mothers (Sharma & Sharma). The far-reaching consequences of anaemia in children include impaired cognitive development, diminished academic performance, increased susceptibility to infections and illnesses, delayed growth and development, and an elevated risk of mortality (Black et al., 2013). Conversely, anemia in women is associated with a heightened risk of maternal mortality, adverse pregnancy outcomes, reduced productivity and economic opportunities, impaired cognitive function and concentration, and an increased risk of infections and illnesses, ultimately perpetuating a cycle of deprivation and vulnerability (Stevens et al., 2013).

Analysis of anemia data among children aged 6-59 months shows a notable variation between Purba Bardhaman and Paschim Bardhaman. Paschim Bardhaman has a higher anaemia prevalence, affecting 74.7% of children, compared to 71.5% in Purba Bardhaman. The 3.2% difference indicates a slightly greater challenge for Paschim Bardhaman in addressing childhood anemia, a critical health concern that can impair cognitive development, hinder physical growth, and increase illness risk.

Table No: 3
Selected Health Parameters Status in Purba Bardhaman and Paschim Bardhaman Districts of West Bengal, 2019-20

District	Anemia		Family Planning		
	6-59 months children anemia (%)	Pregnant women 15-49 years anemia (%)	Any method (%)	Female sterilization (%)	IUD/PPIUD (%)
Purba Bardhaman	71.5	63.7	67.9	37.2	0.8
Paschim Bardhaman	74.7	49.4	65.3	54	2.1

Source: NFHS-5

Table No.03 highlights a significant disparity in anaemia prevalence among pregnant women aged 15-49 years between Purba Bardhaman and Paschim Bardhaman districts. Purba Bardhaman has a higher anaemia prevalence, affecting 63.7% of pregnant women, compared to 49.4% in Paschim Bardhaman. The 14.3% difference highlights a more significant challenge for Purba Bardhaman in addressing anaemia among pregnant women, a critical health concern that can lead to severe consequences, including maternal and infant mortality, preterm birth, and low birth weight.

iii) Family Planning:

Family planning is a vital component of reproductive health, serving as a cornerstone for safe motherhood and childhood, while also preventing unplanned pregnancies and abortions, thereby reducing stress and anxiety associated with unintended pregnancies (Cleland et al., 2012). By enabling individuals to make informed choices about their reproductive health, family planning plays a critical role in breaking the poverty cycle, fostering better health outcomes, and promoting improved mental wellbeing (Bongaarts, 2011). Moreover, family planning empowers women to plan and space their pregnancies, yielding far-reaching benefits for individuals, families, and communities. As highlighted in Table 3, three primary family planning services are discussed, including the use of any family planning method, female sterilization, and the insertion of intrauterine devices (IUDs) or postpartum intrauterine devices (PPIUDs), all of which are provided by healthcare workers as part of comprehensive family planning services (WHO, 2018).

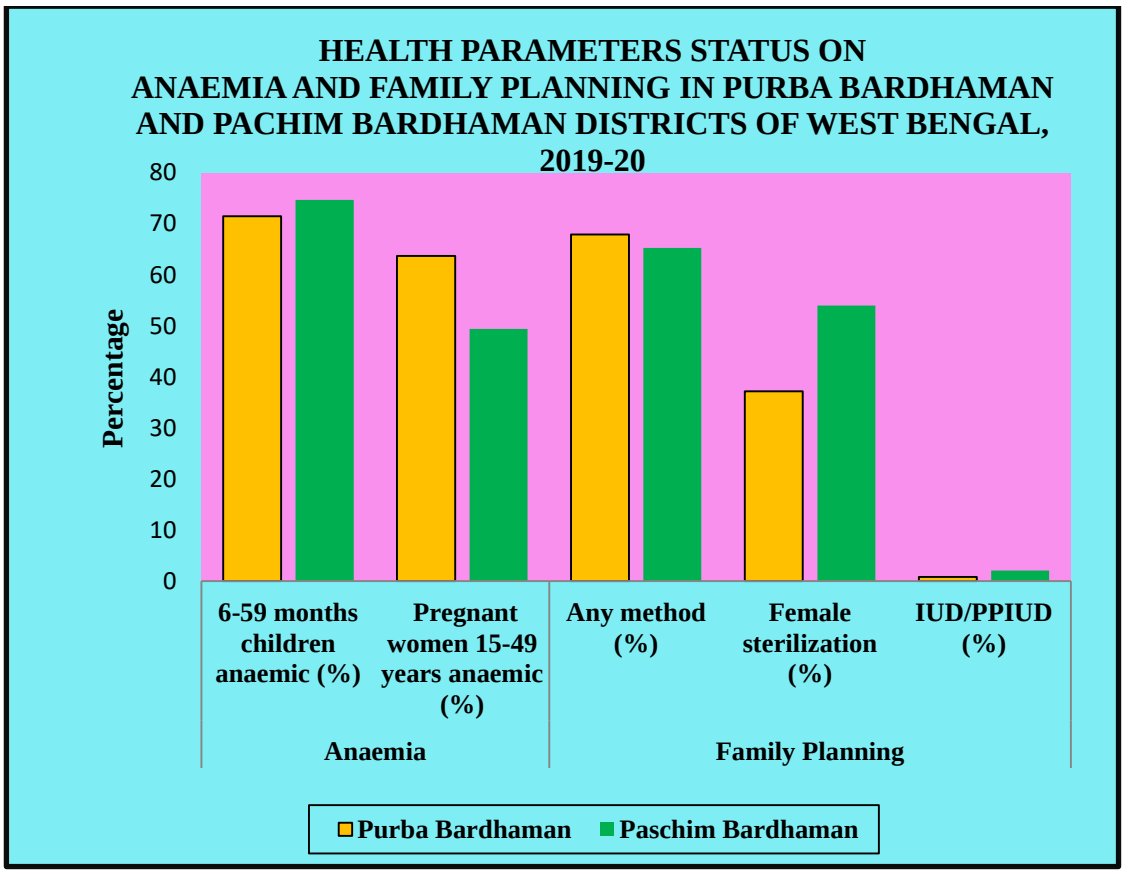

Fig.No.-04

The analysis of family planning data indicates a relatively small difference in the percentage of couples using family planning methods between Purba Bardhaman and Paschim Bardhaman districts. Purba Bardhaman has a slightly higher adoption rate of

family planning methods, with 67.9% of couples using a method, compared to 65.3% in Paschim Bardhaman. Although the 2.6% difference is relatively small, it indicates that both districts have made notable strides in promoting family planning, which is essential for reducing unintended pregnancies, improving maternal and child health, and enhancing overall well-being.

Table No. 03 shows a substantial disparity in female sterilization rates among couples between Purba Bardhaman and Paschim Bardhaman districts. Paschim Bardhaman shows a substantially higher preference for female sterilization, with 54% of couples opting for this method, compared to 37.2% in Purba Bardhaman. The 16.8% difference highlights Paschim Bardhaman's stronger inclination towards female sterilization, a permanent contraceptive method. This disparity may be attributed to factors such as better healthcare access, increased awareness, education, and community support in Paschim Bardhaman.

Comparative analysis of family planning methods shows (Fig. No.-04) a notable difference in IUD/PPIUD usage rates between Purba Bardhaman and Paschim Bardhaman districts.Paschim Bardhaman shows a significantly higher usage rate, with 2.1% of couples opting for IUDs/PPIUDs, compared to 0.8% in Purba Bardhaman. The 1.3% difference highlights Paschim Bardhaman's stronger inclination towards IUDs/PPIUDs, highly effective, reversible, and long-acting contraceptive methods. This disparity may be attributed to better healthcare access, increased awareness, education, and community support in Paschim Bardhaman.

Major Findings and Suggestions:

Major Findings:

- **Disparities in Maternal Healthcare:** Significant differences were observed between Purba Bardhaman and Paschim Bardhaman districts in terms of antenatal care (ANC), postnatal care (PNC), and delivery care. Purba Bardhaman generally performed better in these areas.
- **Child Health Concerns:** Paschim Bardhaman had higher rates of stunting, wasting, and underweight children under 5 years, indicating a greater challenge in addressing childhood malnutrition.
- **Anaemia Prevalence:** Both districts reported high anemia prevalence among children and pregnant women, with Paschim Bardhaman having a slightly higher rate among children and Purba Bardhaman having a higher rate among pregnant women.
- **Family Planning:** While both districts showed moderate family planning adoption rates, Paschim Bardhaman had a higher preference for female sterilization and IUDs/PPIUDs.

Suggestions:

- **Strengthen Maternal Healthcare Services:** Both districts should focus on improving access to and quality of ANC, PNC, and delivery care services, with a special emphasis on addressing disparities in these areas.

- **Address Childhood Malnutrition**: Paschim Bardhaman should prioritize interventions to address childhood stunting, wasting, and underweight conditions, including promoting optimal child feeding practices and improving access to nutrition services.
- **Intensify Anemia Control Measures:** Both districts should implement targeted interventions to reduce anemia prevalence among children and pregnant women, including promoting iron-folic acid supplementation and improving access to healthcare services.
- **Promote Family Planning Education and Services:** Both districts should focus on increasing awareness and access to family planning methods, including IUDs/PPIUDs and female sterilization, to enable couples to make informed reproductive health choices.

By addressing these key areas, both Purba Bardhaman and Paschim Bardhaman districts can work towards improving maternal and child health outcomes, reducing health disparities, and promoting overall well-being.

Conclusions:

This study aimed to compare the health parameters of Purba Bardhaman and Paschim Bardhaman districts, with a focus on maternal and child health, anaemia, and family planning. The analysis revealed significant disparities between the two districts across various health indicators. In terms of maternal health, Purba Bardhaman exhibited higher percentages of antenatal care checkups in the first trimester and institutional births. However, Paschim Bardhaman showed a higher preference for female sterilization as a family planning method.

Regarding child health, Purba Bardhaman had higher vaccination coverage, better dietary practices, and lower rates of stunting, wasting, and underweight children. Conversely, Paschim Bardhaman faced a greater challenge in addressing childhood anaemia. The study's findings underscore the need for targeted interventions to address the disparities in health outcomes between Purba Bardhaman and Paschim Bardhaman. Improving access to healthcare services, increasing awareness and education, and strengthening community support are essential for bridging the gaps in maternal and child health, anaemia, and family planning. The results of this study have significant implications for policymakers, healthcare providers, and stakeholders. By recognizing the disparities in health outcomes and addressing the underlying factors, it is possible to develop effective strategies for improving the health and well-being of mothers and children in both districts. Ultimately, this study highlights the importance of continued efforts to strengthen healthcare systems, promote health equity, and improve the overall quality of life for vulnerable populations in Purba Bardhaman and Paschim Bardhaman districts.

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