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REVIEWER'S REPORT

Manuscript No.: IJAR-57306

Title: A Study of Prevalence and Sociodemographic Determinants for Low Birth Weight, Hospital Based CrossÂ–Sectional Study in, Maharashtra India.,

Recommendation:
Accept after minor revision

Rating	Excel.	Good	Fair	Poor
Originality		✔,		
Techn. Quality		✔,		
Clarity	✔,			
Significance	✔,			

Reviewer Name: Dr. Bilqees Hamza

Detailed Reviewer's Report

The research article titled "A Study of Prevalence and Sociodemographic Determinants for Low Birth Weight: Hospital Based Cross-Sectional Study in Maharashtra, India" provides a critical epidemiological analysis of neonatal health in a tertiary care setting. The author establishes that birth weight is the single most important determinant of a newborn's chances of survival, healthy growth, and long-term psychomotor development. By focusing on a sample of 188 neonates in Maharashtra, the study explores the multifaceted web of social, economic, and biological factors that contribute to Low Birth Weight (LBW), defined as a birth weight of less than 2,500 grams. The narrative successfully argues that LBW is not merely a clinical outcome but a reflection of the broader sociodemographic inequities that affect maternal health and prenatal care.

The narrative begins by framing the global and national burden of LBW, noting that India accounts for a significant proportion of the world's underweight newborns. The author evaluates the prevalence within the study group, finding a high rate of 37.23%. A significant strength of this analysis is the breakdown of residential factors, which reveals that 79% of LBW cases originated from rural areas. The author handles this disparity with clinical insight, suggesting that the rural-urban divide in neonatal outcomes is closely linked to differences in nutritional access, physical labor during pregnancy, and the availability of specialized antenatal services. This geographic evaluation positions LBW as a public health priority that requires localized intervention strategies.

A primary focus of the research involves the evaluation of maternal sociodemographic characteristics as primary risk factors. The author explores the correlation between maternal education and birth weight, finding that infants born to mothers with lower educational attainment were at a significantly higher risk

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for LBW. The study highlights that education often serves as a proxy for health literacy, affecting a mother's ability to navigate prenatal nutrition and recognize early warning signs. Furthermore, the author evaluates the impact of the mother's occupational status, noting that "non-working mothers"—often engaged in strenuous but unpaid domestic and agricultural labor—showed a higher prevalence of LBW infants. This finding challenges simple categorizations of "work" and emphasizes the physiological toll of daily life in resource-constrained environments.

The discussion then moves to the biological and reproductive factors, specifically birth order and maternal age. The author evaluates the finding that first-order births showed a statistically significant association with LBW. The study suggests that "primigravida" mothers may face unique physiological and psychological stressors, or perhaps a lack of experience in managing the nutritional demands of pregnancy. Additionally, the author explores the role of religion and family structure, noting that while joint families are common, the distribution of resources within the household can significantly impact the mother's health. The narrative effectively links these domestic variables to the "intergenerational cycle of malnutrition," where an underweight mother is more likely to give birth to an underweight daughter, perpetuating the crisis across decades.

Furthermore, the paper addresses the long-term consequences of LBW, extending beyond the immediate neonatal period. The author explores the link between low birth weight and increased susceptibility to infectious diseases, stunted growth, and lower educational performance in later childhood. The evaluation suggests that the economic burden of LBW—manifesting in higher hospital costs and lost productivity—makes it a central issue for national development. The narrative concludes that clinical interventions alone are insufficient; instead, a "lifecycle approach" is required, targeting the health of adolescent girls and pregnant women through robust social safety nets. By documenting these sociodemographic determinants, the author provides a clear roadmap for policymakers to move beyond symptomatic treatment toward addressing the root causes of neonatal fragility.

In summary, this article offers a robust and well-documented inquiry into a fundamental pillar of pediatric health. It successfully bridges the gap between clinical data and social determinants of health. The author's ability to link geographic residence, maternal education, and birth order to neonatal outcomes makes this a significant contribution to the field of community medicine in India. It is an essential read for public health officials, obstetricians, and policy researchers, providing a clear evidence base for the necessity of strengthening rural maternal health programs. The study reinforces the conclusion that the weight of a newborn is a mirror held up to the health of the society into which they are born.

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Recommendations

- The author should consider incorporating a section on "Maternal Nutritional Status," specifically evaluating the Body Mass Index (BMI) and hemoglobin levels of the mothers to determine the direct physiological link between maternal anemia and LBW.
- To enhance the academic depth of the study, it is recommended that the author perform a "Multivariate Regression Analysis" to identify which sociodemographic factor serves as the strongest independent predictor of LBW when all other variables are controlled.
- The paper would benefit from a dedicated discussion on the "Antenatal Care (ANC) Utilization" of the participants, examining whether the number of prenatal visits and the timing of the first visit correlate with higher birth weights.
- It is suggested that the author include a comparative analysis with the "National Family Health Survey (NFHS-5)" data for Maharashtra to contextualize these hospital-based findings within the broader state-level trends.
- Future research should explore the "Impact of Seasonal Variability" on birth weights in rural Maharashtra, investigating whether harvest cycles and subsequent changes in food security or physical labor demands influence the prevalence of LBW.

Recommendation: Recommend for publication with minor revision.