

Comment on “Risk Factors Associated With Low Birth Weight”

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In 2011 Oct issue, Journal of Nepal Health Research Council published an article “risk factors associated with low birth weight” by Yadav DK affiliated to School of Health and Allied Sciences, Pokhara University, Chaudhary U affiliated to Child Welfare Scheme, Kaski, and Shrestha N from CIST College, Kathmandu, Nepal. As a result, comments were sent to JNHRC, and are published below.

Yadav DK, Chaudhary U, Shrestha N. Risk Factors Associated with Low Birth Weight. J Nepal Health Res Coun 2011 Oct;9(19):159-64. PMID: 22929846.

Dear Editor,

Authors have made genuine efforts reporting the study from the Central Terai region of Nepal. The findings that 21.56% of children are born low birth weight (LBW) (less than 2500 gm) is very important with regards to public health programming as LBW itself can increase mortality risk by 20-30 times.¹ More important than this is the distribution of the mean or median weight. Authors reported that the mean birth weight was 1.96 ± 0.409 . As this distribution indicates the birth weight less than the normal birth weight, even a small increase in LBW prevalence will increase the absolute number of LBW cases in higher level than if the mean weight was 2.5 Kilos. While Nepal is fighting to combat neonatal deaths, these findings give a very strong rationale to keep neonatal health the first priority.

The methodology and result section draws my special attention as a reader. Authors have mentioned that according to Nepal Demographic Health Survey 2006,² there is 14% prevalence of LBW, however, they have used proportion of 28%. Moreover, using 28% prevalence in stat calculation in EPI info results different result for sample size.³ Also, design effect requires consideration as the samples were taken from a single hospital.

Low birth weight is the result of either pre term or intra uterine growth retardation (IUGR).^{4,5} Having conducted the hospital based study, authors were easily able to distinguish whether the baby was pre term or full term. Had it been reported, the study findings could put more light on the risk factors for IUGR. The study variable, maternal weight during post- partum period creates confusion. As the author had analysed the ante natal card based on their record review format, this information biasness could have been minimised by simply using the mothers' weight at pregnancy or BMI at beginning or total weight gain over the period of pregnancy.^{5,6}

In result section, authors have not reported in logistic regression for the significant factors of their uni-variate analysis; family members (Table 2), gravida (Table 3), post partum haemorrhage (Table 5) and maternal haemoglobin (Table 6). Had they been able to give full account of odd

ratio for these factors, the study might have added more value than current reporting.⁷ Unknowingly authors have introduced reporting biasness into their study.⁹ Likewise, having limited number of independent variable in study, reporting adjusted coefficient of determinism (R^2) would have described the logistic regression model in table 4 in a better way showing how much variability in dependent variable was explained by the independent variables.⁷

I agree completely (based on other reviews) with the author's conclusion that avoiding close birth spacing is recommended for health of mother and child. However, this was not the finding of the authors study (Table 3) which states that interval between index pregnancy and last child birth was insignificant.⁸

Having said all the above comments, I appreciate authors' contribution in indicating some of the determinants for further research in this area.

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