

Iodine Supplementation and Pregnancy Outcomes

Among Pregnant Women in Chautara Hospital in Nepal

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Iodine Deficiency Disorder (IDD) is an important major micronutrient deficiency problem in Ministry of Health and Population (MoHP) in Nepal.

. This quasi-experimental study entitled was carried out from June 2007. The **objective** of the study is to find out maternal and newborn health status in relation to the regular daily iodine supplementation in addition to appropriate maternal and neonatal health care intervention during pregnancy among pregnant women in Chautara Hospital.

Sixty intervention and 60 control subjects were included in the study to compare between pre and post intervention and also between control and intervention group. Intervention was done with regular iodine supplementation in oral form at least for three months during second and early third trimesters of pregnancy.

Study **findings** revealed that (1)Mean age of pregnancy is 22.1 year.(2) about two third of pregnant women were primigravida .(3)95 percent of deliveries were uncomplicated and 93 percent of deliveries were full term with significant difference between intervention and control group. (4)mean weight and length of newborns were statistically significant between intervention and control group.(5) in the biochemical indicators, level of thyroxin (T4) in the serum was significantly different between pre and post intervention study.

Table 17: Mean weight and length of newborns

Weight of newborn	Intervention group (n=60)	Control group(n=60)	Total	P value
Mean weight (SD)	3.333 (0.2715)	3.040 (0.4408)	-	0.000
Mean length (SD)	51.00 (1.507)	50.18 (1.546)	-	0.004

Table 18: General condition and sex of newborns

Characteristics of newborns	Intervention group (n=60)	Control group(n=60)	Total	P value
Sex of newborn				
Active	46(76.7%)	44(73.3%)	90(75.0%)	0.132
Moderate	10(16.7%)	16(26.7%)	26(21.6%)	
Pass	4(6.7%)	6(10.0%)	10(8.4%)	

Table 19: Delivery characteristics of newborns

Characteristics of newborns	Intervention group (n=60)	Control group (n=60)	Total	P value
Low birth wt	6(10.0%)	6(10.0%)	12(10.0%)	1.000
Normal	54(90.0%)	54(90.0%)	108(90.0%)	

Table 20: Laboratory characteristics of study subject

Physical Assessment	Pre intervention mean value	Post intervention mean value	P value
Thyroid hormone (T4) (ng)	2.040 (0.7017)	2.798 (0.4477)	0.007
Thyroxin (T4) (ng)	3.1020 (1.177)	3.220 (0.1876)	0.000
Thyroid stimulating hormone (TSH) (U)	3.176 (1.1282)	1.077 (0.9145)	0.014

The study **concludes** with regular daily supplementation of iodine in oral form more than three months to the pregnant women of second and third trimesters with integrated standard maternal and neonatal health care will bring significant positive changes in perinatal outcomes. Intervention should be done in early stage of pregnancy to get desired outcomes.(end)

Table 17: Mean weight and length of newborn

Weight of newborn	Intervention group (n=60)	Control group(n=60)	Total	P-value
Mean weight (SD)	3.333 (0.2515)	3.046 (0.4408)	-	0.000
Mean length (SD)	51.00 (1.507)	50.18 (1.546)	-	0.004

Table 18: General condition and cry of newborn

Characteristics of newborn	Intervention group (n=60)	Control group(n=60)	Total	P-value
Cry of newborn				
Active	50(83.3)	44(73.3)	94(78.3)	0.152
Moderate	10(16.7)	13(21.7)	33(19.2)	
Poor	0	3(5.0)	3(2.5)	

Table 20: Initiation of breast feeding of newborn

Breast feeding of newborn	Intervention group (n=60)	Control group (n=60)	Total	P-value
Less than 10	5(8.3)	0	5(4.2)	P-value

10 to 30	50(83.3)	42(70.0)	92(76.7)	0.004
30 to 60	5(8.3)	17(28.3)	22(18.3)	
More than 60	0	1(1.7)	1(0.81)	

Table 21: Laboratory characteristics of study subject

Thyroid function test	Pre intervention mean value	Post intervention mean value	P-value
Triiodothyronin (T3) pg	2.660 (0.7019)	2.798 (0.6407)	0.097
Thyroxin(T4) ng	1.115(0.1777)	1.220 (0.1870)	0.000
Thyroid stimulating hormone(TSH) IU	1.570 (1.1282)	1.655 (0.9143)	0.554