SPINA BIFIDA ..... ARE WE DOING ENOUGH?

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Introduction:
Daily intake of 400 microg of folic acid before conception can reduce the risk for having an infant with a neural tube defect (NTD) such as Spina Bifida (SB) or anencephaly by up to 80%. Although other risk factors for NTDs exist, such as diabetes, obesity, and family history of NTDs, prevention measures have focused predominantly on promoting folic acid consumption. National flour fortification with folic acid has started in Saudi Arabia in 2001, which reflected by a decline in the incidence from 1.91000/ to 0.761000/ in Jeddah City Kingdom of Saudi Arabia.

Objectives:
The aim of this study is to evaluate the effect of flour fortification with folic acid on the frequency of SB cases diagnosed by the department of obstetric ultrasound OB/US in feto-maternal unit KAMC by comparing the number of cases of SB diagnosed during the years 19992000- and 20052007- with the total number of delivery as a denominator in each period.

Methods:
All pregnant women diagnosed by the OB/US unit to carry a fetus with SB and confirmed post delivery during the years 19992000- and 20052007- were included to calculate the incidence of SP in each period in relation to the total live birth. The number of cases for each period was double checked by reviewing all the admission in neonatal intensive care unit with the diagnosis of SB.

Results:
The total number of cases in the first period was 9 and in the second period were 11. Total number of deliveries was 13811 and 24938 for the two periods respectively giving an incident of SB of 0.651000/ and 0.441000/ for the two periods respectively with 33% reduction in the incident of SB between the two periods. The maternal demographic data of this cohort was as follows: the mean maternal age 29.5 ± 6.8 years the parity was 3.5 ± 3.4, the gestation age at the time of diagnosis was 29.8 ± 6.7, and the gestation age at the time of delivery was 36.3 ± 5.2 (All figures are (Mean ± SD).
75% of the infants had an isolated SB or its complications such as hydrocephalus, in the rest the SP was part of either a syndrome or multiple congenital anomalies. The commonest site of the SP was lumbo-sacral accounting for 47% of the cases followed by the lumber region in 26.3% of cases.

Discussion:
SB is a preventable congenital problem in up to 80% of cases; national preventive measures have been implemented with marked difference in the incident of the disease world wide. In Riyadh area the population is dependent on rice, rather than flour, for their stable dietary item, in addition to the high consanguinity rate, these might be the main factors behind the decimal effect of national flour fortification with folic acid in this area. Addition measures in the form of all grains fortification and preconception care and folic acid supplementation are needed

Conclusion:
National Flour fortification in Saudi Arabia did not have the expected impact on reducing the incident of SB in Riyadh area. Addition measures are needed.