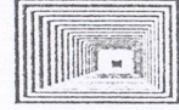
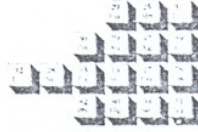




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UNESCO
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ABSTRACTS

MATERNAL ZINC AND FOLATE IN PREGNANCIES WITH NEURAL TUBE DEFECTS IN TURKISH WOMEN

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Several environmental and genetic factors are known to have a role in the etiology of NTD. Maternal dietary Zn deficiency was shown to be associated with NTD in our previous studies. Available experimental and human data has clearly demonstrated an increased incidence of fetal malformations, including neural tube defects (NTD), among the offsprings of pregnant humans and animals associated with Zn deficiency. Maternal folate deficiency has also been shown to be associated with NTD in some parts of the world. Therefore we determined blood plasma (40) and hair Zn (57) concentrations and plasma folate levels in (38) women with NTD infants. During the study period 60 women had babies with NTD, Plasma samples from 82 and hair from 37 control women with normal pregnancy outcome, were also available. Zn determinations were made by flame atomic absorption spectrophotometry (Perkin-Elmer). Plasma folate levels were measured in 28 with normal pregnancy outcome (against 38 with NTDs), with "radio immuno-assay".

Mean maternal plasma Zn concentration ($62,9 \pm 12,7 \mu\text{g}\%$; is control $75,0 \pm 12 \mu\text{g}\%$) continued to be low in mothers with NTD. ($p < 0,01$) Maternal hair Zn levels ($128,2 \pm 38 \mu\text{g}/\text{g}$) of NTD babies were also significantly lower ($p < 0,01$) than those of 37 control women ($192,4 \pm 46 \mu\text{g}\%$), reflecting moderate Zn deficiency. No significant difference however, could be found, between the means of plasma folate levels in normal women (5.1 ng/ml) and those with NTD (6.7 ng/ml). Zinc and folate deficiency have been implicated among other nutrients. According the present study Zn deficiency continues to be an important factor in development of NTD in Turkey. Further studies are warranted to find out other contributing factors responsible for zinc deficiency.