

## Discussion

Miscarriage and preterm deliveries are important problems of pregnancy<sup>(18,19)</sup>. In many developing countries, women get pregnant while breastfeeding their babies<sup>(20)</sup>, and they may have concerns about their safety during current pregnancies and the impact on the new baby. There was significantly lower frequency of miscarriage among those who breastfed during pregnancy compared to those who didn't.

The frequency of preterm deliveries is higher among women who breastfed during pregnancy, however, this doesn't reach statistical significance. This result is in agreement with the result of Moscona's (1993) survey and the comparative study of Madarshahian<sup>(21)</sup>.

Since breastfeeding stimulates the posterior pituitary gland to release oxytocin<sup>(22)</sup>, so theoretically it increases the risk of preterm labours and deliveries, however, clinically this is not the case. The protective mechanism against miscarriage and preterm labour can be explained by "oxytocin receptor sites" theory: the uterine cells that detect the presence of oxytocin and cause a contraction are scarce until term, increasing gradually after that<sup>(23)</sup>. Also the absence of gap junction proteins before term renders the uterus relatively insensitive to oxytocin<sup>(24)</sup>.

Other protective factor is possibly progesterone which stands between oxytocin and its receptor throughout pregnancy<sup>(25)</sup>.

There was insignificant difference in the frequency of miscarriage among exclusive and non-exclusive breast feeders. This means that the frequency of suckling in exclusive breastfeeding doesn't increase the risk of miscarriage because the uterus in early pregnancy is irresponsive to increasing release of oxytocin as mentioned above<sup>(23,24)</sup>.

There was statistically insignificant difference in neonatal birth weight among study and control groups. This is consistent with the result of Merchant *et al* study, which showed that overlapping breastfeeding and pregnancy was associated with a non-significant decrease of 57

gram in birth weight<sup>(26)</sup>; also it is consistent with the result of Madarshahian study<sup>(27)</sup>.

This can be explained by "adaptive mechanism" that the women adopt during pregnancy in which the women use energy more efficiently despite high energetic burden of reproduction, this is proposed on the basis of good reproductive outcomes despite low measured levels of intake relative to the calculated required intake<sup>(28)</sup>.

In conclusion, breastfeeding during early pregnancy doesn't increase the risk of miscarriage whether it is exclusive or non exclusive. Moreover, breastfeeding during pregnancy neither increases the risk of preterm deliveries nor affects neonatal birth weight.

## References

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