

LETTER TO THE EDITOR

(*J Bangladesh Coll Phys Surg 2015; 33:184-185*)

To

Editor-in-Chief

Journal of Bangladesh College of Physicians and Surgeons.

Sir,

I would like to thank you for publishing the article 'Influence of Number of Parity on Bone Mineral Density among Postmenopausal Women'. I have gone through it and found the content nice. I would like to share some of my observations and comments.

Osteoporosis and osteopenia among postmenopausal Bangladeshi women are common problem. Low bone mass is the important. Genetic factors play a significant role in determining bone mass. Others are controllable lifestyle factors such as diet and physical activity, environmental factors such as pregnancy and period of lactation. Amenorrhea (cessation of menstrual periods) after the onset of puberty, before menopause, and after menopause is a very serious threat to bone health¹.

Teen pregnant mother that have not yet reached peak bone mass, the 30 g of calcium required for the fetal skeleton competes with the calcium demands for the teen's mineral accretion. It remains controversial whether peak bone mass is compromised in women who experience teen pregnancies².

Several changes occur during pregnancy and lactation that can affect bone mass, including changes in reproductive hormones and in hormones that affect calcium metabolism. Since fetal and infant bone growth during pregnancy and lactation depends on calcium transfer from the mother, there is possibility that pregnancy and lactation affect risk for bone mineral loss later in life. Intestinal calcium absorption increases during pregnancy to meet many of the fetal calcium needs, but maternal bone losses may occur in the last months of pregnancy³. Bone mass may increase due to greater estrogen level in the third trimester of pregnancy. The mother's skeleton also loses bone during breastfeeding, but this loss is largely restored during weaning, as ovulation and menses are re-established. This bone loss and its subsequent restoration appear to be independent of lifestyle behaviors, including dietary calcium intake and physical activity patterns

⁴. Some studies indicate that neither extended lactation nor multiple pregnancies are associated with subsequent osteoporosis, whether measured by BMD levels or by assessment of fracture risk⁵. In contrast some studies report, the risk of hip fracture in women has been found to decrease by 5-10 percent with each additional child, and there is no apparent association between the duration of lactation and fracture risk⁶. Some researchers' belief that, pregnancy and lactation in healthy adult women do not appear to cause lasting harm to the skeleton. Sadat Ali et al, in their study found that, increased parity protects women from osteoporosis and the severity of the disease. In a study, women with more than 10 pregnancies and extended lactation had BMD levels similar to those in women who have not been pregnant⁷. Cumming RG et al observed that, parity does not have positive correlation to increased risk of fracture⁸. A number of confounding variables influence the effect of parity on BMD, which may contribute to the divergent results in the studies.

Because of the lack of evidence of the potential effects of parity on bone mineral density, the significance of the observed changes in BMD in every bone site and parity remains unclear. Therefore, further well designed observational studies with large sample size should be carried out to confirm these results. Overall I think the article is updated, informative. I would like to thank the authors for their hard work on time demanding common problem.

References:

1. Bayray A, Enquesslassie F (2013) The Effect of Parity on Bone Mineral Density in Postmenopausal Women: A Systematic Review. *J Osteopor Phys Act* 1:104. doi: 10.4172/2329-9509.1000104
2. Lloyd T, Lin HM, Egli DF, Dodson WC, Demers LM, et al. (2002) Adolescent Caucasian mothers have reduced adult hip bone density. *Fertil Steril* 77: 136-140.
3. Reed SD, Scholes D, LaCroix AZ, Ichikawa LE, Barlow WE, et al. (2003) Longitudinal changes in bone density in relation to oral contraceptive use. *Contraception* 68: 177-182.
4. Kalkwarf HJ, Specker BL (2002) Bone mineral changes during pregnancy and lactation. *Endocrine* 17: 49-53.
5. Karlsson C, Obrant KJ, Karlsson M (2001) Pregnancy and lactation confer reversible bone loss in humans. *Osteoporos Int* 12: 828-834.

6. Michaelsson K, Baron JA, Farahmand BY, Ljunghall S (2001) Influence of parity and lactation on hip fracture risk. *Am J Epidemiol* 153: 1166-1172.
7. Henderson PH 3rd, Sowers M, Kutzko KE, Jannausch ML (2000) Bone mineral density in grand multiparous women with extended lactation. *Am J Obstet Gynecol* 182: 1371-1377.
8. Cumming RG, Klineberg RJ (1993) Breastfeeding and other reproductive factors and the risk of hip fractures in elderly women. *Int J Epidemiol* 22: 684-691.

Dr. Nazneen Begum

Assistant Professor(Obs & Gynae)

Dhaka Medical College

&

Prof. Dr. Ferdousi Islam

Professor & Head of Dept. of Obs & Gynae

Dhaka Medical College

Author's Reply

Thank you madam for careful reading and criticism about my article. There are lot of studies done in different countries to see the relation between parity and bone mineral density. Ozdemir et al, Gurey et al, Hreshchyshyn et al, Ghannam NN shows negative correlation between parity and numbers of pregnancy. Karlsson C et al, Sadat Ali, Cumming R G et al found no relation. Hoffman et al shows BMD increase in subsequent pregnancy. The results of this study were automatically generated in machine and subsequent analysis shows negative correlation. Other confounding variables also influence the effect of patity on BMD. I also strongly agree that further well design ed study with larger sample size should be carried out.

Dr. Irin Parveen Alam

Assistant Prof. (Gynae)

Sir Salimullah Medical College & Mitford Hospital.