Objective: To determine histomorphological changes in jaw dentoalveolar tissue in a progeny of albino rats fed with diets containing different concentrations of riboflavin (B2) and equivalent concentrations of other nutrients, during gestation and lactation and until 28 days of birth. Design: Experimental, longitudinal and analytical. Setting: Alberto Guzman Barron Biochemistry and Nutrition Research Center, Faculty of Medicine, Universidad Nacional Mayor de San Marcos, Lima, Peru. Biologic material: Holtzman albino rats. Interventions: We used 20 Holtzman albino rats (16 females and 4 males) with reproduction capacity and conformed four groups, according to the demands of riboflavin: Group A (100% of B2), Group B (50% of B2), Group C (25% of B2), and Group D (0% of B2). Submitted to ether anesthesia the offspring of each rats group was sacrificed at 0, 7, 14, 21, and 28 days from birth and the dentoalveolar tissues of 60 offspring were subjected to histological examinations. Main outcome measures: Height, weight and dentoalveolar tissue alterations in rat progeny. Results: Deficiency (50% and 25%) and riboflavin total lack (0%) caused alterations on offspring growth and development. Microscopy revealed total lack of riboflavin (0%) in the mother's diet caused some histomorphological changes in the offspring dentoalveolar tissue, such as loss of nuclear polarity, presence of microvacuoles and areas of pseudo-stratification in ameloblasts and odontoblasts, decrease in the number of cells of the dentoalveolar tissue, edema in predentin, decrease in the number of fibroblasts and cementoblasts active cells, remarkable decrease and slimming of collagen fibers, and reduction of osseous trabeculae's thickness. Conclusions: Total lack of riboflavin in the rat mothers’ diet during gestation and lactation causes less quantity and minor quality of ameloblasts, odontoblasts, fibroblasts and cementoblasts, scanty collagenous fibers and slimming of the alveolar bone in the dentoalveolar tissue of their offspring.

Keywords
Diet therapy, riboflavin deficiency, dentoalveolar tissue.