

# Comparison between Magnesium Supplement and Ibuprofen as Treatments of Primary Dysmenorrhea and Dietary Intake of School Going Girls in Machakos, Kenya: Randomized Trial

Gogi, Julie

## Abstract:

Primary dysmenorrhea refers to painful menstrual cramps accompanied with diarrhea, nausea and vomiting, mood swings and headache. This condition is a leading cause of recurrent class absenteeism with 80.2% of adolescent girls affected in Kenya. The adolescent might not be able to achieve the supplemental dosage (500-1000 mg) for magnesium no matter how much foods rich in magnesium she takes especially during menstruation when she is experiencing nausea and vomiting. Besides, the conventional treatment methods have a failure rate and have often been abused. This study therefore sought to find out nutritional alternatives to treatments of primary dysmenorrhea. The study adopted a randomized trial design with an aim to compare Magnesium supplements and Ibuprofen as treatments on the duration, intensity of menstrual pain, frequency of systemic symptoms, interference on daily activities and the side effects of the two treatments among adolescent girls in Machakos District. Data was cleaned, coded and entered using social statistical package for social sciences. Median, IQR, percentages, chi-square tests, Mann-whitney U, spearman's correlation and Odds ratio ( $\alpha = 0.05$ ) were used for analysis. Findings show that at baseline, those who had pain for a shorter time (1/2 day) were 31% and 30% in magnesium and ibuprofen group respectively. After the second treatment more girls had pain for half a day (85%) in magnesium group and (78%) in ibuprofen group than for 2 days or more (7%) in magnesium group and (8%) in ibuprofen group. At baseline 32% and 40% of adolescents had severe pain in magnesium and ibuprofen group respectively, but due to the effect of the treatments, only 6% and 10% presented with severe pains after the second treatment. At baseline, more than half of the girls were able to do their daily activities in magnesium (62%) and ibuprofen group (64%). After the second treatment, almost all (97%) of the adolescents studied were able to do their daily activities in the two treatment groups. There was a positive improvement after the second treatment for the adolescents who had symptoms of primary dysmenorrhea at baseline. Magnesium had no side effects while Ibuprofen had minor side effects on the girls. The adolescent girls who reported not having taken breakfast everyday had a 2.13 increased likelihood to have severe menstrual pain compared to those who did not take breakfast (OR=2.13;95% CI:0.42-31.57;P=0.002). The respondents who took 3-4 cups of coffee and or black tea and or chocolate beverages had a 1.31 increased likelihood to have severe menstrual pain compared to those who rarely or did not take (OR=1.31; 95% CI: 0.49-3.4; P=0.002). Towards the days of their menses, adolescent girls felt the urge to take sweets, chocolate or jiggery. In addition, a regression of the urge to take sweet food was very significant at P=0.003. The odds of having a person who is has severe pains to have the urge to eat sweet foods towards their menstruation was 2.56 times higher than the person who did not have severe

pain (that is those who either have moderate or no pain). There is no significant difference in Magnesium and Ibuprofen as treatments of primary dysmenorrhea, Magnesium can therefore be used as a nutrition alternative in the management of period pains.