BACKGROUND: During the second stage of labor, the progression of the fetal expulsion depends on many factors related to maternal and fetal parameters, including the voluntary abdominal pushing. OBJECTIVES: This study aimed to correlate the maternal and fetal parameters that may influence the voluntary maternal pushes during the second stage of labor by using surface electromyography. METHODS: The electromyographic activity of the rectus abdominis and external oblique muscles were measured during the second stage of labor in 24 Brazilian pregnant women. The diastasis of the rectus abdominis, the body mass index and the uterine fundal height were analyzed as maternal parameters and the fetal weight, cephalic circumference, APGAR scores and arterial pH and CO2 were analyzed as fetal parameters. The oxytocin usage and the expulsive phase duration were considered. RESULTS: A negative correlation between the rectus abdominis diastasis and the rectus abdomini muscle electromyographic parameters was found ($r=-0.407$, $p=0.04$). No statistically significant correlations were found among the rectus abdominis and external oblique muscles electromyography and the other maternal or fetal parameters, as well as among expulsive phase duration and the oxytocin usage. CONCLUSIONS: This study suggests that the rectus abdominis diastasis may be an influential parameter in generating voluntary pushes during the second stage of labor, however it cannot be considered the only necessary parameter for a successful labor.

Abstract

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Keywords

Physical therapy, natural childbirth, electromyography, second labor stage, rectus abdominis, external oblique.