

Fraldas Reutilizáveis e Desenvolvimento Motor: Existe alguma Influência?

Reusable Diapers and Motor Development: Is There any Influence?

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Reusable diapers, also called cloth diapers, are becoming more widely used as they are more environmentally friendly and economical. However, when deciding which diapers to choose, certain issues are raised. Many parents wonder about the impact of reusable diapers on motor development, as these are larger and bulkier than the disposable ones.

There are no studies that relate reusable diapers to motor development.

Nevertheless, it is known that diaper characteristics, such as shape and bulk, affect the magnitude and frequency of spontaneous movements of the lower limbs.^{1,2} Therefore, diapers' characteristics affect gait dynamic: balance, step width, joint dynamics, gait maturity and fall frequency.^{1,3} For example, more voluminous diapers result in a greater external rotation of the pelvic angle and a greater abduction of the angle of the hip joint.¹ In theory, this can reduce the chances

of spontaneous physical activity and delay motor development.^{1,3} The effect described may be more significant in premature infants, as their lower limbs have less force against gravity. Considering that today's children are walking earlier than in previous generations, it is interesting to note that this might be a consequence of the industry's efforts to create light, thinner, and more dynamic diapers.³

More recognizable is the difference between walking with or without a diaper. Diapers introduce bulk stress between the legs, even more when they are wet, exacerbating infants' poor balance.³ Without diapers children have a higher rate of lower limb movement and more mature gait (narrower steps and fewer falls).³ The infants' gait reverted to a narrow and confident gait immediately after they removed their nappies and were able to walk naked, which is interesting to observe.³ Children who walk longer without diapers may

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develop posture and coordination more quickly, which facilitates rapid progression in the development of a mature gait.

In summary, diapers constitute a biomechanical perturbation while learning to walk. The existing scientific evidence focus on the shape and weight of diapers and not on the type of material (reusable or disposable). Given the larger size of reusable diapers, we can probably accept the same deductions. However, it is not possible to conclude that the diapers characteristics cause a delay in development in the medium and long term. Consequently, this argument should not limit the use of reusable diapers.

Despite that, in order to minimize this theoretical effect, parents should be advised to change the diapers when wet. It is also beneficial that parents encourage freedom of movement and promote the acquisition of motor skills, for which is important the choice of footwear and clothing, as inappropriate shoes or heavy and tight clothing can lead to less spontaneous freedom of movement.

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MB: Análise e interpretação dos dados, redação do manuscrito

MP E JS: Interpretação dos dados e revisão crítica do manuscrito

MR: Interpretação dos dados e revisão crítica do manuscrito, concetualização do artigo

MB: Data analysis and interpretation, writing of the manuscript

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