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Short Report: Babywalkers Use and Age of Autonomous Sitting and Walking in Portuguese Infants*

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Babywalkers are wheeled seats for infants that support their weight and allow them to move around, pushing the floor with their feet or feet's toes. The purpose of the present study was to verify if Portuguese infants that used babywalker gained or not temporal advantage compared to infants who did not use any instrument for learning to walk. Data were obtained through a structured questionnaire for parents, with closed questions. Results revealed that babywalkers use does not afford advantages in the acquisition of independent walk. The absence of association between seat and walk autonomously in babywalker users that also used other walk-helper (e.g., harness belt) reinforces the hypothesis that the use of these equipments may disrupt normal process of transition between seat and walk in infants. Considering the sample of the present study, a great percentage of Portuguese parents still presume that the use of babywalkers or similar equipments are necessary for independent walking acquisition. Babywalkers should be discouraged as an instrument for independent walk learning, and be replaced by functional stimulation, like stepping reflex systematic practice.

Keywords: infants, babywalker, autonomous seat, autonomous walk

Introduction

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Approximately 50% of Irish infants use babywalkers (wheeled seats for infants that support their weight and allow them to move around, pushing the floor with their feet or feet's toes), with a median duration of use of 6.5 months (Garret, McElroy, & Staines, 2002).

The use of babywalkers has been associated with delay in crawling (Crouchman, 1986; Siegel & Burton, 1999), with no significant differences in achieving independent walking compared with non-users (Crouchman, 1986; Kauffman & Ridenour, 1977), or achieving it later than non-users (Siegel & Burton, 1999). Garret, McElroy, and Staines (2002) found no association between sitting alone and the use of babywalker. Babywalkers use are also associated to various infants' injuries (Thein, Lee, Tay, & Ling, 1997).

Up to date, only Catela et al. (2019) made an exploratory study, with a small sample (N = 20) to explore the Portuguese reality. Like in the studies of Crouchman (1986) and Kauffmann and Ridenour (1977), the authors found no difference in starting to walk autonomously between non-users and users of babywalker; and, like in the study of Garret, McElroy, and Staines (2002), no significant association was found between autonomous seat and autonomous walk in babywalker infants; contrary to non-babywalker infants, a significant positive association occurred. Catela et al. (2019) suggested that in babywalker infant users a disruption of the normal process of successive surging of seat and walk autonomously may have occurred.

The purpose of the present study was to verify, in an enlarged sample, if Portuguese infants that used babywalker gained or not temporal advantage compared to infants who did not use any instrument for learning to walk autonomously.

Methods

Sample

Two hundred and two infants were included (102 female infants), from which 78 used babywalker and 124 did not.

Procedures

Data were obtained through same Catela et al. (2019) protocol, which includes a structured questionnaire for parents, with closed questions about date of birth; gender; the age in months that the infant independently started to seat and to walk; if the infant used any equipment for learning to walk, and, if yes, to identify it; and, additionally, for those who used an equipment, it was asked if infants used other for the same purpose, and, if yes, to identify it. It was also asked if the infant had any developmental problem, like hypotonia, cerebral palsy, or trisomy, and, if yes, to identify it. Informed consent was obtained.

Statistical Analysis

For statistical treatment IBM-SPSS, v. 24 was used. Shapiro-Wilk test was used for normal distribution analyses. Mann-Whitney U test (Z) was used for comparison between groups. Monte Carlo correction, Effect size r (r) and Mann-Whitney Glass rank-biserial correlation r (rrb) were estimated. Spearman correlation test (rho) was used for association between variables. Probability error was set at 0.05, two-tailed.

Results

No significant differences were found among gender. No infant was reported that it has had a motor problem or other developmental problem. In this sample, the percentage of infants who used babywalker was of 38.12% (N = 78), during 3.88 (± 1.69) months (Median = 4 months), starting to use it with 8.96 (± 2.09) months (Median = 9 months), and stopping to use it with 12.84 (± 2.28) months (Median = 12 months). Results

revealed that babywalker users started to autonomously seat earlier than non-users (ns) (Mean = 6.26 (± 1.08) months, Median = 6 months, and Mean = 6.40 ± 1.26 months, Median = 6 months, respectively) (Z = 0.664, p = 0.504, r = 0.04, rrb = 0.05); and, non-users started to walk autonomously significantly sooner than babywalker users (Mean = 12.25 (± 1.78) months, Median = 12 months, and Mean = 13.05 (± 2.22) months, Median = 13 months, respectively) (Z = 2.703, p = 0.005, r = 0.19, rrb = 0.22). Additionally, the interval of time between seat and walk autonomously was significantly shorter for non-users than for users (Mean = 5.85 (± 1.94) months, Median = 6 months, and Mean = 6.79 (± 2.17) months, Median = 6 months, respectively) (Z = 2.953, p = 0.003, r = 0.21, rrb = 0.24). A significant positive association was found between autonomous seat and autonomous walk in babywalker users (rho = 0.231, p = 0.001), and in non-babywalker infants (rho = 0.215, p = 0.017). Among babywalker users, there is a significant association between the start and the end of its use (rho = 0.308, p = 0.006), being that those who started to seat alone earlier also left to use babywalker earlier (rho = 0.213, p = 0.043). Among babywalker users, 34 infants also used another equipment for the same purpose (e.g., harness belt). Whereas, for those who did not use other equipment association between sit alone a walk alone was preserved (rho = 0.322, p = 0.035); however, this association is not present for those who used another equipment (rho = 0.303, p = 0.081). No significant difference was found between only babywalker users and additional walk helper users (Z = 0.170, p = 0.865, r = 0.02, rrb = 0.06).

Discussion

The results of the present study support those found by Catela et al. (2019); babywalkers use does not afford advantages in the acquisition of independent walk; on the contrary, it retards it, whereas those who started to seat alone earlier left babywalker earlier. Percentage and time of babywalker use is still high, although smaller than what was found by Garret, McElroy, and Staines (2002). Considering the sample of the present study, a great percentage of Portuguese parents still presume that the use of babywalkers or similar equipments is necessary for independent walking acquisition. Results of the present study are in accordance with Kauffmann and Ridenour (1977); babywalker does not ensure anticipated time of walking alone, probably due to absence of affordable interaction between sensory-perceptual information and motor action (e.g., Held, & Hein, 1963). The absence of association between seat and walk autonomously in babywalker users that also used other learn to walk helpers, reinforces the hypothesis that the use of these equipments may disrupt normal process of transition between seat and walk in infants, being in accordance with studies that found similar phenomenon (e.g., Catela et al., 2019; Garret, McElroy, & Staines, 2002; Siegel & Burton, 1999). Babywalkers should be discouraged as an instrument for independent walk learning, and be replaced by functional stimulation, like stepping reflex systematic practice in terrestrial and water environments (e.g., Thelen, Fisher, & Ridley-Johnson, 1984; Zelazo, 1983).

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