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**Longitudinal assessments of gross motor development during 6-12 months in orphaned infants: A pilot study****Sunanta Prommin, Surussawadi Bennett, Lugkana Mato and Wantana Siritaratiwat**  
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Several researches demonstrate that infants in orphanage had delayed gross motor development [1-5]. However, these evidences reported delayed gross motor development of orphans when being adopted or while living in orphanages using a cross-sectional assessment. Previous longitudinal study of Darrah and colleagues found that motor development of typically-developing infants are not stable in the rate of emergence of gross motor development. The greatest variability was observed from infants aged 6 to 12 months and instability within individual infants over time during the first 12 months [6]. Longitudinal study seems to be a helpful design to provide useful data about gross motor development variations of individual within a group on some behaviors over time. The purpose of this study therefore was to investigate gross motor developmental milestones via a longitudinal design while infants are living in the orphanages.

**Methodology:** Six participants aged 6 months were recruited from an orphanage in Northeastern part of Thailand. The gross motor development of each infant was assessed monthly at the age of 6.5 months until 11.5 months using the Alberta Infant Motor Scale (AIMS). Demographic data were reported using descriptive statistics. The AIMS scores were summarized and plotted on the norm reference graph from the study of Canadian infants [7]. The number of times and percentile of infants with scores occurring below designated cut-offs were reported.

**Findings:** The sample of 6 infants include 5 boys and 1 girl. Table 1 shows characteristics of participants. Figure 1 shows the variation of individual orphans' percentile ranks from 6.5 months to 11.5 months, with no systematic pattern of change noted across infants. However, there were observable less instability compared with typically-developing child in Darrah et al's study. Three orphans showed variation of less than 50 percentiles across six assessments. One infant showed two times of scores which was lower than cut-offs percentile (the 5<sup>th</sup> percentile). The results could be that these participants had biological risk factors such as low birth weight and biological underlying. The lesser instability of gross motor in these orphans could be caused by limited environment in orphanage.

**Conclusion:** Infants who are living in the orphanages tend to have less instability of gross motor percentile. Recommendation: Results of this study implies that orphaned infants need a longitudinal screening for gross motor development especially those who were born with biological risk factors to confirm their gross motor development delay.

**Biography**

Sunanta Prommin is studying her Master degree at the School of Physical Therapy, Faculty of Associated Medical Sciences, Khon Kaen University, Thailand. She graduated with a Bachelor's degree in Physical therapy programs. Her further project is interested in the effect of an organized play and environmental modification program in orphans.

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