



Annex B

Survey on Integrated Early Childhood 24-Hour Activity for Infants, Toddlers and Preschoolers (The E-24Study)

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Objectives

To understand:

- Lifestyle behaviours (physical activity, recreational screen viewing time, sleep) of Singapore's young children;
- Parents' perceptions of their child's health and awareness of activity guidelines;
- Parents' practices that encourage healthy lifestyle behaviours.

Method

- Online questionnaire with 46 questions

Target audience

- 340 parents or caregivers of healthy children aged 7 years and under

Period of survey

- September to October 2021

Demographics of the majority of participants

- 80% were mothers;
- 63% had university education;
- Mean age of 33 years.

Findings

Characteristics of the majority of children

- Infant (0 months to 11 months): mean age of 5 months; 25% were overweight/obese.
- Toddler (12 months to 2 years 11 months): mean age of 23 months old; 31% were overweight/obese.
- Preschooler (3 years to 6 years 11 months): mean age of 4.5 years old; 18% were overweight/obese.

Parental perceptions

- Weight status:
 - 85% perceived their child were of normal weight;
 - 10% perceived their child as underweight;
 - 5% perceived their child as overweight.
- Lifestyle behaviours:
 - 15% believed their children were not receiving adequate physical activity.
 - 45% were concerned about their child's recreational screen viewing time.
 - 8% were concerned that their children were receiving inadequate sleep, while 8% to 18% of parents were unsure of how their children were doing in these aspects.
- Awareness of existing and relevant guidelines:
 - 60% of parents were unaware of existing physical activity guidelines.
 - 25% were unaware of existing recreational screen viewing time, or sleep guidelines.



- Interestingly, parents who perceived to be aware of existing guidelines were inaccurate in the actual knowledge of the guidelines, where more than 50% of parents either under, or overestimated the actual recommendations for physical activity and screen time.

Physical activity

- 40% of infants engaged in an average of 15 minutes per day of tummy time or floor-based play, not meeting the recommendation for at least 30 minutes per day.
- 40% of toddlers and preschoolers engaged in an average of 90 minutes of physical activity per day on weekdays and, 20% to 30% were engaged in an average of 100 minutes of physical activity per day on weekends, not meeting the recommendation of at least 180 minutes of a variety of physical activities daily.
- Active parents have active children, and encouraging movement is important. However, 30% of parents reported that they were only occasionally active with or in front of their children, while 11% reported that they often restrained their children from freedom of movement for more than an hour at a time in highchairs, strollers, baby carriers or car seats.

Recreational screen viewing time

- 30% of infants had an average of one hour of recreational screen viewing time per day on both weekday and weekends despite the recommendation for zero screen time in infants.
- 70% of toddlers below the age of 18 months had an average of 30 minutes of recreational screen viewing time per day on weekdays, and 80% of the same group had an average of 30 minutes of recreational screen viewing time per day on weekends despite the recommendation for zero screen time for toddlers below 18 months of age.
- 75% of preschoolers had an average of one hour of recreational screen viewing time per day on weekdays, and 95% had an average of two hours per day on weekends, again exceeding the recommendation to keep screen time to below an hour for this age group.
- Parent who role-model healthy recreational screen viewing time encourages healthy screen habits in children. However, half of the parents reported that they only occasionally limit their recreational screen viewing time use when spending time with their children, while 1% reported that they never do.

Sleep

- 35% of infants age 0 to 3 months slept an average of only 8 to 11 hours per day, instead of the recommendation of meeting at least 14 hours of sleep per day.
- 20% of infants age 4 to 11 months had an average of 10 hours of sleep per day, on both weekdays and weekends – these infants were not meeting the recommendation of meeting at least 12 hours of sleep per day.
- 11 to 13% of toddlers had an average of 10 hours of sleep per day, and 9% of preschoolers below the age of 6 years old had 9 hours of sleep per day, on both



weekday and weekends – again not meeting the recommended hours of sleep of at least 11 hours per day for toddlers, and at least 10 hours per day for preschoolers below the age of 6 years old.

- Consistent bedtime routines and bedtimes improves a child's quality of sleep, but 20% reported that this is something they practised only occasionally, and 1% reported that this is never practised.

Parenting practices

- Parenting practices related to healthier weight, better health outcomes, better diet quality and eating habits in children were assessed:
 - 20% of parents reported that they only occasionally prepared healthy and balanced foods for their children, and 5% never do.
 - 60% only occasionally limit their own intake of unhealthy food and beverages, and 5% never do.
 - 20% of parents reported that their child only occasionally eats with the family, and 10% never do.

Conclusion

- There is generally a lack of awareness in existing guidelines.
- Positive parenting practices, physical activity, sleep and recreational screen viewing time were suboptimal in the children of our population, indicating a need for an integrated guideline with greater dissemination, visibility and activities to promote better health behaviours.