

Association of Regular Mealtimes With a Balanced Diet Among Japanese Preschool Children: A Study of Lifestyle Changes After the Spread of COVID-19 Infection

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Objectives: This study examines whether preschool children who maintained regular mealtimes after the spread of COVID-19 infection have better lifestyle habits, like waking up and sleeping early and a more balanced diet, than those who did not.

Methods: An online cross-sectional survey was conducted among 2,000 individuals who provided meals to preschool children aged 2 to 6 years. The Healthy Diet Score (HDS), on a 40-point scale, was developed to comprehensively assess the dietary balance of preschool children based on their frequency of food intake from 13 food groups. The analysis included data on 1,850 children, excluding those who failed to answer the main questions. The participants were classified into four groups based on their responses regarding the regularity of

mealtimes after the spread of COVID-19: 'regular mealtimes (n = 125),' 'originally regular and remains unchanged (n = 1514),' 'irregular mealtimes (n = 63),' and 'originally irregular and remains unchanged (n = 148).' Multiple regression analysis was conducted with HDS as the dependent variable, and regularity of mealtimes and confounding factors as independent variables.

Results: Compared to other groups, eighty-two percent of the children whose mealtimes were originally regular and remained unchanged were more likely to wake up and sleep early, to eat a snack 0–1 times per day, and to eat breakfast every day. The mealtime for the group 'originally regular and remains unchanged' was significantly and positively associated with a higher HDS even after adjusting for basic characteristics and lifestyle of the children, and the economic status of their guardians ($\beta = 0.131$, $P < 0.01$).

Conclusions: Preschool children who originally had regular mealtimes and maintained this regularity even after the spread of COVID-19 infection were shown to have better lifestyle habits such as waking up and sleeping early, lower frequency of eating snacks, eating breakfast every day, and a higher HDS.

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