

二カ所をホチキスで止めて、黒、又は白の製本テープを裏表紙まで貼る

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岡山大学大学院保健学研究科

博士学位申請論文

内容要旨

Community Health Nursing

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Effect of a two-hour interval between dinner and bedtime on glycated hemoglobin levels in middle-aged and elderly Japanese people: A longitudinal analysis of three-year health check-up data

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BMJ Nutrition, Prevention & Health (Accepted: December 7, 2018)

副 論 文

Effectiveness of cognitive, developmental, and behavioural interventions for Autism Spectrum Disorder in preschool-aged children: A systematic review and meta-analysis

Su Su Maw, Chiyori Haga

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Supporting children with developmental disorders: Difficulties and future strategies as perceived by Japanese Public Health Nurses

Chiyori Haga, Su Su Maw, Toshiaki Suwa, Nobuko Ohi, Shizuko Tanigaki

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主 論 文

Effect of a two-hour interval between dinner and bedtime on glycated hemoglobin levels in middle-aged and elderly Japanese people: A longitudinal analysis of three-year health check-up data

(夕食後 2 時間での睡眠が特定健診対象者のヘモグロビン値に与える影響：健診データを用いた 3 年間の縦断研究)

Background

There is a need for evidence-based measures to examine the risk factors for lifestyle-related diseases. In Japan, a 2-hour interval between dinner and sleep is recommended as a healthy practice. However, the effect of an appropriate duration between dinner and bedtime on glycated hemoglobin (HbA1c) levels remains unclear. This study aimed to identify the effect of a duration of 2 hours or shorter between dinner and bedtime on HbA1c levels in middle-aged and elderly Japanese individuals.

Methods

A longitudinal analysis of health check-up data (2012, 2013, and 2014) was performed. Lifestyle and anthropometric data of individuals aged 40–74 years who did not have any pre-diabetic and diabetic conditions were collected for multilevel analysis. Univariate analysis was performed to assess the influence of each lifestyle variable. Then, two-level random intercept models were created using statistical software SAS 9.3 (SAS Institute Inc., USA).

Results

The cohort comprised 1,573 individuals in 2012, two-thirds of whom were women. The mean HbA1c level was 5.20% in 2012 and 5.58% in 2013 and 2014. A total of 83 (16.1%) men and 70 (7.5%) women fell asleep within 2 hours after dinner. The influence of ensuring a 2-hour interval between dinner and bedtime did not have a remarkable effect on increasing HbA1c levels. The regression coefficient of 2-hour intervals and HbA1c levels over time was -0.02 ($p=0.45$). Smoking ($p=0.013$), alcohol consumption ($p=0.010$), and higher body mass index (BMI) ($p<0.001$) may influence HbA1c trends.

Discussion

People with higher HbA1c level tended to have increasing HbA1c trajectories over time. However, the main predictor variable, i.e., 2-hour interval between dinner and bedtime, did not produce a significant effect on HbA1c. BMI, Triglyceride (TG), Blood pressure (BP), regular exercise, and smoking and alcohol consumption habits were found to influence HbA1c changes. The regression coefficients of TG, BP, and regular exercise

did not produce persistent associations with the main predictor and outcome variables. Dietary components, meal timing, and sleeping status might influence on stable metabolic process.

Conclusion

Durations of 2 hours or shorter between dinner and bedtime did not influence HbA1c changes in middle-aged and elderly Japanese people. Instead, the focus should be on maintaining a normal BMI and abstaining from smoking and consuming alcohol to ensure stable HbA1c patterns in the long term.

副論文

Effectiveness of cognitive, developmental, and behavioural interventions for Autism Spectrum Disorder in preschool-aged children: A systematic review and meta-analysis
(就学前の自閉症スペクトラム児に対する認知・発達・行動学的介入の効果
システマティックレビューおよびメタアナリシス)

Background

Autism spectrum disorder (ASD) is characterised by significant impairment in social communication and the presence of restrictive and repetitive behaviour or interest. Intervention during early childhood could decrease ASD symptoms. We aimed to identify the most effective intervention based on cognitive, developmental, and behavioural approaches and the factors that impact the effectiveness of the intervention.

Methods

We performed a systematic review and meta-analysis of existing interventions for ASD in preschool-aged children. Electronic databases were searched for related articles with randomised controlled trial (RCT) designs published between 2001 to 2015. Outcome measures were communication, behavioural and cognitive skills, reported as standardised mean differences (SMD) compared to a control group. A Random-effects model was utilised to calculate the pooled estimate effect. Between-study variability was also assessed. The registering number of this study is CRD42017035354.

Results

Out of the initial 5174 studies that were identified, there were 14 RCTs (746 children) that were included in the final systematic review and meta-analysis. Pooled estimate effect provided by random-effects model was 0.23 (95% confidence interval, CI [0.08–0.37]) with no between-study heterogeneity ($I^2 = 0.00\%$, $p = 0.0018$). Three studies of music therapy interventions provided the greatest outcome effects with a shorter duration and lower intensity. SMD for music therapies ranged from 0.40 to 0.62 with 95% CI [0.22 to 1.85]. The quality of the health care provider, the duration, and the intensity of intervention played an important role in the effectiveness of the intervention.

Discussion

Music therapy appears to be an effective tool for improving social interaction in preschool-aged children with ASD. However, more evidence-based trials are required to further validate the effectiveness of music therapy in ASD.

Conclusion

The evidence from this review suggests the further need for developing intervention strategies that focus on restrictive and repetitive behavior of children with ASD. Focusing on behavioral problems and simultaneously supporting communication and social interaction are hypothesized to represent comprehensive and successful therapy for affected children. Sequential study of systematic review and meta-analysis are also encouraged to clarify the strongly evidence-based practice for preschool-aged children with ASD.

参 考 論 文

Supporting Children with Developmental Disorders: Difficulties and Future Strategies as Perceived by Japanese Public Health Nurses

(発達障害をもつ子どもを支援する上で日本の保健師が知覚する困難と今後の方策)

Background

A system of support for children with developmental disorder has been developed continuously because the concept is recently spread to worldwide. The object of this study is to clarify difficulties and strategies of supports for them through perceptions of Japanese public health nurses (PHN).

Methods

The target population was PHNs from all 27 cities in the Okayama prefecture. Informed consent was obtained from PHNs who were willing to participate in the study conducted from December 2016 to January 2017. Areas of investigation included: developmental status of currently supported children, family structure, and psychological stress experienced by parents. Data were collected using case study forms during short term training sessions involving case studies in the field practice for PHNs. This study was approved by the Ethical Review Committee, Graduate School of Health Sciences (Nursing), Okayama University.

Results

Our results showed most difficult for PHNs to support children with developmental disorder was how to support their parents who did not pay attention to or did not want to realize their children's disorder.

Discussion

To help PHNs' skills up, we propose 3 strategies. One is to conduct the system to make a relationship between parents and PHNs during pregnancy and early infancy. Another is to facilitate a teaching to avoid unwanted pregnancy during puberty through cooperation school nurses. The other is to use or develop some tools for parents to understand their children status of development by their own.

Conclusion

This study showed that Japanese PHNs perceived such difficulties as how to support their parents who did not pay attention to or did not want to realize their children's disorder. So, it is necessary to build a relationship with caregivers. Frequent home visits during pregnancy can build a genuine relationship between PHNs and mothers before

birth and help encourage preparation for becoming a parent. Furthermore, it is also essential to avoid unwanted pregnancies in adolescents by cooperating with school health providers.