健康促進學校策略對台灣偏遠地區高齲齒率校園之學童牙菌斑控制和口腔保健行為的影響：準實驗設計

Effects of health-promoting school strategy on dental plaque control and preventive behaviors in schoolchildren in high-caries, rural areas of Taiwan: a quasi-experimental design

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背景

本研究評價健康促進學校策略(health-promoting school, HPS)對於台灣台東縣高齲齒校園之學童其牙菌斑控制與口腔保健行為之改變影響。

方法

採用準實驗設計。以集束抽樣方式挑選並納入學校為該校學童齲齒率高於台東縣平均，對照組學校為與實驗組進行配對後選出；實驗組學校共 6 所 166 位學童，而對照組學校 6 所 174 位學童。實驗組學校在 2019 學年度應用健康促進學校策略推動校園口腔保健工作 3 個月。而所有參與本計畫研究之學童在介入前進行前測與完成介入後的 2 週接受後測，透過口腔檢查進行牙菌斑指數(plaque index, PI)、牙菌斑控制指數(plaque control record, PCR)以及完成自填式口腔保健知識、態度、自我效能和行為問卷。透過廣義估計方程（GEE）的線性和邏輯回歸模型分析兩組學童在前後測之差異。

結果

介入後，實驗組二年級學童的牙菌斑指數(PI)（β = - 0.36）以及二、四、六年級牙菌斑控制指數(PCR)（分別為 β = - 27.48、 - 26.04 和 - 18.38）較對照組學童有較明顯的下降。而實驗組二、四年級學童相較於對照組學童在口腔保健認知較明顯的提升（分別為 β = 1.46 和 β = 0.92）；六年級學童則對於口腔衛生行為的態度(β = 1.78)與使用牙線的自我效能（β = 1.43)有較明顯的提升。實驗組六年級學童較對照組學童有較高的可能會在睡覺前刷牙(adjusted odds ratio [aOR] = 2.99）和使用含氟牙膏（aOR = 5.88）。

結論

運用健康促進學校策略可有效減少偏遠地區高齲校園之學童的牙菌斑狀況與促進其口腔保健行為。

Effects of health-promoting school strategy on dental plaque control and preventive behaviors in schoolchildren in high-caries, rural areas of Taiwan: a quasi-experimental design

Abstract

Background

We evaluated the effects of health-promoting school (HPS) strategy on plaque control and behavior change in high-caries schoolchildren in Taitung, Taiwan.

Methods

A quasi-experimental design was adopted; six intervention schools (intervention group [IG]) and six comparison schools (comparison group [CG]) were selected from elementary schools with higher-than-average caries rates (> 68%). The IG was selected using cluster sampling, and the CG was selected to match the IG. In total, the IG and CG groups included 166 and 174 children each. The selected schools implemented the HPS framework for 3 months in the 2019 academic year. An oral examination of dental plaque was administered, and a self-administered questionnaire regarding knowledge, attitude, self-efficacy, and behaviors was distributed at baseline and at 2-week follow-up. A linear and logistic regression model using generalized estimating equations (GEEs) was used to analyze the differences between baseline and the follow-up data.

Results

Compared with the CG, the IG had a greater reduction in plaque index among second graders (β = -0.36) and plaque control record scores among second, fourth, and sixth graders (β = - 27.48, - 26.04, and - 18.38, respectively). The IG also exhibited a greater increase at follow-up with respect to oral health-related knowledge among second graders and fourth graders (β = 1.46 and β = 0.92, respectively), attitude toward oral hygiene behaviors among sixth graders (β = 1.78), and self-efficacy regarding flossing for sixth graders (β = 1.43). Sixth graders in the IG were significantly more likely to brush before sleeping (adjusted odds ratio [aOR] = 2.99) and use fluoride toothpaste (aOR = 5.88) than those in the CG.

Conclusions

The HPS strategy was effective in reducing dental plaque and promoting preventing behaviors in rural high-caries schoolchildren.

Keywords

Dental health; Health-promoting school; Preventive behavior.

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