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FEATURE ARTICLE

MEASURING ADHERENCE TO EVIDENCE-BASED CLINICAL PRACTICE GUIDELINES

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ABSTRACT

Objectives

Dental Health Services Victoria publishes evidence-based clinical practice guidelines (CPGs) to assist public oral health practitioners to provide high-quality dental care. How well these CPGs are implemented into practice is unknown. The aim of this study was to assess adherence to selected CPGs.

Methods

An electronic auditing tool was developed using clinical indicators derived for "stainless steel crown (SSC)," "restorative care for children under general anesthetic (GA)," and "direct restorative materials" CPG. Six trained dentists audited a random sample of 204 dental records of children aged 3-12 years from 2 major public dental agencies.

Results

In total, 319 material-based treatments were audited, comprising 170 resin composite, 81 glass ionomer cement, 64 SSC, and 4 amalgam restorations. Adherence to the current guidelines varied from 94% of the SSC to none of the amalgam treatments audited. Almost half (47%) of the resin composite restorations and 5% of glass ionomer cement restorations were nonadherent to the relevant guideline.

Conclusions

Average adherence was up to 72% of cases. Clinicians need to consider recording the rationale upon which their professional judgment is based when they decide not to follow an appropriate CPG.

INTRODUCTION

The Institute of Medicine defined a clinical practice guideline (CPG) in 2011 as "statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefit and harms of alternative care options."[1] In general, CPGs are not a definite statement of the correct procedure; rather they constitute a general

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Adherence, Clinical audit, Clinical practice guidelines, Children, Dental caries

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guide to be followed subject to the clinician's judgment in each case. Furthermore, the information provided in the guideline is putatively correct only up to the date of issue of the guideline (NHMRC 1998). CPGs have been advocated with increasing frequency to reduce inappropriate care, control geographic variations in practice patterns, and make more effective use of limited health care resources.[2] CPGs enable health care services to evaluate and improve the performance of their organization.[3]

Increasingly, adherence to CPGs is considered a measure of quality of care.[4,5] Production, publication, and widespread dissemination of high-quality CPGs do not guarantee their implementation in clinical practice.[2,6,7] A retrospective review pinpointed that the deviation of care could associate with significantly worst patient outcomes.[7] Similar to the earlier studies, research in the United States found that 30%-40% of patients do not receive treatments shown to be effective and that 20%-25% receive treatments that are either unnecessary or potentially harmful.[8,9] Sources of practice variation remain unclear. It could be variables or factors related to patient health needs, doctor practice style, and environmental constraints or opportunities.

The Australian Commission on Safety and Quality in Health Care[3] (ASCQHC 2013) requires that CPGs be available to the clinical workforce and monitored as part of dental practice governance. Dental Health Services Victoria (DHSV) provides oral health care through the Royal Dental Hospital of Melbourne (RDHM) and purchases dental services for public patients from more than 53 community health agencies throughout Victoria, Australia. The mission of DHSV includes improving oral health services to public dental patients. Hence, best practice CPGs were developed based on evidence from recently published literature and subject to consultations within the DHSV Clinical Leadership Council. The Clinical Leadership Council comprised membership from dental academics from the Melbourne Dental School, University of Melbourne, and School of Dentistry and Oral Health, La Trobe University, as well as consumer advocates and representative members of community dental clinics across metropolitan, rural, and remote geographical locations, including all members of the dental team. University academics confirmed that the content of the guidelines was aligned with the most recent evidence and current teaching in both of the Victorian Dental Schools. Specialists in the relevant field of practice were also consulted to confirm that the guidelines were aligned with current best evidence-based practice. The complete guidelines were then disseminated via the DHSV Web site and through face-to-face presentations to DHSV oral health practitioners.

Anecdotally, it was reported that oral health practitioners' awareness of the CPG was lower in regional areas and that more generally, the stainless steel crown (SSC) CPGs were not followed within the Victorian public dental programs. Therefore, this study aimed to assess adherence by public oral health practitioners to the SSC CPG and other associated CPGs linked to the management of dental caries in children.

MATERIALS AND METHODS

The methods were based on the RAND methodology of McGlynn et al.[5] and the CareTrack study of Hunt et al.[10] and Hooper et al.[11] The present study was a retrospective review of the dental records of public pediatric patients seen in 2013 at the RDHM and Barwon Health Oral Health Services (BHOHS).

The "Stainless Steel Crown in Deciduous Molar (CG-A0.13-03)," "Provision of Restorative Care for Children under General Anaesthetic (CG-A018-01)," and "Direct Restorative Materials, Linings and Bases (CG-A009-03)" clinical guidelines were selected due to their relationship with each other and their relevance to the delivery of quality restorative dental care in children. The common element across these 3 guidelines is that they are all relevant to children younger than 12 years.

Seventy-five clinical audit indicators were developed from the selected CPGs. For example,

1. SSC should be used on all multisurface restorations in primary molars that are likely to exfoliate in greater than 2 years;
2. where the expected exfoliation of the tooth is within 2 years, amalgam (AMAL), resin composite (RC), or glass ionomer cement (GIC) restorative materials can be used for 1 or 2 surface restorations in primary molars; and
3. SSC is the treatment of choice after a pulpotomy procedure on a primary molar.

Recruitment did not require consent of patients since deidentified records were sampled from a state-wide electronic patient information management database called "Titanium" (Titanium Solutions Ltd, Auckland City, New Zealand). Dental procedure item codes relevant for the selected CPGs were used to search the dental records, for example, item no. 576 "Metallic Crown" and item no 946-949 "Anaesthesia and sedation."

Inclusion criteria for the selection of dental records were:

- Dental records of patients aged 3-12 years who had a completed course of care in 2013;
- Record of at least 1 direct restorative treatment on at least 1 deciduous tooth surface; and

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