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SCIENTIFIC ARTICLE

Design and validation of an oral health questionnaire for preoperative anaesthetic evaluation[☆]

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KEYWORDS

Patient safety;
Dental injury;
Oral health;
Oral hygiene;
Questionnaire

Abstract

Background and objectives: Dental injuries incurred during endotracheal intubation are more frequent in patients with previous oral pathology. The study objectives were to develop an oral health questionnaire for preanaesthesia evaluation, easy to apply for personnel without special dental training; and establish a cut-off value for detecting persons with poor oral health.

Methods: Validation study of a self-administered questionnaire, designed according to a literature review and an expert group's recommendations. The questionnaire was applied to a sample of patients evaluated in a preanaesthesia consultation. Rasch analysis of the questionnaire psychometric properties included viability, acceptability, content validity and reliability of the scale.

Results: The sample included 115 individuals, 50.4% of men, with a median age of 58 years (range: 38–71). The final analysis of 11 items presented a Person Separation Index of 0.861 and good adjustment of data to the Rasch model. The scale was unidimensional and its items were not biased by sex, age or nationality. The oral health linear measure presented good construct validity. The cut-off value was set at 52 points.

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PALAVRAS-CHAVE

Segurança do paciente;
Lesão dentária;
Saúde bucal;
Higiene bucal;
Questionário

Conclusions: The questionnaire showed sufficient psychometric properties to be considered a reliable tool, valid for measuring the state of oral health in preoperative anaesthetic evaluations.

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Projeto e validação de um questionário de saúde oral para avaliação anestésica no pré-operatório

Resumo

Justificativa e objetivo: As lesões dentárias que ocorrem durante a intubação traqueal são mais frequentes em pacientes com patologia oral prévia. O objetivo do estudo foi desenvolver um questionário de saúde bucal para avaliação no período pré-anestesia, de fácil aplicação por pessoal sem formação odontológica, e estabelecer um valor de corte para detectar pessoas com má saúde bucal.

Métodos: Estudo de validação de um questionário autoadministrado, projetado de acordo com uma revisão da literatura e recomendações de um grupo de especialistas. O questionário foi aplicado a uma amostra de pacientes avaliados em uma consulta pré-anestesia. A análise Rasch das propriedades psicométricas do questionário incluiu viabilidade, aceitabilidade, validade de conteúdo e confiabilidade da escala.

Resultados: A amostra incluiu 115 indivíduos, 50,4% de homens, com idade mediana de 58 anos (variação: 38-71). A análise final dos 11 itens apresentou um índice de separação dos indivíduos de 0,861 e um bom ajuste dos dados ao modelo de Rasch. A escala foi unidimensional e seus itens não foram influenciados pelo sexo, idade ou nacionalidade. A medida linear da saúde bucal apresentou boa validade de construto. O valor de corte foi fixado em 52 pontos.

Conclusões: O questionário mostrou propriedades psicométricas suficientes para ser considerado uma ferramenta confiável, válida para medir o estado de saúde bucal nas avaliações pré-anestesia antes da operação.

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Introduction

Damage to teeth and oral tissues is one of the most frequent complications of endotracheal intubation and general anaesthesia in general.^{1,2} The incidence varies widely, with different studies reporting values between 1:4574 and 1:3 intubated patients.³⁻¹³ Previous dental pathology,^{6,8,10,11} general anaesthesia,^{9,10} laryngoscopy³ and difficult intubation^{4,6,8,11} have been commonly associated with dental injury during an anaesthetic procedure in observational studies.

Dental injuries as a complication of general anaesthesia are a frequent subject of review articles, recommendations and guidelines issued by scientific societies.¹⁴⁻¹⁷ Several authors suggested specific charts for a systematic documentation of the state of patients' dentition before the intervention in order to avoid possible litigations,^{13,14,18-20} but little has been published about effective prevention strategies.

Perioperative dental injuries seem to be more related to diseases of the oral structures themselves than to medical errors during anaesthesia,^{11,21} dental injury risk minimization should therefore start with a careful oral health evaluation during the preanaesthesia consultation. Because

correct assessment of oral health may be difficult for personnel without special dental training,⁶ and application of commonly recommended and often extensive oral health surveys may be time-consuming, we have decided to design a simple guidance tool for evaluating the oral health in a preanaesthesia clinic.

The principal objective of our study was to develop a self-administered questionnaire of oral health and oral hygiene habits for patients undergoing general anaesthesia and validate it using a Rasch analysis. The secondary objective of the study was to establish a cut-off value for detecting persons with poor oral health.

Methods

The study was approved by the Institutional Review Board in line with the provisions of the Declaration of Helsinki, and written informed consent was obtained from all subjects.

Study population

Adult patients (≥ 18 years old) attended in the preanaesthesia clinic of a university hospital were included in the study. All patients who are to undergo a scheduled

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