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Relationship between Periodontal Disease, Dental Caries and the Risk Indicators for Cardiovascular Disease in Lagos, Nigeria

Relation entre la Maladie Parodontale, les Caries Dentaires et les Indicateurs de Risque de Maladie Cardiovasculaire à Lagos, Nigeria

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ABSTRACT

BACKGROUND: Inflammatory processes in the oral cavity have been linked to the pathogenesis of cardiovascular diseases while periodontitis and dental caries are some of the most common inflammatory diseases worldwide. The aim of this study was to determine the association between dental caries and periodontitis with cardiovascular disease among a cohort of Nigerian patients.

METHODS: This was a descriptive study conducted at the Cardiology clinic of the Lagos State University Teaching Hospital (LASUTH), Nigeria. Information was obtained directly from patients and their clinical notes using structured interviewer-administered, pretested, close-ended questionnaires. Demographic data, cardiovascular disease risk factors and specific diagnosis, anthropometric measures, periodontal and caries status were determined. Univariate and multivariate logistic regression analysis using the sociodemographic and clinical variables were used to estimate Odds ratios (ORs), adjusted odds ratios (aORs) and 95% confidence intervals (95% CI) of individual-level factors. Statistical significance was set at $p < 0.05$, and all tests were two-tailed.

RESULTS: Respondents who had diabetes, those with low HDL, those with a primary level of education (OR: 3.62; CI: 1.91, 12.77), those who smoke cigarettes (OR: 9.69; CI: 3.27, 14.83) and those with poor systolic and diastolic blood pressure control had higher odds of caries experience. Respondents who were aged above 35 years (OR: 1.43; CI: 1.26, 3.12), overweight or obese (OR: 1.31; CI: 1.22, 2.98), diabetic (OR: 7.40; CI: 1.24, 17.03), those with a primary level of education (OR: 3.24; CI: 2.42, 10.42), those who smoke cigarettes (OR: 10.54; CI: 2.44, 18.19) and those who drink alcohol (OR: 10.54; CI: 2.44, 18.19) also had significantly higher odds of clinical attachment loss.

CONCLUSION: A common risk-factor-approach, which is in line with the WHO Global policy for improving oral health in the 21st century, is advocated, because health risks are linked, preventable, and related to lifestyle. Thus, oral and general health promotion should be integrated. *WAJM 2023; 40(4): 404–413.*

Keywords: Dental caries, cardiovascular disease, myocardial infarction, periodontal disease, stroke.

RÉSUMÉ

CONTEXTE: Les processus inflammatoires dans la cavité buccale ont été associés à la pathogenèse des maladies cardiovasculaires, tandis que la parodontite et les caries dentaires figurent parmi les maladies inflammatoires les plus courantes dans le monde. L'objectif de cette étude était de déterminer l'association entre les caries dentaires et la parodontite et les maladies cardiovasculaires dans une cohorte de patients Nigériens.

MÉTHODES: Il s'agit d'une étude descriptive menée à la clinique de cardiologie du Lagos State University Teaching Hospital (LASUTH), au Nigeria. Les informations ont été obtenues directement auprès des patients et de leurs notes cliniques à l'aide de questionnaires structurés, administrés par un enquêteur et testés au préalable. Les données démographiques, les facteurs de risque des maladies cardiovasculaires et les diagnostics spécifiques, les mesures anthropométriques, l'état parodontal et l'état des caries ont été déterminés. Des analyses de régression logistique univariées et multivariées utilisant les variables sociodémographiques et cliniques ont été utilisées pour estimer les odds ratios (OR), les odds ratios ajustés (aOR) et les intervalles de confiance à 95 % (IC 95 %) des facteurs individuels. La signification statistique a été fixée à $p < 0,05$, et tous les tests ont été bilatéraux.

RÉSULTATS: Les répondants diabétiques ceux ayant un faible taux de HDL, ceux ayant un niveau d'éducation primaire (OR : 3,62 ; CI : 1,91,12,77), ceux qui fument des cigarettes (OR : 9,69 ; CI : 3,27,14,83) et ceux dont la pression artérielle systolique et diastolique est mal contrôlée avaient un risque plus élevé d'avoir des caries. Les répondants âgés de plus de 35 ans (OR : 1,43 ; CI : 1,26,3,12), en surpoids ou obèses (OR : 1,31 ; CI : 1,22,2,98), diabétiques (OR : 7,40 ; CI : 1,24,17,03), ceux ayant un niveau d'éducation primaire (OR : 3. 24 ; IC : 2.42, 10.42), ceux qui fument des cigarettes (OR : 10.54; CI : 2.44,18.19) et ceux qui boivent de l'alcool (OR : 10.54 ; CI : 2.44,18.19) avaient également un risque significativement plus élevé de perte d'attachement clinique.

CONCLUSION: Une approche des facteurs de risque communs, conforme à la politique mondiale de l'OMS pour l'amélioration de la santé bucco-dentaire au 21e siècle, est préconisée, car les risques pour la santé sont liés, évitables et liés au mode de vie : la promotion de la santé bucco-dentaire et de la santé générale devrait donc être intégrée. *WAJM 2023; 40(4): 404–413.*

Mots clés: Caries dentaires, Maladies cardiovasculaires, Infarctus du myocarde, Maladies parodontales, Accidents vasculaires cérébraux.

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