INTISARI

Kebersihan mulut yang buruk yang ditandai dengan skor indeks OHI-S 3,1-6,0 dapat memicu penumpukan plak gigi dan disbiosis di rongga mulut. Disbiosis dapat meningkatkan jumlah periodontopatogen sehingga meningkatkan pelepasan sitokin pro-inflamasi dan menimbulkan beberapa penyakit di rongga mulut seperti penyakit periodontal. Infeksi dan peradangan di rongga mulut dapat menyebar ke jaringan secara sistemik. Peningkatan periodontopatogen dapat meningkatkan ekspresi ACE2 yang berperan sebagai reseptor virus penyebab COVID-19. Dimungkinkan kesehatan mulut yang buruk berpengaruh terhadap resiko terinfeksi COVID-19. Tujuan dari *narrative review* ini adalah untuk mengkaji pengaruh kebersihan mulut yang buruk terhadap resiko terinfeksi COVID-19

Pencarian literature menggunakan *database PubMed*, *Wiley*, *Science Direct*, *Scopus*, dan *Google Scholar* dengan kata kunci *oral health*, *oral hygiene*, *systemic disease*, COVID-19, dan SARS-CoV-2 yang dipadukan menggunakan operator *Boolean* AND dan OR. Artikel diseleksi menggunakan kriteria inklusi dan eksklusi sehingga didapatkan artikel yang digunakan sebanyak 87.

Rongga mulut sebagai rute masuk SARS-CoV-2 dengan adanya sel-sel pengekspresi ACE2 di jaringan mulut. Kebersihan mulut yang buruk dapat memicu bakteri periodontopatik di rongga mulut dan produk bakteri serta meningkatnya sitokin proinflamasi. Bakteri dan produknya dapat teraspirasi ke paru-paru dan menyebar ke jaringan secara sistemik yang kemudian menginduksi ekspresi ACE2 yang kemudian meningkatkan resiko terinfeksi COVID-19.

Kata kunci: COVID-19, kebersihan mulut, penyakit, resiko, ACE2

ABSTRACT

Poor oral hygiene which characterized by an index OHI-S score of 3,1-6,0 can trigger accumulation of dental plaque and dysbiosis in the oral cavity. Dysbiosis can increase the number of periodontopathogens thereby increased the release of pro-inflammatory cytokines and causing several diseases in the oral cavity such as periodontal disease. Infection and inflammation in the oral cavity can spread to the tissues sistemically. Increased periodontopathogens can increase the expression of ACE2 which acts as a receptor for the virus that causes COVID-19. It is possible that poor oral health affect the risk of being infected with COVID-19. The purpose of this narrative review is to examine the effect of poor oral hygiene on the risk of being infected with COVID-19.

A literature search was performed using PubMed, Wiley, Science Direct, Scopus, and Google Scholar databases with the keywords oral health, oral hygiene, systemic disease, COVID-19, and SARS-CoV-2 combined using the Boolean AND and OR operators. Articles were selected using inclusion and exclusion criteria so that 87 articles were used.

Oral cavity as a route of entry for SARS-CoV-2 in the presence of ACE2-expressing cells in oral tissues. Poor oral hygiene can trigger periodontopathic bacteria in the oral cavity and bacterial products and increase proinflammatory cytokines. Bacteria and their products can be aspirated into the lungs and spread to the tissues systemically then induce the expression of ACE2 which then increases the risk of infection with COVID-19.

Keywords: COVID-19, oral hygiene, systemic, risk, ACE2