ABSTRAK

NARRATIVE REVIEW: POTENSI TANAMAN TEMULAWAK, KUNYIT, DAN JAHE UNTUK TERAPI COVID-19 DENGAN PENDEKATAN NANOTEKNOLOGI

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Latar Belakang: Tingginya angka kematian dan belum adanya terapi covid-19 yang terbukti efektif secara klinis telah menjadi perhatian bagi masyarakat sehingga banyak yang turut serta mencari solusi dalam menangani penyakit ini. Salah satunya dengan melakukan pencarian senyawa yang dapat dijadikan obat untuk terapi covid-19. Salah satu sumber senyawa bioaktif yang berpotensi untuk pengobatan penyakit ini terdapat pada tanaman. Tanaman yang dilaporkan memiliki potensi terhadap covid-19 sebagai antiinflamasi, antioksidan, antivirus dan immunomodulator diantaranya temulawak, kunyit, dan jahe. Dengan adanya perkembangan teknologi modern pada masa kini yang dapat meningkatkan kualitas terapi, maka pendekatan nanoteknologi diharapkan dapat meningkatkan harapan terapi yang sesuai untuk Covid-19

Metodologi: Metode yang digunakan yaitu penelusuran artikel dengan desain *Narrative Review*. Review dilakukan melalui pencarian literatur yang sesuai topik dengan menggunakan Google Scholar, Pubmed, dan Science Direct. Keyword yang digunakan antara lain *"coronavirus, covid-19, nanotechnology,* Temulawak *(Curcuma Xanthorriza),* kunyit *(Curcuma longa),dan* jahe *(Zingiber officinalle),* dan*".* Kriteria inklusi yang digunakan yaitu artikel penelitian atau artikel review tentang tanaman temulawak, kunyit, dan jahe yang berpotensi untuk terapi Covid yang dipublikasikan pada rentang tahun 2010-2021 secara *full text*.

Hasil: Hasil penelitian yang didapatkan menunjukkan bahwa tanaman temulawak, kunyit, dan jahe dengan kandungan senyawa yang berpotensi untuk terapi covid-19 memiliki aktivitas farmakologi diantaranya antiinflamasi, antioksidan, antivirus dan immunomodulator. Pendekatan nanoteknologi yang digunakan diantaranya *solid lipid nanoparticles* (SLNs), *plant-derived nanoparticles* (PDNPs), nanoemulsi, dan nanomisel.

Kesimpulan: Melalui kandungan-kandungan senyawanya, tanaman temulawak, kunyit, dan jahe sangat berpotensi untuk digunakan sebagai terapi covid-19. Potensi tersebut akan meningkat signifikan apabila dimodifikasi menggunakan pendekatan nanoteknologi.

Kata Kunci: temulawak *(Curcuma xanthorrhiza),* kunyit *(Curcuma longa),* jahe *(Zingiber officinale), nanoteknologi, covid-19*

ABSTRACT

NARRATIVE REVIEW: POTENCY OF CURCUMA XANTHORRHIZA, CURCUMA L AND ZINGIBER OFFICINALE PLANTS FOR THE TREATMENT OF COVID-19 IN A NANOTECHNOLOGY APPROACH

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Background: The high mortality rate and there is no Covid-19 therapy clinically proven has become a concern for many researchers to explore the possibility ways to solve this disease. One of the solutions is by searching the active compound for the treatment of Covid-19. One source of potential bioactive compounds for the treatment of this disease is found in plants. Plants that are reported to have potential effect against Covid-19 as anti-inflammatory, antioxidant, antiviral and immunomodulatory such as temulawak, turmeric, and ginger. By adopting nanotechnology approach is expected to increase the appropriate therapy for Covid-19.
Method: The method used in this article was Narrative Review design. A systematic literature search was conducted by searching scientific journals and articles that match the topic on the search engine such as Google Scholar, Pubmed, and Science Direct. The keywords for this research are, "Coronavirus, Covid 19, Nanotechnology, Temulawak (*Curcuma Xanthoriza*), Turmeric (*Curcuma Longa*), and Ginger (*Zingiber Officinalle*), and. The inclusion criteria for the articles used in this study is research articles or review articles about Temulawak, Tumeric, Ginger, plants for Covid 19 which were published between 2010-2021 in full text.
Results: The results of the study showed that the Temulawak, Tumeric, and Ginger plants containing compounds that has pharmacological activities such as antiinflammation, antioxidant, antiviral and immunomodulator that potent for the treatment of covid-19. Nanotechnology approach could be used for improving the potency of the compounds are solid lipid nanoparticles (SLNs), *plant-derived nanoparticles* (PDNPs), nanoemulsions, and nanomicelles.
Conclusions: Through their compounds, temulawak, turmeric, and ginger plants have potential effect to be used as Covid-19 therapy. This potential effect will increase significantly by modifying the compounds with a nanotechnology approach.

Keywords: Temulawak (Curcuma xanthoriza), Tumeric (Curcuma longa), Ginger (Zingiber officinale), Nanotechnology, Nanoparticle, Covid-19

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