INTISARI

Latar Belakang : Disfungsi ereksi (DE) akibat fluoxentine sering dikaitkan dengan stres oksidatif dan disfungsi endotel. *Eurycoma longifolia* Jack., dengan senyawa bioaktifnya seperti eurycomanone dan canthin-6-one, berpotensi memperbaiki kondisi ini melalui efek antioksidan, anti-inflamasi, dan modulasi jalur ereksi. Penelitian ini meneliti potensi Aphrofit® *E. longifolia* untuk mengatasi DE yng diinduksi fluoxentine.

Tujuan & Metode : Penelitian ini bertujuan mengidentifikasi senyawa dalam Aphrofit® menggunakan LC-HRMS, memprediksi interaksi canthin-6-one dan eurycomanone dengan protein target NRF2 dan NOS3 melalui *molecular docking*, serta mengevaluasi efeknya pada fungsi seksual tikus jantan yang diinduksi fluoxentine. Parameter yang diamati meliputi perilaku seksual, kemampuan ereksi, serta ekspresi gen NRF2 dan NOS3 dengan qRT-PCR.

Hasil : Analisis LC-HRMS mengidentifikasi tujuh senyawa target, termasuk eurycomanone dan canthin-6-one, menunjukkan potensi sinergis Aphrofit®. Uji *molecular docking* mengonfirmasi afinitas ikatan kuat senyawa- senyawa ini terhadap NRF2 dan NOS3. Secara *in vivo*, Aphrofit® terutama dosis 90 mg/KgBB secara signifikan meningkatkan frekuensi perilaku perilaku seksual dan kemampuan ereksi, mirip dengan sildenafil. Adanya juga peningkatan ekspresi gen NRF2 di otak dan NOS3 di penis tikus yang diinduksi fluoxentine.

Kesimpulan : Aphrofit® *E. longifolia* menjanjikan sebagai terapi alami untuk disfungsi ereksi. Kandungan eurycomanone dan canthin-6-one berperan penting, dan efek positifnya pada perilaku seksual serta ekspresi gen NRF2 dan NOS3 mendukung potensinya dalam perbaikan fungsi seksual.

Kata Kunci : afrodisiak, Aphrofit® *Eurycoma longifolia*, disfungsi ereksi, fluoxetine, *molecular docking*, NRF2, NOS3, profil metabolit, qRT-PCR, stres oksidatif.

ABSTRACT

Background : *Erectile dysfunction (ED) caused by fluoxetine is often associated with oxidative stress and endothelial dysfunction. Eurycoma longifolia* Jack*., with its bioactive compounds such as eurycomanone and canthin-6-one, has the potential to ameliorate this condition through its antioxidant, anti-inflammatory, and erectile pathway modulating effects. This study investigates the potential of Aphrofit® E. longifolia to address fluoxetine-induced ED.*

Objective & Methods : *This study aimed to identify compounds in Aphrofit® using LC-HRMS, predict the interactions of canthin-6-one and eurycomanone with NRF2 and NOS3 target proteins through molecular docking, and evaluate its effects on the sexual function of fluoxetine-induced male rats. Observed parameters included sexual behavior, erectile ability, and NRF2 and NOS3 gene expression using qRT-PCR.*

Results : *Targeted metabolite profiling with LC-HRMS analysis identified seven target compounds, including eurycomanone and canthin-6-one, indicating the synergistic potential of Aphrofit®. Molecular docking confirmed the strong binding affinity of these compounds to NRF2 and NOS3. In vivo, Aphrofit®, especially at a dose of 90 mg/KgBW, significantly increased the frequency of sexual behavior and erectile ability, similar to sildenafil. There was also an increase in NRF2 gene expression in the brain and NOS3 in the penis of fluoxetine-induced rats.*

Conclusion : *Aphrofit® E. longifolia shows promise as a natural therapy for erectile dysfunction. The eurycomanone and canthin-6-one content play important roles, and its positive effects on sexual behavior and NRF2 and NOS3 gene expression support its potential in improving sexual function.*

Keywords : *aphrodisiac, Aphrofit® Eurycoma longifolia, erectile dysfunction, fluoxetine, molecular docking, NRF2, NOS3, metabolite profile, qRT-PCR, oxidative stress.*