

ABSTRAK

Disfungsi ereksi merupakan gangguan kesehatan pria yang prevalensinya meningkat dan sering berkaitan dengan gangguan metabolik akibat pola makan tinggi lemak. Kondisi ini memicu stres oksidatif dan peradangan kronik yang berdampak pada penurunan fungsi seksual dan reproduksi. Kopi Gayo robusta lanang (*peaberry coffee*) mengandung kafein, flavonoid, saponin, dan tannin yang berpotensi sebagai afrodisiak alami. Penelitian ini bertujuan menganalisis kandungan fitokimia dan kadar kafein kopi Gayo robusta lanang serta menilai pengaruh seduhannya terhadap perilaku seksual dan kualitas sperma tikus wistar jantan yang diinduksi HFD. Penelitian eksperimental ini meliputi analisis fitokimia dan penetapan kadar kafein menggunakan metode HPLC, serta uji *in vivo* pada 30 ekor tikus jantan Wistar yang dibagi menjadi lima kelompok: normal, kontrol positif (HFD), dan tiga kelompok perlakuan HFD yang diberi seduhan kopi Gayo robusta lanang dengan dosis 0,39; 0,78; dan 1,3 g/3mL/hari. Parameter yang diamati meliputi perilaku seksual (*introducing* dan *climbing*) serta berat organ reproduksi. Hasil penelitian menunjukkan bahwa kopi Gayo robusta lanang mengandung alkaloid, flavonoid, polifenol, tannin, dan saponin dengan kadar kafein 11,27 mg/g (1,13%). Data dianalisis menggunakan ANOVA satu arah dan uji post-hoc ($p < 0,05$). Hasil menunjukkan empat kelompok yang diinduksi pakan tinggi lemak mengalami peningkatan berat badan rata-rata 50 g dibanding kelompok normal 36 g. Kelompok kontrol positif mengalami penurunan signifikan aktivitas seksual (*introducing* $1,04 \pm 0,73$; *climbing* $0,87 \pm 0,79$; $p = 0,000$). Seduhan kopi dosis 0,39g/3mL/hari meningkatkan perilaku seksual mendekati normal dan meningkatkan berat testis dibanding kelompok kontrol positif. Temuan ini dapat menjadi dasar pengembangan produk herbal berbasis kopi Gayo sebagai alternatif peningkat fungsi reproduksi pria yang mengalami DE.

Kata kunci : kopi Gayo robusta lanang, diet tinggi lemak, afrodisiak, perilaku seksual.

ABSTRACT

Erectile dysfunction is a male health disorder with increasing prevalence and is often associated with metabolic disturbances resulting from a high-fat diet. This condition induces oxidative stress and chronic inflammation, leading to impaired sexual and reproductive function. Gayo robusta peaberry coffee contains caffeine, flavonoids, saponins, and tannins, which have potential as natural aphrodisiacs. This study aimed to analyze the phytochemical components and caffeine content of Gayo robusta peaberry coffee and to evaluate the effects of its infusion on sexual behavior and sperm quality in high-fat diet–induced male Wistar rats. This experimental study included phytochemical screening and caffeine determination using high-performance liquid chromatography (HPLC), as well as an in vivo assay involving 30 male Wistar rats divided into five groups: normal, positive control (high-fat diet), and three high-fat diet treatment groups administered Gayo robusta peaberry coffee infusion at doses of 0.39, 0.78, and 1.3 g/3 mL/day. Observed parameters included sexual behavior (introducing and climbing) and reproductive organ weight. The results showed that Gayo robusta peaberry coffee contains alkaloids, flavonoids, polyphenols, tannins, and saponins, with a caffeine content of 11.27 mg/g (1.13%). Data were analyzed using one-way ANOVA followed by post-hoc tests ($p < 0.05$). The four high-fat diet–induced groups exhibited an average body weight increase of 50 g, compared to 36 g in the normal group. The positive control group demonstrated a significant reduction in sexual activity (introducing 1.04 ± 0.73 ; climbing 0.87 ± 0.79 ; $p = 0.000$). Administration of coffee infusion at a dose of 0.39 g/3 mL/day improved sexual behavior to near-normal levels and increased testicular weight compared to the positive control group. These findings suggest that Gayo robusta peaberry coffee has potential as a herbal-based product for improving male reproductive function in individuals with erectile dysfunction.

Keywords : *Gayo robusta peaberry coffee, high-fat diet, aphrodisiac, sexual behavior.*