THE ANTIOXIDANT POTENTIAL OF RED DRAGON FRUIT (*Hylocereus polyrhizus*) SKIN EXTRACT AGAINST MOTILITY, VIABILITY, AND INTEGRITY PLASMA MEMBRANES SPERMATOZOA OF MICE (*Mus musculus*) WITH HOT TEMPERATURE EXPOSURE

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ABSTRACT

This research aims to determined the antioxidant potential of Red Dragon fruit (*Hylocereus polyrhizus*) skin extract against motility, viability and integrity plasma membranes spermatozoa of mice (*Mus musculus*) after being exposed to hot temperature. The polyphenol in the red dragon fruit skin serves an antioxidant counteracting free radicals. A total of 20 mices (*Mus musculus*) were used in this study with an average age of 2 months. The study was divided into five treatments and four replications, consisting of: K(-) as negative control given CMC Na 1% as much as 0.5 ml, K(+) as positive control was exposed to 40° C for 45 minutes and CMC Na 1% of 0.5 ml. P1, P2 and P3 are exposed to 40° C for 45 minutes and red dragon fruit skin extract with a multilevel dose of P1: 250 mg/kgBB, P2: 500 mg/kgBB, and P3: 1000 mg/kgBB that each dose was dissolved in CMC Na 1% of 0.5 ml. The results showed that red dragon fruit skin extract to the mice maintain the motility, viability, and integrity of plasma membrane. The good result was shown by P3 group given a dose of 1000 mg/kgBB.

Keywords: *Hylocereus polyrhizus*, polyphenol, antioxidant, motility, viability, integrity plasma membranes, spermatozoa*, Mus musculus*