Antioxidant Potential of Rice Bran Oil Prepared from Red and White Rice

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***ABSTRACT**: The focus of the present study was to determine the total phenolic content (TPC) and antioxidant potential of Rice Bran Oil (RBO). The bran of two rice varieties was obtained and stabilized and subsequently RBO was extracted into hexanes. The phenolic fraction of the oil was extracted into methanol by passing the oil through a glass column packed with silica (60 Å, pore diameter). TPC was determined and expressed as mg gallic acid equivalents (GAE) per gram extract. The antioxidant potential of the oil extracts was evaluated using DPPH and ABTS radical scavenging assays and β-carotene/linoleate model system. DPPH and ABTS radical scavenging capacities were expressed as IC_{50} values and inhibition of linoleic acid induced oxidation of β-carotene was expressed as percent inhibition. The TPC of the two extracts was not significantly different ($p>0.05$). However, the extract obtained from red rice variety exhibited significantly high ($p<0.05$) DPPH radical scavenging activity and inhibition of linoleic induced β-carotene oxidation. It was also revealed that the radical scavenging activity was dose dependent. The RBO extracts did not exhibit any prooxidant activity at the highest level tested (0.1 g/mL). The results revealed that the RBO possesses strong antioxidant activity compared to α-tocopherol, thus, RBO can be categorized as an edible oil with high antioxidant potential.*

***Keywords:** Antioxidants, IC_{50} value, rice bran oil, total antioxidant capacity, total phenol content*

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