THE EFFECT OF TYROSOL, A PHENOL FOUND IN EXTRA VIRGIN OLIVE OIL, ON THE EXPRESSION OF GENES LINKED TO PROTEIN HOMEOSTASIS IN *CAENORHABDITIS ELEGANS*

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Consuming naturally produced compounds called phenols has been shown to improve health by mediating molecular mechanisms. Extra virgin olive oil (EVOO) contains a unique mixture of phenolic compounds that are preserved during the oil extraction process. There is significant evidence suggesting that regular intake of EVOO can have several beneficial effects. The phenol tyrosol, found in EVOO, has been observed to cause an increase in the lifespan of certain model organisms. Protein homeostasis, a molecular mechanism responsible for degrading misfolded and aggregation-prone proteins, is known to decline as a result of aging. The accumulation of toxic aggregation-prone proteins serves as a pathological indicator in age-related diseases such as Alzheimer's (AD). The purpose of this study was to determine if tyrosol led to increased expression of genes linked to protein homeostasis using the nematode *Caenorhabditis elegans* as the model organism. *C. elegans* strain CL4176 which expresses human beta-amyloid, the toxic aggregation-prone protein in AD, was used. *C. elegans* are well characterized, have a short life span, and are easy to maintain which made them the ideal model organism for this study.