Quantification of phenol levels in commercial chocolates

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1. Many phenols have been reported to have antioxidant activity. In the present study, we investigated the relative abundance of phenols in various commercial chocolates.

2. A hydrophilic, methanol-based extraction procedure was used to extract the phenols from chocolate and the Folin-Ciocalteau assay for phenols was the test used for quantification. Comparisons of % phenol levels by weight of chocolate were made with respect to chocolate brand and type (milk, dark, white). In addition, an examination of the relationship between price and phenol levels was performed.

3. There were significant differences in phenol levels among some chocolates in the sample (p<0.001). Laura Secord™ Dark chocolate had the highest phenol level of 0.15 ± 0.02 % phenol content by weight (p<0.05). Cross-brand comparisons on milk chocolates found Belgium™ and Nestlé™ to have a higher phenolic content than Walker’s™, Godiva™ or Laura Secord™ Milk (p<0.05). No correlation between price and phenol content by weight was found.

4. Our results seem to suggest that dark chocolate has a higher phenolic content than milk or white chocolate. They further suggest that the phenol levels within milk chocolates do not vary significantly with brand. There does not seem to be a correlation between price and phenolic content of chocolate.