

ABSTRACT

Correlation of Temperature and Brewing Time on The Antioxidant Activity of Green Tea (*Camellia sinensis*)

Literature Review

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Tea is called a functional beverage because tea contains natural antioxidants, namely flavonoids, which can protect the body from the threat of free radical attack. The phytochemical compounds that are expected in green tea that function as antioxidants are polyphenols. The extraction of polyphenols present in tea depends on time and temperature, so monitoring these parameters when making tea is very important to get the antioxidant benefits of tea. Polyphenols that extracted in the tea brew play a role in the antioxidant activity of the tea. In this review, the effect of brewing temperature and brewing time on the antioxidant activity of green tea was observed. It aims to study the brewing temperature and brewing time which will produce the highest antioxidant activity in green tea. This review is a non-systematic review in the form of a scoping review. The range of publication years for the articles in this review is 2000–2020. The database sources for this review are Science Direct, Pubmed Central, and Google Scholar. The results of this review indicate that the temperature and brewing time affect the antioxidant activity of green tea. The brewing temperature that produced the highest antioxidant activity in this review was 80–100 ° C. The brewing time that produced the highest antioxidant activity in this review was 8–15 minutes. The temperature and duration of brewing that produce the highest antioxidant activity in this review can be used as a reference, however, it is better to conduct direct research in order to obtain the temperature and duration of brewing that produce the highest antioxidant activity in green tea according to the green tea samples studied. Epimerization of the polyphenols compound is the factor that effect in temperature and brewing time of green tea which results in high antioxidant activity.

Keywords: temperature, brewing time, antioxidant activity, green tea