

Sodium content in local soy sauce without sodium label in Malaysian market



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Objective

To investigate the **sodium content** in commercial soy sauce in the soy sauce market that do not have the sodium labelling.

Introduction

- Salt is highly demanded due to easy access, cheap and universally used in food preparation.
- High salt concentration in brine solution during soy sauce fermentation are to **enhance flavor** and to **prevent growth** of undesirable microorganism.
- Thus, high consumption of soy sauce may lead to high sodium intake that may **cause noncommunicable diseases (NCD)** such as kidney failure, hypertension and cardiovascular disease.
- The label for sodium content in the Malaysian commercial soy sauce is **a voluntary basis**.

Methodology

- The commercial soy sauces were collected from the main local supermarkets and analysed for sodium by using Inductively Coupled Plasma Optical Emission Spectrometry (ICP-AES).
- The samples were consisted of
 - 11 brands of sweet soy sauce,
 - 5 brands of salty sauce,
 - 4 brands of dark soy sauce and
 - 3 brands of light soy sauce.



Results and Discussion

➤ Three brands of sweet soy sauce contained 3500 – 4300 mg sodium/100g were **significantly higher** ($p < 0.05$) in sodium content compared to the rest of the samples.

- This is due to the **additional ingredients** such as food preservative and flavor enhancer during the commercial soy sauce processing (Kamis *et al.*, 2015).
- This type of soy sauce is popular in Southeast Asia countries and it is a **different version of soy sauce compared to China and Japan** (Shifaa *et al.*, 2016).

➤ The sodium in two brands of dark soy sauce were containing 695 mg/100g which was **significantly lower** ($p < 0.05$) than the rest of the soy sauce brands.

➤ Sodium in the light soy sauces (500 – 600 mg sodium/100g) was **significantly lowest** ($p < 0.05$) compared to other types of soy sauce.

- This is due to the different formulation of soy sauce during the soy sauce manufacturing (Shifaa *et al.*, 2016).

Conclusion

It is important to investigate the sodium content in soy sauce that are sold locally as additional information to the consumer.