The Potency Of Flavonoids (Quercetin, Rutin, And Myricetin) from Elaeocarpus serratus L. Leaves as Antiosteoporosis : A Literature Review

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Background

• The prevalence of osteoporosis has affected more than 200 million people worldwide and in Indonesia will increase in 2050 to 5.2-11.5 million sufferers.
• Medicines for osteoporosis therapy have significant side effects (increased risk of breast carcinoma, endometrial cancer, cardiovascular disease, and venous thrombosis).
• Elaeocarpus serratus L. leaves contain flavonoid compounds especially quercetin, rutin, and myricetin that have antiosteoporotic activity.

Research Questions

1. What are the compounds contained in the leaves of the Elaeocarpus serratus L and how are the extraction and isolation methods used?
2. How is the antiosteoporotic activity of flavonoid compounds (quercetin, rutin, and myricetin) contained in Elaeocarpus serratus L leaves?

Methods

Study Design and Database

• Scoping Review
• Database: PubMed, Science Direct, Google Scholar, Google

Keywords

“chemical compound” OR “extraction and isolation” AND “Elaeocarpus serratus L”; “quercetin” OR “rutin” OR “myricetin” AND “osteoporosis”

Inclusion Criteria

• Published in the year before 2000
• Articles in English Language

Screening and Data Extraction

Potential documents were saved in an EndNoteX9 library and other were obtained by crosschecking previously identified papers

Result

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Conclusion

Elaeocarpus serratus L. can be used as a source of raw materials in drug development for antiosteoporosis as shown by the data that:

• The leaves of the Elaeocarpus serratus L. contain flavonoid compounds (quercetin, rutin, and myricetin) which can be obtained by extracting using the maceration method using ethanol solvent.
• Quercetin, rutin, and myricetin compounds can increase bone mass and reduce bone resorption by involving various signaling pathways in increasing osteoblast activity and reducing osteoclast activity.

Acknowledgements

The poster was possible because of the work of Department Pharmacognosy and Phytochemistry, Faculty Of Pharmacy, Universitas Airlangga.

References