

Difficulty for consumers in choosing commercial bilberry supplements by relying only on product label information

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ABSTRACT

Background Various kinds of bilberry supplements have recently become available on the market. However, it is doubtful whether consumers receive accurate information to be able to compare different supplements. **Objective** We aimed to investigate whether consumers can obtain the expected benefits by relying only on the information printed on the product labels of commercial bilberry supplements. **Materials and Methods** The quality of 20 supplements was investigated by the spectrophotometric method and ultra high performance liquid chromatography (UHPLC). Each peak was identified by liquid chromatography-mass spectrometry and quantified using an external standard. The percentage of the actual measured value relative to the indicated value on the product label was determined using the spectrophotometric method. The daily dosage was calculated from the total amount of anthocyanins quantified by UHPLC and information on the product label. **Results** In 14 of 20 supplements, the total anthocyanin content expressed as delphinidin equivalents was within 20% of the labeled value. However, the extent of degradation could not be determined by the spectrophotometric method. In fresh bilberry fruit, anthocyanidins were barely detected. In 8 of 20 supplements, the anthocyanidin content was >1.0%. The daily dosage of anthocyanins varied by about 66-fold among supplements, and the dosage of 6 supplements was less than the recommended level in Japan. **Conclusions** Consumers cannot always obtain the expected benefits by relying only on product label information. Therefore, new rules concerning product label information are required to make it possible for consumers to take the equivalent amounts of anthocyanins for whichever bilberry supplement they choose.

KEYWORDS

Anthocyanidins . bilberry anthocyanins . consumer . product label information . quality

REFERENCES