ABSTRACT

The Effect of Differences Extraction Methods of Collagen and Gelatin From Various Fish Species on Its Yield and Characterization (*Literature Review*)

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Collagen and gelatin have been used in various applications such as pharmaceuticals, cosmetics, skincare, biomedicine, and food. Various methods of isolating collagen and gelatin from fish have been widely used. This literature review aims to identify the effect of different extraction methods on yield and characterization and to obtain the optimal extraction methods in producing collagen and gelatin based on yield and characterization.The results of analysis from literature sources were found that various isolation methods, types of fish, and body parts resulted in various yields and characterizations. Age and species of fish also affected the yield. Collagen yields isolated from fish skin were greater than bone and scales. The addition of pepsin can increase the yield and affect its characterization. The optimal method of collagen extraction based on yield and characterization is a method with pretreatment using 0,1 M NaOH and extracted by 0,5 M acetic acid for 3 days that isolated from the skin of nile (*Oreochromis niloticus*), while the recommended gelatin extraction method is method with pretreatment using warm water, 0,1 M NaOH, 0,2 M acetic acid, and extracted by distilled water at 45°C for 12 hours that isolated from the skin of skipjack tuna (*Katsuwonus pelamis*). The recommended method requires further research related to characterization that has not been carried out based on the criteria of the Indonesian Pharmacopoeia, the United States Pharmacopeia, and the Indonesian National Standard.

Keywords: collagen, gelatin, fish, yield, characterization