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# Which variables should be controlled when measuring the granulometry of a chewed bolus? Results from a quantitative synthesis.

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The distribution of food particles in a chewed bolus is frequently used as a criterion to characterize the outcome of mastication. Previous literature reviews stated that methodological differences in the characterization of bolus granulometry do not allow inter-study comparisons. The aim of this systematic review is to: i) identify the variables that can affect bolus granulometry, and ii) calculate the relative weight of these variables in bolus granulometry variations. The qualitative review reports that bolus granulometry values varied according to the conceptual approaches employed, i.e. chewing-test or mastication-test, measurement methods, and the food or material proposed for chewing. Based on 58 studies, the quantitative analysis shows that when food, number of chewing strokes, and the oral status of the subjects are controlled, the values obtained can be used as references in further nutritional studies. This review provides tables that could be useful for further research either to identify studies conducted with specific experimental procedures, or to refer to bolus granulometry values for foods and subjects.