

## CHAPTER III

### CONCLUSIONS AND SUGGESTIONS

#### 3.1 Conclusions

Utilization of kappa carrageenan and konjac combination exhibited higher value in hardness, and lower elasticity than gelatine. Based on kappa carrageenan and konjac formulation, higher ratio of konjac decreases jelly candy's hardness, and elasticity. Kappa carrageenan lowers the jelly candy's stickiness, but increases gel strength. Konjac may increase stickiness in jelly candy. Combination of Iota carrageenan and gelatine produces very weak gel strength. Sensory properties of jelly candy with konjac and kappa carrageenan, showed flexible, non-sticky, elastic, and transparent colour. Use of 10% gelatine exhibited highest value in acceptability. Combination of hydrocolloid shows good performance that may show some properties similar to gelatine.

Addition of plant extracts increased the total polyphenols and antioxidant activity. Additional of plant extracts may increase hardness and gel strength. On the other hand, addition of *Nigella sativa* decreases the hardness and cohesiveness of jelly candy, while rosemary extract did not impact physical properties of jelly candy. Plant extracts physical properties are mostly influenced by type of hydrocolloids and acidity. *Cudrania tricuspidata* appears to have lighter colour, and increase of concentration of hibiscus extract may give more intense colour. Use of different type of rosemary extract does not impact jelly candy's colour. Acceptability of jelly candy added with plant extract are rated 5 to 6 as the highest score and decreases

as plant extract concentration increases. Different from other plant extracts, acceptability of tea was not influenced by their extract concentration since the taste was perceived comparably by panellists regardless of their concentration.

### **3.2 Suggestions**

Literature review about the composition of jelly candy to obtain the best formulation in terms of sensory properties based on plant extract concentration and other ingredients concentration that influence jelly candy's sensory properties to gain the most desirable taste should be studied. Furthermore, jelly candy processing method to prevent degradation of antioxidant can be conducted.

