

## CHAPTER 6

### CONCLUSION

#### 6.1 Conclusion

After conducting the study, it is concluded that:

1. The muscle contraction of semimembranosus muscle have some differences by some factors. As The result of this study found that the contraction of semimembranosus muscle has difference between male and female with average RMS value are 0,57 mV and 0,17 mV respectively in on-machine condition and 0,1 mV and 0,05 mV respectively in off-machine condition. Supported by statistical analysis to compare the experiments within the subject which is 0,014 and 0,000018 and comparison between gender is 0,028 and 0,000012 between male. The amplitude is higher due to the vibration transmission than no-vibration. It will increase since the vibration during real driving is dynamic of the machine operation. The male respondent would likely have higher muscle contraction than female contraction as there are different skeletal muscles between male and female. But, both of them has increasing amplitude which lead to muscle fatigue.
2. The position of astride sitting made hung legs that weighted to the edge of the motorcycle seat which made high possibility to be pressed over the blood flow. there are decreasing between both female and male respondent in both condition. The blood pressure value of systolic and diastolic have average value of 88,33/65 mmHg before experiment, 76,67/63,33 mmHg after experiment for male and 95/73,33 mmHg before the experiment, 78,33/66,67mmHg after the experiment for female. The decreasing signs the occlusion of blood flow lead to the

accumulation of the lactic acid increasing and block oxygen supplies that lead multifunctional muscle pain that causes insufficient blood supply that makes transient paresthesia.

## **6.2 Recommendation**

The future research needs to be conducted in analyzing muscle contraction in another muscle involved during astride sitting. Another research expansion could involve the aspect of environment factors such as temperature, noise and windblast which give effects to the passenger physic. Designing the adjustable pedal as a support of children's leg to help them for a comfortable sitting in motorcycle trip, especially for children.