

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusions

Based on the finding of this study, there were no significant differences between study groups on participants' knowledge, each categories of beliefs and practices at baseline (P value > 0.05). The teachers' knowledge, beliefs, and practices at one month after intervention were significantly higher rather than at baseline, both in group 1 which was given electronic module and group 2 which was given printed module ($P < 0.001$). The same condition was found at six month after intervention. Teachers' knowledge, practices and the all of beliefs categories at six month after intervention were significantly higher than at baseline ($P < 0.001$), both in group 1 and group 2.

Educational intervention using printed module was more effective in improving teachers' knowledge rather than electronic module. The between group analysis using repeated measures ANOVA showed that there were no significant difference in the score of knowledge between study groups at one month after intervention ($P=0.269$) and at six months after intervention ($P=0.086$). Within group comparison in the electronic module group showed that there was significant increased in mean of knowledge scores from baseline to one month, but significantly decreased from one month to six months. In the printed module group, the continuous increased over time was significant for mean scores of knowledge.

Educational intervention using electronic module was more effective in improving teachers' beliefs rather than printed module. The between group analysis using repeated measures ANOVA showed that there was significant difference in beliefs scores between study groups at one month ($P=0.001$), beliefs scores of electronic module group (88.09 ± 6.98) was significantly higher than printed module group (85.49 ± 5.64). The same condition was at six month, there was significant difference between study groups in beliefs score ($P<0.001$), electronic module group (90.34 ± 5.85) was significantly higher than printed module group (85.28 ± 3.29). Within group comparison in the electronic module group showed that mean scores of beliefs was continuously increased from baseline to one month, and from one month to six month. The different condition for the printed module group, there was significant increased of beliefs score from baseline to one month, but there were no significant changes from one month to six months.

Educational intervention using electronic and printed module have the same positive effect on teachers' practices in drug abuse prevention. The between group analysis using repeated measures ANOVA showed that teachers' practices in drug abuse prevention at one month after intervention was significantly higher in printed module

group (10.57 ± 1.08) compared with electronic module group (9.84 ± 1.44), P value < 0.001. The different condition was at six months after intervention, there were no significant difference in teachers' practices between study groups ($P=0.056$). Within group analysis described that both of electronic and printed module consistently increased participants' practice scores in drug abuse prevention at every period of measurement.

Overall, the educational intervention using electronic module in the group 1 and printed module in the group 2 were significantly increased teachers' knowledge, beliefs, and practices in drug abuse prevention among students. However, when viewed from the consistency of changes in the mean scores of knowledge and beliefs, there was a difference between the effect of electronic and printed module. In the electronic module group, there was a continuous significant improvement in teachers' beliefs but not in teachers' knowledge. On the other hand, in the printed module group, there was a continuous significant improvement in teachers' knowledge but not in teachers' beliefs. So that, printed module was better than electronic module in improving teachers' knowledge, whereas electronic module was better than printed module in improving teachers' beliefs. In the aspect of teachers' practices, both of electronic and printed module have the almost equal positive effect. In both of study groups, there was a continuous significant improvement in teachers' practices in drug abuse prevention.

Both forms of delivery method of learning materials can be used as the alternative methods for teacher empowerment efforts in the prevention of drug abuse. Usual printed module still effective and relevant to be used as learning media in drug abuse prevention, while electronic module was a smart alternative to be used with some advantages, easy to carry everywhere, cheaper in production costs, durable, and environmentally friendly.

So far as best as researcher knowledge, there are not many studies have evaluated the effectiveness of the module in the prevention of drug abuse especially on the target of teachers. The findings obtained from this study encourage researchers to giving some recommendations for further research.

6.2. Recommendations

Methodologically, this study gave an overview of the development of drug abuse prevention module for teachers and then evaluated their effects on teachers' knowledge, beliefs and practices in the prevention of drug abuse. Teachers are believed to be a person who can develop and facilitate a drug prevention projects and programs for school by emphasizing schools environment as a protective factor (Moreira et al., 2015).

Researcher recommend to further researchers to be able to develop the more interactive electronic or online module so that more interesting and more powerful effect to the subjects. It is also very important to develop research that methodologically can be better in controlling the bias, especially for the bias interaction between research subjects. In addition, it is also necessary to develop research with a wider scope in multiethnic and multicultural settings because the problem of drug abuse has become the problem of all nations in the world. The further study with the relevant topic such as cost effectiveness analysis of printed and electronic module in drug abuse prevention was also needed.

Practically, the results of this study have provided an overview of the empirical condition of teacher behavior in preventing drug abuse in the school setting as well as providing interventions to improve it. Drug abuse prevention programs need to imparting training of teachers on good practices, such as how to rewarding appropriate student behavior with techniques fostering students' positive behavior, achievement, academic motivation, and school bonding (Sznitman et al., 2008). Researcher provide recommendations for further researchers to develop research by viewing and enhancing the involvement of other components in the prevention of drug abuse, in the school, home and community settings. The prevention of drug abuse must be done comprehensively by the community as well as the groups and all the existing order in the community.

6.3 Strength of the study

The main strength of this study was a randomized interventional study and as far as researcher's knowledge this was the first time being done in Indonesia. The teachers in public junior high schools in Balikpapan were involved in the effort of improving teachers' practices in drug abuse prevention.

With regard of increasing trend of use of electronic route for sharing information as well as in Indonesia, the electronic form of drug abuse prevention module will be an alternative for cheaper media dissemination throughout the Indonesian homeland, which is geographically a vast archipelago.

6.4 Study Limitations

Some of limitations and possible weaknesses identified in this study including:

6.4.1 There is a possibility of subjects in the group 2 receiving the intervention material given to the group 1, and vice versa. This can happen and is difficult to be controlled considering the subject is in the community order, as well as the research period lasts long enough. The spread of intervention material is also very possible because of its convenience factor to be disseminated because of its electronic file form.

6.4.2 The allocation of subjects with the school-based cluster random allocation, allowing for systematic differences between clusters related to organizational culture or internal regulations of each cluster. This difference may have influences on the effect of study intervention.

6.4.3 In the general linear test of the repeated measures two-way mixed model used in the analysis of the results of this study, some variables did not fully satisfy the assumptions of the test. After some procedures have been done and since there is no non-parametric options of the test and some references allow to continue the test, those variables were kept in the test.