The Effect of Endurance and Strength Physical Activity Program and Nutrition Education to Obesity Children Life Satisfaction

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Abstract. Obesity is a massive problem to face now, and it have been the most effect to children. Obesity had a big effect to children physiological and psychological. There are a big problem to quality of life children, exactly on life satisfaction. The goal of this study was to determine the effect of endurance and strength physical activity program and nutrition education on the improvement of life satisfaction in obesity children. The sample group consisted of 28 obesity children ad SD Al-Muttaqin Tasikmalaya divide to four groups, three intervention group (IG) and control group (CG). The intervention consisted of 12 sessions of physical activity with games and 4 session for nutrition education. The session are three times a week and 60 minutes per session. The result of this study provide that endurance and strength physical activity program can improve obesity children life satisfaction, actually increase in satisfaction to school aspect

1. Introduction
obesity to be the centre of attention with massive negative effects, there are very bad for the development. In Indonesia, obesity be a big problem with 18.8% obesity and overweight child [1]. Child with obesity has unusual psychology condition. they have a bad problem with self-esteem, self-image, and self-concept, and correlation with depression [2][3]. It shows that child with obesity have a bad life satisfaction.

Life satisfaction is the way to assess their whole life. General life satisfaction has been defined as an overall cognitive evaluation by a person of his or her life [4]. Conative assessment for self, family, peer, environment, and school. Subjective measures, on the other hand, refer to individuals’ internal judgments of the quality of their overall lives and/or specific life domains (e.g., satisfaction with friends, family, living environment, etc. [5]. Perceived feedback from parents, peers, and teachers influences the life satisfaction of adolescents through self-evaluation [6].

Physical activity has a huge benefit for life, it calls wonder drug or medical cure. Physical activity can be solving for obesity problem. Moderate or vigorous physical activity is recommended for healthy [7]. Child with obesity should do moderate or vigorous physical activity. Children commonly increase muscle strength through unstructured activities that involve lifting or moving their body weight or working against resistance. Children don’t usually do or need formal muscle-strengthening
programs, such as lifting weights [8]. Children need other ways to train, to move. Their need games to move their body and do the exercise.

One probable cause of childhood overweight and obesity is decreased daily energy expenditure [2] and uncontrolled increase food intake. There must be control and educated. Young family members may then depend on parental education about diet and its impact on health and development. Since attitudes towards eating properly are embedded in childhood, educating youngsters about eating well can instill good eating habits which will benefit them later in their adult life [9]. Education can be held in school formal or non-formal activity.

Less study talk about nutrition education for obesity child, and effect physical activity combined with nutrition education to obesity child especially life satisfaction. The purpose of this article is to examine effect of physical activity and nutrition education to life satisfaction child obesity.

2. Method

2.1. Design
This study using experiment method with the randomized pretest-posttest control group design using matched object, three treatment groups and one control group. Treatment groups consists of physical activity group, nutrition education group, and combine program group.

2.2. Participants
Participation for this study is children with obesity and overweight (n=28) in SD Al-Muttaqin Tasikmalaya ages over 10. Participants devide by IMT to four group with matching and give random assignment for each group.

2.3. Treatment
For physical activity, they give strength and endurance program, it develop from tan, yang, and wang program from their study. It conduct with running, jumping, crawling, squating, and aerobic dance for 60 minutes [10]. Physical activity give three time a week for 12 session. Other group take nutrition education, once a week for four weeks. And combine program for combine group. For control group, they is not give any treatment.

2.4. Life Satisfaction assessment
Life satisfaction measure with Manual for the Multidimensional Students’ Life Satisfaction Scale by Huebner. It build for children and able to give to children in 10 ages. This assessment include children view to their family, peer, school, environment, and them self [11].

3. Result and Discussion
Intrinsic motivation appear when children take a time in outside of classroom. Students were positively engaged and exhibited high intrinsic interest and concentrated effort particularly in sports and arts enrichment activities. Both activities elicited the rare combination of high intrinsic motivation and concentration critical for positive youth development [12]. These can see when participants follow all activity.

All group have increase life satisfaction obesity children, except a control group. Life satisfaction enhancement at school aspect. Physical activity and combine group have a positive effect for obesity children than nutrition education group. It can be seen in table 1.
From table 1, it can be explaining that combine group have a better enhancement than all group. Participation in this group look so interest with the program. The same thing can see in comparison physical activity group, nutrition education group, and control group. Physical activity better than two group others. Not at all in comparison between nutrition education and control group. No different in both group to increase life satisfaction. The assumption is children more interesting with activity in outside class. Children were positively engaged and exhibited high intrinsic interest and concentrated effort particularly in sports and arts enrichment activities [12].

Many factor have influence life satisfaction. parenting style, peer, attachment, and relationship with teacher had it [3]. Peer attachment and relationship with teacher is a focus for this treatment process. Games on this activity growth social skill with peer and teacher. It also growth self-confidence, self-image, self-concept, and self-esteem children with obesity. When the activity has less effect to increase child life satisfaction, it could be evaluation by method, approach method, or knowing the situation.

Limitation of this study is nutrition education with less session come not effect for shield with obesity. Nutrition education must be held in long time, interesting media, and parent’s session. Other aspect of quality of life can be examine with these activities. And we can divide gender for participants.

4. Conclusion
Conclusion on this study is physical activity and nutrition education, combine group have a positive effect for life satisfaction child obesity, so do with just physical activity group. Different with nutrition education group, there is not different life satisfaction.

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