An analysis of an obesity intervention program research papers example

Health & Medicine, Obesity

\n[toc title="Table of Contents"]\n

\n \t

1. Methodology \n \t
2. Treatment of the control group \n \t
3. Comparison variables \n \t
4. Evaluation of the proposed intervention \n \t
5. Ethical considerations \n \t
6. References \n

\n[/toc]\n \n

Methodology

Research design

The schools that will be participating in the study will be randomly assigned either of these statuses: control or intervention which will be marked by a code. Factors such as the availability of physical fitness programs and school diet will be taken into account. Prior to the commencement of the analysis, a consultative meeting will be held. It will bring together parents, teachers and myself as the researcher. A community centered approach known as Stay and Play initiative will be developed in partnership with parents and teachers. The initiative entails engaging the students in physical activity after school in a bid to combat obesity. Studies have shown that physical inactivity is associated with obesity related complications such as atherosclerosis and cardiac arrests. Impaired flow mediated vasodilation and carotid intima media thickness have been known to drastically reduce among young obese individuals after a six month physical fitness program.

Anthropometric data will be collected at the beginning of the study. Clinical tests will be carried out in accordance with standard operating procedures. This is because weight is subject to change with time hence the need to obtain a baseline. Weight will be measured using a calibrated balance scale to the nearest 0. 1 kg. Height will be measured to the nearest 0. 1m using a stadiometer.

The heights of the participants and compute their BMI’s. Children with BMIs will be lower than the 10th percentile are underweight. Children with BMIs between the 10th and 90th percentiles are considered normal while the ones with BMIs above the 90th percentiles are considered obese. Socioeconomic status, ethnic group and the age of the students at the time of the commencement of the study will also be recorded. A comparison shall be done between the baseline and follow up measures.

3. 1 Recruitment of participants

Schools in Buffalo city will be asked to participate in the study through written invitations that will be mailed to the respective heads of the schools. The schools will be asked to participate in a yearlong evaluation of an intervention study. They will be randomly assigned the status of a control or an intervention school. Six of the schools will be in the intervention group while the remaining six will be in the control group. They will be expected to give written consent to be a part of the study. Given that the participants are below the age of 18 years, written consent will have to be obtained from their parents. The approval of the ethics committee will be sought prior to the commencement of the study.

There will be a total of 400 participants in the study. The participants will be

aged between 12 and 15 years. The study population will be made up of: 38% Hispanics, 29% African Americans, 15% Caucasians, 14% biracial children and 4% multiracial children. All children within the ages of 12 and 15 in the participating schools were eligible for participation. The selection of the participants is based on research that indicates that Hispanics and African American children are more likely to be obese as compared to children drawn from other racial populations. The initiative will be pilot tested for a period of a year among a select group of students drawn from 12 schools in Buffalo city.

3. 2 Treatment of participants

The participants will have their weight and height measurements taken prior to the commencement of the study. They will then undergo a rigorous training in order to acquaint them with the details of the program. The participants will remain in school every day for two hours and play. The Youth Activity questionnaire which estimates the hours spent in moderate or vigorous physical activity using 16 parameters will be used during this study. Walking will not be considered as a part of physical activity due to the lack of research to validate its efficacy. The Youth Activity questionnaire that will be used during the study will be an adaptation from questionnaires that have been used in studies involving adults whom were found to be easy to validate and reproduce. The duration, frequency and intensity of the physical training that the students engaged as part of the Stay and Play initiative are key components of the questionnaires. The participants were also expected to keep records of their diet throughout the period of the study. They

Treatment of the control group

The control group will go home after school. They will be required to keep a record of the activities they engage in after school. The Youth Activity Questionnaire will be used to obtain information on the type of physical activity they engage in, the intensity, frequency and duration.

3. 3 Data collection

Demographic data such as socioeconomic status, nationality, number of children in the family, occurrence of obesity in the family will be obtained using standardized questionnaires. The study focuses on the impact of physical activity which requires a validated method of measures. The Youth Activity questionnaire which contains 16 items will enable me to determine the frequency, duration, intensity and type of physical activity that the participants engage in. measurement of physical activity only takes moderate and vigorous activity into account. The students in the intervention and the control group will keep a diary of their food intake on daily basis which shall be analyzed on a weekly basis by the researcher. The teachers will give a record of the participants who attend physical training sessions which are part of the Stay and Play Initiative.

3. 4 Data analysis

The research study will involve 400 participants drawn from 12 schools in Buffalo city. Six of the schools are in the intervention group while the remaining six are in the control group. The analysis of the data will be carried out using SPSS version 13. 0. Paired t-tests shall be used in comparing the pre and post intervention differences. T-tests are known to give valid results in such instances even when assumptions such equality of

variances and normality have been violated. The following measures will be considered: the child BMI, physical activity and attitudes. A complete case analysis will be conducted. Missing values in the course of the year will be addressed by obtaining a mean of the values that will have been obtained at the end of the study. Given that there will be random drop outs in the course of the study, imputation methods will be used. 95% confidence levels

Mc Nemar's test will be used in the comparison of differences in the participants who are obese while they were on other intervention programs and while they were participating in the Stay and Play program.

Comparison variables

BMI will one of the primary end points in the study. Other variables will include socio demographic aspects such as ethnicity and socioeconomic status. Obesity is defined as having a BMI that falls beyond the 90th percentile which is characterized by excess weight. It has been found BMI among children and adolescents correlates well with total body fat. It is therefore a highly effective determinant of body weight.

Physical activity will also be used as a variable in this study. One of the main causes of rising incidences of obesity among children is physical inactivity. A sedentary lifestyle characterized by excessive use of technological devices, watching television and consumption of highly calorific foods is responsible for the rising numbers of obese children. Schools can play a pivotal role in arresting the situation through the implementation of physical fitness programs. Involving parents in the development and implementation of these programs will enable the community to contribute towards solving the

problem.

3. 5 Control of confounding factors

In order to control confounding variables such as the games that the participants engage in and the level of participation, the researcher will ensure that all the participants play the same set of games throughout the period of the study. The duration of play will also be controlled. The participants will strictly stay and play within the confines of the school for two hours. The participants in the control group will also be expected to provide the nature of the physical activity that they engage in during the two hours their counterparts engage in physical exercise. Parents will be asked to corroborate the information that is provided by the students.

Evaluation of the proposed intervention

The evaluation of the proposed intervention strategy will be done using the baseline and follow up measures. The baseline measures obtained at the beginning of the study will be compared with the follow up measures obtained at the end of the study. The researcher will seek to determine the number of participants whose BMI will have reduced as a result of the program. The changes in the BMI of the participants in both the control and intervention groups will be determined. Regression analysis will be used for comparison purposes.

Ethical considerations

The participants will duly be informed of their rights prior to the commencement of the study. Written consent from the parents will be obtained from the student. The researcher will also inform the participants of

their right to withdraw from the study. Confidentiality will be observed. Personal identifiers such as names and home addresses will not be indicated on the questionnaires. Instead, the researcher will use codes to identify the participants.

References

Brambilla, P., Pozzobon, G., & Pietrobelli, A. (2010). Physical activity as the main therapeutic tool for metabolic syndrome in childhood. International Journal of Obesity , np .

Cecchini, M. (2010). Tackling of unhealthy diets, physical inactivity, and obesity: health effects and cost-effectiveness. Lancet , 1775-84.

Delva, L., & O'Malley, L. J. (2007). The Epidemiology of overweight and related lifestyle behaviours: racial, ethnic and socioeconomic status differences among American Youth . American Journal of Preventive Medicine , 33.

Dietz, W. (1998). Childhood weight affects adult morbidity and mortality. . J. Nutr , 411.

Ells, L. (2005). Prevention of childhood obesity. Best Pract Res Clin Endocrinol Metab , 441-456.

Franks, P. (2010). Childhood obesity, other cardiovascular risk factors, and premature death. New England Journal of Medicine , 485-493.

Kropski, J., Keckley, P., & Jensen, G. (Obesity(Silver Spring)). School-based obesity prevention programs: an evidence-based review. . 2008 , 1009-1018.

Ludwig, D., & Gortmaker, S. (2004). Programming obesity in childhood.

Lancet , 226-227.

Ogden CL, C. M. (2010). Prevalence of high body mass index in US children and adolescents 2007-2008 . Journal of American Medicine , 242-249.

Ogden, C., Flegal, K., & Johnson, M. C. (2002). Prevalence and trends in overweight among US children and adolescents 1999-2000. Journal of American Medical Association , 1728-1732.

Prochaska, J., Sallis, J., & B. Long. (2001). A physical activity screening measure for use with adolescents in primary care. Arch Pediatr Adolesc Med , 445-59.

Siegrist, M., Hanssen, H., Lammel, C., & Halle1, B. H. (2011). A cluster randomised school-based lifestyle intervention programme for the prevention of childhood obesity and related early cardiovascular disease (JuvenTUM 3). BMC Public Health , 258.