EFFECTIVENESS OF NLEP (NURSE LED EDUCATIONAL PACKAGE) ON ATTITUDE REGARDING PREVENTION OFOBESITY AMONG ADOLESCENTS IN SELECTED SCHOOLS

Prof (Dr.) Chinna Devi

Principal cum Dean, Mata Gujri College of Nursing, Mata Gujri University, Kishanganj, Bihar, India

ABSTRACT: Many school-based interventions for obesity prevention have been proposed with positive changes in behavior. The objective was to assess the effectiveness of a NLEP on prevention obesity among adolescents. Schools were randomized to intervention and control group. Methods and materials: Quantitative research approach with true experimental research design was used to find out the knowledge on prevention of obesity among school adolescents. The study was conducted among 200 adolescents studying 8th, 9th, 10th 11th and 12th in selected senior secondary schools, Jalandhar, Punjab. Probability stratified sampling technique was used to select samples. Structured questionnaire was used to assess the attitude of adolescents regarding prevention of obesity. Major findings: The overall analysis shows that uncertain attitude was found in both experimental group 84% and control group 85% before the implementation of NLEP. In the experimental group,attitude scores had improved after the implementation of NLEP, i.e., positive attitude is 61%, uncertain attitude is 39% further, in the control group, It was observed that in post- test 81% had uncertain attitude, 9% had positive attitude. From the findings it can be interpreted that NLEP improved the level of attitude in the experimental group significantly than the control group. Conclusion: The results shown that, the nurse led educational package on prevention of obesity was improved the knowledge regarding prevention of obesity among the school adolescents.

INTRODUCTION:

Currently, the prevalence of overweight and obesity are increasing worldwide. Over 1.12 billion people worldwide are exposed to be overweight and obese up to 2030. Overweight and obesity prevalence is increasing specially in children and adolescents. Obesity ranks second after to smoking as a cause of prematuredeath and a risk factor for development of cardiovascular diseases and metabolic disorders in adult and children. Obesity is rising within the adolescent population of India.(Bhardwaj S, Misra A, Khurana L, 2012)While the trend of obesity has stabilized in western developed nations,(Ogden CL, Carroll MD, Curtin LR,2010) it continues to rise in developing countries like India who are in final stages of nutritional stabilization. With a large part of adolescents in India, obesity with its health risks, poses a big threat to the future health of the Indian society. The third National Family Health Survey (NFHS-3, 2014) of India mentioned that, obesity increasing in north India. Obesity is the main determinant of preventable diseases. It happens from excess consumption of calories/energy compared to expenditure thus affecting health. Globally, children in particular are gaining weight, which tracks into adulthood thus increasing the danger of diseases.

NEED AND SIGNIFICANCE OF THE STUDY:

Obesity may be a chronic disease which has spread all over the world and threatens health of public globally. Its commonest cause of unhealthy diet often combined with lack of physical activity and is characterized by an excess of body fat or adiposity. It's most often defined by the body mass index (BMI) and therefore the use of body mass index for the age to define being overweight and obese in children and adolescents are well established for both clinical and public health applications. (Vaijayanthimala, M., & Jaikumar, M. 2019) Overweight and obesity conditions are referred to as the most common eating disorders among children andadolescents within the USA. (Mazloomy-Mahmoodabad, S. S., Navabi, Z. S., Ahmadi, A., & Askarishahi, M.2017). Overweight and obesity are a number of the foremost alarming challenges that humanity faces today. (Dang, D., & Dearholt, S. L. 2017). Globally, children in particular

are gaining weight, which tracks intoadulthood thus increasing the danger of diseases. (Ranjani, H., Pradeepa, R., Mehreen, T. S., Anjana, R. M., Anand, K., Garg, R., & Mohan, V. 2014). The present century had noticed that undernourished and malnourished to overweight and obesity. This transition was initially reported in developed countries but now this phenomenon has been noticed in developing countries like India, Brazil, China etc. (Popkin BM, Adair LS,Ng SW). In India, childhood obesity is an increasing public health problem, especially among the uppersocioeconomic groups. In India, prevalence of childhood obesity and overweight within the age group of 9-15years ranging from 9.9% to 18.5%. (Srivastava, D. K., Jain, P. K., Srivastav, M., Gour, N., Choubey, B., & Kumar, S.2015). Overweight and obesity could also be a worldwide epidemic among children of all ages. According to the World Health organization (WHO), the prevalence of overweight and obesity in children rose by 47.1% between 1980 and 2013. In 2014, Childhood obesity within the United States is a significant issue. In a nationally representative study of US children and adolescents aged 2-19 years, the prevalence of obesity wasestimated at 17% in 2011-2014; extreme obesity was 5.8% consistent with the foremost recent national Centerfor Health and statistics (NCHS) data (Williams, S. E., & Greene, J. L. 2018).

Mosleh, A., Ismail, M., Mohammed, H., Kamel, & Dalia, M.(2011) A study was conducted on assessment of knowledge, attitude and practice of adolescents towards obesity in the schools in Ismailia city – Egypt. Among 608 participants of whom 53.9% were females and 50% were in the age group of 14-15 years. The result showed that more than half (53.5%) of the studied participants have fair level of knowledge regarding healthy life style (diet/exercise) and causes and complications of obesity. Good level of knowledge was seen among 12.3% of the studied participants. While more than one third of them have poor knowledge (34.2%) having a particular level of knowledge regarding healthy life style and causes and complications of obesity.

Al-Qahtani, A. M., & Sundogji, H. (2016) A study was conducted on Attitudes and knowledge of obesity risks among Male high school students in Al-Madinah, Saudi Arabia. Students selected for the study were ranged between 16 and 19 years with a mean of 17.08 years. 314 male students enrolled in the secondary schools in Al-Madinah. The prevalence of overweight and obesity were 11.8% and 16.2% respectively. Students with positive attitude towards obese person were 53.2% whereas 46.8% had negative attitude

Mangalathil, T. X., Kumar, P., & Choudhary, V. (2014). A study was conducted on "Knowledge and attitude regarding obesity among adolescent students of Sikar, Rajasthan" with a sample size of 100 adolescent students between the age group of 17-18 years. Knowledge of the adolescent students ranged between 1- 14 and mean knowledge score of adolescent students were found to be 5.65 ± 2.907. Majority 93% of the adolescents had below average knowledge regarding obesity followed by 6% of the adolescents had average knowledge and only 1% had good knowledge about obesity**.**

Shaji, G., Navya, C., Joseph, Aswathy, M. , & Vidhu, J.(2018) A descriptive cross sectional study was conducted to assess the knowledge and attitude of adolescents towards obesity in a private school in Thrissur district Kerala, India, among students of classes 9, 10, 11 and 12 in Devamatha public school, Thrissur in 2018. The result showed that among 179 participants 46.4% of adolescents had low knowledge on obesity, 46.9 had moderate knowledge, and only 6.7% of them had adequate knowledge on obesity and 24.6% of adolescents have negative attitude towards obese individuals, 68.2% had neutral attitude and only 7.3% had positive attitude towards obesity.

OBJECTIVES
- To evaluate the effectiveness of Nurse-Led Educational Package on prevention of obesity among adolescentsin terms of gain in level of attitude score.

- Find the association between demographic variables and pre-test level of attitude of adolescents onprevention of obesity among adolescents in selected schools.

- Find the relationship between attitude of pre and post test scores of adolescents on prevention of obesityamong adolescents in selected schools.

HYPOTHESES

- ❖ H1- There will be a significant association between pre-test level of attitude of adolescents on their age, gender, class, type of family, educational status of father and mother, occupation of father and mother, family income, source of knowledge, any previous Knowledge.
- ❖ H2- There will be a significant relationship between knowledge and attitude scores of pre and posttest regarding prevention of obesity

RESEARCH METHODOLOGY:
Quantitative approach and true experimental research

design of pre and post test control group was selected to carry out the present study. The sample consists of 200 school adolescents who met the inclusion criteria were selected through stratified sampling technique. After an administrative permission from selected schools two schools were randomly selected. The sampling frame was done with help of school teacher. Elements were listed and randomly assigned as experimental (100) and control group (100). Nurse led educational package (NLEP) was developed and structured closed ended knowledge questionnaire on prevention of obesity was used for the data collection. Reliability of the instrument was calculated by using karl Pearson correlation coefficient formula and significance of correlation was tested using Spearman Brown Prophesy formula. The r' value was 0.82 and the tool was found reliable. Pilot study was conducted and was found feasible and practicable. The main study was conducted in two selected schools, Jalandhar. Data was collected from 29.7.19 - 28.1.20. Pretest was conducted using closed ended questionnaire to assess the level ofattitude. The investigator personally explained the need and importance of study to the students before data collection. Soon after pre test the NLEP was implemented. Evaluation of post test was conducted after 15 days of the pre test using the same questionnaire and by the same method as pre test.

Ethical Clearance:

The ethical clearance was obtained by the Himalayan University, Itanagar, Arunachal Pradesh after proposal submission. The written administrative permission was obtained from the school principals, Jalandhar. Consent and willingness were established from all the subjects who met inclusion criteria.

RESULTS:

The highest percentage of the adolescents were in the age group of 15 and 17 years (24%) and in control group26 year (26%),gender 52% male 48% female adolescents in experimental group, 53% male and 47% females in control group, class from 8th standard to 12th standard from each class 20 adolescents from 13 to 17 and above age were selected, nuclear family(83%) in experimental group 81% nuclear family, and Sikhs 55% respectively in experimental group. where as in control group majority 56% Sikhs, in experimental group 32% had monthly income of ,Rs 10,000, in control group 36% had monthly income of ,Rs 10,000, respectively. In experimental group 85% had no previous knowledge , in control group 83% had no previous knowledge, source of no information was 85% in experimental and 83% in control group had no health information respectively.

Level of Attitude scores before and after implementation of NLEP.

Table 1: Frequency and Percentage of Experimental and Control Group Level of attitude on Prevention of Obesity.

n= (100 + 100) =200

Level of attitude	Experimental group				Control group			
	Pre test		Post Test		Pre test		Post test	
	f	%	f	%	f	%	f	%
Negative	11	11	0	0	7	7	10	10
Uncertain	84	84	39	39	85	85	81	81
Positive	5	5	61	61	8	8	9	9

Table 1 show that negative attitude was found in both experimental group 11% and control group 7% before the implementation of NLEP. In the experimental group, attitude scores had improved after the implementation of NLEP, i.e., positive attitude is 61%, uncertain attitude is 39%.

Further, in the control group It was observed that in post-test 81% had uncertain attitude, 10% had negative attitude. Only 9% had positive attitude.
From the findings it can be interpreted that NLEP improved level of attitude in the experimental group significantly than the control group.

Table2: Paired't' test to compare Pre and Post-test Attitude scores of Adolescents on Prevention of Obesity in Experimental group.

n = (100+100) =200

Observation	Experimental group		Control group		t-test	p-value
	Mean	SD	Mean	SD		
Pre-test	46.25	9.75	48.20	8.64	1.4982	.13726
Post-test	56.11	7.12	48.96	8.67	-5.4574	.00001
t-Test	8.70		0.87			
p-value	.00001		.38893			

*** Very high significant at p-0.00001

At pre-test statistically no significant difference was found in the level of attitude between experimental and control group.

Chi square test was used to calculate the association. In experimental and control group the pre and post-test attitude scores are independent of all variables that are age, gender class, type of family, religion, monthly income of family, previous knowledge and source of knowledge were non-significant (P>0.01). Hence null hypotheses with regard to pre and post-test knowledge scores and demographic variables are rejected

IMPLICATIONS:

The findings of the study have implication for nursing practice, nursing education and research.

NURSING PRACTICE

Nurse is the core member in preventive action and significant personnel in educating adolescents. The findings of the present study showed that NLEP was effective in improving the attitude. The content of the NLEP will help the Nursing personnel in all areas like hospital, schools as well as community area and clinics for teaching the adolescents on prevention of obesity. The nurse educators in the schools can use the NLEP may be implemented to teach the adolescents and can motivate them to reduce weight and to live healthy life. It provides a frame work that it helps adolescents to understand about illness, develop positive attitude towards obese adolescents and increases knowledge in taking care of self and others too. Thus, the NLEP should be practiced as a routine care.

NURSING EDUCATION

Considering the met and unmet needs of the adolescents in the schools, as an educator the nurse has to be encouraged in the preparation of interventional module for the adolescents and their family members. This NLEP can guide the educators to prepare modules based on their objectives. Continuing education programs for nurses can improve their competence and awareness about the importance of adherence in health care.

NURSING RESEARCH

- A longitudinal study is needed to measure the effect of NLEP overtime.
- A study can be conducted by using different instructional media for adolescents and young childrenwho are at risk.
- The tools developed by the researcher for this study can be used with or without modifications indifferent settings.
- Needs of the adolescents who are at risk of obesity can be assessed and the particular aspects onnutrition and physical activity can be focused more and unhealthy foods can be retested.

LIMITATIONS

- Informal teaching by the health care professionals could not be controlled.
- No control over the diet and physical activity.

RECOMMENDATIONS

- The study could replicate on a larger sample.
- Longer follow up period may be used in order to understand the long-term effects of NLEP.
- Need based study to be designed and different innovative methods can be developed for theadolescents who are unable to read and write.
- A similar study with more sessions can be conducted.
- Stigma of the Indian culture to be studied. Myths and facts, misconception to be pointed out as aseparate NLEP and effectiveness of that particular aspect to be considered.
- Routine therapeutic measures to be developed for the adolescents as NLEP, as motivationaltherapeutic intervention of adolescents.

DISCUSSION:

In the experimental group the mean attitude score of post-test was 56.11±7.12 significantly higher than the pre-test 46.25±9.75. whereas, in control group, mean attitude score of post-tests was 48.96±8.67 more or less similar in pre-test 48.20±8.64. The computed experimental group paired t test value (t=8.70, p< 0.001) found highly significant compared to control group (t= 0.87, p<0.38). The findings of the present study indicate significant improvement in attitude among the experimental group than the control group. Hence H01 is rejected and H1 is accepted. Hence it can be concluded that NELP is effective in terms of gain in attitude level'

Findings of **Al-Qahtani, A. A & Sundogji. H. (2016)** were contradictory to the present study which showed that of the 314 respondents, 167 (53.2%) had positive attitude and 147 (46.87%) had negative attitude on obesity.

CONCLUSION:

From the findings it is clear that there was improvement in attitude through NLEP in experimental group than control group. Therefore it is concluded that NELP helps in increasing attitude of adolescents on prevention of obesity. Based on the study findings, it is concluded that all subjects have poor attitude. Hence, those health personnel in contact with school adolescents should screen for health effects of obesity and motivate them to include good & nutritious food in their diet and to practice physical activity every day forone hour.

REFERENCES:

[1]. Goyal, R. K., Shah, V. N., Saboo, B. D., Phatak, S. R., Shah, N. N., Gohel, M. C., ... & Patel, S. S. (2010). Prevalence of overweight and obesity in Indian adolescent school going children: its relationship with socioeconomic status and associated lifestyle factors. *The Journal of the Association of Physicians of India*, *58*, 151-158.

[2]. Hopkins, K. F., DeCristofaro, C., & Elliott, L. (2011). How can primary care providers manage pediatric obesity in the real world?. *Journal of the American Academy of Nurse Practitioners*, *23*(6), 278-288.

[3]. Wang, Y., & Lim, H. (2012). The global childhood obesity epidemic and the association between socio-economic status and childhood obesity. *International review of psychiatry*, *24*(3), 176-188.

[4]. In-Iw, S., Saetae, T., & Manaboriboon, B. (2012). The effectiveness of school-based nutritional education program among obese adolescents: a randomized controlled study. *International journal of pediatrics*, *2012*.

[5]. Ercan, S., Dallar, Y. B., Önen, S., & Engiz, Ö. (2012). Prevalence of obesity and associated risk factors among adolescents in Ankara, Turkey. *Journal of clinical research in pediatric endocrinology*, *4*(4), 204.

[6]. Prasanna Kamath, B. T., Bengalorkar, G. M., Deepthi, R., Muninarayan, C., & Ravishankar, S. (2012). Prevalence of overweight and obesity among adolescent school going children (12-15 years) in Urban Area, South India. *Int J Cur Res Rev*, *4*(20), 99-105.

[7]. Siddiqui, N. I., & Bose, S. (2012). Prevalence and trends of obesity in Indian school children of different socioeconomic class. *Indian J Basic Appl Med Res*, *5*, 393-8.

[8]. Musaiger, A. O., Al-Mannai, M., Tayyem, R., Al-Lalla, O., Ali, E. Y., Kalam, F., ... & Chirane, M. (2012). Prevalence of overweight and obesity among adolescents in seven Arab countries: a cross-cultural study. *Journal of obesity*, *2012*.

[9]. Jain, G., Bharadwaj, S. K., & Joglekar, A. R. (2012). To study the prevalence of overweight

and obesity among school children (13-17yrs) in relation to their socioeconomic status and Eating habits. *Int J Sci Res Publ*, *2*(6), 2-3.

[10]. Gedam, D. S. (2013). Childhood obesity—challenges in the Indian scenario. *Int. J. Med. Res. Rev*, *1*(1), 1-4.

[11]. Teshome, T., Singh, P., & Moges, D. (2013). Prevalence and associated factors of overweight and obesity among high school adolescents in urban communities of Hawassa, Southern Ethiopia. *Current Research in Nutrition and Food Science Journal*, *1*(1), 23-36.

[12]. Al Junaibi, A., Abdulle, A., Sabri, S., Hag-Ali, M., & Nagelkerke, N. (2013). The prevalence and potential determinants of obesity among school children and adolescents in Abu Dhabi, United Arab Emirates. *International journal of obesity*, *37*(1), 68-74.

[13]. Cunha, D. B., Souza, B. D. S. D., Pereira, R. A., & Sichieri, R. (2013). Effectiveness of a randomized school-based intervention involving families and teachers to prevent excessive weight gain among adolescents in Brazil. *PLoS One*, *8*(2), e57498.

[14]. Jagadesan, S., Harish, R., Miranda, P., Unnikrishnan, R., Anjana, R. M., & Mohan, V. (2014). Prevalence of overweight and obesity among school children and adolescents in Chennai. *Indian pediatrics*, *51*(7), 544-549.

[15]. Ranjani, H., Pradeepa, R., Mehreen, T. S., Anjana, R. M., Anand, K., Garg, R., & Mohan, V. (2014). Determinants, consequences and prevention of childhood overweight and obesity: An Indian context. *Indian journal of endocrinology and metabolism*, *18*(Suppl 1), S17.

[16]. Gonzaga, N. C., Araújo, T. L. D., Cavalcante, T. F., Lima, F. E. T., & Galvão, M. T. G. (2014). Nursing: promoting the health of overweight children and adolescents in the school context. *Revista da Escola de Enfermagem da USP*, *48*, 153-161.

[17]. Mangalathil, T. X., Kumar, P., & Choudhary, V. (2014). Knowledge and attitude regarding obesity among adolescent students of Sikar, Rajasthan. *IOSR-JNHS*, *3*(2), 44-48.

[18]. Patil, S., Shivanand, B., Kavitha, M., Shrikanth, S. W., Patil, A., & Patil, V. (2014). A study of Prevalence of Overweight and Obesity among High School Students in a Private School in Gulbarga. *Pharmacol Toxicol Res*, *1*(1), 1-12.

[19]. Sun, H., Ma, Y., Han, D., Pan, C. W., & Xu, Y. (2014). Prevalence and trends in obesity among China's children and adolescents, 1985–2010. *PloS one*, *9*(8), e105469.

[20]. Alemu, E., Atnafu, A., Yitayal, M., & Yimam, K. (2014). Prevalence of overweight and/or obesity and associated factors among high school adolescents in Arada Sub city, Addis Ababa, Ethiopia. *Journal of Nutrition & Food Sciences*, *4*(2), 1.

[21]. Bagudai, S., Nanda, P., & Kodidala, S. R. (2014). Prevalence of obesity and hypertension in adolescent school going children of Berhampur, Odisha, India. *Int J Physiother Res*, *2*(6), 777-780.

[22]. Chaitali, G., Mangala, S., Hemalatha, A. J., Pradeep, C., & Subrahmanyam, G. (2014). Childhood and adolescent overweight and obesity–A public health challenge in India. *INTERNATIONAL JOURNAL OF SCIENTIFIC STUDY*, *2*(4), 17-19.

[23]. Al-Hazzaa, H. M., Abahussain, N. A., Al-Sobayel, H. I., Qahwaji, D. M., Alsulaiman, N. A., & Musaiger, A. O. (2014). Prevalence of overweight, obesity, and abdominal obesity among urban Saudi adolescents: gender and regional variations. *Journal of health, population, and nutrition*, *32*(4), 634.

[24]. Mahajan, A., & Negi, P. C. (2014). Prevalence of overweight and obesity in urban school going adolescents in Shimla city. *International Journal of Nutrition, Pharmacology, Neurological Diseases*, *4*(5), 23.

[25]. Manyanga, T., El-Sayed, H., Doku, D. T., & Randall, J. R. (2014). The prevalence of underweight, overweight, obesity and associated risk factors among school-going adolescents in seven African countries. *BMC public health*, *14*(1), 1-11.

[26]. Kaur, R., Kumari, R., Samuel.(2014).A Study to Assess the Knowledge and Attitude of Adolescents on Obesity at Selected Senior Secondary Schools in Amritsar in a View to Develop and Distribute Information Booklet. International Journal of Education and applied research , 4 (1).

[27]. Mary, E. S., D'souza, A., & Roach, E. J. (2014). Effectiveness of a lifestyle management program on knowledge and lifestyle practices among adolescents. *Nitte University Journal of Health Science*, *4*(2), 125.

[28]. Fernandes, N., Khubchandani, J., Seabert, D., & Nimkar, S. (2015). Overweight status in Indian children: prevalence and psychosocial correlates. *Indian pediatrics*, *52*(2), 131-134.

[29]. Mladenova, S., & Andreenko, E. (2015). Prevalence of underweight, overweight, general and central obesity among 8-15-years old Bulgarian children and adolescents (Smolyan region, 2012-2014). *Nutrición hospitalaria*, *31*(6), 2419-2427.

[30]. Sahoo, K., Sahoo, B., Choudhury, A. K., Sofi, N. Y., Kumar, R., & Bhadoria, A. S. (2015). Childhood obesity: causes and consequences. *Journal of family medicine and primary care*, *4*(2), 187.

2/5/2022