Dean Qefalia, 2026, 14:2
ISSN (Online): 2348-4098
ISSN (Print): 2395-4752

International Journal of Science, Engineering and Technology
An Open Access Journal

The Problem of Overweight in Children Aged 8-10 Years

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Abstract- Static WPT are receiving enormous attention as a future-forward charging solution to enable contactless, automated, and less maintenance powering for EVs. However, the power delivering efficiency and charging stability of inductive coupled static WPT systems strongly deteriorate under spatial misalignment between primary and secondary coils, which is inevitable in real-world parking scenarios. This paper represents the modelling, simulation, and performance evaluation of a inductive coupled static wireless EV charging pad under multiple coil misalignment conditions. A MATLAB/Simulink based high-frequency inverter along with L-C compensation network is developed to emulate realistic EV charging behavior, and the effect of lateral displacement on magnetic coupling, power flow, and State-of-Charge (SoC) trajectory is analyzed. Misalignment scenarios of 0%, 20%, and 40% are emulated by varying the coupling coefficient (k) from unity to reduced values, and the corresponding impact on induced voltage, input/output power, and energy efficiency is investigated. Results depict progressive efficiency degradationfrom ~92% at perfect alignment to ~65% under severe displacement, and it is accompanied by remarkable reduction in charging current and dynamic voltage ripple. This study confirms the sensitivity of WPT systems to coil offset and brings into perspective the necessity for adaptive compensation, real- time control, and misalignment tolerant coil topology. The findings serve as a design benchmark and provide valuable insights for integrating intelligent tuning algorithms and optimization frameworks to ensure reliable, high-efficiency wireless charging in future EV infrastructures and smart transportation ecosystems.

Keywords: Girls, boys, fat percentage, school.

I. INTRODUCTION

Obesity should be defined as an increase in body mass. We usually use tools to measure and define BMI. This is an indicator to determine healthy body mass from the population, but it has limitations due to individual levels of people and is only a proximal measure of body mass. BMI shows changes during childhood; this is why age and gender determine specific reference standards and can be used in adolescence, in puberty and can also be assessed in pubertal age. In the equivalence of overweight in children results in accordance with the division of BMI of adults around 25.0 which reached a consensus with obesity corresponding to the equivalent of BMI around 30.0.

[1] paediatric obesity can be identified by other anthropometric measurements (eg skinfolds and waist circumference) and by cross-checking with the literature,18 but more references and population-based distribution data are needed.

[2] in early medical research on childhood obesity, personal and family history of obesity was associated with type 2 diabetes and cardiovascular disease, which may contribute to health and disease complications. Children with primary obesity are often characterized by increased weight gain and increased bone development. Children with secondary obesity usually have a short stature (less than 5%) and impaired bone growth and maturation. Secondary obesity can be caused by endocrine disorders, which can be genetic disorders such as Prader-Willi syndrome, Duchenne muscular atrophy, Down syndrome, Carpenter's syndrome, brain tumours, and drug use associated with obesity.
[3] primary obesity is a condition that is not explained by genetic and metabolic problems. However, in the future, a proposal for primary obesity may be explained by new discoveries related to the study of specific genes such as melanocortin -4-, reflex problems, ghrelin, etc.

These syndromes are very common, which makes prevention important and these syndromes are very

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common and their prevention is difficult because we do not know where they come from. Paediatric obesity leads to adult obesity. About one in five obese adolescents remain obese into adulthood.

[4] given the epidemic increase in paediatric obesity; it is important that all groups understand the coherent responsibility. There are six types of levels that can be evaluated in the prevention of obesity in children and adolescents: family (children, relatives, etc.), school, healthy living at work, state, industry, and media [5]. All six levels are in studies not combined in a common study.

II. METHOD

An investigation was conducted in two primary schools in the city of Tirana, total number of children = 160 (boys n = 75, and girls = 75). Also, the classes in each school were randomly selected, where in each school 3 classes were selected from the total number of classes. To measure the fat percentage, the 'Skinfold's measurements' test was used. To perform the data analysis, the SPSS 26.0 program was used. The data from the tests of the relevant variables were coded and placed in the program database and from there, descriptive analyses of the fat percentage for each variable for both boys and girls were used.

III. RESULTS

Table 1 presents data on participation in the tests conducted for body fat percentage, showing that all participants were present during the tests conducted for both boys and girls.

Gender		Fat Percentage	
Boys	N	VALID	169
		MISSING	0
Girls	N	VALID	156
		MISSING	0

IV. DISCUSION

Prevention of childhood obesity, which is a major problem in industrialized and developed countries [6].
Adolescents should be encouraged to take responsibility for their own health. To do this, family members and professionals should provide information on age and prevention.
The state should produce results and information on campaigns focused on preventing sugary foods, sugary drinks, etc. during adolescence and reduce the marketing of unhealthy foods, including junk food, sugary drinks, etc., for example on television [7].

In the police control of fresh juices in schools, the American Academy of Pediatres (AAP) recommends that drinks in schools should be considered strict drinking of fresh and soft drinks and in maintaining health [8].

While overweight adolescents were lower in energy gained from eating fast food, to spend that energy it takes days and they are stored. In another study the effect of fast food was measured by 187kcal per day which explains a rapid increase in preventing obesity [9]. Also, the data on television have been discussed as causing the obesity epidemic [10]. Children are at risk for obesity tubes because they spend a large part of their time watching television. Three mechanisms have been hypothesized: (not doing physical education, increasing calories while watching). Metabolic failure is likely to be a major factor.

Many different treatments for obesity have been studied, including diet, exercise, well-being, and medications. No one has been found to be able to treat the symptoms of childhood obesity. This allows us to focus on multidisciplinary and family-involved programs.

Treatment; It is very clear that treatments should be continued for as long as possible [11]. In multidisciplinary treatment, psychological factors are important and genetic longevity is studied.

The risk of obesity in adolescence is increased by 7-10 times but family therapy can be used to show support to the child from the family [12].

Treatment Based on Psychotherapeutic Techniques: Behavioural therapy has been used in obesity management since the first descriptions based on the belief that obesity is a (learned problem) that can be cured by (re)learning. Cognitive behavioural therapy is effective in the treatment of childhood obesity as is family therapy [13].

V. CONCLUSION

While in the second test in the fat percentage, girls have lower figures than boys, which initially shows that boys have a lower fat percentage than girls. A faster physical growth in length at this age, while boys reach the peak of their development at the age of 12-13 years. This theory proves that girls have a lower fat % at this age due to earlier physical development than boys.

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