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DEPLOYMENTS OF OBESE, OVERWEIGHT AND ONDERWEIGHT AMONG DAMAZIN TOWN PRIMARY SCHOOL AGE CHILDREN, BLUE NILE REGION 2025-SUDAN

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ABSTRACT

Background: primary school age obesity and overweight are increasing in developed countries like the Sudan. Primary school student's age underweight has been shown to raise a child's risk of fast weight gain and so obesity, because of life style. Studies concerning obesity among Damazin children are rare. The aim of our study was to assess body mass index of primary school age in Damazin town, Blue Nile region, Sudan. **Method:** A cross sectional study was conducted in Damazin town in 2025. A total of 140 primary school age students (100 (50 male & 50 female) case and 40 (20male & 20 female) control). Any questionnaire was filled out by the leader of the student family. Anthropometric indexes were measured and categorized according to the Center for Disease Control and prevention (CDC) – Sudan. Findings: Our findings indicate the distributions of underweight, overweight and obesity among the infants were approximately 32%, 12%, 6% respectively. **Conclusion:** The last findings of our study show the increase in the deployments of underweight compared to overweight and obesity among Damazin primary school age students.

KEYWORDS: Primary school age students, Obesity, Overweight, underweight, BMI.

INTRODUCTION

Over weight state seems to be the most international public health problems of this period. Among primary school age pupils in poor countries, the enumeration of those who are overweight or obese is 30% higher than in advanced countries.[1] By the beginning of 2030, the listing of obese infants and young children worldwide is proposed to reach 50 millions.[2] Being overweight or obese among primary school age may have negative impacts on physical and mental health.[3] Obese primary school age usually stay obese into adulthood and to have chronic diseases such as cardiovascular disease, diabetes, musculoskeletal disorders, hypertension, and certain types of cancer (colon, endometrial, and breast).[1, 4] In addition that, being obese affects overall sense of primary school age and enervates social progression.[3] This century need quantity of power which deskill the accreditation of modern technical tools such as, taps, smart phones and electronic playmates, these devices change the mode of primary school age from enormously to resident behavior, low physical activity.[5] Various evidence proposed that school based interventions are congenial to address and contain the school age obesity pestilential.[7] Governors of infants obesity literature have argued that the impact of matriarchal (BMI) can be shown by the fact that mothers are the primary care of their infant, and, therefore, influence the demeanors and lifestyles, such as fast or delivery food and physical activity habits, of their infants.[11]

Some infants spend long time using screens tend to alight meal, and eventually, increase their weight because they increase their energy intake while stay for a long period of hours. In addition that, excessive media exposure may decrease the healthy life choices.[12, 13]

Objective

The study aimed was to assess body mass index of primary school age in Damazin town, Blue Nile region, Sudan.

MATERIAL AND METHODS

Cross sectional study operated in Damazin town, Blue Nile Region which represents the capital of the Blue Nile State. Its located 525 Km south of Khartoum., Sudan, from September to November 2024. Cases children matched controls once, primary school ages.

Ethical approval: Written informed consent was given to participants.

Sampling

A total of 140 school-age children (100 (50 male & 50 female)) case and 40(20male & 20 female) control). Participants were recruited from Damazin town children. Positions were chosen based on directions in Damazin town. Numbered questionnaires and approval copies of forms were sent to the leaders of the students and all leaders who signed the approval copies of forms, then returned back the filled questionnaire to the researchers 5-10 days were registered in the book note of the researchers. Student whose leaders reported a major health state that may act as a refutation factor (like cancer, cardiovascular disease and diabetes) or any type of bum were precluded from the target sample. standing Height and weight of the students measured using standard procedures, the students body mass index (BMI), as the formula weight in kilograms/height in squared meter, was computed, and classified into normal weight, underweight, overweight, or obese using (BMI) - for age and gender or sex growth charts due to standard tools of measurement.[8]

Excluded students were replaced until the approximate sample size form each school was fulfilled. Underweight students were excluded from the sample for the purpose of this study since the aim of this case-control study was to assess body mass index of primary school age to determine underweight, overweight, obesity to controls with normal weight.

Survey development

A questionnaire specified for the study depends on previously published measures was used. Family income, mother's education, father's education underweight, overweight and obese students were included from the sample for the purpose of this study.

The questionnaire was translated into Arabic by a professional translator.

Data analysis

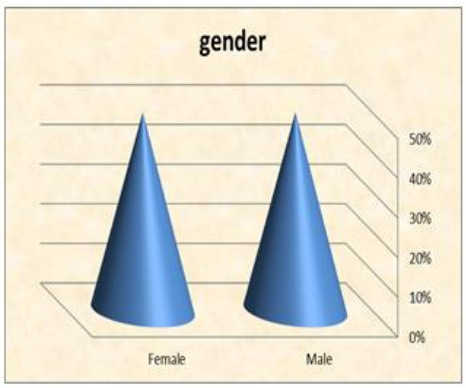
Questionnaire responses were totaled, entered, and analyzed using SPSS (Statistical package of Social Science), version 26. The significance level was set at p <0.05 for all analysis.

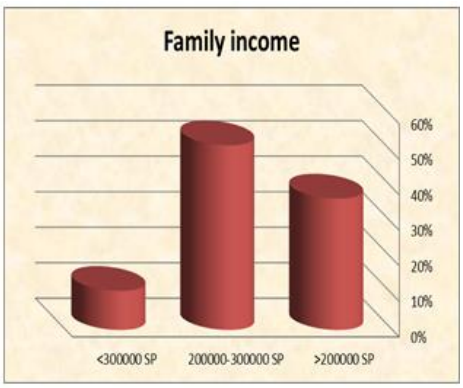
RESULTS AND DISCUSSION

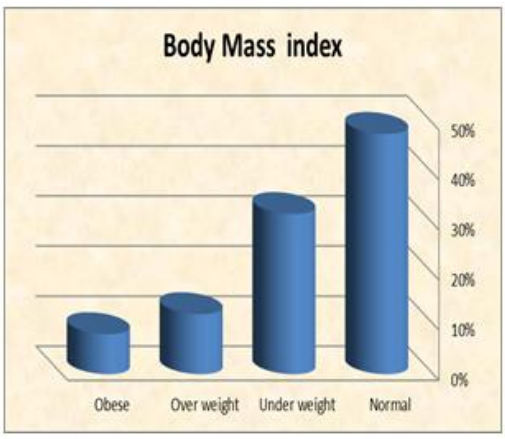
Table 1: Shows Characteristics of study participants.

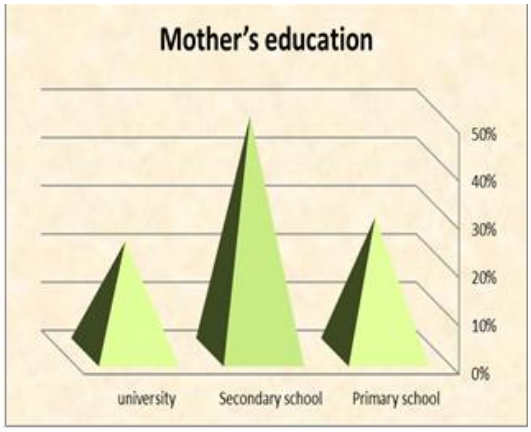
Characteristics	Items	Cases N=100		Control N=40		P value
		Frequencies	Percentage	Frequencies	Percentage	
Gender	Male	50	50%	20	50%	0.266^{NS}
	Female	50	50%	20	50%	
Body Mass Index	Normal	48	48%	23	57%	0.000 **
	Under weight	32	32%	14	35%	
	Over weight	12	12%	1	3%	
	Obese	8	8%	2	5%	
Family income	>200000 SP	37	37%	15	37%	0.001**
	200000-300000 SP	52	52%	19	48%	
	<300000 SP	11	11%	6	15%	
Mother's education	Primary school	28	28%	17	43%	0.000**
	Secondary school	49	49%	10	25%	
	university	23	23%	13	32%	
Father's education	Primary school	17	17%	9	22%	0.000**
	Secondary school	44	44%	12	30%	
	university	39	39%	19	48%	

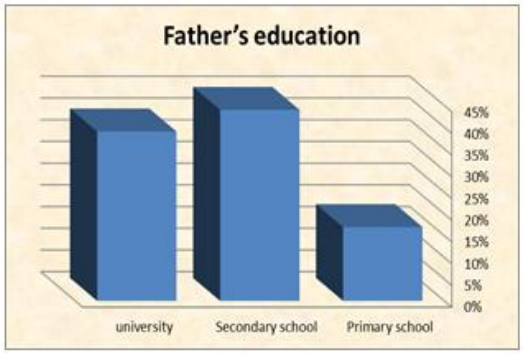
NS=Non significant, ** highly significant











DISCUSSION

Our findings showed highly significant in Body Mass Index (BMI), family income, mother's education and father's education.

Underweight, overweight, obese students may continue obese when became adolescents or adults, if they are continue in the same life style with no disease, this agree with.[14–15] Obesity-related disorders, such as metabolic syndrome, insulin resistance, type 2 diabetes and cardiovascular diseases, which are known to occur only in adults now appear in school age children.[16] Our findings, found that the deployments of underweight, overweight and obesity were 32, 12, 8% respectively. These findings agree with study done in the USA and other Middle Eastern countries.[17]

CONCLUSION

Deployments of underweight, overweight and obesity among Damazin primary school age students found high compared to that of last years. Furthermore, unfortunately, in recent years the Sudan school age children were revealed different body mass index because of change on the life style of these children and war.

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