

The Effect of Covid-19 on Diet, Exercise Habits and Metabolic Control in Obese Children

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INTRODUCTION

Childhood obesity has become a public health problem all around the world. Childhood obesity has serious comorbidities which can affect almost every system in body and can also persist into adulthood. There are multiple factors affective in etiology but lifestyle habits (eating behaviors and physical activity) are especially more important. During the Covid-19 pandemic, lifestyle of obese children has changed by necessity. The aim of this study is to investigate the effects of the Covid-19 pandemic on diet, exercise habits and metabolic control in obese children.

METHOD

Forty-nine obese children between the ages of 6 and 18 years, who applied to the Pediatric Endocrinology department between November 2020 and April 2021, were included in this study. Metabolic parameters (glucose, lipid, insulin, thyroid hormones, body mass index and cortisol level) were analyzed retrospectively and children's nutritional habits and physical activity durations during the pandemic period were evaluated.

RESULTS

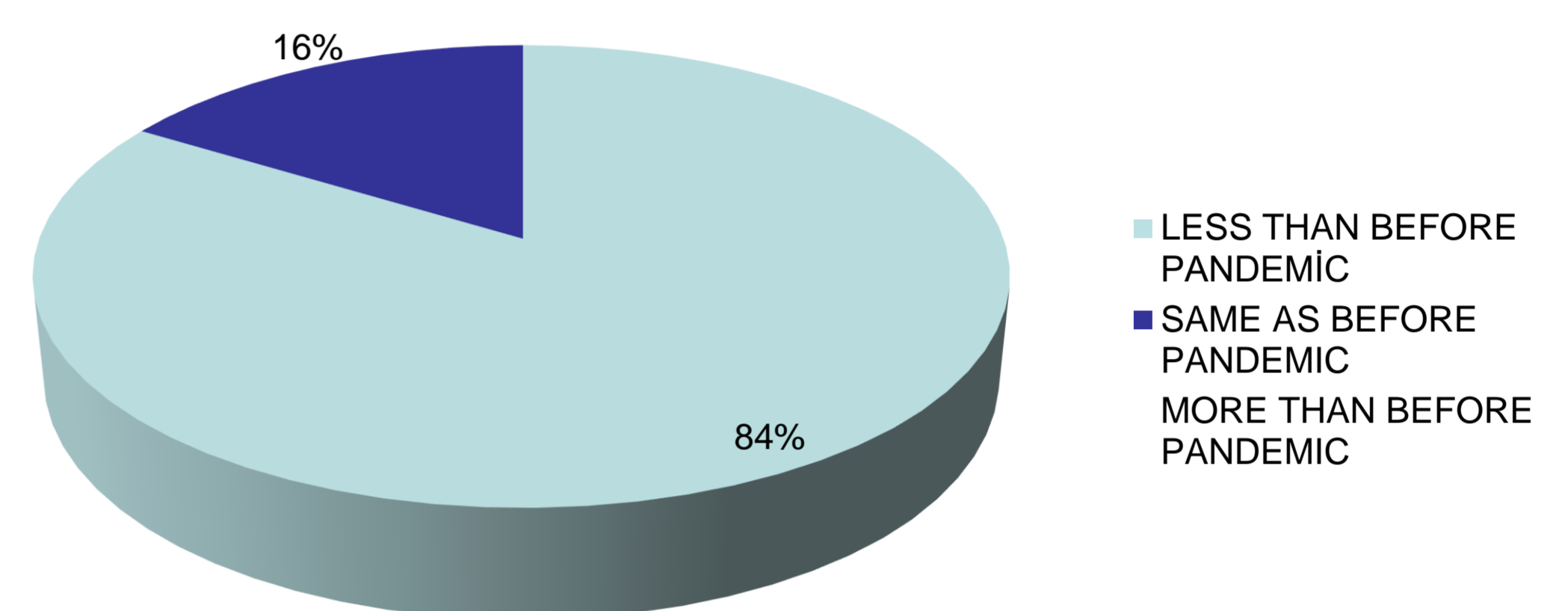
Our data showed that BMI SDS was increased during pandemic ($p < 0,01$). Statistically significant increasing was found in glucose, insulin, LDL and triglyceride levels ($p < 0,05$). HDL and T4 levels were decreased ($p < 0,01$). No statistically significant increasing was found in the levels of TSH ($p = 0,13$) and cortisol ($p = 0,16$).

	BEFORE PANDEMIC	DURING PANDEMIC	P VALUE
BMI SDS	2,19±0,29	2,28±0,23	P<0,01
GLUCOSE	89,24±8,45	95,93±21,97	P=0,01
INSULIN	15,10±11,19	25,58±15,15	P=0
LDL	101,15±22,72	107,88±24,12	P<0,01
TRIGLYCERIDE	112,74±44,87	137,74±68,99	P<0,01
HDL	47,50±10,3	44,72±10,02	P<0,01
T4	13,13±1,97	12,49±1,38	P<0,01
TSH	2,24±0,97	2,44±1,20	P>0,05
CORTISOL	9,47±4,20	10,88±4,6	P>0,05
SYSTOLIC BLOOD PRESSURE	124,5±10,46	148,33±20,41	P>0,05
DIASTOLIC BLOOD PRESSURE	80±5,4	88,33±7,5	P>0,05
WEIGHT	65,37±21,68	87,29±22,91	P>0,05
WEIGHT SDS	2,41±0,52	2,54±0,45	P>0,05
BMI	28,21±5,27	32,57±6,09	P>0,05
HEIGHT	150,1±13,85	162,47±11,84	P>0,05
HEIGHT SDS	1,24±1,10	1,14±1,23	P>0,05

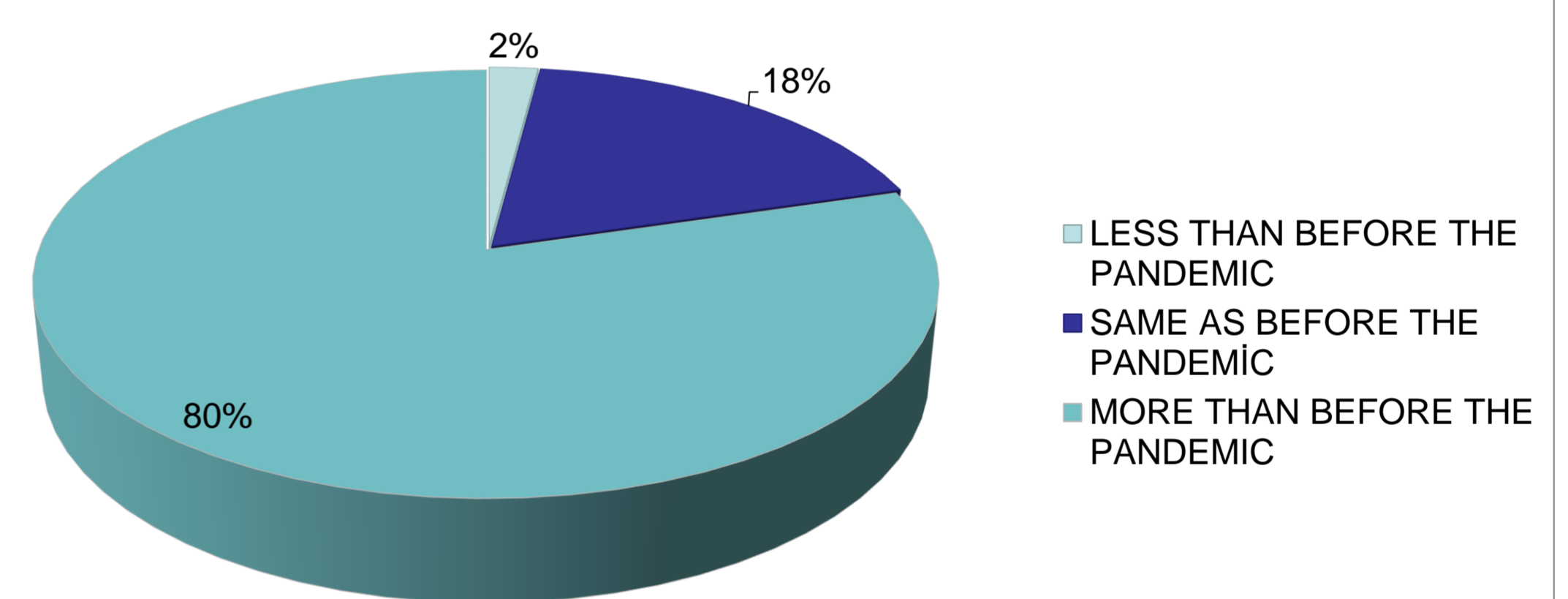
Table 1. Metabolic parameters Changing During The Covid-19 Pandemic

This study has been shown that the time spent on physical activity decreased in 40 children (83,6%), while the time spent in front of the screen (computer, telephone etc.) increased in 39 children (79,5%). When we examined the eating habits, it was shown that 36 patients (73,5%) have poor diet (feeding score < 0).

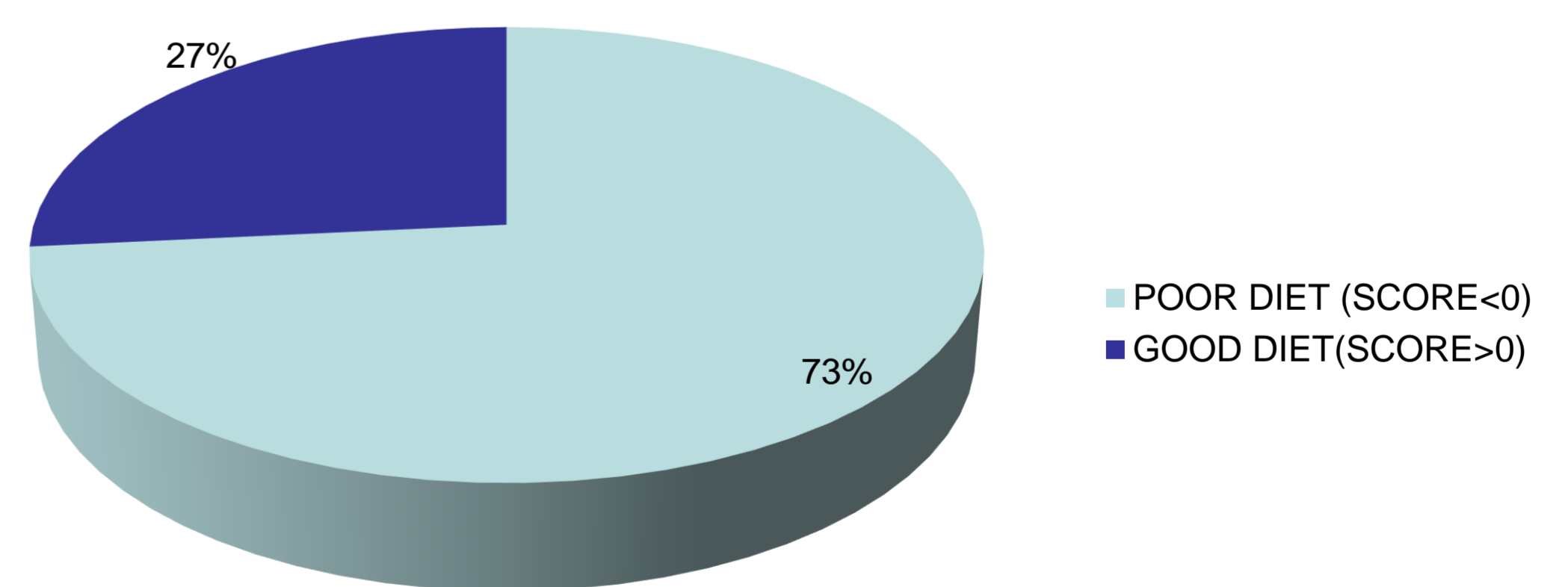
PHYSICAL ACTIVITY



SCREEN TIME



FEEDING SCORE



CONCLUSION

According to these results, body mass indexes of obese children were increased and metabolic parameters were changed during Covid-19 pandemic. Children have become more sedentary and their eating habits have changed dramatically in this process.