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Associated Factors of Hypertension in Indonesian Adolescents

Yabes Dwi Nugroho H¹, Devi Takin², Merti Selianti³

¹Department of Information Technology, Universitas Gadjah Mada, Indonesia

²Department of Public health, Halu Oleo University, Indonesia

³Department of Nursing, Konawe Hospital, Indonesia

Objectives: Nutritional status changes, diet, and lifestyle are risk factors of adolescents hypertension. Adolescents with hypertension can continue in adulthood and also with higher chance of morbidity and mortality. According to Indonesian Basic Health Research 2013, the prevalence of hypertension in Indonesia was 25.8% and increased to 34.1% in 2018. The main objective of this study was to determine associated factors of hypertension in Indonesian adolescents.

Methods: The design of this study was a literature review. The articles were cross-sectional research. The search for articles included the following criteria; the articles must be published in the last 7 years (from 2012-2019) and the sampled adolescent in Indonesia.

Results: It was found that 8 factors were related to hypertension in adolescent in Indonesia. Those factors were the high-sodium intake, body weight, family history of hypertension, obesity, birth weight, physical activity, body mass index, and smoking.

Conclusions: Public health center should educate adolescents about the recommendation of daily salt intake to prevent the excessive intake that may affect hypertension. Adolescents with normal nutritional status can increase knowledge about hypertension, as well as regulate eating habits according to the needs of physical growth and development.

Literature review of hypertension in Indonesian adolescents

LITERATURE REVIEW

Yabes Dwi Nugroho H¹, Devi Takin²

¹Information Technology Postgraduate Program, Universitas Gadjah Mada, Indonesia

²Public Health, Halu Oleo University, Kendari, Indonesia

ASSOCIATED FACTORS OF HYPERTENSION IN INDONESIAN ADOLESCENTS

NO	TITLE	RESULT
1	The relationship between body weight and blood pressure among junior high school students in the Pineleng sub-district (2016).	The Chi-Square test showed a p-value of 0.001 (<0.005). There was a significant relationship between body weight and blood pressure among junior high school students in the Pineleng sub-district.
2	Family history of hypertension as the dominant factor of hypertension among student 11 st grade in SMA Sejahtera 1 Depok (2017)	Factors associated with hypertension were BMI for age and family history of hypertension. The most dominant factor associated with hypertension was family history of hypertension.
3	Factors correlating with hypertension in Adolescent (2019).	The results showed a majority of respondents aged 16 (76,8%). The results of statistical tests indicate that there are correlation between BMI (p=0,000; r=0,355), and physical activity (p=0,047; r= -0,178) with hypertension in adolescent. Gender (p=0,281), family history (p=0,792), sodium intake (p=0,152), smoking (p=0,698), psychogenic stress (p=0,345), and parental income (p=0,945) not related to hypertension in adolescent. Conclusion : This research shows the majority of hypertension in adolescent into category normal, and the factors most associated is BMI.
4	The risk factors of high-sodium intake and birth weight on obesity hypertension occurrence in early adolescence (2012).	The prevalence of obesity hypertension is 7.5%. In this study, it is found that there is a significant correlation between high-sodium intake (p = 0.042; OR = 3.5) birth weight (p = 0.012; OR = 3.7) on obesity hypertension occurrence on early adolescence.
5	The relationship of obesity with blood pressure in children aged 10-12 years in Manado City (2013)	There were 111 children as the subjects of study that meets the inclusion criteria which have been measured. Consisted of 57 girls and 54 boys. Of 111 obese children are 31 children with normal blood pressure, 55 children with high-normal blood pressure and 25 children with high blood pressure, there is a significant relationship with the Chi-Square Test (p = 0.007).
6	The risk factors of hypertension of students in senior high school in Semarang City (2016)	The results of logistic regression analysis, obesity (OR = 24,449; 95% CI = 2,88-207.83; p = 0.003) and excess sodium intake (OR = 14.752; 95% CI = 1.58-137.53;p = 0.018) associated with hypertension.