

The Relationship of Body Mass Index in Diastolic Hypertension and Physical Capacity in Young Adults

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Abstract

Obesity often linked with increased risk hypertension, diabetes mellitus, disease cardiovascular, disorders sleep, and a number of disease chronic other as well as incident death early. The World Health Organization (WHO) estimates that more of 1 billion adults excess heavy body and 300 million people experience it obesity throughout world. Hypertension diastolic among teenager influence health man and cause problem health more later day. Capacity physique implications in development level severity disease cardiovascular, especially on circumstances hypertension diastolic which has factor aggravate like obesity. This Research uses a review method literature with keywords related with capacity physical, index mass body on hypertension diastolic on 2015-2020. Moderate increase in BMI can lower capacity physique but can increase complications hypertension and level activity physique age mature younger tall can reduce risk complications caused hypertension diastolic. There is connection between index mass body on hypertension diastolic with capacity physique on age mature young.

Keyword: Index mass body, capacity physical, hypertension diastolic, adult young

1. INTRODUCTION

Obesity often linked with increased risk hypertension, diabetes mellitus, disease cardiovascular, disorders sleep, and a number of disease chronic other as well as incident death early. Excess heavy body Now become problem health main thing to be specter between modern society. The World Health Organization (WHO) estimates that more of 1 billion adults excess heavy body and 300 million people experience it obesity throughout world. On population adults in the United States, two thirds from all over its people experience excess heavy body or obesity. Hypertension diastolic defined as pressure blood diastolic (BPD) >90 mmHg at two measurements with hose five minutes in circumstances enough rest / quiet. On age adults, risk cardiovascular clear related with level pressure blood systolic and pulse pressure. Hypertension still is challenge big in Indonesia until this moment. Hypertension is frequent conditions found on service primary health. Index mass body (BMI) can linked with circumstances excess heavy body and more obesity prone to problem cardiovascular, inch inside it increased BP, infarction myocarditis, dyslipidemia, and stroke. Some study has shown increase prevalence hypertension and prehypertension on public world and part big among them identify obesity and excess heavy body as contributing factors. Conjecture connection because consequence between lack activity physique and capacity physique as well as excess heavy body and obesity has cause interesting study more carry on related to this. Information about connection between BMI and all reason death on patient hypertension still very limited. Besides that, relationship between BMI, capacity physical, and risk death assessed with only one study consisting from relative sample young, almost all with race Caucasian, individual with hypertension from class social economy intermediate to the top. This data not enough representative remember that disparity and diversity public around us.

2. RESEARCH METHODOLOGY

Search literature in study journal this done via *the Science Direct* portal that is on *address* (<http://sciencedirect.com>). Keywords used for search journal that will reviewed this are "*body mass index and physical capacity*", "*body mass index and diastolic hypertension*", "*body mass index and physical activity*", "*diastolic hypertension and physical capacity*", "*physical capacity and young adult*", with range time 2015-2020. After entered keywords on the search engine came up 32,172 results search. Then 10 journals

were selected with criteria which inclusion is closest to it ? research that includes about index mass body on respondents with hypertension diastolic and capacity physique on age mature young; study cross-sectional, cohort and types experimental about topic similar; research that is direct measure index mass body to capacity physique with various measurements. All form measurement from various method considered; only article with text complete consideration.

3. RESULT AND DISCUSSION

Hypertension diastolic among teenager influence health man and cause problem health more later day. However, part big study about pressure blood focused on elderly population. Activities physique and obesity children and teenager as well as behavior style life certain like use tobacco and consumption alcohol, which is related with hypertension, have increased among population mature young. Has estimated that in decade next, will there is increase level death consequence disease cardiovascular throughout world that is by 15%, even more from 20%.

No	Researcher	Title	Results	p value
1	Aune, et al. (2017)	Body mass index and physical activity on hypertension: a systematic review and meta-analysis of prospective studies	Moderate increase in BMI can lower capacity physique but can increase complications hypertension and level activity more physical tall can reduce risk.	0.03
2	Liu, et al. (2019)	A systematic review and meta-analysis of the overall effects of school-based obesity prevention interventions and effect differences by intervention components	Increase in BMI up to level obesity can influence decline capacity physique on students who disrupt the learning process.	0.04
3	Flori, et al. (2020)	Relationship between body mass index and physical fitness in Italian school children.	Index mass body and composition body influential in ability physique respondents. Respondent with obesity show activity more physical low than children with heavy internal normal body test activity like withhold burden.	0.001
4	Kolotkin, et al. (2017)	A systematic review of reviews: exploring the relationship between obesity, weight loss and health-related quality of life	On all population, obesity linked with activity physique and quality live that way significant more low.	0.01
5	Leszczak, et al. (2019)	Association Between Body Mass Index and Results of Rehabilitation in Patients with Hypertension: A 3-Month Observational Follow-Up Study	Respondent with mass normal body achieves capacity more physical big.	0.003
6	Ferreira, et al. (2016)	The relationship between physical functional capacity and physical capacity in obese	In this study, group obesity walk with more distance short and show more value low on a number of marker ability capacity physique.	0.001

		children and adolescents		
7	Wenzhen, et al. (2017)	The effect of body mass index and physical activity on hypertension among Chinese middle-aged and older population	Good increase in BMI and decline activity physique apparently play role important in risk hypertension among population. Risk associated hypertension with excess heavy body And obesity can reduced with increase level activity physique .	0.004
8	Hu, et al. (2020)	Relationship of Physical Activity and Body Mass Index to the Risk of Hypertension: A Prospective Study in Finland	Adjustment for pressure blood diastolic no influence activity physique in a way straight away, but make connection between index mass body and hypertension increasingly significant. This study moment show that activity physique in a way regular and control heavy body can lower risk hypertension.	0.007
9	Rauner, et al. (2018)	The relationship between physical activity, physical fitness and overweight in adolescents: a systematic review of studies published in or after 2000	This study report connection backwards between fitness physique and excess heavy body. Effect the looks in relatedness between BMI, fitness physical, and activity physique.	0.0001
10	Mahiroh, et al. (2019)	The Association of Body Mass Index, Physical Activity and Hypertension in Indonesia	Individual with a higher BMI tall will more risky caught hypertension whereas activity physique related with hypertension.	0.0001

Capacity physical among mature young is factor important health related with busy routine, as well level more activity tall compared to category another age. Ability level capacity physique linked with related results tightly with health, inch obesity, disease cardiovascular, health musculoskeletal, and mental health. With development society in the global era like this, usage and trend use of electronic gadgets the more widespread in the information age. Happen decline activity significant physical on age young adult. Population mature young with heavy body not enough found own more performance tall in run resilience and leg sit-ups, but this only observed on woman in this study. Results review literature show that connection between BMI and fitness physique own non-linear relationship. Regression polynomial and spline regression is clear more superior from a linear regression model, which is similar with studies based population Nikolakakos on man young healthy Finland. In the results of the researchers observe, BMI represents about 17.34% variation fitness physique on man with spline regression, 15.08% variation fitness physique on woman. Student with heavy generally normal body own fitness more physical good compared to student with heavy body less, more heavy body and obesity especially in men. Obesity is factor known risks for hypertension diastolic. In this study is hypertension diastolic and capacity more physical low more Possible detected related with obesity and / or hypertension compared to with sufferer normotensive or non- obese. What's interesting, researcher find that index function systolic like LVEF does show significant relationship with exists obesity or hypertension.

An increase in BMI shows connection with index function structural and diastolic; in a way specifically, individuals obesity more tend experience dysfunction indicated diastole by ability ejection more fractions low and more LV mass big when compared to with patient normotensive, non- obese, or only

hypertension. With addition risk hypertension, patient hypertension with obesity is at on increase risk more carry on for ratio ejection lower fraction. Capacity related physical with BMI on circumstances hypertension diastolic can explained through weakening activity sympathetic adrenergic accompanied with decline resistance vascular systemic and combined stroke volume reduction with decline contractility heart after exercise. Other mechanisms are possible including decline rate catecholamine's, too increase excretion sodium urine and decline resistance total peripheral. About activity physical, results research obtained from country develop Possible different from a number of research in the country forward, which reports activity physique no related with BMI on hypertension diastolic. This matter Possible especially because population with area and different ethnicities. Besides it is, equivalent metabolic calculated use different methods for every activity also can contribute to him. Besides effect no direct with reduce fat body, decline risk induced hypertension by activity physique can explained through weakening activity sympathetic adrenergic accompanied with decline resistance vessels blood systemic, and combined stroke volume reduction with decline contractility heart after exercise. Other mechanisms are possible including decline level catecholamine's, as well increase excretion sodium urine and subtraction resistance total peripheral.

4. CONCLUSION

Increasing BMI can lower capacity physique but can increase complications hypertension and level activity more physical tall can reduce risk complications disease cardiovascular.

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