Gac Sanit. 2021;35(S2):S334–S336

Analysis relationship of fatness in venerable people at Johan Pahlawan Health Center, West Aceh District☆

Susy Sriwahyuni*, Darmawan, Danvil Nabela, Winda Ayu Lestari, Muhammad Reza Firdaus

Department of Public Health, Universitas Teuku Umar, Aceh, Indonesia

ARTICLE INFO

Article history:
Received 28 June 2021
Accepted 30 July 2021

Keywords:
Venerable people
Food intake
Fatness
Physical activity

ABSTRACT

Objective: To find out the relationship of energy intake, carbohydrate intake, protein intake, fat intake, and physical activity with the incidents of fatness in venerable.
Methods: Quantitative approach with cross-sectional design was applied and analyzed using chi square. Subjects in this research were venerable people aged 45–59 years old, who have the inclusion criteria were 88 people using Nutri survey technique through questionnaire.
Result: The result showed a significant relationship between protein intake, fat, and activity of physic among fatness cases on venerable with *p*-value = 0.023 (OR = 0.164), *p*-value = 0.028 (OR = 1.529) and *p*-value = 0.016 (OR = 1.474). On the other hand, the research found not a significant relationship between energy intake and carbohydrate intake with the incidents of fatness in venerable with *p*-value = 0.308 (OR = 1.474) and *p*-value = 1.000 (OR = 1.450).
Conclusion: Excessive protein intake and fat intake with light activity can be a risk factor for fatness, especially in the venerable. It is suggested to venerable people to keep their daily food intake and do physical activity to reduce the risk of fatness.

Introduction

Fatness is a health problem that need to be consider as a risk factor that can increase morbidity and mortality. World Health Organization (WHO) claimed fatness as a global epidemic that causes 2.8 million people died every year on 21st century.[1]

The global number of prevalence of fatness and overweight have ranges 74–86% in women and 69–77% in men. It indicates a high prevalence of fatness on adult women compared men.[2] Meanwhile, the prevalence of Indonesian population who is obese or overweight in adults over 18 years has increase year by year since 2007. Regarding to the results of Riskesdas, the Research and Development Agency of the Ministry of Health in 2018, the prevalence of fatness showed an improvement since three periods of Riskesdas. In 2007, the cases were 10.5%, 2013 increase into 14.8% and in 2018 as much as 21.8%.[3]

Aceh was placed in second number with high number percentages in fatness after DKI Jakarta, which is 36.4%.[3] Based on monitoring data on the nutritional status of Aceh in 2017 showed a large prevalence in the overweight category and fatness as much as 52.4% with the largest proportion in fatness (36.4%) of fatness in the population aged 18–60 years based on the body mass index (BMI) indicator. The largest proportion of fatness was found in Bener Meriah (45.5%) and Sabang City (43.4%), while the lowest categories were found in Pidie (29.6%) and Simeulue District (23.6%). Based on gender between men and women (18–60 years), the population of Aceh who is obese is greater in women, which is 37.3%, while the percentage of men is 12.2%.[4]

One of the main factors in the cases of fatness in developing countries is globalization, a free economy and urbanization. The movement of population from rural areas to cities that is not accompanied by the ability to work skills creates new problems. In this case, they difficult to find jobs and tend to work odd jobs with irregular daily income. The low income of people in the populated area is a factor for them to choose fast food which is relatively cheaper. Fast food contains low fiber, high in carbohydrate, fat, and sugar. These high calories food if consumed regularly can cause an increase in the incidence of fatness in urban slum communities.[5]

The development on health sector such as improvements in nutrition, sanitation, medical technology, and improvements in health services has successfully increase venerable people population in Indonesia. The success of this development has led to an increase in the Life Expectancy (UHH) of the Indonesian population. On the other hand, the increase of UHH build another effect. Indonesia will face double burden. Beside the increasing of birth rates and the burden of communicable and non-communicable diseases, Indonesia will also have an increase on the dependency number of the population of the productive age group toward unproductive age group.[6]

Based on the initial survey conducted by the researcher, it was found that Johan Pahlawan Health Center has 11 integrated health center of venerable people who spread in 11 villages on theirs working area. In 2019, there were 199 venerable people who visited the integrated health center in their village, and 84 of them were obese based on IMT > 27. The results of interviews conducted with 5 venerable respondents who were obese, acknowledge that they often consumed snacks such as fried food and fried noodles.

☆ Peer-review under responsibility of the scientific committee of the 3rd International Nursing, Health Science Students & Health Care Professionals Conference. Full-text and the content of it is under responsibility of authors of the article.

* Corresponding author.
E-mail addresses: susysriwahyuni@utu.ac.id, pmc@agri.unhas.ac.id (S. Sriwahyuni).

https://doi.org/10.1016/j.gaceta.2021.07.021

Table 1
The relationship among factors fatness with the incidence of fatness in venerable people.

Variable	*p*-Value	OR	Note
Energy intake	0.308	1.474	There is no relationship
Carbohydrate intake	1.000	1.450	There is no relationship
Protein intake	0.023	1.164	There is relationship
Fat intake	0.028	1.529	There is relationship
Physical activity	0.016	0.649	There is relationship

Source: Primary data (2020)

Therefore, the researchers are curious to hold a study on the analysis of fatness in venerable people at Johan Pahlawan Health Center, West Aceh.

Methods

Quantitative method was carried out through cross-sectional design, in which researchers collected the data at the same time during a period of days, weeks or months.[7] The purpose is to analyze the relationship of fatness in venerable people at Johan Pahlawan Health Center, West Aceh District.

The population of this study were venerable people aged 45–59 years old who lived at Johan Pahlawan Health Center's work area consisting 714 people. The research sample was 88 venerable people. The independent variables of this research are energy intake, carbohydrate intake, protein intake, fat intake and physical activity. The dependent variable is the incident of fatness. The data was collected through questionnaire to get the answer based on the question of the researcher.

Result

Based on Table 1, it was found that among 5 variables, there are 3 variables that indicated a significant relationship between protein intake, fat intake, and physical activity with fatness on venerable people with *p*-value smaller than $\alpha = 0.005$, while the energy intake and carbohydrate intake has *p* value greater than $\alpha = 0.005$.

Discussion

The relationship between energy intake and the incidence of fatness in venerable people

Based on statistical test, the *p*-value = 0.308. It is greater than $\alpha = 0.005$ with an OR value of 1.474. It can be stated energy intake has no significant relationship to fatness on the venerable.

This research is supported by Kurniawati et al. (2016) which found no significant relationship between energy intake with the incidence of fatness with *p*-value = 0.33 (>0.05).[8] Meanwhile, the research of Ramadhaniah (2014) in Pidie Jaya District indicated a significant relationship between energy intake and the incidence of fatness with *p*-value = 0.001.[9]

The relationship between carbohydrate intake and the incidence of fatness in venerable people

This study shows the results from statistical tests that carbohydrate intake has no significant relationship with the incidence of fatness in the venerable with *p*-value = 1.000, it is greater than $\alpha = 0.005$ with an OR value of 1.450.

Sasmito's (2015) stated the test results between carbohydrate intake and the incidence of fatness was = 0.763, it means there is no significant relationship between carbohydrate intake and fatness in DKI Jakarta Province.[10] Kurdanti et al. (2015) regarding to factors that influence incidence of fatness found *p* value = 0.004, which indicated a significant relationship between carbohydrate intake and fatness in Yogyakarta.[11]

The relationship between protein intake and the incidence of fatness in venerable people

Protein intake and the incidence of fatness in the venerable has *p*-value = 0.023 with an OR value of 1.164. It is indicated that protein intake with fatness has a significant relationship and has a chance to be obese by 1.164 times.

It was supported by Vera (2012) regarding to the incidence of central fatness in religious leaders in Manado City.[12] She found that *p* value = 0.00, which indicated there is a significant relationship. However, these results were different from Wegiarti et al. (2017), where there is no significant relationship between protein adequacy and the incidence of fatness were found with *p* value = 0.459 > 0.05.[13]

The relationship between fat intake and the incidence of fatness on venerable people

Based on the results obtained from the statistical test between the variable fat intake and the incidence of fatness in the venerable, it was found value of $p = 0.028$, which is smaller than $\alpha = 0.005$ with an OR value of 1.529. It means fatness and energy intake have a relationship on the venerable. The OR value shows the opportunity for the venerable who have energy intake to experience the risk of fatness in the venerable by 1.529 times.

This research is supported by Salim's (2014) regarding to the factors associated with fatness, including the level of fat intake. It was obtained *p* value = 0.000, indicated level of fat adequacy and the incidence of fatness have significant relationship.[14]

It has similarities with the research conducted by Sugiyanto (2017) regarding to the habit of consuming fat in employees at the FMIPA Yogyakarta State University. The results of bivariate analysis found *p* value = 0.00, where there was a significant relationship between the habit of consuming fat and the nutritional status of the respondents.[15]

The relationship between physical activity and fatness in the venerable people

The incidence of fatness in venerable people was = 0.016 with an OR value of 0.649. It is indicated that physical activity in the venerable has a significant relationship. The OR value shows the opportunity for the venerable to experiencing fatness 0.649 times.

This research is supported by the results of Marselly (2017), in which there is a significant influence between physical activity on fatness based on BMI with a significance value of $p = 0.03$, where the respondents with moderate physical activity are at risk of experiencing overweight and fatness 9.64 times than those with high physical activity.[16]

Similar to research conducted by Puspitasari (2018) of 102 respondents regarding the incidence of central fatness in adulthood, it is found that there is a significant relationship between physical activity and the incidence of central fatness with *p* value = 0.000.[17]

Conclusion

1. The variables of protein intake, fat intake and physical activity have a significant relationship (the *p* value is smaller than $\alpha = 0.005$) with the incidence of fatness in the venerable.
2. Variables energy intake and carbohydrate intake did not have a significant relationship with the incidence of fatness in the ven-

erable, which was indicated by the acquisition of p-value greater than $\alpha = 0.005$.

Conflicts of interest

The authors declare no conflict of interest.

References

1. Hendra C, Manampiring AE, Budiarso F. Faktor-Faktor Risiko Terhadap Obesitas pada Remaja di Kota Bitung. J e-Biomedik. 2016;4:1.
2. World Health Organization Regional Office for The Eastern Mediterranean (WHO EMRO). Obesity. Available from: http://www.emro.who.int/health-topics/obesity/.
3. Agency of Health Research and Development. Main Results of Basic Health Research. Jakarta; 2018.
4. Dinas Kesehatan Aceh. Profil Kesehatan Aceh Tahun 2017; 2017.
5. Pratiwi AA, Nindya TS. Hubungan Konsumsi Camilan dan Durasi Tidur dengan Obesitas di Permukiman Padat Kelurahan Simolawang, Surabaya. Amerta Nutr. 2017;1:153–61.
6. Ministry of Health Republic of Indonesia. INFODATIN: Situasi dan Analisis Lanjut Usia. Jakarta; 2014.
7. Susanto A. Teori Belajar Dan Pembelajaran Di Sekolah Dasar. Jakarta: Prenada Media; 2013.
8. Kurniawati Y, Fakhriadi R, Yulidasari F. Hubungan antara Pola Makan, Asupan Energi, Aktifitas Fisik dan Durasi Tidur dengan Kejadian Obesitas pada Polisi. J Publ Kesehat Masy Indones. 2016;3:112–7.
9. Ramadhaniah R, Julia M, Huriyati E. Durasi tidur, asupan energi, dan aktivitas fisik dengan kejadian obesitas pada tenaga kesehatan puskesmas. J Gizi Klin. 2014;11:85–96.
10. Sasmito PD. Hubungan Asupan Zat Gizi Makro (Karbohidrat, Protein, Lemak) Dengan Kejadian Obesitas Pada Remaja Umur 13-15 Tahun Di Propinsi Dki Jakarta (Analisis Data Sekunder Riskesdas 2010). J Gizi-Dietik. 2015;7:16–23.
11. Kurdanti W, Suryani I, Syamsiatun NH, et al. Faktor-faktor yang mempengaruhi kejadian obesitas pada remaja. J Gizi Klin. 2015;11:179–90.
12. Vera T, Harikedua MTN. Aktivitas fisik dan pola makan dengan obesitas sentral pada tokoh agama di kota manado. J GIZIDO. 2012;4:289–98.
13. Sikalak W, Widajanti L, Aruben R. Faktor-Faktor Yang Berhubungan Dengan Kejadian Obesitas Pada Karyawati Perusahaan Di Bidang Telekomunikasi Jakarta Tahun 2017. J Kesehat Masy. 2017;5:193–201.
14. Salim AN. Faktor-Faktor Yang Berhubungan Dengan Kejadian Obesitas Pada Karyawati Sekretariat Daerah Kabupaten Wonosobo. Universitas Muhammadiyah Semarang; 2014.
15. Sugiyanto, Alhusna N, Puspowati SD. Hubungan Kebiasaan Konsumsi Lemak Dan Aktivitas Fisik Terhadap Status Gizi Pada Pegawai Di Kantor Fakultas Matematika Dan Ilmu Pengetahuan Alam (Fmipa). Universitas Negeri Yogyakarta; 2017.
16. Marselly A. Hubungan Aktivitas Fisik terhadap Kejadian Obesitas Berdasarkan Indeks Massa Tubuh di Dusun Plengan Banjaroyo Kulonprogo Yogyakarta. [Skripsi]. Universitas Sanata Dharma. Universitas Sanata Dharma; 2017.
17. Puspitasari N. Faktor Kejadian Obesitas Sentral Pada Usia Dewasa. J HIGEIA. 2018;2:249–59.