

KNOWLEDGE INFORMATION VARIABILITY OF WEIGHT LOSS DIET BASED ON THE INTERNET

Rusman Efendi, Munaya Fauziah

*Department of Public Health, University of Muhammadiyah Jakarta
St. KH. Ahmad Dahlan, Cirendeui, Ciputat, South Jakarta*

rusman.efendi@yahoo.co.id

Abstract

The study was to identify the websites on weight balance diet and analyzed the content of information. The study used keyword "diet berat badan" (weight balanced diet) from March to April 2016. A total of 141 websites were found in google search engine. The content of the websites was analyzed by a coding guide that included adjustment protein, fruits and vegetable consumption, meal time and physical activities. The result revealed that about 86.2% the webs recommended increase protein consumption to gain weight, while 50.8% didn't indicate adjusting protein consumption as a means to lose weight. In terms of fruits and vegetables consumption adjustment, a total of 61.2% suggested adding the consumption to gain weight and 83.3% to get weight loss. A total of 51.2% advised to adjust mealtime in order to gain weight meanwhile about 50.8% claimed adjusting mealtime would lose weight. For physical activities, 53.7% prompted increasing physical activities to get weight and 72.3% stated increasing physical activities effectively decrease weight. Most of the website suggested increasing consumption of protein, fruits and vegetables, adjusting mealtime, and increasing physical activities in order to gain weight. In other side, adjusting mealtime, adding fruits and vegetables and increasing physical activities would lose weight. The dietitian should write more dietary guideline in the internet so the people get right and scientific information.

Keywords: *weight diet, protein, mealtime adjustment.*

INTRODUCTION

Nutritional status of adults group with 18 years old are dominated by obesity issues, though underweight issues are even still occur. According to the findings by Basic Health Survey (Riskesdas) on 2013 were led to 14,76% as the prevalence of obesity in adult group and 11,48% are overweight. Therefore, the prevalence of overweight adults is 26,23% and 11,09% are underweight ¹

¹Kemenkes [Kementerian Kesehatan RI]. 2014. Profil Kesehatan Indonesia Tahun 2013. Jakarta : Kementerian Kesehatan RI.

The prevalence of adult male population with obesity in 2013 is 19.7%, which is higher than in 2007. In 2013, the prevalence of obesity women is 32.9%, it increased 18.1% from 2007 that had shown by 13.9% cases and 17.5% from the 2010 is 15.5% ¹

Various attempts have been made to overcome the underweight and obesity problem in the community, one of them by increasing knowledge of nutrition and diet. Information on various media has become a reference in order to get the ideal body weight. In the searching on the Google search engine on August 24th, 2015 by typing the word "weight loss diet" has found 670,000 search results.

From the thousands of diet knowledge information exists, we found some knowledge of dietary information were deviating from the rules of a healthy diet, for example, people can drastically lose weight by 7 kg in 1 week. The side effects of drastically lose weight after applying the weight loss method which is not healthy such as, you'll gain weight even faster later, malnutrition, irregular menstruation, and some diseases like: arthritis, gallstones, decreasing of blood sugar levels, lack of nutrition, and anorexia²³. From the research by Lintang et.al, 64 percent of 50 high school students in Manado have an inappropriate diet behavior⁴

This study aims to identify the knowledge information about weight loss diet based on the adjustment of carbohydrates consumption, protein intake, fat intake, fruit and vegetable consumption, mealtime setting, and exercise/ sports activities.

Diet is a common choice of food that we eat. A balanced diet is a diet that provides all the nutrients in adequate amounts, not too much and not too little ⁵

The consumption of food that fulfill the General Guidelines for Balanced Nutrition (PUGS) is a further elaboration of four healthy – five perfectly healthy (Seven Basic) guidelines which contains messages related to the prevention of both malnutrition and overweight problems. The composition of the foods recommended by PUGS is those contained by balanced nutrition, this can be achieved by eating various kinds of food every day.

Every food can be complementary each other by the nutrients that contained in it. Categorizing foods simplified by the three main functions of nutrients such as energy sources or energy needed for growth, development, muscle activity, metabolism, to repair damaged tissue and bone that caused by injury or illness⁶

²Nugraheni M. 2012. Efek Buruk Berat Badan Turun Drastis. Diakses pada <http://life.viva.co.id/news/read/361296-efek-buruk-berat-badan-turun-drastis>

³Kurnia E. 2015. Efek Samping Berat Badan Turun Drastis. Diakses pada <http://lifestyle.okezone.com/read/2015/05/22/481/1153413/efek-samping-berat-badan-turun-drastis>

⁴Lintang A., Ismanto Y., Onibala F. 2015. Hubungan Citra Tubuh Dengan Perilaku Diet Pada Remaja Putri Di Sma Negeri 9 Manado. *eJournal Keperawatan (e-Kp)* Volume 3 Nomor 2 Mei 2015.

⁵Almatsier, S. 2003. *Prinsip Dasar Ilmu Gizi*. PT. Gramedia Pustaka Utama. Jakarta

⁶Soetjningsih. (2004). *Tumbuh Kembang Remaja dan Permasalahannya*. Jakarta: PT. Rhineka Cipta.

METHODOLOGY

This study is a survey of sites on the Internet about weight loss diet information knowledge. The population in this study is websites that was found by the Google search engine with the keywords "improving/increasing weight loss diet" and "diet to lose weight". Samples were taken based on the calculation and the website criteria: 1). Not a product's promotion / advertising website². Contains information of how to control weight loss by adjusting food intake.

From the search results using keywords that have been determined, after the sites gotten, the identification is sequentially occurred site by site until reached the surfeited level data towards the site found, and obtained a total sample by 141 internet sites counted. Research equipment that is required is a computer device that is connected to the network access with a minimum speed of 100 kbps. Data collected by using a checklist sheet.

Data processing will be performed quantitatively, the site's name and information data of dietary knowledge from the website that had selected as samples are stored in a folder on the computer, processed by a computerized system, then analyzed by univariate analysis and presented in narrative form and tables.

RESULT

Univariate analysis towards the results of studies is aim to see the number and percentage of websites based on variables that associated with weight loss diet knowledge information such as the following results: 1). Adjusting Protein Consumption, The study towards the knowledge information about weight loss diet based on consumption of protein has obtained the following results.

Table 1. Internet-Based Knowledge Information about Diet to Gain Weight Based on the Adjustment of Protein Consumption

Adjustment of Protein Consumption	Amount	Percentage
Added	69	86,2
Unregulated	11	13,8
Lessened	0	0
Total	80	100

Based on table 1, from 80 diet knowledge information improves weight loss by the consumption of protein found on Internet sites, as many as 86.2% of sites are set to increase the consumption of protein, and 13.8% of the sites do not regulate the consumption of protein.

Table 2. Internet-Based Knowledge Information about Diet to Lose Weight Based on the Adjustment of Protein Consumption

Adjustment of Protein Consumption	Amount	Percentage
Added	21	34,4
Unregulated	31	50,8
Lessened	9	14,8
Total	61	100

According to the table 2, from 61 diet knowledge information to lose weight based on the consumption of protein found on Internet sites, as many as 50.8% of the sites do not regulate the consumption of protein, and 34.4% of sites are set to increase the consumption of protein. 2). Adjusting Fruit and Vegetable Consumption . The study towards the knowledge information about weight loss diet based on consumption of fruit and vegetable has obtained the following results.

Table 3. Internet-Based Knowledge Information about Diet to Gain Weight Based on the Adjustment of Fruit and Vegetable Consumption

Adjustment of Fruit & Vegetable Consumption	Amount	Percentage
Added	49	61,2
Unregulated	31	38,8
Lessened	0	0
Total	80	100

According to the table 3, from 80 diet knowledge information to gain weight by the consumption of fruit and vegetables found in the websites, as many as 61.2% sites are set to increase fruit and vegetable consumption, and 38.8% sites do not regulate the consumption of fruits and vegetables.

Table 4. Internet-Based Knowledge Information about Diet to Lose Weight Based on the Adjustment of Fruit and Vegetable Consumption

Adjustment of Fruit & Vegetable Consumption	Amount	Percentage
Added	49	80,3
Unregulated	12	19,7
Lessened	0	0
Total	61	100

According to the table 4, from 61 diet knowledge information to lose weight by the consumption of fruit and vegetables found in the websites, as many as 83.3% sites are set to increase fruit and vegetable consumption, and 19.7% sites do not regulate the consumption of fruits and vegetables. 3). Adjusting Mealtime. The study towards the knowledge information about weight loss diet based on the adjustment of mealtime has obtained the following results.

Table 5. Internet-Based Knowledge Information about Diet to Gain Weight Based on the Adjustment of Mealtime

Adjustment of Mealtime	Amount	Percent
Regulated	41	51,2
Unregulated	39	48,8
Total	80	100

According to the table 5, from 80 diet knowledge information to gain weight by adjusting the mealtime found in the websites, as many as 51.2% sites were setting the mealtime, and 48.8% sites did not regulate it.

Table 6. Internet-Based Knowledge Information about Diet to Lose Weight Based on the Adjustment of Mealtime

Adjustment of Mealtime	Amount	Percentage
Regulated	31	50,8
Unregulated	30	49,2
Total	61	100

According to the table 6, from 61 diet knowledge information to lose weight by adjusting the mealtime found in the websites, as many as 50.8% sites were setting the mealtime, and 49.2% sites did not regulate it. 4). Adjusting Exercise Activity. The study towards the knowledge information about weight loss diet based on the adjustment or intensify exercises activity has obtained the following results.

Table 7.
 Internet-Based Knowledge Information about Gaining Weight Based on the Adjustment of Exercise Activity

Exercise Activity	Amount	Percentage
Improved	43	53,7
Unregulated	37	46,3
Total	80	100

According to the table 7, from 80 diet knowledge information to gain weight by adjusting the exercise activity found in the websites, as many as 53.7% sites set it to improve exercise activity, and 46.3% sites did not regulate it.

Table 8. Internet-Based Knowledge Information about Losing Weight Based on the Adjustment of Exercise Activity

Exercise Activity	Amount	Percentage
Improved	44	72,2
Unregulated	17	27,8
Total	61	100

According to the table 8, from 61 diet knowledge information to lose weight by adjusting the exercise activity found in the websites, as many as 72.2% sites set it to improve exercise activity, and 27.8% sites did not regulate it.

DISCUSSION

Adjusting Protein Consumption. From the result above, in order to gain some weight, most of the sites set up people to increase the consumption of protein, and 13.8% of the sites doesn't set it. To lose weight, as much as 50.8% of the sites do not regulate the consumption of protein, and 34.4% of the sites set people to increase the consumption of protein.

Excessive intake of protein can be converted into body fat. If the protein intake exceeds the needs of the body, the amino acids will break the bonds of nitrogen and converted into triglycerides through a series of reactions⁷. As accordance with the statement by Almatier, that protein intake is directly

⁷ Linda Kelly De Bruyne, Kathryn Pinna, Ellie Whitney. Nutrition and Diet Therapy. Principles and Practice Seventh edition. USA. Wadsworth. 2008. p: 146

linked to obesity. In an excessive amounts, protein will deaminase or releasing amino groups (NH₂) from amino acids. Nitrogen will be removed from the body and the remains of the carbon will be converted into acetyl CoA. This Acetyl-CoA can be synthesized into triglycerides by lipogenesis process later. Therefore, if a person consumes proteins more than their tissue can use, most of the excessive amount is stored as fat ⁵.

Many of the websites relatively provide diet knowledge information to lose weight by consuming protein. This cases may be caused by the assumption that source of energy can replace the intake of other energy sources that can also act as a builder and help various metabolic functions in the body. So that energy remains unfulfilled and metabolism continues to run well.

Adjusting Fruit and Vegetable Consumption. From the result above, in order to gain some weight, most of the sites set up people to increase the consumption of fruit and vegetable as much as 61.2% and about 38.8% do not set it. To lose some weight, most of the sites set it up to increase consumption of fruits and vegetables, and there are 19.7% of the sites do not set it.

Beside vegetables and fruits could become vitamins and minerals, it also a source of dietary fiber. Fiber is a component in the plant that can not be digested by any of digestive enzymes, it naturally presents in plants (vegetables, fruits, grains and nuts). Consumption of enough fiber can reduce the risk of obesity by providing lower energy, and make someone feeling full longer, and could delay hunger.

High-fiber foods generally require more time to chew and digest. Foods that contain insoluble substance (fiber) are not digested and increase the volume of food, thus reducing the risk of excessive consumption. While soluble fiber will be converted into a gel-like substance during digestion and slows down the food passes the intestines so that makes the body full longer⁸. Fiber is a complex carbohydrate that is contained in plant foods. Due to lack of fiber, the small intestine will absorb all the fat and sugar eaten in a relatively short time, so the person will quickly become hungry again ⁹.

It is more recommended to consume fruits and vegetables in the diet to lose or gain some weight in this study, it's because of the fiber's function can optimize digestive system. In a diet to lose weight, fruit and vegetables are sources of fiber that can provide satiety longer, so it will prevent excessive intake. In a diet to gain weight, fruit and vegetables contribute vitamins and minerals that are good for helping the process of metabolism, so that nutritional needs will be fulfilled easily. 1). Adjusting the Mealtime. From the results, to gain some weight, as much as 51.2% sites have set the mealtime, and 48.8% of sites did not set mealtimes. To lose weight, as much as 50.8% of the sites set mealtimes, and 49.2% of sites did not set it. The timing of food consumption, especially in the family, consists of three meals which are breakfast, lunch, dinner, and sometimes snacks. If happens excessive amounts when eat dinner, it will be stored into an alternative energy in the body, but if this storing system occurs continuously, it can lead to obesity or overweight. Dinner is important to overcome the needs of energy throughout the night until the morning, and obtain optimal health.

Adjusting Exercise Activity. From the research results, to gain some weight, as much as 53.7% of the sites set people to intensify sports activities, and 46.3% of the sites do not regulate it. To lose weight, as much as 72.2% of sites are set to boost sports activities, and 27.8% of the sites do not regulate sport. This research shows that obese children have high levels of physical activity and lower

⁸ Asian Food Information Centre. Dietary Fiber – An essential Ally in Weight Management. [Dikutip 15 Desember 2010]. Diunduh dari http://www.afic.org/WMWS/dietary_fiber.shtml.

⁹ Kimm, S.Y.S. 1995. The Role of Dietary Fiber in the Development and Treatment of Childhood Obesity. PEDIATRICS <http://pediatrics.aappublications.org/cgi/content/abstract/96/5/1010> Vol. 96 No. 5 November 1995, pp. 1010-1014.

physical fitness. Inadequate physical activity causes more body fat that is stored in tissues¹⁰. Previous research has suggested that regular physical activity is good to do at least 3 times a week, do at least 30 minutes every time you exercise, and you'll be able to lose weight in 12^{11,12}. Obesity depends on the balance among the amount of energy that comes with energy expenditure. Excess energy will be stored as fat, causing weight gain¹³. Weight reduction can be obtained through the reduction of energy inputs or exercise or both. Dewantari et al, stated that the physical training was introduced as an effective strategy to reduce obesity in women. For adult women who have weight problems, exercise is one of the safest ways to lose weight program¹⁴.

The number of suggestions to do exercise to lose weight in this study is because exercise is one of a safe way to burn heaps of calories in the form of body fat. While on the diet to gain weight, exercise is useful to maintain healthiness generally, so that your metabolism can also go well.

CONCLUSION

The majority of internet sites set up people to gain weight by adding the consumption of protein, fruits and vegetables, setting the mealtime, and improving exercise activity. To lose weight, most of the sites set up to lowering the consumption of carbohydrates, do not regulate the consumption of protein, reducing fat intake, increasing the consumption of fruits and vegetables, setting the mealtime, and improving sports.

In this case suggested as follows : a). For those institutions that focus on nutritional knowledge in order to provide dietary information that suitable to the community. b). For researchers to examine and assess the dietary information on the website from health and safety perspective. c). For the general public who would be on a diet in order to learn the diet system and choose the sites with a nice and clear credibility.

¹⁰Maxitalia M, Susanto JC, Faizah Z, Hardian. 2005. Hubungan polamakandanaktifitasfisikpadaanakdenganobesitasusia 6-7 tahun di Semarang. *M Med Indones* 2005;40:62-70.

¹¹Kayman S, Bruvold W, and Stern JS, 1990. Maintenance and relapse after weight loss in women. Behavioral aspects. *Am J Clin Nutr* 52:800, 1990.

¹²Shangold M, Mirkin G, 1994. *Woman and exercise physiology and sport medicine*. Ed 2 Philadelphia: F. A. Davis Company

¹³Sugiharto 2008. Pengaruh dosis latihan fisikaerobik terhadap penurunan indeks massa tubuh, asam lemak bebas darah dan kadar leptin darah pada mahasiswa universitas negeri Semarang. Available : <http://www.adln.lib.unair.ac.id/go.php?id=gdlhub-gdl-s3-2008-sugiharto>.

¹⁴Dewantari NM., Kayanaya AA. GdeRaka., Melantini 2011. Perbedaan Perubahan Berat Badan Berdasarkan Senam Aerobik. *Jurnal Ilmu Gizi, Volume 2, Nomor 1, februari 2011: 68 – 73*.

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