Level of nutrition knowledge personal trainer in West java

By Tommy Apriantono

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Abstract

Personal Trainer (PT) has a significant role in educating the community, including Nutrition Knowledge (NK). However, not all PT has a good NK. This research was conducted to determine how many PT with good NK are material for stakeholder evaluation to raise the level of Nutrition Knowledge in the broader community. Research is undertaken with survey methods, a type of quantitative descriptive. The study subjects were obtained by purposive sampling technique, obtaining 187 samples. To get NK, used Body Composition, Metabolism, and Dietary Requirements Questionnaire, there are 21 questions adapted from previous research. Furthermore, the data is obtained from the results of questionnaires that have been filled out independently by the subject through a google form. The results of research data are processed statistically using SPPS version 25. The subjects consisted of 187 participants with an average age of 27 years. The results showed that the study subjects' NK was in poor condition based on statistical test results. The level of NK that has not been optimal in the PT environment is a significant concern for improving competence and support to maximize NK to improve the Indonesian people's degree of health. The results of this study can be a suggestion and evaluation for policy stakeholders because there need to be improvements from policies that encourage the emergence of NK increases in the PT.

Keywords: personal trainer, nutrition, public health.

INTRODUCTION

Physical activity and diet are crucial to minimizing the risk of contracting chronic diseases (Organization, 2016). Even the World Health Organization (WHO) has recommended to the entire community for industry players and the professional world of work to facilitate employees to remain concerned about physical activity and diet to maintain work productivity and reduce the risk of getting sick (Amine et al., 2003; Grabowski et al., 2017). This is based on the majority of the USA, UK, and Australia does not get easy and reasonable access to recommendations for good nutrition intake for the body (HSE (Health survey for england), 2012; Moore & Thompson, 2015; Prevention, 2010).

The need for people to access information about sports and nutrition recommendations is still limited. It impacts the rise of Personal Trainer (PT) services in various fitness service providers. In the development of the fitness services industry, the role of PT becomes

crucial because PT becomes the main focus of clients to improve their fitness (Fleig et al., 2014). Expectations in the community of PT understand how to improve muscle mass, fitness, to lifestyle quality. One way is to educate clients about nutrition (Burkett B, 2012; Fleig et al., 2014; Mata et al., 2009). However, not all PT have enough knowledge related to nutrition, even though nutrition is one of the main factors to improve muscle mass and fitness (Katelyn Barnes et al., 2019).

The diverse background of PT is one of the causes, and the standardization of pt competence has not been appropriately implemented, which makes the quality of PT very diverse and varied (Keyzer et al., 2014). However, Nutrition Knowledge (NK) is essential for PT to promote a healthy lifestyle and help clients achieve the goals they want (K. Barnes et al., 2016; McKean et al., 2019). PT becomes an important figure in the community, behavior, habits, and direction become examples of the wider community.

What happened to PT in Australia is an example that NK the PT has an important role in the community. Continued research conducted in 2019 showed that clients expect that PT can guide all their lifestyles to be better, ranging from hours of sleep, training load, dietary intake, and physical activity (Katelyn Barnes et al., 2019). The low NK in PT and the community also impacts the dietary intake that is commonly done (Spronk et al., 2014). Unfortunately, athletes who have an excellent need for nutrition alone still have low nutritional knowledge and food intake, data obtained from research conducted on student-athletes in West Sumatra (Kurnia, 2014).

NK becomes the starting gate for PT to improve personal branding, educate the wider community through its services, and avoid misinformation spread about nutrition. Some research results show that PT or someone who explains diet is more desirable to be used as an exercise friend or trainer (Basabain et al., 2021). This is natural because the diet is most often done by someone in everyday life than exercise, so many people are more interested in those who master NK well. Therefore,

there needs to be in-depth research to find out the condition of NK among PT as a material for the evaluation of related stakeholders to develop work programs to improve community fitness through PT. This research is expected to input stakeholders to conduct assessments related to community nutrition quality improvement programs.

METHOD

Research is conducted by survey methods with quantitative descriptive research types. All research subjects were obtained by purposive sampling technique, had inclusion criteria to have no less than one year of experience, a background in undergraduate education, did not work outside the profession as a PT and fitness/health services environment, and were domiciled in java island. From these criteria obtained 187 participants with an average age of 27 years.

The recruitment process of research subjects begins with a national webinar on developing the national fitness service provider industry. Webinar participants were spread from various regions in Indonesia, which were then sorted based on predetermined criteria and obtained research subjects. The entire series of studies has passed the ethical test from The Bandung Police with letter number No. 10 / KEPK / EC / IV / 2020. The research procedure begins with the filling of informed consent of the samples involved in the study, followed by distributing questionnaires to the samples.

The NK level was obtained using several indicators, including the Body Composition, Metabolism, and Dietary Requirements Questionnaire, there were 21 questions adopted from previous research (A. Jagim et al., 2021). Furthermore, the data is obtained from the results of questionnaires that have been filled out independently by the subject through a google form. The results of research data are processed statistically using SPPS version 25. The NK category obtained from the questionnaire is in accordance with previous research (A. Jagim et al., 2021).

RESULT

The results showed that the NK level of all research subjects needed to be improved to give a more significant influence to clients and improve the wider community's fitness level. In writing, the results are only written research results containing data obtained in research or field observation results and the interpretation of data analysis.

Table 1. Anthropometric profile

Variable	Result
Age (Years)	27.2 ± 0.9
Height (cm)	171.6 ± 4.2
Weight (kg)	87.1 ± 7.8
Body Mass Index (BMI)	23.7 ± 3.2

Table 1. Explain the anthropometric profile of the research subject. All of the study subjects had an average age of young or 27.2 ± 0.9 years, an age group that is very dominant today or often referred to as the millennial generation. Furthermore, the average height of 171.6 ± 4.2 cm and weight was 87.1 ± 7.8 kg, with an average BMI reaching 23.7 ± 3.2.

Table 2. Nutrition knowledge questionnaire results

Variable	Consumption		Recommendations	Difference	p value
Total energy intake (kcal/day)	3123 ± 914 (2777, 3579)	Low	2619 ± 326 (2596, 2721)	−576 ± 443 (−740, −413)	<0.001
		Medium	3299 ± 410 (3148, 3429)	−1163 ± 471 (−1336, −1089)	<0.001
		Hight	3969 ± 495 (3800, 4137)	−1859 ± 509 (−2038, 1662)	<0.001
Total CHO intake (g/day)	205.0 ± 136.6 (134.0, 276.1)	Low	261.0 ± 32.7 (249.7, 272.2)	−143.4 ± 119.8 (−201.4, −105.4)	<0.001
		Medium	407.0 ± 50.5 (380.1, 413.8)	−279.7 ± 125.1 (−329.7, −229.8)	<0.001
		Hight	533.0 ± 66.4 (510.5, 544.4)	- 416.1 ± 131.6 (−468.4, −363.8)	<0.001
Total PRO intake (g/day)	108.8 ± 65.5 (86.7, 140.8)	Low	94.2 ± 10.8 (90.3, 98.1)	−37.0 ± 49.6 (−52.9, −17.1)	<0.001
		Medium	107.8 ± 12.5 (103.3, 112.3)	−48.5 ± 49.9 (−66.6, 30.5)	<0.001
		Hight	111.4 ± 14.2 (106.3, 116.5)	−62.1 ± 50.2 (−80.2, −43.9)	<0.001
Total fat intake (g/day)	56.2± 37.4 (38.7, 75.7)	Low	44.3 ± 5.6 (42.5, 46.2)	−12.8 ± 23.5 (−21.9, −3.6)	<0.004
		Medium	74.6 ± 8.4 (71.4, 77.7)	- 43.1 ± 24.4 (−52.6, −33.6)	<0.001
		Hight	89.7 ± 10.2 (85.9, 93.4)	−58.3 ± 25.0 (−67.9, −48.6)	<0.001

Data in table 2. Presented on average ± SD with a confidence interval of 95%. CHO = carbohydrates, PRO = protein. The results showed that the total intake of energy, CHO, PRO, and fat had a difference from the recommended.

Table 3. Nutrition knowledge category

Variable	Category	n	%
Nutrition Knowledge	Good	21	11.22
	Less	166	88.77

As shown in table 3 and figure 1, the average study subject falls into the category of 11.22% and less by 88.77% in the conclusions obtained from the NK questionnaire.
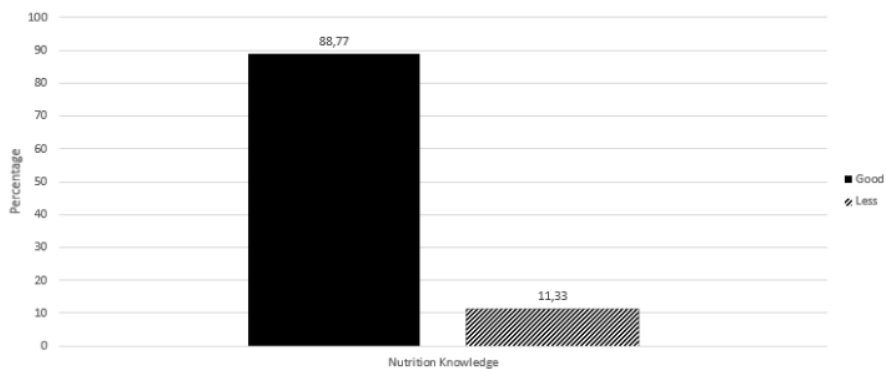

Figure 1. Nutrition Knowledge Level

DISCUSSION

Previous studies have reported low levels of sports nutrition knowledge using the same or similar sports nutrition knowledge questionnaires among PT (Andrews et al., 2016; Heaney et al., 2011; Hoogenboom et al., 2009; Gina L. Trakman et al., 2016; Gina Louise Trakman et al., 2018). Furthermore, the estimated energy and macronutrient needs are too low, especially for daily carbohydrates, not uncommon among PT (Condo et al., 2019; A. R. Jagim et al., 2019). Previous research assessed dietary requirements felt by other sportsmen who significantly underestimated their daily energy needs (−1284 ± 685 kcal/day), carbohydrates (−178 ± 94 g/day), protein (−31.4 ± 29.8 g/day), and fat requirement (−27.9 ± 18.7 g/day) (A. R. Jagim et al., 2019). In addition, inconsistencies between food intake perceived by PT compared to actual intake when using food guidelines. In line with the current study results, the observed differences between perceived dietary requirements

compared to calculated dietary requirements suggest that PT may have a poor understanding of their dietary requirements and a poor perception of what they need. Their actual intake consists of. Together, these issues tend to contribute further to the inadequate dietary practices of PT.

Low NK levels (88.77%) need to be examined more deeply for causation, which needs to be seen in educational background. On average, the PT has no constraints with education because almost all PT has completed undergraduate and master's strata. Then there needs to be a deepening of educational evaluation in various sectors/levels. The level of formal education still does not meet the needs of public knowledge about how good and correct nutrition and easily applied in everyday life (Schwartz, 2014). This has an impact on the role of parents is very large in helping students in implementing good nutrition consumption habits. In the context of athletes, they rely heavily on the role of coaches and team management (Cotunga et al., 2005), and the general public who rely heavily on PT because there has been no application of education about nutrition in formal schools. In the development of the digital world this time, some research shows the effectiveness of education through digital media to the community related to NK (Heikkilä et al., 2019).

In the future, there should be advocates for school-based nutrition education, even at the elementary school level. When viewed holistically, school-based nutrition education that includes a wide range of educational inputs and environmental change has real potential to be an effective part of national policies to reduce obesity. Previous studies have conducted two-year elementary school-based obesity reduction interventions, improved students' knowledge, improved attitudes, and improved nutritional behaviour, and reduced BMI, mostly among boys. The study adopts teaching methods that have been conducted by WHO, which include classes for parents on the importance of healthy food selection and physical activity, in addition to school health promotion activities for teachers, administrators, building maintenance employees, and installation

of playground equipment (Qian et al., 2017; World Health Organization. Regional Office for the Western Pacific, 1996).

Several studies have shown that the effectiveness of school-based nutrition and obesity-related programs for children can be improved by adding a parent/family nutrition education component, especially for schools in economically less developed areas with a greater proportion of parents who have less education than secondary school. This can be an important input for relevant stakeholders (Qian L, Newman IM, Shell DF, 2012; Qian et al., 2017).

The level of NK is influenced by another factor, namely the economic level. The economic level of an area has an impact on NK in the area, this is because the lower middle economic level prioritizes resisting hunger compared to the balance of nutrition and nutritional accuracy as in NK. Research in China shows the same thing that shows the economic level has an impact on NK, lifestyle, physical activity, and eating behaviour (Qian et al., 2017). Economics directly limits a person who has limitations, but culturally and knowledge that makes them limited in access to know and get good nutrition. Another thing that emerged from research conducted in Australia is the link between good nutritional intake habits and high NK levels (McLeod et al., 2011).

NK is an integral component of health literacy, as low health literacy is associated with poor health outcomes, high-quality, contemporary research is needed to inform public nutrition education and public health policy. A better understanding of this relationship can help develop more effective community nutrition education and targeted public health policies and funding (Spronk et al., 2014).

This encourages and supports investment in the increase in NK. It is necessary to expand the focus of research areas related to NK to obtain policy formulations in accordance with regional characteristics. In addition, nutritional socialization is needed from public health policy widely to clinical counselling. Nutritional misconceptions and difficulties in understanding or understanding dietary guidelines or food labels may

differ between populations, genders, and cultures. A deeper understanding will help provide targeted and relevant education. Since a large number of public efforts and funding are directed towards nutrition education initiatives, high-quality, contemporary research must be conducted. This appears to be particularly important for populations with low socioeconomic status who are most likely to have low health literacy and a greater risk of lifestyle diseases. This review shows that the evidence is lacking. Evaluation of nutrition education campaigns is often limited to basic awareness of key messages with less comprehensive assessments of how such interventions change dietary behaviour (Grunert et al., 2012).

Food products that circulate need to be categorized based on nutritional needs. These developments are in response to growing consumer interest in healthy eating, the flow of public policy measures that encourage healthy eating, and widespread debate in the public sphere about the importance of healthy eating and the difficulty in putting together a healthy diet. Understanding the difference in NK levels between buyers and their determinants will be very helpful both for public policy, which aims to design measures to increase buyers' nutritional knowledge levels and for the industry, which aims to market and target food products based on the dietary properties of products (Grunert et al., 2012).

The level of NK that has not been optimal in the PT environment is a significant concern for improving competence and support to maximize NK to improve the degree of health of the Indonesian people. The results of this study can be advised and evaluated by relevant stakeholders. This research is expected to be an evaluation material for PT and related stakeholders to improve competence to improve public health degrees through nutrition reflected through NK.

CONCLUSION

PT has a poor NK level, so it still needs to be improved again to help improve the level of health and fitness of the wider community. In addition, it is an evaluation material for relevant stakeholders to improve

the degree of health in Indonesia, considering that PT has a significant role in influencing and educating the community related to excellent and safe nutrition patterns. This research limitation is fixated on the area of PT, which is only centred on the island of Java. There needs to be further research that represents the country as a whole to represent PT in the region.

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