Sciences literacy on nutrition program for improving public wellness

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Abstract. Increased wellness for a person becomes a necessity now and for the future. Various ways people do to get fit include following and understanding nutrition. This review will inventory the concepts of science involved to understand the nutritional program and its impact on fitness levels. The method used is a quantitative and qualitative descriptive mixed method based on treatment to a number of nutrition group participants in a nutrition group in Bandung. The concepts of science that are the subject of study are the concepts of physics, chemistry, and biology. The results showed that the ability of science literacy and respondent's wellness level varies and there is a relationship between science literacy with one's wellness level. The implications of this research are the need for science literacy and wellness studies for community based on educational level and more specific scientific concepts.

1. Introduction
Fitness is an important requirement today and the future. Various ways people do to get fit include following and understanding knowledge about nutrition. To understand the concept of nutrition required a set of scientific concepts. Someone who is more understanding of science will be much easier to understand about nutrition. Someone will be more skilled in applying nutrition in his life. So someone who has good science literacy will be more successful in following a fitness program based on a fixed nutrition pattern.

The pattern of nutrition is very influential on the success of improving one's health. Good nutrition or nutrition can improve the health of individuals and communities [1]. Through an understanding of science in the movement of this nutrition, each individual is facilitated to understand basic concepts of nutrition and practical science [2]. To educate the public requires a systematic science concept that supports the process of movement of nutrition toward the acquisition of fitness [3]. Characteristic of the concept of science in nutrition can encourage a person to obtain an optimal level of health [4]. The level of health or quality of a person's health is characterized by indicators of body composition such as water, muscle, and fat [5]. These three compositions of water, muscle, and fat are the objects of science study consisting of physics, chemistry and biology.

So the study of one's understanding on water, muscle and fat aspects becomes very important involved in daily activities. Furthermore, the quality of this body will be influenced by the discipline of a person in the diet and daily activities [6]. In this connection, it is necessary to know how to understand the concept of science on the movement of nutritional literacy in order to improve the
quality of public health [7,8]. Therefore, this study will reveal the profile of science literacy and its relationship to nutritional practices and their impact on fitness levels

2. Methods
The method used is a quantitative and qualitative descriptive mixed method based on treatment to a number of nutrition group participants in a nutrition group in Bandung. There are 30 respondents involved in this study.

3. Results and Discussion
Based on the data processing obtained from 30 respondents, the analysis results are obtained related to: (1) the characterization of the fitness literacy of all respondents (2) the scientific literacy understanding profile (physics, biology and chemistry), and (3) the relationship between science literacy and the rate of change fitness respondents

3.1. Characterization of fitness literacy
The result of data measurement of fitness component of all respondents obtained profile of fitness level change from aspect of water content, muscle mass, and fat. Figure 1 shows the characterization of the respondent's fitness level change of the 30 respondents, both men and women more than half experienced positive changes (22 people = 733%). Moderate changes experienced by a small part (8 people = 267) of female respondents there are 2 (two) people who do not experience fitness improvement, while on the group of men there are 6 (six) people who do not experience increased fitness. It appears that almost half of the male group of respondents did not increase while in the women's group mostly experienced increased body fitness levels. There were female FR-1 and FR-4 respondents who experienced a very large fitness increase, which was 103 and 54.

Changes in fitness level can be felt by each respondent. Adequate drinking water intakes lead to a good level of fitness. To understand the intake of drinking water begins with knowledge of the amount of drinking water the body needs. The amount of drinking water is determined by how much volume should be consumed [9,10]. Normal adult bodies need 8 cups or 2 liters [11,12]. Individually, the FR-1 respondents have an excellent level of fitness determined by their understanding of water content, muscle mass and body fat [13]. As only the results of the study that fitness is determined by the three aspects above, namely water content, muscle mass and fat. Nevertheless, the characterization of water content, muscle mass and body fat of respondents showed varying numbers in the range of scores 0-2, 21 to 5, and more than 5.
3.2. Understanding of science literacy (physics, biology and chemistry)

The results of data processing of science literacy from all respondents obtained the understanding of science literacy (physics, biology and chemistry). Figure 2 shows the science literacy profile of all respondents. There were three respondents (1 female and 2 male) whose science literacy (physics, biology and chemistry) scored less than 10. Meanwhile the science literacy score was between 10 and 14, there were 21 (10 women and 11 men). The respondents who got a high score that is more than 14 there are 5 people (all female respondents). So that no one male respondent who has in the high group is female respondents (FR-1, FR-3, FR-6, FR-12, and FR-13). However, when compared with the highest ideal score (30), these five respondents only achieved 53.3% of the ideal literacy capability.

The content or accompaniment of education of nutrition program is related to the concept of physics, biology and chemistry. These three materials have actually been studied in junior and senior high school. All respondents are upper middle school graduates. Some of them are undergraduate and graduate. Aspects of knowledge in nutritional programs are more complex [14,15]. In the early stages of water content measurements, muscle mass, body fat and others require an understanding of the concept of physics. Because at the stage of measurement required knowledge and skill observer numbers and scale. The more difficult stage is when it comes to understanding the relationship.
between the characteristics of the foodstuff and the energy produced. The number of calories and impact on fitness is an important literacy part. Calories should be burned with activity, because fitness is closely related to physical activity [16].

![Figure 2. Profile of Science Literacy](image)

### 3.3. The relationship between science literacy and the rate of fitness change

Results of data processing science literacy and fitness level obtained the relationship between science literacy with the rate of fitness changes respondents through the following figure.

![Figure 3. (a) Physics, biology and chemistry literacy (b) Science Literacy and Wellness](image)

Figure 3 (a) shows the relationship between physical, biological and chemical literacy with the fitness of respondents. The highest relationship is shown by the relationship between biology literacy with wellness (coefficient 0.48). The relationship between physical literacy and chemical literacy with fitness was 0.25 and 0.20, respectively. Respondents who get fitness condition at a certain level followed by understanding the concepts of their biological by 48%. Meanwhile respondents who have a certain level of fitness is only influenced by 20% liter of biological concept. The numbers of
relationships between physics biology literature, and chemistry with the level of fitness of the participants of the average low nutrition program participants

Figure 3 (b) shows the relationship between science literacy (combined physics, biology and chemistry) with changes in water gains, muscle content, and levels of fat respondents. The highest relationship is shown by the relationship between literacy and levels of fat (coefficient = 0.46). The relationship between water science literature and muscle content is 0.24 and 0.39, respectively. Respondents who have certain scientific literacy are less able to predict the addition of moisture content in the body. Nor does it predict the addition of muscle mass. The number of relationships between science literacy and the level of fitness aspects of the participants of the average nutrition program participants is low.

Based on the description of Figure 3 (a) and (b) above are very small (less than 0.5) the relationship between physical, biological and chemical literacy with fitness. Similarly, very small (less than 0.5) the relationship between science literacy both with water gains, muscle content and levels of fat. This fact proves that fitness is related to the habits of one's nutritional intake [17]. It can be said that changes in a person's fitness and health levels will affect the nutritional intake of a person [18] [19].

4. Conclusion
Based on the results of data analysis and discussion, this study concludes that the ability of science literacy and respondent's fitness level varies and there is a low correlation between science literacy with one's fitness level The implications of this research are the need for a study of science and fitness literacy in the community based on educational level and more specific science concepts

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