



The Effectiveness of Minum Kuy as a Reminder of the Water Consumption Schedule for Athletes

Ni Putu Nita Wijayanti¹(✉), Aref Vai¹, Aulia Gusdernawati², Agus Sulastio¹,
Ardiah Juita¹, and Ali Mandan¹

¹ University of Riau, Pekanbaru, Indonesia
nitawijayanti987@gmail.com

² Yogyakarta State University, Yogyakarta, Indonesia

Abstract. Water in the body plays a very important role in the process of digestion and metabolism. If the body is properly hydrated, the adequacy of water in the body can maintain and stabilize blood flow, lubricate joints and body tissues, and facilitate the digestive process. The purpose of this study was to determine the effectiveness of the use of products that have been developed in previous studies, namely the Minum Kuy application which was developed to meet the needs of drinking water. The research method used is a research and development method with an assessment of the effectiveness of the application from the usage aspect and programming aspect from the experts. The Minum Kuy application was assessed for its effectiveness by 3 sports nutritionists and 2 media experts. Based on the results of the analysis of the effectiveness test data for the Minum Kuy application from an expert assessment of 81% in a very effective level, so it can be said that the Minum Kuy application can help as a reminder of the drinking water consumption schedule in meeting the body's fluid needs.

Keywords: Minum Kuy · Drinking Application · Android

1 Introduction

Fluid is the most important component in human life, because water is a component that makes up the human body by 70–80% [1]. Everyone has different body fluid needs, there are several factors that influence it, namely gender, activity, environmental temperature, and body condition [2]. Water has good benefits for the body as a filler in the space between joints, absorbs nutrients, regulates body temperature, makes up cell structures, and has a role in blood circulation and excretion of metabolic wastes [3, 4].

Given the importance of fluids in the body, it is necessary to pay attention to fluid intake by consuming drinking water regularly so as not to interfere with fluid function and maintain body fitness. If the fluid in the body is not sufficient or there is fluid loss of about 5% of body weight, the person will become dehydrated [5]. Furthermore, according to Yurizka, et al. [6] if the body is dehydrated 1% will reduce performance, 3–5% deficiency has an impact on decreasing concentration of memory and physical abilities and disrupting circulation and 25% water shortage. Based on factors that affect

fluid needs, athletes have different fluid needs because physically In general, the activities he does are moderate to heavy intensity, therefore it is necessary to keep the body well hydrated.

Activities carried out by athletes during training or competing produce quite a lot of sweat, so that if it is not balanced with adequate fluid consumption, fatigue occurs and affects athlete performance [7]. In an effort to anticipate risk factors that cause fluid and electrolyte imbalances, so that they are realized in various ways, both through appeals through social media to integrating technology that is packaged in such a way. This is evidenced by the efforts that have been made by Buana, & Suryawan by developing an android application that functions to calculate the need for water consumption that must be drunk per day and calculate fluid requirements [2]. Another effort was made by setiawan, namely developing an android-based fluid demand calculation application [8]. Furthermore, the results of research conducted by Arminditya Fajri Akbar and Prihatin Oktivasari in developing a Smart Bottle Application that is able to determine daily water needs based on each person's profile information and the calculation is carried out using a water discharge sensor [9].

Based on the research that has been submitted previously, it is indirectly an effort made by practitioners and academics to maintain public health through the development of science and technology. Looking at some of the research that has been submitted, some of the existing research involves a lot of technology in the realization process. This is because we are currently side by side with technology which is basically created to facilitate human work [10]. In addition, technology is also able to provide comfort and convenience for users to complete daily work or in the context of sports. Therefore, scientific collaboration is something that still needs to be done to meet the scientific needs of sports [11].

In connection with the use of technology in anticipating the risk of fluid deficiency, development efforts have been made in Aref Vai's research, namely an application designed as a reminder of drinking water consumption schedules to meet fluid needs for athletes based on Android mobile applications. In this study, the authors see that the application developed has not yet reached the stage of effectiveness testing. Therefore, to complement the previous research, the author intends to test the effectiveness of the applications that have been developed so that the products created are truly known for their effectiveness and are ready to be implemented on a wide scale, especially among athletes.

2 Method

This study uses a level 2 research and development method, which means that this research does not design a product, but tests a product that has been developed to determine the effectiveness and efficiency of the product [12]. Assessment of the effectiveness of the application from the aspect of use and the programming aspect of the expert. The Minum Kuy application was assessed for its effectiveness by 3 sports nutritionists and 2 media experts. Furthermore, the data on the effectiveness of the Minum Kuy application obtained through a questionnaire that has been filled out by sports nutritionists and media experts is then converted to a scale of 4 with a conversion reference, namely scale 1 is not effective, scale 2 is quite effective, scale 3 is effective and scale 4 is very effective.

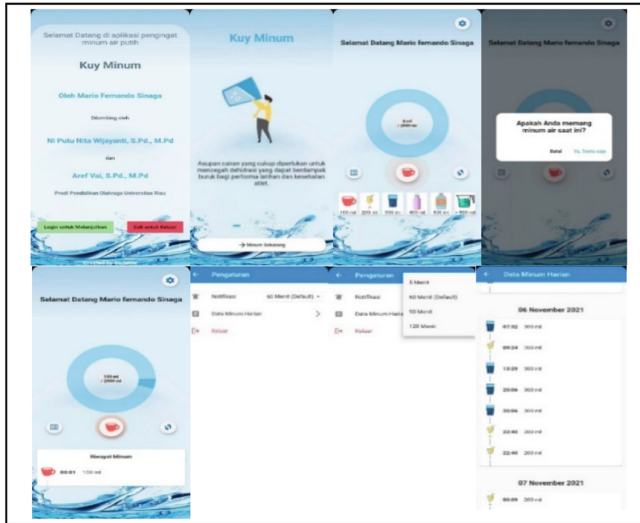


Fig. 1. The end product of Minum Kuy application.

Table 1. Characteristics of respondents.

Rated aspect	The score Obtained	Score Maximum	Percentage	Category
Program	146	200	73%	Effective
Use	178	200	89%	Very Effective
Total Score	324	400	81%	Very Effective

3 Results and Discussion

3.1 Results

In the following, the researcher will present the results of the research based on the level 2 development research steps that have been previously submitted which include: Specific products, Literature Studies, Testing Phases 1 to 3, Testing Results, Compare with standards, and conclusions and suggestions. The following will first display the products that will be tested for their effectiveness (Fig. 1).

Related to the Minum Kuy application which has been presented in the picture above, an assessment of the effectiveness of the application that has been developed is carried out in terms of programming and usage aspects as follows (Table 1).

In testing the effectiveness of the Minum Kuy application with an assessment by 3 sports nutritionists and 2 media experts, the program aspect value was obtained with a percentage of 73% in the effective category, then on the aspect of use it was 89% in the very effective category. Based on the assessment of these two aspects, the average value of the effectiveness of the Minum Kuy application is 81% with a very effective level as

a reminder of drinking water consumption schedules to meet the needs of body fluids, especially for athletes.

3.2 Discussion

Referring to the research that has been described previously, it was found that the Minum Kuy application can help as a reminder of the drinking water consumption schedule in meeting the body's fluid needs, especially for athletes, students of Sports Education FKIP University of Riau. This research is motivated by the importance of drinking water for health and fostering the habit of consuming drinking water so that the body can be hydrated.

Water contains nutrients that can help dissolve various kinds of chemicals in the body, so humans are required to consume drinking water regularly. But in reality, humans often forget the role of water for health. This can happen because there are various kinds of activities that are different from each person, so many forget to consume drinking water regularly [13]. Efforts to form a habit of drinking water the application Minum Kuy has an alarm function indicating the right time for water intake accompanied by a history of consumption. Furthermore, an application like this can motivate someone to do it consistently [14].

Furthermore, if you look at the theory [12] regarding effectiveness, it is a product/goods that has been made, then what is seen is that the specifications of the resulting product are used as a testing standard. In terms of whether the product made is in accordance with the expected specifications. If appropriate, the resulting product is effective. Vice versa. The same is true for the product being studied in this study. The Minum Kuy application has been declared to have been running well and the evaluation of the programming and usage aspects by sports nutritionists and media experts obtained an effectiveness rate of 81% at a very effective level. This is based on the Minum Kuy application which is very effective as a reminder of the drinking water consumption schedule to meet the body's fluid needs, especially for athletes.

The results of the final product in previous studies have shortcomings in the application because it can only be accessed online and can only be used on Android smartphones. Therefore, the researcher suggests to further researchers to develop a drinking water reminder application that can also be used offline and can also be used on IOS smartphones. Some of the limitations of previous research may be the basis for further research in improving the products that have been developed.

4 Conclusion

Based on the research results that have been presented in the results and discussion, it was concluded that the Minum Kuy application as a reminder of the water consumption schedule for athletes was stated to be very effective to use. The Minum Kuy application can help athletes meet the needs of body fluids, especially for athletes who are students of Sports Education FKIP Riau University.

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