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APPLICATION DEVELOPMENT OF DIABETES MELLITUS WITH E-LEARNING MEDIA CONCEPT

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ABSTRACT

Diabetes Mellitus Type 1 is the result of a systemic disorder of glucose metabolism which signed with chronic hyperglycemia. The situation is caused by damage to the pancreatic beta cells by either an autoimmune or idiopathic processes ¹ that insulin production is reduced and even stopped. On the other hand, Diabetes Mellitus Type 2 is a metabolic disorder that is marked by a rise in blood sugar due to a decrease in insulin secretion by pancreatic beta cells and insulin function or disorder (insulin resistance). The results of Health Research in 2008, showed the incidence of Diabetes Mellitus in Indonesia reached 57% (from total population), while diabetes mellitus type 2 is 95% in the world. Management of these diseases is done by the use of hyperglycemia and insulin oral medication and lifestyle modifications to reduce these incidences and microvascular-macrovascular complications of diabetes mellitus type 2. The material requires a learning media as a source of latest information for the service provider who expected to improve their knowledge with E-learning concept. It means learning with computer, specific softwares and internet. The objection of this paper explains how to make Diabetes mellitus learning media with computer software in order to attractive, interactive and make it easier for user; it also how to understand the importance of science about Diabetes mellitus and the way to handle this disease. The computer softwares are Microsoft Power Point as presentation media, Camtasia Studio and Corel Video Studio as video editor which will uploaded in YouTube. The method using descriptive analysis which explain work processes, it start from making presentation media in Microsoft Power Point, recording monitor screen with Camtasia Studio, video editing with Corel Video Studio, then the next steps are uploading video in YouTube and writing in personal blog which can find via google search. The result is E-learning media concept which raising the interest of users as material for the study of Diabetes mellitus and effective to minimize the impact of this disease.

Keywords: Diabetes mellitus, instructional media, and E-learning media concept

INTRODUCTION

Diabetes Mellitus is a disease characterized by the occurrence of hyperglycemia and impaired metabolism of carbohydrates, fats, and proteins associated with absolute or relative shortage of labor and or insulin secretion. The people who have diabetes mellitus symptoms are polydipsia, polyuria, polyphagia, weight loss, and numbness. International Diabetes Federation (IDF) said that the prevalence of Diabetes Mellitus in the world is 1.9% ² and has made diabetes mellitus as a cause of death sequence to seventh in the world, while in 2012 the incidence of diabetes mellitus in the world is 371 million people where the proportion of incident diabetes mellitus 2 is 95% of the

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world population suffer from diabetes mellitus. Results of Health Research Base in 2008, showed the prevalence of diabetes mellitus in Indonesia enlarged up to 57% (Burerah, 2010).

In Indonesia the exact number of people with type 4 diabetes mellitus is unknown although the figures reported rising sharply lately. As an illustration, the number of children with type 1 diabetes mellitus in patients with diabetes mellitus Association of Child and Adolescent (IKADAR) number has reached 400 people. Because there is the large number of diabetes mellitus in children are found in Indonesia, so parents and doctors often did not alert to the disease. Many parents do not even believe his son had diabetes mellitus, and have realized the pain is quite severe (Harding, 2003). Knowing that, it's time various parties associated with the management and prevention of diabetes mellitus both the type 1 and the type 2 such as doctors, nurses, physician endocrinologist children, and the health department, to harmonize and unify measures for the handling of the disease can be sustainable.

Thus, the objection of this paper is to explain how the of making processes about *diabetes mellitus* learning media by E-learning Concept. It means learning with computer, specific softwares and internet, such as Microsoft Power Point, Camtasia Studio, Corel Video Studio, YouTube, and personal blog : wordpress.

METHODOLOGY

This study about how to make learning media easier for users. It called E-learning media concept, which using internet and softwares. Of course not only media but also in scientific area, that is **Diabetes mellitus** learning media. The method of analysis conducted by the study description analysis which explain work processes. Steps being taken include the determination of the aspects of the discussion, data collection, and data processing aspects to generate conclusions. Aspect of the discussion as a limitation of the research conducted in this study include processes to make learning media. it start from making presentation media in Microsoft Power Point, recording monitor screen with Camtasia Studio, video editing with Corel Video Studio, then the next steps are uploading video in YouTube and writing in personal blog which can find via google search.

Equipment

Learning media *Diabetes mellitus* using hardware and software equipment in the manufacturing process.

1. Hardware

Acer laptop, windows 8.1 Enterprises 32 bit (6.3, build 9600), Aspire 4752, Intel (R) Core™ i3 CPU-z350M 230 GHz (4CPUS), 2.3 GHz, 2048 MB RAM memory. Recording sound using Voice Recorder from the LG Optimus L4 Dual E445.

2. Software

The manufacturing processes of learning using PowerPoint 2013 from Microsoft Corporation, Camtasia Studio 8 of TechSmith Corporation and Corel Video Studio.

Making procedures

In making process of the media learning *diabetes mellitus*, first step is to do a search of material *diabetes mellitus* of various journals and essence. Second, the material poured into Microsoft PowerPoint 2013, with a number of slides, where each color slides arranged compositions, writings and animation effects to impress. The third step to record sound to PowerPoint 2013 by using Sound Recorder on the handset LG Optimus L4 Dual E445, as recorded separately. Fourth, the screenshot video recording computer screen using Camtasia Studio 8, the Fifth made a video overview of diabetes mellitus with Corel Video Studio X6 and produced with the format ".mp4". As a necessary complement to the video creation video opening

and closing with Canon IXUS 125 HS Full HD Digital Camera video files which are exported also into Corel Video Studio X6. Video files that have been granted full mp3 instrumental tracks in order to give amazing effect. The last process is rendering a whole movie or a video in a single file mp4 format by searching for the file size is not too big to get under quotas when uploaded to youtube. The total size of the upload is 143mb. Video learning more accessible via YouTube with in-link it to wordpress blog that serves as the description / explanation from the video. Presenters should link it with facebook account because of students prefer to access social media so it will be popular.

RESULT AND ANALYSIS

Based learning media making procedures *diabetes mellitus*, the result that the materials used are sourced in the journal of *diabetes mellitus*, which consists of definition, types, signs and symptoms, and management.

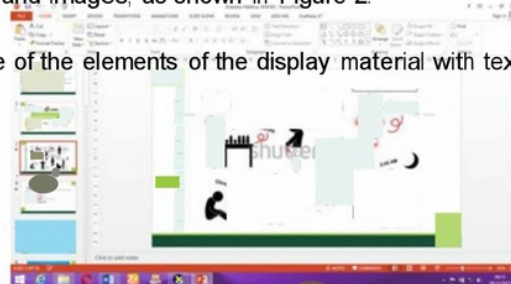
Once the material is collected and collated, the material incorporated into PowerPoint 2013 with initial view as in Figure 1

Figure 1. Screenshot of PowerPoint 2013 *diabetes mellitus* learning media



All material is inserted and prepared using animations and slide transition so that interesting. Number of slides in a media of learning as much as 23 slides, with the composition of the first slide initial appearance, 21 slide material, and the first slide cover. In each slide contains elements of words or phrases, sounds, and images, as shown in Figure 2.

Figure 2. One of the elements of the display material with text, and images.



Next is the voice recording process for PowerPoint 2013 by using Sound Recorder on the LG Optimus L4 Dual E445 as shown in Figure 3. The tape contained the voice in accordance with the materials on each slide material. The recording is saved in the format ".mp4".

Figure 3. One screenshot voice recorder



Media Learning diabetes mellitus using Camtasia Studio 8 to create a screenshot of the screen shown in Figure 4.

Figure 4. One screenshot Camtasia Studio 8



In *diabetes mellitus* instructional media there is a video created with Corel Video Studio application (Figure 5) and saved with the format ".mp4".

Figure 5. One screenshot Corel Video Studio



After *diabetes mellitus* learning media already produced, stored in a file format ".pptx" and ".ppsx". Instructional media then uploaded to wordpress.com and can be accessed through the address

<https://keperawatanjiwa2015.wordpress.com/2015/12/19/diabetes-mellitus/> in Figure 6.

Figure 6 Views on wordpress learning media.



Diabetes mellitus learning media can be uploaded by clicking "Check here: Diabetes Mellitus learning media" in Figure 7.

Figure 7 Display on google learning media.



The material in the manufacture of diabetes mellitus learning media is derived from the journal. With these materials, it is expected users (especially nurses) of *diabetes mellitus* learning media can understand how treatment in patients with diabetes mellitus if it finds the case comprehensively in the hospital and in the community.

Diabetes mellitus instructional media created using Power Point 2013, so it looks to be more interactive. Adryan (2013) explains that the Power Point is a transformation of the form of information technology in teaching and learning activities that can be used as a media for learning. PowerPoint is used as a media of learning can involve musty cognitive, affective, and psychomotor in the learning process because it can foster teaching and learning activities that focus on student, performed interactively, so as to attract attention and motivate learners. In addition to PowerPoint has its advantages, the application also has a weakness, which tends to make people lazy recorded and communication between educators and learners is reduced (Adryan, 2013). Nonetheless the use of PowerPoint 2013 to appeal and increase the interest of the users to use it as material for the study of diabetes mellitus for more interactive.

In addition to using PowerPoint 2013, the manufacture of diabetes mellitus learning media is so using the application Camtasia Studio 8 and corel video studio. Based on the site <http://www.techsmith.com/camtasia.html>, that Camtasia Studio 8 is an incredible tool to make the creation of video that can record everything in your device's screen. In the application Camtasia Studio 8 and corel video studio can do video editing in a professional manner with provision of themes, animation for background video, graphics, callouts, and so forth. The making of the video can be stored or distributed directly or uploaded to sites like youtube.com in Figure 8. To address can be accessed on <https://www.youtube.com/watch?v=OB-ujFGW4cY&feature=youtu.be>.

Therefore, the use of application Camtasia Studio 8 and corel video studio in the manufacture of diabetes mellitus learning media can increase zoom and can become more appeal to users.

Figure 8 Views on google about searching : *Diabetes mellitus*.



Figure 9 Views on youtube learning media.



Meanwhile, learning media is also uploaded to the blog site, that is wordpress. It aims to make it easier for people to access and use the media of learning diabetes mellitus. According Muttaqien (2011) with their blog, learning materials can be accessed anytime and anywhere, so the learning process is not limited to an educational institution, but it can be done anywhere. The use of web applications not only provide convenience to users or students, but also to educators who provide learning materials on the sidelines of his activities, so lighten the task of the educator (Hussin, Rasul, and Rauf, 2013). The material is also to link it in to facebook in Figure 9 with <https://www.facebook.com/wahid.yanti> address. The goal is for the students prefer to access social media so it will be popular.

Figure 9 Views on facebook about learning media.



Figure 10 Views on facebook about link of personal blog.



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CONCLUSION

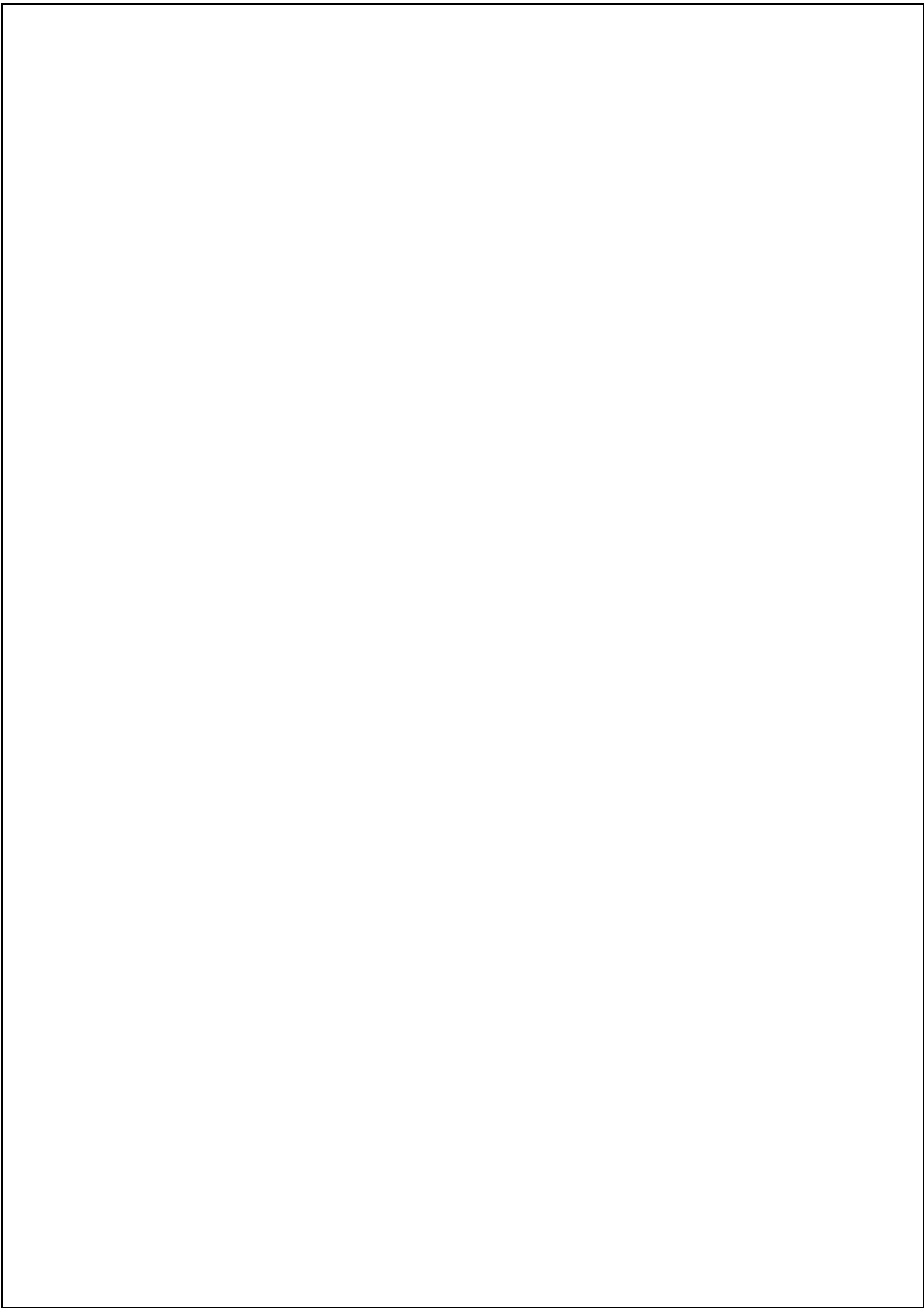
The manufacturing processes of learning *Diabetes Mellitus* using Power Point 2013, Camtasia Studio 8 and Corel Video Studio makes this media appeal and increase the interest of the users to use it as material for the study of *Diabetes Mellitus* because the media is more interactive and can be appeal more to users.

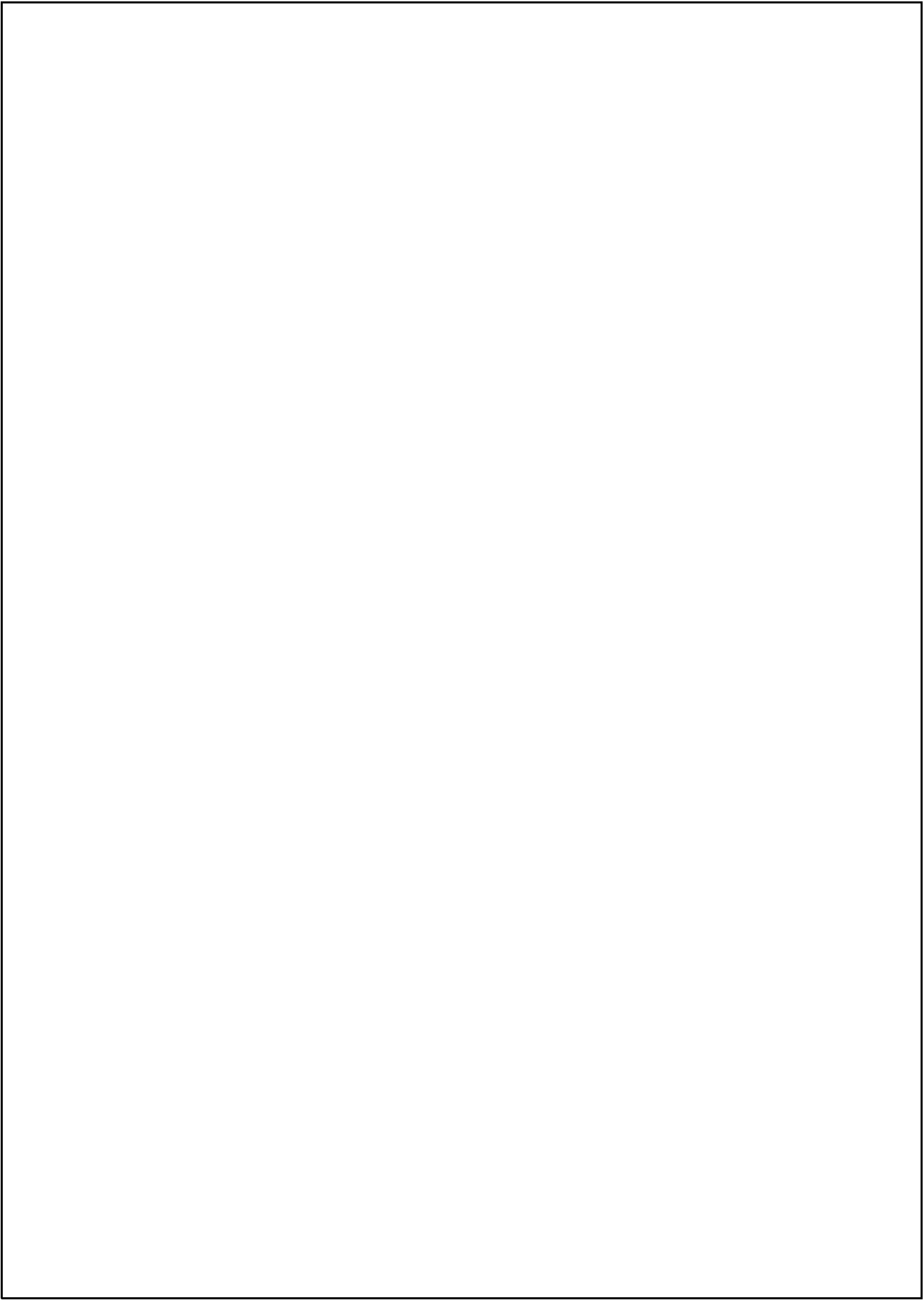
SUGGESTION

In the next research, continuing this paper, it will be better if researcher tested to know the effectiveness of *Diabetes Mellitus* instructional media to increase knowledge of the user.

ACKNOWLEDGMENT

Worship and praise to Allah SWT. who has given smoothness on this research activity. Neither the gratitude we say to the ICON's organizer and my lectures in Nursing Department, Faculty of Medicine, University of Brawijaya, also my little family especially my daughter 'Iii Farzana 'Nindy' Ayunindya and my husband Irawan Setyabudi who gave support to me, along whole friends who participate in helping the completion of this study.





ORIGINALITY REPORT

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Reduce Blood Sugar Levels in Diabetes Mellitus
Type 2", Journal of Diabetes Mellitus, 2017

Publication

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