

# An Online Information Tool for Diabetic Retinopathy

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**Abstract.** Regardless of the type of diabetes, patients with diabetes are 25 times more likely to develop vision problems or even blindness than non-diabetics. Diabetic Retinopathy is the most common cause of new cases of blindness in adults. The aim of this paper is to present a pilot online tool to provide information regarding the Diabetic Retinopathy. The tool was developed using a Content Management System. To compile the content of the website, a literature review was conducted. The online information tool is addressed to all potential stakeholders on this subject, for the provision of knowledge and targeted information according to their information needs. The online tool also aims to raise the public awareness about the Diabetic Retinopathy and health promotion.

**Keywords.** Diabetes Mellitus, Diabetic Retinopathy, Content Management System, WordPress

## 1. Introduction

Diabetes Mellitus (DM) consists of multiple metabolic diseases, which are characterized by chronic hyperglycemia. DM is a widespread worldwide disease and its prevalence has been steadily increasing in recent decades. Diabetic Retinopathy is a serious complication of DM, which occurs damage to the retina due to long term problems of the retinal vessels. Diabetic Retinopathy is the most common cause of new cases of blindness in adults aged 20 to 74 years [1]. Regardless of the type of diabetes, diabetics are 25 times more likely to develop vision problems or even blindness than non-diabetics [2]. Meanwhile, online platforms and Health Informatics seems to play an important role in the management of Ophthalmological Disorders by developing useful tools for prevention and treatment [3,4]. The aim of this paper is to present a pilot online tool to provide information regarding the Diabetic Retinopathy.

## 2. Methods

In order to develop the proposed tool, a literature review about Diabetic Retinopathy was conducted in relevant printed literature such as medical books and scientific journals as well as in online scientific databases (PubMed, Google Scholar) using

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relative keywords. Multimedia content was collected from various related websites. WordPress was selected for the tool development and specific plug-ins were installed to improve the functionality of the website's environment, as well as to support the different types of the published content. To cover the users' needs regular reviews of the website development were took place by two experts in the fields of Health Informatics and Informatics. The potential stakeholders and users of this system are healthcare professionals, students, patients, the relatives of them or any other persons who are not aware of the disease and they willing to increase their knowledge. Healthcare professionals can add content related to the Diabetic Retinopathy on the website. Students, patients and relatives can make comments on the published content. To ensure the content reliability, the uploaded content and the users' comments are under review before publishing.

### **3. Results and Discussion**

A pilot online tool to inform about Diabetic Retinopathy was developed in Greek language. The users can access this tool easily using a simple web browser. The content of this information platform includes images, text, videos, figures regarding the Diabetic Retinopathy, as well as links to recent scientific publications in this domain. This content is fed from the administrator or other super user-experts. In addition, visitors can be registered to this system to be able to post articles and comments, as well as, to edit the content based on their role. The usage of this tool can lead to the formulation of an online community of people who are interested in Diabetic Retinal (Eye) Disease including also patients. The tool offers a digital "place" where people of different disciplines can exchange their views and opinions in matters about the disease. The users can also update the content of the website after the administrator's or author's consent.

### **4. Conclusions**

The presented online pilot tool was created in order to inform the public about a particular condition that is not widely known and to increase the awareness for Diabetic Retinopathy. Strong knowledge about the disease can lead to early detection and better outcome for the patients. This pilot tool was developed in the context of the bachelor thesis. Future work includes the further development of the tool, the public access of it, as well as, the dissemination of the tool among potential users and various disease-related bodies such as scientific companies or patient associations.

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