

ORIGINAL ARTICLE

Validation in daily clinical situations of Diascope[®], a software developed to help healthcare professionals individualize antidiabetic treatment in type 2 diabetes[☆]



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KEYWORDS

Type 2 diabetes;
Treatment;
Treatment algorithm;
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Abstract

Introduction: DiaScope[®] is a software to help in individualized prescription of antidiabetic treatment in type 2 diabetes. This study assessed its value and acceptability by different professionals.

Material and methods: DiaScope[®] was developed based on the ADA-EASD 2012 algorithm and on the recommendation of 12 international diabetes experts using the RAND/UCLA appropriateness method. The current study was performed at a single session. In the first phase, 5 clinical scenarios were evaluated, selecting the most appropriated therapeutic option among 4 possibilities (initial test). In a second phase, the same clinical cases were evaluated with DiaScope[®] (final test). Opinion surveys on DiaScope[®] were also performed (questionnaire).

Results: DiaScope[®] changed the selected option 1 or more times in 70.5% of cases. Among 275 evaluated questionnaires, 54.0% strongly agree that DiaScope[®] allowed finding easily a similar therapeutic scenario to the corresponding patient, and 52.5 among the obtained answers were clinically plausible. Up to 58.3% will recommend it to a colleague. In particular, primary care physicians with >20 years of professional dedication found with DiaScope[®] the most appropriate option for a particular situation against specialists or those with less professional dedication ($p < 0.05$).

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Discussion: DiaScope® is an easy to use tool for antidiabetic drug prescription that provides plausible solutions and is especially useful for primary care physicians with more years of professional practice.

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PALABRAS CLAVE

Diabetes tipo 2;
Tratamiento;
Algoritmo de
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Validación en situaciones clínicas reales del DiaScope®, un software de ayuda al profesional sanitario en la individualización del tratamiento antidiabético en la diabetes tipo 2

Resumen

Introducción: DiaScope® es un software de ayuda a la prescripción individualizada del tratamiento antidiabético en la diabetes tipo 2. Este estudio evalúa la utilidad y aceptabilidad de dicha aplicación entre diferentes profesionales.

Material y métodos: DiaScope® fue desarrollado en base al algoritmo de la ADA-EASD 2012 y con las recomendaciones de 12 expertos en diabetes internacionales, usando el método RAND/UCLA Appropriateness Method. El presente estudio se llevó a cabo en una sola reunión. En una primera fase, se evaluaron de 5 escenarios clínicos, eligiendo la opción terapéutica más adecuada entre 4 posibilidades (test inicial). En una segunda fase, estos mismos casos clínicos fueron evaluados con DiaScope® (test final). Además, se realizaron encuestas de opinión sobre DiaScope® (cuestionario).

Resultados: DiaScope® modificó la opinión una o más veces en un 70,5% de los casos. De los 276 cuestionarios evaluados, un 54,0% estuvieron muy de acuerdo en que DiaScope® permitía encontrar con facilidad un escenario terapéutico similar al de un paciente determinado, y un 52,5% en que las respuestas obtenidas eran clínicamente plausibles. Hasta un 58,3% se lo recomendaría a un compañero. En particular, los médicos de Atención Primaria y > 20 años de ejercicio profesional encontraron con DiaScope® la opción terapéutica más adecuada para una situación concreta, frente a médicos de Atención Especializada o con menos años de ejercicio profesional ($p < 0,05$).

Discusión: DiaScope® es una herramienta de ayuda en la prescripción de antidiabéticos, de uso sencillo, con soluciones plausibles, especialmente útil en profesionales de Atención Primaria, con más años de ejercicio profesional.

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Introduction

The European Commission has pointed out that diabetes mellitus (DM) is one of the most important chronic diseases, and has developed a number of plans and projects to learn more regarding its prevalence and the economic burden associated with it, and to implement preventive measures.¹ The latest report on diabetes published in 2016 by the World Health Organization² estimated that in 2014, 422 million adults were diabetic, as compared to 108 million in 1980. Diabetes increases the risk of premature death, but is also associated with an increase in complications such as myocardial infarction, cerebral infarction, kidney failure, vision loss, etc. The disease is associated with high costs for health-care systems and accounts for a major loss of productivity.³

Intensive treatment of hyperglycemia may contribute to prevent or delay the progression of chronic complications of diabetes. Individualized treatment to achieve or maintain glucose control goals is critical. One of the latest published guidelines for the treatment of hyperglycemia in type 2

diabetes⁴ concerns a treatment algorithm that contemplates the combination of up to 10 second-line therapy classes. The selection of the most appropriate treatment for a specific patient may be a complex task, particularly for less experienced professionals.

Computerized clinical decision support systems are designed to help with, and improve, the clinical decision-making process.⁵ Although there is little consistency in the way these systems work, they usually make it possible to enter the characteristics of individual patients to generate individualized therapeutic recommendations using algorithms integrated in the software.⁶ Based on this premise, a group of European diabetes experts used the best available scientific evidence and the RAM method (RAND Appropriateness Method, a modified Delphi approach) to design DiaScope®, a system to help in the individualized prescription of antihyperglycemic treatment in type 2 diabetes.⁷ This tool has not yet been evaluated in specific clinical settings. This study was therefore designed to assess the value and acceptability of the application in a number

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