

RECOMMENDER SYSTEM FOR THERAPEUTIC EDUCATION OF DIABETIC PATIENTS

E. Maqueda¹, J.I. Hidalgo², J.-L. Risco-Martín², J.M. Colmenar³, J. Lanchares²

¹Endocrinology and Nutrition Service, Hospital Virgen de la Salud, Toledo, ²Computer Architecture Department, ³C.E.S. Felipe II, Complutense University of Madrid, Madrid, Spain

Aims: The objective is to develop an educational framework to help patients, who have just been diagnosed of Diabetes, making easier the first experience with the disease.

Materials and methods: We have developed a computer assisted tool for the education of debutant diabetics and patients with a bad glucose levels control. Our system has two main components:

1. an on-line Education System (OES) and
2. a Recommender System (RS) which offers the patient a series of training recommendations according to the stored information.

OES is a course aimed at the therapeutic education of diabetic patients. The management of course contents and assessment tests will be done by the endocrine specialist. It contains a series of visual tutorials. There are two user profiles, doctor and patient. RS performs an initial data collection by an on-line form (from diabetes knowledge to computer skills) to make initial recommendations. Successively, the RS uses data supplied from the patient's medical history in a database, clinical analysis, insulin doses, exercise or test results to recommend the reading of certain contents of the course. The application enables the management of user profiles, permissions. RS also analyses the results of the tests to give the relevant recommendations. The user Interface is friendly. The system is primarily focused on the early patient.

Results: The prototype system is available at pancreas.dacya.ucm.es (in spanish)

Conclusions: This work shows that computer aided education of diabetic patients is feasible. The RS will be auto-improved and completed by the inclusion of new data.