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Abstract

An expert system to optimize the choice of contraceptive methods

J. Schönegger¹, M. Ledochowski², K. Leidlmair¹

¹ Tyrolean Working Group for Artificial Intelligence, Innsbruck, Austria and ² Department of Internal Medicine University of Innsbruck, Innsbruck, Austria

With the increasing numbers of contraceptive methods and contraceptive pills the selection of the best-suited method is getting more and more difficult. We therefore developed the prototype of an expert system which helps the physician to find the best contraceptive method. As an expert system shell, we used the commercially available Knowledge Engineering System (KES) [1] from UNISYS Corp. The knowledge base is based on the recommendations of G. Döring [2] and W. Becker [3]. So far it contains more than 50 rules concerning mainly indications and contraindications of IUPs, gestagens and oestrogens in different dosage regimens. Frequent updates are planned as well as a clinical trial to test the expert system for its accuracy.

To use the expert system, the physician selects the contraceptive methods that are accepted by

the patient. After this the physician is asked in an interactive way by the computer for the patients age, certain diseases the patient has had and the family history as far as it is relevant. The computer then searches for contraindications and classifies the different contraceptive methods in 'favorable', 'unfavorable' or 'contraindicated'. On request, an explanation why the specific decision was made is given. Communication is held in German. The program is so far not available; however, a printout of the knowledge base can be sent on request.

References

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- [3] W. Becker, U.M. Moebius, H.W. Schmitt, P.S. Schönhofer and B. Wirth, Mittel der Wahl für die Empfängnisverhütung. *Arznei-Telegramm* 12 (1986) 114-116.

Correspondence: Maximilian Ledochowski, Department of Internal Medicine, Anichstrasse 35, A-6020 Innsbruck, Austria.