ONTOLOGY BASED KNOWLEDGE SHARING APPROACH FOR DENTAL EXTRACTION FORCEPS

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ABSTRACT

Tooth extraction is one of the common surgical procedure in the dental field. Without having proper knowledge on the tooth and extracting instruments, it may cause too much complexity on extraction procedure or even some damages to patients' jaws. Mainly when using extraction forceps, the proper forceps should be used according to the teeth and the situation. The information and knowledge need to be provided in a structured and complete way and in a context specific manner. Ontologies emerge as one of the more appropriate knowledge management tools for supporting knowledge representation, processing, storage, and retrieval. By considering the importance of sharing the knowledge on dental extraction, as a first stage, we gathered the information regarding the dental extraction forceps from the experts in the field. Then we started developing ontology as a second stage. Finally, the developed ontology was evaluated by ontology experts and inbuilt tools as an iterative approach. The needed description logics (DL) queries were developed in order to answer the competency questions (CQs). Those CQs and answers provided by the corresponding DL queries were checked again with the professionals in the dental domain. We strongly believe that our novel approach to dental extraction forceps ontology can support the dental students, dentists, as well as their assistants, improve the sharing of knowledge and learning practices. We are planning to develop a knowledge management portal on dental extraction as our future plan.

Keywords: Dental Extraction Forceps, Ontology, Knowledge Sharing, Health Care Sector