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| **Development of nutrition knowledge-based learning model by Information Technology for blood sugar control among diabetic patients** |
| **Background:** Diabetes can be prevented by lifestyle modification. Smart technology is an alternative way to deliver educational and motivational advice about lifestyle modification.  **Objectives:** To develop nutrition knowledge-based learning model (classify food game) for blood sugar control among diabetic patients in Rajavithi hospital.  **Method:** The quasi-experimental study with two phases was conducted. The first, the development of nutrition knowledge-based learning model by Information Technology was generated by situation analysis of diabetes care and multidisciplinary brainstorming. The second, outcomes of the model were evaluated by pretest and posttest of fasting blood sugar (FBS), knowledge to classify food types and satisfaction. The subjects comprised 80 diabetic patients and equally assigned into an experiment and a comparison group. The experiment was given classify foods game via smart devices. Three food types were classified as unlimited intake, limited intake and forbidden foods. Their knowledge scores before and after counseling by nurses and nutritionists were recorded. The comparison group received pre-knowledge paper assessment, were consulted by nurses and nutritionists, and post-knowledge paper assessment was done. The satisfaction about the model was assessed. At the second week of follow-up, the nutritionists called to both groups for lifestyle modification, and FBS was measured at follow-up. This study was reviewed and approved by the ethics committee, Rajavithi hospital.  **Results:** The characteristics of both groups were similar. The experiment group had significantly better knowledge about food classification than before the study, and better than the comparison group (p=0.035). An average level of FBS in the experiment group was significantly lower than before the trial, and significantly lower than those of the comparison group (p=0.041). The satisfaction of the experiment group was significantly higher than those of comparison group (p<0.001). The experiment group was most satisfied about the food game model in terms of interesting style, better knowledge, modern model, and easy to use.  **Discussion:** The classify food game model is an effective learning tool which significantly improved FBS in diabetic patients. Using technology increases the potential for diabetic caring and is similar to literature. Further investigation should apply this model for longer term to manage proper dietary behavior and control blood sugar levels.  **Keywords:** Nutrition knowledge-based learning model, Information technology, Blood sugar control, Diabetic patient |