

Nutrition Cloud System for Diseases Prevention, Control and Management

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Nutrition is one of the cornerstones of the individual's health status. The lack of proper nutrition at various life stages increases the risk of numerous conditions that may affect the quality of life, as well as mortality rates. Chronic diseases are increasing in Palestine and are influenced by the individual's dietary habits. Without the availability of the appropriate resources, it is difficult to manage and control their incidence and progression. In order to do so efficiently, one of the suggested tools is a nutrition cloud system, which would also promote healthy behaviours among other benefits relating to incorporating technology into health services. Palestinians lack the availability of such systems; therefore this project aims to develop and implement a comprehensive nutrition information system.

The Palestinian Online Intelligent Nutrition Information System will be based on nutrition data that have been implemented by Al-Quds Nutrition and Health Research Institute (ANAHRI) in collaboration with International universities and agencies such as; The University of Toronto, Tufts University, Emory University, and Johns Hopkins University under the support of USDA and USAID. The data includes 6,800 recipes in total have been analyzed to 83 nutrient values using the USDA database and NutriBase software. These recipes reflect the Palestinian dietary trend, needs, requirements, and preferences. Additionally, it reflects the dietary pattern of countries with similar trends, such as Jordan, Syria and Lebanon, and it also includes dishes from other countries that are commonly consumed in the Palestinian community, such as Egyptian, Saudi, and others.

Generally, the system is based on adding the different caloric and nutritional values and presents an overall pattern for individuals reflecting their 24-hour dietary intake. Therefore, the system provide services including providing the Palestinian population with a comprehensive and interactive tool to monitor individual's intake and suggest dietary alternatives and recommendations based on their health and social background and eating behaviors. The vast amount of data that is crucial in various domains allows a large room for future development. The program is planned to be utilized in the following areas:

Nutritional Medical Therapy: The system is able to include a module that is specific for certain nutrition-related conditions, which aim to reduce the progression of the condition and/or control its consequent side effects. This is accomplished through the analysis of assessment information in order to plan an effective course plan.

Food Security and Sustainability: This is one area where there is a large room for innovation. Ideas for progressing this area include providing functions that recommend more different varieties of a nutrient that are more sustainable, as well as information about the environmental footprint of one's diet. This function requires a preliminary market analysis in order to provide a cost plan alongside the diet.

Community and Public Health: Applying technology with nutrition is considered to be an innovative tool in public health interventions targeting certain populations and conditions. This can be studied to further prioritize certain areas of public health in regards to the community.

Biography:

Dr. Radwan Qasrawi is Director of Al-Quds Business Center for Innovation, Technology and Entrepreneurship (B-CITE). He is Researcher and lecturer at the department of computer science and information technology, Faculty of Science and Technology, Al-Quds University, Abu Dees, Palestine. His research combines computer engineer, public health, and medicine to study and develop ICT solutions at the national and international levels. One of his research areas is the development of predictive and preventive models of cancer diseases diagnosis and treatment. Another area is the intelligent systems designing and implementation for providing areal solution to health problems, such as occupational hazards and exposures, nutrition and food insecurity.