Using DIMS for Real-Time Monitoring of Patient Dietary Intake and Plate Waste: A Pilot Study at Herlev Hospital

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Introduction

The dietary intake monitoring system (DIMS) collecting and analyzing dietary data for monitoring of patient dietary intake.

Aims

- This paper presents the development and the feasibility of using the DIMS 2.0 for the purpose of real-time monitoring of patient dietary intake and plate waste.
- in a study aimed at evaluating a new meal serving system at Herlev hospital.

Development of DIMS (1.0 to 2.0)
What is new about the DIMS 2.0

- Real-time data capture and analysis

Automatizing real-time data analysis

- For monitoring of dietary intake and plate waste
- How?
  - Using DIMS application (on tablet) for real time
    - View cases
    - Meal analysis
    - Waste analysis
    - User interactive analysis

Overview of the application on tablet

Meal analysis output on the tablet
Interactive interface- User input

- Application: co-creational mode
- Interactive interface
  - User can add inputs
  - Improve accuracy portion size estimation

Portion consumed

Before Consumption Plate

After Consumption Plate

Methods

- Prospective study
  - Medical & surgical wards.
  - 9 weekdays in the pre implementation phase
- DIMS 2.0
  - Collect paired before and after photos & weight of plate
- Ethical consideration
  - Patients oral consent.

Results

- Real-time data of 104 plate contents before and after were captured on the mobile tablet
- Portion consumed
- Plate waste
- 2 minutes time frame for generating a complete patient dietary report

Conclusion

- DIMS 2.0 application facilitates a real-time monitoring of patient dietary intake and plate waste.
- Allows an investigator to have a quick and efficient overview of a patient with inadequate food intake.
- Photos of before and after meal servings can be used for guiding improved personalized meal serving.
Where are we?

- Automatize real-time monitoring of nutrient intake
  - How:
    - Nutrient data base
    - Photo recognition
    - 3D photo image
    - Nutrient intake estimation

Software needs (App, real time)

Research Team

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Q & A