Engaging patients in their nutrition care using technology: The NUTRI-TEC study

Dr Shelley Roberts
PhD, Accredited Practicing Dietitian
Allied Health Research Fellow
Griffith University and Gold Coast Health

Prof Andrea Marshall, Prof Wendy Chaboyer, Dr Merrilyn Banks, A/Prof Ben Desbrow, Zane Hopper, Alan Spencer, Ruben Gonzalez
Background: Hospital Malnutrition

- Malnutrition affects 20–50% of hospitalised patients\(^1,2\)
- Serious consequences for:
  - Patients: ↑mortality, complications (infection, pressure injury, falls)\(^3-5\)
  - Hospitals: ↑LOS, readmissions, hospital costs\(^6,7\)
- Inadequate dietary intake \(\rightarrow\) major modifiable risk factor
  - Majority of patients fail to meet nutrition needs in hospital\(^8,9\)
  - Interventions to improve dietary intake are needed
  - Patient participation in care can improve dietary intakes in hospital\(^10,11\)
Background: Patient Participation in Care

- Core concepts of patient participation in care\textsuperscript{12}:
  - Meaningful exchange of knowledge/information between patient and clinician
  - Mutual engagement in health care activities & decisions
  - Surrendering of some power/control by clinicians
- Australian Commission on Safety and Quality in Health Care national standard\textsuperscript{13}
- Improves patient outcomes, satisfaction, safety\textsuperscript{14,15}
- Improves nutritional intake among hospitalised patients\textsuperscript{10,11}
Overall aim

Use an integrated knowledge translation approach to develop, evaluate and implement a patient-centred intervention to engage patients in their nutrition care, for improving their dietary intakes in hospital.
Foundational research (PhD)

- **Literature review**: Hospital malnutrition: prevalence, causes, effects, interventions (incl. patient participation)
- **Observational study**: Dietary intakes of hospitalised patients and nutrition care practices (in study context)\(^{16,17}\)
- **Interviews**: Patients’ perceptions of actively participating in their nutrition care\(^{18}\)
- **Intervention design**: Theory and data informed (self-efficacy, patient participation in care, self-monitoring, goal setting)
- **Pilot intervention**: Determining feasibility, acceptability, indication of effectiveness (paper materials)\(^{11}\)
Patient education

Self-monitoring (and feedback)

Goal-setting

FINDINGS
✓ Feasible
✓ Likely to be effective
✓ Acceptable
The next phase

Using technology

To engage patients in their nutrition care
Adapting intervention to new technology
KNOWLEDGE TO ACTION (K2A) FRAMEWORK

Adapting intervention to technology: the NUTRI-TEC Study

**STAFF INTERVIEWS (n=19)**

1. **Enacting patient participation in practice**
   “…the existing food chart is filled by nurses and sometimes we get patients involved as part of helping them to become good self-managers, involved in completing their food chart.” (Dietitian)

2. **Optimising nutrition care**
   “It would be a lot easier to look at that [intake tracking] than a food chart. Also, obviously nurses are very busy, so if the patient is just doing it themselves then that might be a better prospect.” (Doctor)

3. **Considerations for implementing the program in practice**
   “I would say there definitely would be a percentage [of patients] that would find it difficult to fill them in. But I think the nursing staff could certainly assist in those cases if we are already filling in a food chart anyway.” (Nurse)
Next steps

- Analyse pilot study data
- ?Further feasibility work needed
- Full scale trial
  - Effectiveness (improving nutrition intakes, reducing malnutrition-related adverse events)
  - Patient engagement, satisfaction/acceptability
  - Cost-effectiveness
- Long term → implement into usual practice
References
