OPTIMAL: Optimizing dietary treatment to improve dietary intake and proactively prevent or treat malnutrition

Building a cost-effective approach to fight malnutrition across the chain of care

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Description of the initiative

- **Background/context**

Screening for malnutrition (risk) upon hospital admission, which is mandatory in Dutch hospitals, is the first step to identify patients with malnutrition (risk). Diagnosing malnutrition is of utmost importance, as basis for the dietary treatment plan. To optimize effectiveness of dietary treatment, and to be able to compare data among settings and countries, the GLIM criteria[1] need to be widely implemented. However, nowadays hospital length of stay is very short, making it very challenging to improve nutritional status during hospitalization. Instead, the window of opportunity is before admission and after discharge, i.e., in the primary care setting.

- **Rationale for the initiative**

A pilot study[2,3] in the University Medical Center Groningen (n=652) demonstrated that nutritional status is subject to change during hospital stay, with 31% patients well nourished at diagnosis becoming malnourished before discharge, while 86% of malnourished patients remained so during hospital stay. Malnutrition is associated with increased length of hospital stay, increased incidence of unplanned readmissions, increased health costs, and increased mortality. These findings indicate the need for start of or continuation of dietary treatment in the primary care setting. However, currently, insight in and awareness on prevalence of malnutrition, changes in dietary intake and nutritional status, and (cost-)effectiveness of dietary treatment of patients with malnutrition (risk) in the primary care setting is lacking.

Objectives and scope

We aim to: 1) Build an infrastructure for continuous data collection on dietary intake and malnutrition diagnosis (GLIM) in the primary care setting; 2) Gain insight in prevalence of malnutrition in the primary care setting, need for interventions (PG-SGA score), the extent to which patients in this setting meet their dietary goals, and compliance with their diet; 3) Build a business case of proactive dietary treatment in the primary care setting to reduce risk of unplanned hospital admissions and visits to the general practitioner.

Planned activities & deliverables

- **Outline the steps to be taken**

Step 1: To expand data collection from one region to all regions in The Netherlands, which requires training to dietitians and adaptations in their electronic health record software, and to add quality of life as outcome variable in the data collection.
Step 2: Based on the observational results, we will design and conduct a national *pragmatic clinical trial*, in which the experimental group will receive modified dietary treatment to improve dietary intake and nutritional status, to decrease incidence of visits to the general practitioner, unplanned hospital admissions, and to improve quality of life. The control group will continue with receiving dietary treatment as usual.
Step 3: Analysis of effectiveness and cost-effectiveness of the modified dietary treatment.

- **What are the concrete deliverables of the project?**

We will deliver a business case, describing cost-effectiveness of dietary treatment of patients with malnutrition (risk) in the primary care setting.

- **What achievements are possible in the next 12 and 24 months?**

In 12 months, primary care dietitians in all regions of The Netherlands will participate in the data collection, resulting in data of at least n=500. In 24 months, the business case will be delivered, analyzed in a study sample of n=1000.

Resources & enablers

- **Describe personnel, financial needs & how the grant will be spent**

€5000 will be allocated for expanding the technical infrastructure for data entry and data processing. Furthermore, €25000 will be allocated for hiring a researcher to perform data analysis including cost calculations, and writing the business case. BIA devices will be available as part of routine care.

- **What factors will make it successful?**

As practice-based research project, data will be largely collected in routine dietetic care. Dietitians will be highly motivated to contribute to the data collection, since this will create a win-win situation: dietitians will learn by doing, and will frequently receive interim results, i.e., benchmarking with other dietitians.

Results/outcomes & expected impact

- **How will the findings be implemented?**

As practice-based research project, data will be collected in dietitian's routine care. Additional training will be given to dietitians on GLIM malnutrition diagnosis, PG-SGA, and BIA. If the modified dietary treatment appears to be more effective in improving dietary intake and nutritional status, and cost-effective, the modified dietary treatment will replace current usual care.

- **How will this project advance patient care / contribute to optimal nutritional care?**

Insight in dietary intake and nutritional status over time will provide insight in effectiveness of current dietary treatment. These insights will allow development of interventions to further improve dietary intake, the extent to which patients meet their dietary goals, nutritional status, and consequently improve clinical outcomes. Moreover, the project will facilitate patient-centered care: patients will complete the patient component of the PG-SGA (PG-SGA Short Form [SF]), which has shown to improve awareness of malnutrition risk and need for interventions among the patients.[4]

- **What makes the project innovative?**

This will be Europe's first large-scale national study in the primary care setting to improve patients' dietary intake and nutritional status. Moreover, this project will significantly contribute to the implementation of the *GLIM criteria* to diagnose malnutrition.

- **Will the project be likely to influence national nutrition policy?**

The project is likely to influence national policy on the fight against malnutrition. On a strategic level, the project will provide practice-based evidence to effectiveness and cost-effectiveness of dietary treatment, which will empower the dietitians in negotiations with insurance companies to facilitate more hours of reimbursement of dietetic care for malnourished patients. The evidence base for dietetic treatment generated by this project will also be included in future versions of the national guideline on malnutrition, which is being widely used among dietitians in The Netherlands.

- **Is the project transferable to other settings/countries?**

The project, including the methodology and instruments, can be transferred to other healthcare settings, e.g., hospital setting and nursing homes, as well as other countries. For example, the PG-SGA has been translated and culturally adapted to multiple other (European) languages.[5] In fact, we stimulate to transfer the project to other settings, to enable improving nutritional care across the chain of care.

References:
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2019 MNI Grant Submission_Initiative/Research Project for Optimal Nutritional Care