



What are the challenges and potential advantages of implementing process-guided methods in the practice of nutrition counselling and dietetic therapy?

Results for Dietetic Assessment and Dietetic Diagnosis

Laura Hoffmann, Maren Peuker, Ute Hager, Talitha Wiegand, Karen Amerschläger, Irmtraud Weidenbach, Roland Radziwill, Kathrin Kohlenberg-Müller

Abstract

Workable concepts are needed for the transfer of process models for nutrition counselling and dietetic therapy (NCDT) into practice. The aim of this qualitative study was to jointly develop concepts for the implementation and documentation of dietetic assessment and dietetic diagnosis based on the Dietetic Care Process (DCP) process model in three focus groups with certified nutritionists and dietitians from the outpatient and inpatient sectors of NCDT.

Possible advantages as well as conflicts within the theoretically required contents were reflected upon in terms of their practical implementation and adapted in a goal-oriented manner. The study demonstrated that there is a need to strengthen the discourse on evidence-based dietetic practice with science-based support and guidance for practical implementation and long-term application.

Keywords: nutrition counselling, dietetic therapy, process-guided methods (DCP), implementation in practice, dietetics, quality improvement

Citation

Hoffmann L, Peuker M, Hager U, Wiegand T, Amerschläger K, Weidenbach I, Radziwill R, Kohlenberg-Müller K: What are the challenges and potential advantages of implementing process-guided methods in the practice of nutrition counselling and dietetic therapy? Results for Dietetic Assessment and Dietetic Diagnosis. *Ernährungs Umschau* 2023; 70(1): 2–11.

Open access: This article is available online:
DOI: 10.4455/eu.2023.002

Peer reviewed

Manuscript (original) submitted: 28 April 2022
Revision accepted: 05 October 2022

Corresponding author

Prof. Dr. Kathrin Kohlenberg-Müller
Hochschule Fulda – University of Applied Sciences
Fachbereich Oecotrophologie
Leipziger Straße 123, 36037 Fulda
kathrin.kohlenberg-mueller@oe.hs-fulda.de

Background

Process-guided methods support certified nutritionists and dietitians in the structured planning, implementation and evaluation of dietetic interventions [1], contribute to quality improvement and increase quality of care [2, 3]. The Dietetic Care Process (DCP) is a process model consisting of five interrelated process steps that cover the whole of nutrition counselling and dietetic therapy (NCDT) [4, 5] (♦ Figure 1): Dietetic Assessment, Dietetic Diagnosis, Planning Dietetic Intervention, Implementing Dietetic Intervention and Dietetic Outcome Evaluation [5]. According to the DCP, process-guided NCDT begins with Dietetic Assessment and Dietetic Diagnosis, which are essential to achieve a targeted dietetic intervention [6, 7]. Various professional associations are working on theoretical concepts for these two process steps [4, 6–11]. Assessment has been described as an important component of quality management in health care [12]. In Dietetic Assessment, the emphasis is on

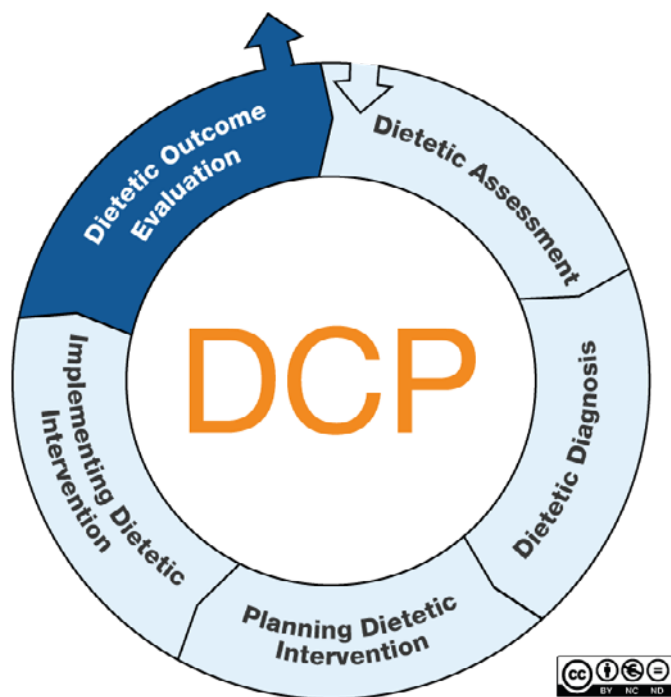


Fig. 1: **Process model for the Dietetic Care Process (DCP)** (modified according to [4])

a systematic approach involving the clustering of data into predefined categories [3, 4, 10] (♦ Table 1). In the DCP, this is done in accordance with the Nutrition Care Process (NCP) and the Nutrition Care Process Terminology (NCPT), or according to the International Classification of Functioning, Disability and Health (ICF) (♦ Table 2) [4, 5, 7, 8, 13, 14]. To operationalize the processes, the use of validated methods is emphasized in order to enable the collection of high-quality data, especially for Dietetic Diagnosis and Dietetic Outcome Evaluation [3, 4, 7].

In Dietetic Diagnosis, certified nutritionists and dietitians independently make one or more dietetic diagnoses using PASR statements [4] (♦ Table 3). This specific focus on the client's dietetic problem(s) [1] clearly differentiates dietetic diagnosis from medical diagnosis [15]. The Dietetic Assessment is the basis for formulating the dietetic diagnosis/diagnoses [15]. This way, the categories of the Dietetic Assessment can be directly linked to the PASR components of the dietetic diagnosis/diagnoses, thus systematizing their creation [4, 7] (♦ Figure 2).

These theory-based concepts for Dietetic Assessment and Dietetic Diagnosis are to be implemented in practice. Research on transfer into practice [16] can make an important contribution to this.

Research questions

How can theoretical concepts for Dietetic Assessment and Dietetic Diagnosis be put into practice? What are the areas of conflict between theoretical concepts and implementation of process-guided methods in practice?

Allocation	First step of the DCP
Central statement	It is a systematic process to gather dietetically adequate and relevant information about the client by using state of the art methods.
Aims and principles	Identifying nature and cause of dietetic related problems of the client.
Operationalization	The gathered information are documented in types of categories (client history, diet history, behavioral-environmental, clinical status) or following the ICF-model.

Tab. 1: **Definition of the Dietetic Assessment in accordance with the DCP** (own presentation in accordance with [4, 5, 10])

The aim of this study was to use a qualitative approach involving focus groups (FGs) to adapt and test the existing theoretical concept of Dietetic Assessment and Dietetic Diagnosis for use in practice, taking into account healthcare research [17] and participatory health research [18] that is focused on transfer into practice, and to discuss the challenges and potential advantages this concept presents, as well as further ideas for implementation, with the aim of developing a concept that is suitable for use in practice. Implementation was analyzed in two different settings: an acute care hospital (AC) and outpatient NCDT (oNCDT).

Methodology

Since the focus was on researching transfer from theory into practice, a procedure was chosen that involved actual practice throughout the entire research process, starting with planning. It was both organized in partnership with certified nutritionists and dietitians and continuously reflected upon in accordance with the concept of participatory health research [16, 18]. The requirements for data protection in research under the EU General Data Protection Regulation (GDPR) were taken into account [19].

Three focus groups (FGs) were created. The term FG has been defined as in Bär et al. as an approach in which the focus is on gaining knowledge through collaboration between different groups of stakeholders [20]. FG 1 included all certified nutritionists and dietitians in the AC that participated (n = 4).

FG 2 included certified nutritionists and dietitians from the oNCDT setting (n = 4). They were recruited on a voluntary basis from among the participants in the Fulda Dietetics Forum (*Diätetikforum Fulda*). All certified nutritionists and dietitians who expressed an interest were accepted into FG 2.

FG 3 consisted of all participants in the Fulda Dietetics Forum. The Fulda Dietetics Forum offers continuing education and networking

Client History	Personal history: name, date of birth, sex origin native language highest school-leaving qualification highest vocational qualification occupation marital status living situation tobacco consumption physical impairments mobility support with medical/nursing care contact/activity within social structures hobbies/leisure activities
	Medical/health history: main diagnosis (reason for NCDT) additional diagnoses past diagnoses mental health health status of the family pregnancy breastfeeding
Diet History	Eating habits: dietary assessment method (recommendation: 24-hour recall for at least 2 days, one weekend and one work day or food record) balance usual number of meals likes and dislikes independent diet/eating habits eating outside the home
	Required diet and medications: prescribed diet enteral/parenteral nutrition medication (in particular diet-related)/supplements
Behavioral-Environmental	Factors affecting access to food and food/nutrition-related supplies: planning of meals preparation of meals shopping for food mental and physical ability to care for own nutritional needs
	Food and nutrition knowledge beliefs and attitudes behavior: ability to prepare a balanced meal sources of information on nutrition basic knowledge of nutrition importance of recommendations importance of various aspects when buying food (freshness, taste, healthiness, low price, local food, seasonality)
	Behavior and behavior change: willingness to change eating habits (lack of intention, formation of intention, preparation, action, maintenance)
	Physical activity: Physical Activity Level (PAL) other comments on physical activity (activities of daily living and sports, incl. duration and frequency)
	Subjective Quality of life: WHO-5 Wellbeing Index
Clinical Status	Anthropometric data: height body weight Body Mass Index (BMI) waist circumference skin fold thickness
	Body composition: resting energy expenditure and body composition (lean mass, fat mass)
	Biochemical data, medical tests, and procedures: clinical chemistry/metabolic parameters in blood and urine vital signs
	Nutrition-focused physical findings : ability to swallow vomiting oral health use of dentures appetite and impaired appetite other physical findings (e.g., bowel movements, urine, respiration)

Tab. 2: **Content of the Dietetic Assessment in accordance with the DCP** (own presentation in accordance with [4, 5, 8])
NCDT = nutrition counselling and dietetic therapy

Allocation	Second step of the DCP
Central statement	Description of existing dietetic problems or risk for developing them.
Aims and principles	Expressing dietetic related problems by formulating statements about Problem P, Aetiology A, Signs/Symptoms S and Resources R.
Operationalization	The PASR-statements are phrased in the following way: <i>specific dietetic problem</i> related to <i>aetiology</i> as evidenced by <i>signs</i> (objective) and <i>symptoms</i> (subjective). For treatment usages, the <i>resources</i> can be used.

Table 3: **Definition of the Dietetic Diagnosis in accordance with the DCP** (own presentation in accordance with [4, 5, 10])

events at regular, semi-annual intervals. The target group are certified nutritionists and dietitians in the region of East Hesse. The content offered during the relevant period included two sessions on Dietetic Assessment (July 2020, n = 20; January 2021, n = 19) and one session on Dietetic Diagnosis (July 2021, n = 18). The FGs were implemented in a participatory manner. The discussions were recorded using minutes or were visualized on pinboards without mentioning names. The feedback was evaluated in joint discussions. The results were recorded in writing and sent to

the participants for comment [20]. The visualizations and minutes of the negotiation process were analyzed using the Mayring method of qualitative content analysis [21]. The existing theoretical concepts were adapted in joint consultation with FG 1 and FG 2 (step 1). The resulting concepts that were developed in a participatory manner were recorded using a paper-based system at the AC and digitally



for oNCDT, and then evaluated and adapted (steps 2–4). Each of the four certified nutritionists and dietitians in FG 1 conducted two pretests with self-selected clients from their practices. The clients were anonymized for the evaluation. The digitally implemented concept for oNCDT in FG 2 was subjected to a usability test. Since the prototype design was not yet suitable for testing in a real consulting situation, the usability test was conducted using an anonymized consulting situation that had been previously documented in analog format. In FG 3, following training on process-guided methods, the group collaboratively tested the concepts on a case study (step 5). Next, the FGs discussed the practical concepts that had been developed and initiated a negotiation process that reflected on the possible content of a practically feasible concept (step 6) and confirmed each final concept for digital implementation in the AC and in the oNCDT setting (step 7). ♦ Figure 3 depicts the entire process.

Results

Development of practically feasible concepts

The iterative process for creating practically feasible implementation and documentation concepts lasted from July 2020 to August 2021 in the AC and from January 2021 to October 2021 in the oNCDT setting. It was possible to develop workable concepts that were geared towards practice in the AC and the oNCDT setting using the feedback loops and practical tests. In addition, foundations were laid for digital implementation of these concepts.

When reflecting on the process of systematic, collaborative partnership among certified nutritionists and dietitians, participants reported that the process was time-consuming and challenging, particularly in terms of fitting meetings around daily work schedules.

How well does the theoretical concept fit into everyday practice at the AC?

At the AC, it was initially difficult to shift perspectives and shift the focus from the challenges associated with moving to the process-guided implementation and documentation concept to the potential advantages that restructuring previous documentation practices would present. However, partici-

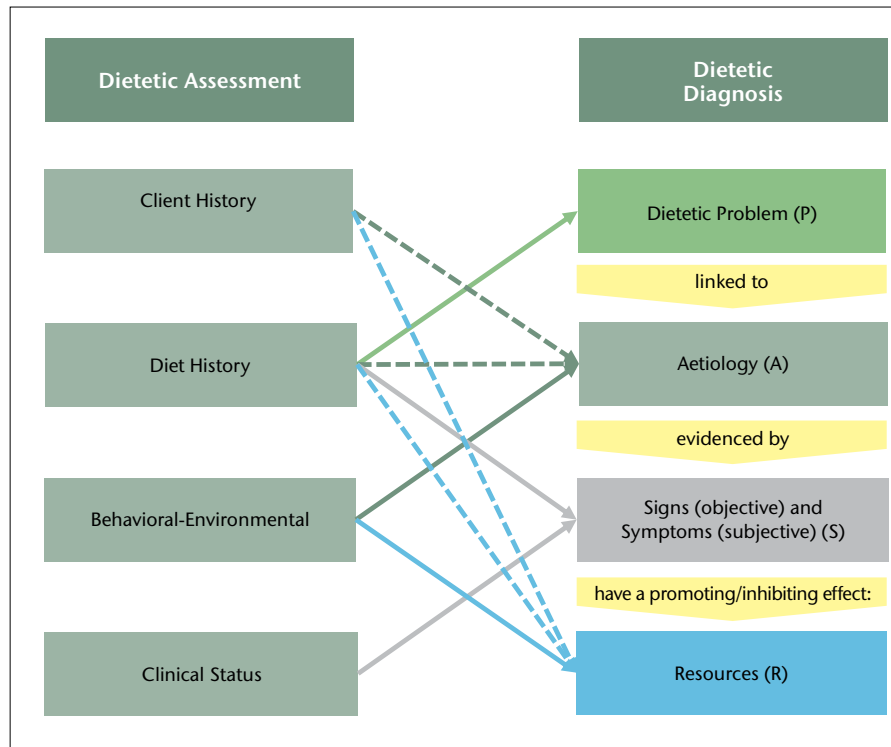


Fig. 2: Link between Dietetic Assessment and Dietetic Diagnosis (own presentation in accordance with [4, 7])

pants' satisfaction steadily increased as a result of the intensive collaborative discussions and the implementation of the leaner content requested by the practice partners. Due to facility-specific limitations, such as single appointments with lack of follow-up consultations and time restrictions, the content of the theoretical concept was significantly reduced and adjustments were made in all categories of the Dietetic Assessment. Particularly with regard to Diet History, the content to be documented was reduced by eliminating the originally proposed 24-hour recall as a dietary assessment method and including only the balance of major food groups and nutrients as part of the client interview. In the Behavioral-Environmental category, the sections on nutrition literacy, beliefs and attitudes, behavior and behavioral change, and quality of life were deleted. The pretest showed that the dietetic diagnosis was not implemented in accordance with the theoretical concept. Firstly, allocation to the components of the PASR statements mostly deviated from the guidelines (7 of 8 pretest sheets), and secondly, the documentation of the Dietetic Diagnosis was often incomplete (5 of 8 pretest sheets). However, the joint evaluations also showed that participants engaged deeply with the implementation of this step in the process. For example, a question was raised about what dietetic problems can be defined when the consultation is in preparation for an intervention, such as bariatric surgery. Overall, when reflecting on implementing the paper-based pretest, participants reported it was time-consuming.

How well does the theoretical concept fit into everyday practice in the oNCDT setting?

The development of the implementation and documentation concept for the oNCDT setting showed that it was possible to integrate the theoretical concept into practice well. No content was described as unnecessary or removed from the implementation and documentation concept. The only additions were suggestions for designing the questions as open or closed questions and for possible answer categories in closed questions. The certified nutritionists and dietitians



Fig. 3: **Process of implementing concepts suitable for practice in 3 FGs** (own representation)

AC = acute care hospital; FG(s) = focus group(s); NCDT = nutrition counselling and dietetic therapy; oNCDT = outpatient nutrition counselling and dietetic therapy



CHALLENGES	↔	POTENTIAL ADVANTAGES AND IDEAS
GENERAL CONDITIONS IN THE HEALTHCARE SYSTEM		
high amount of time required for data recording and documentation, which is sometimes not directly taken into account in hourly fee calculations/billing	↔	taking Dietetic Assessment into account as a factor in hourly fee calculations and billing
		adjusting the formats: data collection prior to the first consultation using history forms or a preliminary telephone conversation
working from a starting point of incomplete data (e.g., lack of medical data or laboratory values), particularly due to limited financial resources or inadequate access to medical documentation	↔	maintaining close contact with other disciplines (e.g., through participation in team meetings in the inpatient setting)
lack of interface management between the AC and the oNCDT setting (especially with regard to data transfer)	↔	implementation of referral or discharge letters so that the NCDT process can continue seamlessly
STRUCTURE OF DIETETIC ASSESSMENT		
data collection: data collection is demanding and complex due to the various data sources and, in some cases, unclear or undocumented data collection methodology (e.g., Diet History)	↔	use of a common digital infrastructure (e.g., digital client file in the inpatient setting), implementation of standard operating procedures (SOPs) for the selection and use of data collection methods, further development of an evidence-based methods pool
data selection: difficult to make decisions about which data are relevant	↔	needs-based training and networking events facilitating discussion among colleagues and sharing information about interactions with clients (e.g., Fulda Dietetics Forum)
client-specific characteristics, expectations and wishes		

Fig. 4: Challenges, potential advantages and ideas for practically feasible implementation of Dietetic Assessment (own presentation) AC = acute care hospital; (o)NCDT = (outpatient) nutrition counselling and dietetic therapy

gained a comprehensive insight into their documentation practices to date. The usability test showed that none of the certified nutritionists and dietitians has yet made dietetic diagnoses using PASR statements. However, the certified nutritionists and dietitians commented that this step in the process was important to document: “[...] good that the Dietetic Diagnosis is required by the system. That means it has to be done.” During the usability test, two of the certified nutritionists and dietitians created PASR statements corresponding to the theoretical concept using their assessment data.

What are the areas of conflict when implementing process-guided methods in practice?

After the concept tests in FG 1 and FG 2, challenges, potential advantages and ideas were reflected upon. Following training on the theoretical basis of the concept and practical engagement through a case study, the practicality of the concept was discussed in detail in FG 3. This revealed challenges as well as potential advantages and ideas.

These challenges, potential advantages, and ideas were reflected upon for all settings in terms of Dietetic Assessment (♦ Figure 4), Dietetic Diagnosis (♦ Figure 5), and process-guided methods as a whole (♦ Figure 6). Aspects that were mentioned included aspects related to the general conditions in the healthcare system, aspects related to the scientific basis for the process steps, and general aspects related to the structures of the process steps/the process-guided approach as a whole. In addition to the challenges that were discussed, the certified nutritionists and dietitians involved in the solutions-oriented discussion also identified potential advantages.

Discussion

The accompanying research on the implementation of process-guided methods took a new approach to transfer from theory into practice. The theoretical concepts for Dietetic Assessment and Dietetic Diagnosis in the DCP process model were discussed with certified nutritionists and dietitians from an AC and certified nutritionists and dietitians from the oNCDT setting with regard to practical feasibility and were then adapted in a step-by-step manner. As part of the quality improvement process, practical concepts that focus on Dietetic Assessment and Dietetic Diagnosis in the first instance were developed. The areas of conflict identified in the iterative process were linked to potential advantages and ideas in a solutions-oriented discussion.

Implementation of theoretical concepts in everyday practice at the AC and in the oNCDT setting

Based on healthcare research that is focused on transfer into practice and participatory health research, the concepts were developed in partnership with the practicing certified nutritionists and dietitians and individual solutions were found for the AC and the oNCDT setting. Participatory research, in which the

CHALLENGES	↔	POTENTIAL ADVANTAGES AND IDEAS
GENERAL CONDITIONS IN THE HEALTHCARE SYSTEM		
time constraints as a structural problem: there is less time for the actual therapy due to the lack of budgeting for the preparatory work	↔	increase awareness of how to formulate a dietetic diagnosis as distinct from a medical diagnosis
		targeted dietetic intervention through identification of the root causes of dietetic problems
		usefulness as “evidence” for the certified nutritionists' and dietitians' own therapeutic work
SCIENCE-BASED FUNDAMENTALS		
there is a need to impart current (scientific) knowledge	↔	increased structuring of the dietetic intervention through “step-by-step instructions”
		teaching and learning: being able to distinguish between the Problem, the Aetiology, the Signs, the Symptoms and the Resources
		guidance for certified nutritionists and dietitians who are just starting out
STRUCTURE OF DIETETIC DIAGNOSIS		
high complexity of this process step	↔	greater emphasis on the importance of dietetic diagnosis as opposed to medical diagnosis
		strengthening self-reflection
it is difficult for certified nutritionists and dietitians to influence P, A, S, and R in a client-specific manner, especially with regard to changes in the living environment	↔	needs-based training and networking events facilitating discussion among colleagues and sharing information about interactions with clients (e.g., Fulda Dietetics Forum)
		maintaining close contact with other disciplines (e.g., through participation in team meetings in the inpatient setting)

Fig. 5: Challenges, potential advantages and ideas for practically feasible implementation of Dietetic Diagnosis (own presentation) PASR = Problem, Aetiology, Signs and Symptoms, Resources

process-guided approach was considered from different perspectives together with the FGs, laid the foundation for changes [20]. This study demonstrates that joint discussions are essential in implementing a process of change that leads to practically feasible concepts in the sense of process-guided methods. This is consistent with the findings of a qualitative study of NCP implementation that emphasized dialogue and discussion to address challenges posed by innovations, such as implementing a process-guided approach [22].

For the AC, the theoretical concept had to be significantly pared down, particularly in the categories of Diet History and Behavioral-Environmental factors, due to structural constraints. The extent to which this would lead to limitations of process-guided methods and impact the effectiveness of NCDT requires further investigation. For the oNCDT setting, it was possible to adopt the theoretical concept in its entirety. It was found that although certified nutritionists and dietitians in oNCDT viewed implementation in their field as a challenging change, they also viewed it as a great opportunity. Reasons for the different levels of detail in the implementation and documentation concepts could lie in the different structural requirements of the two settings: NCDT in Germany takes place in both inpatient and outpatient settings. These two settings are structured differently. Inpatient NCDT is subject to the remuneration requirements of the German Diagnosis Related Groups (G-DRGs) [23]. Currently, oNCDT is often provided on the basis of a physician's certificate of necessity, which is usually used to subsidize up to five counselling sessions. Full cost coverage is provided only for rare metabolic diseases and cystic fibrosis, in which

NCDT is recognized as a therapeutic intervention [23]. Certified nutritionists and dietitians in the oNCDT setting tend to work in smaller organizational units. They often develop their own structured procedures and would welcome tools to assist them with this, including documentation tools [24]. By contrast, certified nutritionists and dietitians working in the AC have to work according to predefined structures in which the documentation of dietetic services has often played a subordinate role to date [5]. This is consistent with the study by Lövestam et al. (2017), who highlighted factors that limit the implementation of a process-guided approach, particularly in settings with a strong hierarchical structure, such as a large hospital in which various professions are working together [22]. There have also been discussions about staffing and time restraints with regard to NCDT in clinics – these restraints make it difficult to conduct a detailed assessment [25]. A lack of G-DRGs for NCDT also limits implementation [26]. Furthermore, according to recent data, the length of stay in hospitals is continuing to decrease, making intensive consultations with certified nutritionists and dietitians more difficult [27].



CHALLENGES	↔	POTENTIAL ADVANTAGES AND IDEAS
GENERAL CONDITIONS IN THE HEALTHCARE SYSTEM		
general/contextual conditions are not conducive to process-guided methods (e.g., time-related structures, obstacles to the transmission of data for medical diagnosis, parallel documentation structures in the AC, limited options for billing)	↔	identifying weaknesses in the general conditions, their consequences and the changes needed in an interdisciplinary manner
lack of recognition of the value of NCDT (e.g., at the AC and when discussing with professionals from other fields) delays change processes	↔	increasing awareness of the potential of NCDT, e.g., through intensive transdisciplinary outreach, strengthening connections with relevant stakeholders, and nutrition and health communication
lack of interface management between NCDT in the AC and NCDT in the oNCDT setting (especially with regard to data transfer)	↔	implementation of referral or discharge letters so that the dietetic intervention can continue seamlessly
STRUCTURING THE PROCESS STEPS		
more time and effort required to become familiar with the structures of process-guided methods	↔	systematic structuring of the consultation process (e.g., categories of the Dietetic Assessment)
comprehensive data collection and documentation	↔	structured, transparent and detailed data collection: no omission of relevant data, improvement of data quality, increasing the standardization and evaluation of NCDT in order to be able to prove its effectiveness for the future
partial knowledge deficits and lack of experience with process-guided methods	↔	needs-based training and networking events (e.g., Fulda Dietetics Forum)

Fig. 6: Challenges, potential advantages and ideas for practically feasible implementation of process-guided methods (own presentation) AC = acute care hospital; (o)NCDT = (outpatient) nutrition counselling and dietetic therapy

Areas of conflict and potential advantages when implementing process-guided methods in practice

The joint reflection process also revealed various challenges. Challenges to do with the structural framework of the healthcare system were particularly prevalent, as time and financial constraints make it difficult to implement Dietetic Assessment and Dietetic Diagnosis. With regard to the design of the process steps, the certified nutritionists and dietitians highlight that familiarization with the process requires extra effort, and that the process steps are highly complex. They note that the extra effort could be further reduced through training and networking, and by implementing the process steps in education and training programs. This has been pushed for for several years [28]. Certified nutritionists and dietitians see the improved structuring and systematic nature of the counselling process as a major benefit that comes with various potential advantages. In future, it may be possible to reduce the time required and improve the quality of the data in order to increase the personalization of NCDT and at the same time prove its effectiveness. In addition, improved structuring and systematization could strengthen certified nutritionists' and dietitians' self-reflection, as well as transparency in interdisciplinary collaboration. Furthermore, certified nutritionists and dietitians stressed that formulating a dietetic diagnosis, in particular, was a potential advantage for their own profession.

Limitations

The focus on facility-specific implementation and documentation concepts provides valuable impetus, but there is still a need to investigate how far these concepts can be generalized and transferred to outpatient and inpatient settings that have not been involved to date. The inclusion of other certified nutritionists and dietitians from different fields of work would also be very beneficial.

Digital solutions have been prepared for both the AC and the oNCDT setting because this is seen as the way forward for the future [29].

Conclusion

Process-guided methods in dietetics offer great potential advantages for the further professionalization of dietetics as a discipline. Concepts for process-guided methods have the potential to increase quality of care in NCDT. Dietetic Assessment can be used to collect targeted data, and Dietetic Diagnosis can be used to precisely tailor the specific dietetic approach going forward. This participatory development of process-guided implementation and documentation concepts represents a decisive step towards making the previously strongly theory-based concepts suitable for implementation in practice. It is anticipated that these concepts, which have been developed in partnership with practitioners, can be implemented well in practice. Further studies are required to evaluate them. Setting-specific conditions and structures (especially in the AC) made comprehensive process-guided documentation with detailed assessment of Diet History and Behavioral-Environmental factors more difficult and also made it more difficult to formulate complete dietetic diagnosis.



OVERARCHING STRUCTURAL RECOMMENDATIONS FOR THE HEALTHCARE SYSTEM
<ul style="list-style-type: none"> – raising awareness of the high potential of NCDT and the adaptation of compensation structures for certified nutritionists and dietitians – taking all process steps into account as factors in hourly fee calculations and billing – strengthening intra- and interdisciplinary collaboration (discussions and use of shared documentation systems): complete and consistent data, stronger influence on client change
RECOMMENDATIONS FOR SCIENTIFIC DISCOURSE
<ul style="list-style-type: none"> – providing a scientific basis for additional data collection methods, e.g., for Diet Histories – preparing new scientific findings for dissemination and making them available
RECOMMENDATIONS FOR FAMILIARIZATION WITH THE PROCESS MODEL
<ul style="list-style-type: none"> – using process-guided methods and documenting them right from the start: in training and teaching at universities of applied sciences, other universities and at the career start – engaging with the implementation and documentation concept in the context of a step-by-step guide that is tailored to individual clients – providing training events that meet the needs of practitioners
RECOMMENDATIONS FOR WORKING WITH THE IMPLEMENTATION AND DOCUMENTATION CONCEPT
<ul style="list-style-type: none"> – data collection prior to the first consultation using history forms or a preliminary telephone conversation – using the process model as a framework for more personalized NCDT – using the predefined implementation and documentation concept as an opportunity for complete and personalized documentation, not as an obligation to document all aspects in every consultation – sharing experiences with colleagues

Fig. 7: Recommendations for practically feasible implementation of process-guided methods (own presentation)
NCDT = nutrition counselling and dietetic therapy

ses. Overarching negotiation processes involving decision-makers are required in order to obtain greater room for maneuver in this area in the future.

Discussion of the practical feasibility of the theory-based concepts has revealed challenges, but these challenges also potential advantages and ideas. Recommendations for the implementation of process-guided methods – focusing on Dietetic Assessment and Dietetic Diagnosis – can be derived from these discussions (♦ Figure 7): Structural changes in the healthcare system must be addressed across the board. The scientific discourse on evidence-based dietetic practice [30] in Germany needs to be advanced further. Guidance must be provided on the practical implementation of process-guided methods and on the long-term application of participatory implementation and documentation concepts. Standardized procedures, such as standard operating procedures (SOPs), could be used to structure data collection and thus support the widespread implementation of Dietetic Assessment in particular. Training and implementation in practice must be pursued further, e.g., through needs-based training and networking events and further intensification of relevant training and teaching at universities of applied sciences and other universities. Research on transfer into practice and participatory health research will highlight potential advantages for the long-term implementation of new approaches. This will also provide starting points for further practice-based research in this professional field, as well as a stronger emphasis on transfer of science into practice.

Conflict of Interest

The authors declare no conflict of interest.

M. Sc. Laura Hoffmann¹

M. Sc. Maren Peuker¹

M. A. Ute Hager²

M. Sc. Talitha Wiegand¹

Dipl. oec. troph. Karen Amerschläger³

Dipl. oec. troph. Irmtraud Weidenbach⁴

Prof. Dr. Roland Radziwill⁵

Prof. Dr. Kathrin Kohlenberg-Müller¹

¹ Hochschule Fulda – University of Applied Science
Fachbereich Oecotrophologie
Modellprojekt für die diätetische Versorgung im Raum
Fulda (MoDiVe)
Leipziger Str. 123, 36037 Fulda

² Universität Mannheim
Zentrum für Lehren und Lernen
Schloss, 68161 Mannheim

³ Praxis für Ernährung
Fuldaer Str. 22, 36364 Bad Salzschlirf

⁴ Klinikum Bad Hersfeld GmbH
Institut für Gesundheitsberufe
Seilerweg 29, 36251 Bad Hersfeld

⁵ Klinikum Fulda gAG – Apotheke und Ernährungszentrum
Pacelliallee 4, 36043 Fulda



References

1. Vanherle K, Werkman AM, Baete E, et al.: Proposed standard model and consistent terminology for monitoring and outcome evaluation in different dietetic care settings: Results from the EU-sponsored IMPECD project. *Clin Nutr* 2018; 37(6 Pt A): 2206–16.
2. Kolm A, Kohlenberg-Müller K, Werkman A, Valentini L, Vanherle K: Diätetik-Ausbildung für das 21. Jahrhundert – Beispiel IMPECD. Herausforderungen für Diätetik-Ausbildung für das 21. Jahrhundert – Beispiel IMPECD. Herausforderungen für das Gesundheitssystem in Europa: Demographischer Wandel und gesellschaftliche Veränderungen. *Journal für Ernährungsmedizin* 2016; 18(2): 28–9.
3. Rufener A: Die Profession der ernährungstherapeutischen Fachperson. In: Rufener A, Jent S (eds.): *Der Ernährungstherapeutische Prozess: Lehrbuch für Studium und Praxis*. Bern: Horgrefe 2016; 19–51.
4. Improvement of Education and Competences in Dietetics (IMPECD): IMPECD. Workpackage 2. https://impecd.fhstp.ac.at/wp-content/uploads/sites/2/2018/10/180827_Final_Report_WP02.pdf (last accessed on 03 February 2022).
5. Krämer M, Peuker M, Noll N, Hoffmann L, Radziwill R, Kohlenberg-Müller K: Which data from nutritional counseling and therapy have to be collected and how do they get into the discharge letter of a hospital? Development of a structured documentation concept for nutrition-related patient data for integration into discharge management – a case study. *Ernahrungs Umschau* 2022; 69(3): 33–9.
6. Reinhard T, Width M: The Profession and the Process. In: Reinhard T, Width M (eds.): *Essential guide to the nutrition care process*. San Diego, California: Academic Publishing 2019; 1–46.
7. Swan WI, Vivanti A, Hakel-Smith NA, et al.: Nutrition Care Process and model update: toward realizing people-centered care and outcomes management. *J Acad Nutr Diet* 2017; 117(12): 2003–14.
8. Improvement of Education and Competences in Dietetics (IMPECD): Components of Dietetic Assessment. Antwerpen, Fulda, Groningen, Neubrandenburg, St. Pölten: IMPECD o. J.
9. The British Dietetic association (BDA): Model and process for nutrition and dietetic practice. www.bda.uk.com/uploads/assets/1aa9b067-a1c1-4eec-a1318fd-c258e0ebb/2020-Model-and-Process-for-Nutrition-and-Dietetic-Practice.pdf (last accessed on 03 February 2022).
10. Buchholz D, Kolm A, Adam M, et al.: Process models in dietetic care: a comparison between models in Europe. *Ernahrungs Umschau* 2018; 65(9): 154–63.
11. Buchholz D, Lang C: German-Nutrition Care Process (G-NCP). In: Buchholz D (ed.): *Manual für den German-Nutrition Care Process (G-NCP): Ein Standardwerk für die Durchführung, Weiterentwicklung, Überprüfung und Qualitätssicherung der Diätetik in Deutschland, 1st ed.* Lengerich: Pabst Science Publishers 2015; 29–42.
12. Hensen P, Stamer M (eds.): *Professionsbezogene Qualitätsentwicklung im interdisziplinären Gesundheitswesen: Gestaltungsansätze, Handlungsfelder und Querschnittsbereiche*. Wiesbaden: Springer VS 2018.
13. Kohlenberg-Müller K, Ramming S, Kolm A, et al.: Nutrition assessment in process-driven, personalized dietetic intervention – The potential importance of assessing behavioural components to improve behavioural change: results of the EU-funded IMPECD project. *Clinical Nutrition ESPEN* 2019; 32: 125–34.
14. Ohlrich S, Niemann K, Erickson N: Ernährungsassessment. In: Buchholz D (ed.): *Manual für den German-Nutrition Care Process (G-NCP): Ein Standardwerk für die Durchführung, Weiterentwicklung, Überprüfung und Qualitätssicherung der Diätetik in Deutschland, 1st ed.* Lengerich: Pabst Science Publishers 2015; 36–42.
15. Hager U, Blechmann N, Kuhn J, Neugebauer S, Amerschlager K, Kohlenberg-Müller K: Nutritional diagnosis according to the G-NCP model. Challenges for implementation – a case study. *Ernahrungs Umschau* 2018; 65(11): 187–95.
16. Bundesministerium für Bildung und Forschung (BMBF): Bekanntmachung. Richtlinie zur Förderung von Forschungsprojekten zum Thema Wissenstransfer. www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2021/01/3331_bekanntmachung.html (last accessed on 03 February 2022).
17. Bundesministerium für Bildung und Forschung (BMBF): Aktionsplan Versorgungsforschung. *Forschung für ein patientenorientiertes Gesundheitswesen*. Bielefeld: Bertelsmann Verlag 2016.
18. Bundeszentrale für gesundheitliche Aufklärung (BZgA): Partizipative Gesundheitsforschung. <https://leitbegriffe.bzga.de/alphabetisches-verzeichnis/partizipative-gesundheitsforschung/> (last accessed on 03 February 2022).
19. Rat für Sozial- und Wirtschaftsdaten (RatSWD): Handreichung Datenschutz, 2nd revised ed. German Data Forum (RatSWD) 2020.
20. Bär G, Kasberg A, Geers S, Clar C: Fokusgruppen in der partizipativen Forschung. In: Hartung S, Wihofszky P, Wright MT (eds.): *Partizipative Forschung: Ein Forschungsansatz für Gesundheit und seine Methoden*. Wiesbaden, Heidelberg: Springer VS 2020; 207–32.
21. Mayring P, Fenzl T: Qualitative Inhaltsanalyse. In: Baur N, Blasius J (eds.): *Handbuch Methoden der empirischen Sozialforschung*. Springer VS, Wiesbaden 2014; 543–56.
22. Lövestam E, Boström A-M, Orrevall Y: Nutrition Care Process Implementation: Experiences in Various Dietetics Environments in Sweden. *J Acad Nutr Diet* 2017; 117(11): 1738–48.
23. Steinkamp D: Die Ernährungsberatung im Gesundheitssystem in Deutschland. *Ernahrungs Umschau* 2019; 66(4): M222–34.
24. Peuker M, Lachmann K, Hoffmann L, Wiegand T, Siebert H, Kohlenberg-Müller K: Implementing process-guided methods in nutrition counselling and dietetic therapy – what does current practice look like? Results of a descriptive pilot study. *Ernahrungs Umschau* 2022; 69(12): 176–83.
25. Girseimhl C, Blumenschein B, Rubin D: Online-Befragung von Ernährungsfachkräften mit klinischem Arbeitsfeld in Deutschland zum Thema Variablen des Ernährungsassessments. *Aktuelle Ernährungsmedizin* 2021; 46(3): 160–7.
26. Verband der Diätassistenten – Deutscher Bundesverband e. V. (VDD): Positionspapier zur aktuellen Krankenhausfinanzierung. www.vdd.de/ueber-uns/positionen/ernaehrungstherapie-klinik (last accessed on 04 July 2022).
27. Statistisches Bundesamt (Destatis): Grunddaten der Krankenhäuser. *Fachserie 12 Reihe 6.1.1.* 2020.
28. Koordinierungskreis zur Qualitätssicherung in der Ernährungsberatung und Ernährungsbildung (Kook): Rahmenvereinbarung zur Qualitätssicherung in der Ernährungsberatung und Ernährungsbildung in Deutschland. Bonn: Deutsche Gesellschaft für Ernährung e. V. (DGE) 2020.
29. Arms E: Digitale Ernährungsberatung: Ein Diskussionsbeitrag über Entwicklungen und Trends. *Ernahrungs Umschau* 2020; 67(6): M330–6.
30. International Confederation of Dietetic Associations (ICDA) Evidence-based Practice Working Group: Evidence-based Dietetics Practice. 37th meeting of the International Confederation of Dietetic Associations Board 2010.