

Dietitians 2020: Analyses of the dietetic workforce in **Germany**

Implications for the revision of the German Dietitian Law

Katrin Fuhse, Daniel Buchholz, Sabine Ohlrich-Hahn

Abstract

The German Dietitian Law (Gesetz über den Beruf der Diätassistentin und des Diätassistenten—DiatAssG 1994) is designed to ensure that the state can influence the education of dietitians in order to guarantee that patients are protected. It also ensures that the profession can be adapted to meet increasing demands, such as the increasing complexity of diseases and structural changes in the healthcare sector.

This online, cross-sectional survey, which follows on from the 2010 analyses of the dietetic workforce in Germany, recorded professional fields, type and scope of activities, further and education and training, academic qualifications, job satisfaction and demographic data. In February 2020, an online survey was conducted using a questionnaire prepared by a group of experts. There were 1,256 dietitians who responded.

According to the results, dietitians' work mainly focuses on activities that involve patient contact. Compared to the data from 2010, the percentage of those working in nutrition therapy increased, whereas fewer dietitians are now working in catering management. At the same time, activities associated with instruction, control and monitoring functions increased, and nutrition-related measures for disease prevention and health promotion have become an important area of activity. One fifth of the respondents have a bachelor's degree or are on the way to obtaining one.

The survey results indicate that there is a need for a reform of the German Dietitian Law and they support the rationality of the VDD's call for a new professional title for dietitians in Germany and full academization of the profession.

Keywords: dietitian, dietetics, nutrition therapy, nutrition intervention, profession, VDD Analyses of the Dietetic Workforce in Germany 2020

Citation

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Corresponding author

Dipl. med. päd. Sabine Ohlrich-Hahn ohlrich@hs-nb.de

Background

Dietitians are the only legally regulated health profession in the field of nutrition therapy and preventative nutritional medicine in Germany. According to the training objective set out in Section 3 of the German Dietitian Law (Gesetz über den Beruf der Diätassistentin und des Diätassistenten—DiatAssG), completion of training as a dietitian qualifies the person to carry out nutrition therapy and measures of nutritional medicine under their own responsibility and to participate in the prevention and treatment of diseases [1].

This legal regulation of the profession in a federal law is significant because as a result, the state can, in addition to ensuring patient and consumer protection, also influence the content of the training (e.g. by defining the training objective and ensuring uniform training and examination regulations) and anchor the profession in the healthcare system (e.g. by restricting who can perform treatment). This makes it possible to respond to a changing spectrum of diseases, to the increasing complexity of diseases and their treatments, and to meet the resulting increased demands on dietitians as a professional group [2]. The structural changes occurring in hospital care (including changes funding models and numbers of beds), the reduction in the length of inpatient stays and the shift of therapy services from the inpatient to the outpatient sector [3, 4] all have an impact on the activities of dietitians as a professional group [2]. The following aspects brought about a new positioning of dietitians within the healthcare system and led to a leap in the development of the profession:

- The Prevention Act (Präventionsgesetz) and the associated development of new services in the areas of disease prevention and health promotion [5]
- The establishment of disease management programs [6]



- The confirmation given by the decision of the Federal Social Court of Germany in 2000 that nutrition therapy is a medical treatment and that a decision should be made regarding its inclusion in the guidelines for medical treatments and heath aids [7]
- Most especially: the Federal Joint Committee (G-BA) decision to include nutrition therapy for rare congenital metabolic disorders and cystic fibrosis in the medical treatments guideline [8]

The European Federation of the Associations of Dietitians (EFAD) has also set standards, such as the Academic and Practitioner Standards [9, 10], that have stimulated further professionalization of the dietetic profession in Europe, and these standards were taken up by the German Association of Dietitians (VDD) and by the Federation for Professional Dietetic Training in Germany (Bund für Ausbildung und Lehre in der Diätetik—BALD).

The consequences of the developments from the last few years described above have been increasing efforts to professionalize the profession, such as the establishment of profession-specific bachelor's degree programs for dietetics, in which a bachelor's degree in dietetics (BSc) can be obtained in addition to the regulated professional qualification in a dual or additive model [11] and the implementation of the German-Nutrition Care Process (G-NCP) in order to ensure transparency in the process-guided approach used in dietetics [12].

Despite the changing demands that dietitians are required to respond to, the legal framework governing the profession has remained unchanged since 1994. In 2019, it was announced that the legal framework would be revised [2].

In order to support the development of the profession with a solid foundation of scientific data, the VDD has conducted several analyses of the profession and specific sub-fields within it, most recently in 2010 [13]. Now, 10 years on, with the "VDD Analyses of the Dietetic Workforce in Germany 2020", data has once again been collected on qualified dietitians living in Germany, allowing conclusions to be drawn about the current professional situation of dietitians in Germany. Dietitians are not the only stakeholders working in the field being analyzed here, but the survey focused specifically on members of this legally regulated healthcare profession only.

Method

In the middle of 2019, a working group was formed, made up of VDD experts (* Box 1 in the online supplement) who themselves are active dietitians working in various sub-fields: in clinical and outpatient nutrition therapy, in disease prevention and health promotion, in rehabilitation, in catering management and in vocational and university education. The 2010 survey was taken as the starting point and questions were selected, adjusted and revised as necessary and agreed upon by the working group over the course of several rounds of discussions. Through this process of discussion and consensus, an online questionnaire was developed at the start of 2020 using SurveyMonkey® in order to carry out a cross-sectional study. In January 2020, a pretest was performed with a group of 20 participants, after which the questionnaire was revised and finalized. The survey was anonymous and voluntary. It was not possible to trace responses back to the respondents.

The online questionnaire was comprised of 53 questions in total. 23 of the questions were closed questions, 26 were partially open questions and 4 were open questions (Figure 8 in the online supplement). The questions mainly covered professional fields, type and scope of activities, further education and training, academic qualifications, job satisfaction and the demographic data of the participants. It was only possible to participate in the survey by first answering yes to the starting question about whether the person has an official qualification as a dietitian. Student dietitians in vocational college (Berufsschule) were not approached for this survey. It was not necessary for the respondents to be members of any professional body or association. Dietitians who are no longer actively exercising the profession or who stated that they are working in some other area were not asked about the individual sub-fields and full-time students were only asked about research within the profession. For all others, the survey had several filtering questions that excluded respondents from questions not relevant to their particular fields, meaning that they did not have to answer all of the questions.

Participants were recruited via an online link included in the VDD's special edition newsletter on 03 February 2020. In addition, the survey announcement and the call for participants appeared in the association's newspaper D&I in the January 2020 edition, and on the social media channels used by the VDD (Facebook and Instagram). Furthermore, the participation link was sent out in the newsletter of the German Nutrition Society in mid-February. Across all media, there was an appeal for readers to pass the link on to other dietitians in their private and professional circles, with the result that there was a "snowball" effect. The survey period was 28 days, from 03 February to 01 March 2020.

Analysis

Statistical analysis was mainly performed in a descriptive manner using SPSS Statistics 25 (IBM, Armonk, New York, USA). In terms of inferential statistics, the chi squared test or Fisher's exact test were used in a supplementary manner.



A significance level of 0.05 was used for the assessment of the

The partially open and open questions were analyzed using the Mayring method of qualitative content analysis [14].

The age distribution of the respondents was compared with the corresponding data from the membership statistics of the German Association of Dietitians (VDD) in order to determine the representativeness of the responses.

Data protection

Hochschule Neubrandenburg, University of Applied Sciences was responsible for the analysis of the data. It is a public body under the law of the state of Mecklenburg-Western Pomerania (MV). The data were analyzed in accordance with the Mecklenburg-Vorpommern Data Protection Law (DSG M-V dated 22 May 2018).

Results

Survey response

A total of 1,311 people took part in the survey. The data of 55 participants were not included in the analysis because these respondents stated that they did not have any qualification as a dietitian. The data sets from the remaining 1,256 participating dietitians were included in the analysis. For all questions, the available answers were analyzed.

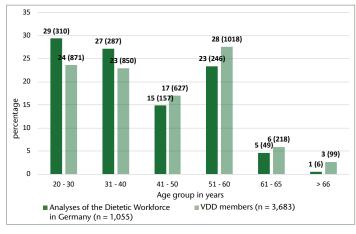


Fig. 1: Age distribution of participants in the VDD Analyses of the Dietetic Workforce in Germany 2020 compared to VDD membership

Demographic data

These questions were answered by 84% (n = 1,055) of the participants and of these, 96% were female and 4% were male. ◆ Figure 1 shows the age distribution of the respondents compared to the age distribution among VDD members. 60% reported that their school-leaving qualification was an Abitur¹ (higher education entrance qualification), Fachabitur (subject-restricted higher education entrance qualification) or Fachhochschulreife (university of applied sciences entrance qualification) and 39% reported that it was a mittlere Reife (intermediate school-leaving certificate). Less than 1% reported it was a Hauptschulabschluss (secondary general school-leaving certificate). At the time of the survey, 34% had over 20 years of active professional experience, 28% had 0-5 years, 23% had > 10-20 years and 15% had > 5-10 years.

Types of employment

This question was answered by 84% of the respondents (n = 1,050). Of these, 89% exercise their profession as employees, 10% are exclusively self-employed, and less than 1% work as business owners who employ others. Of those who work as employees, 51% work full-time and 38% work part-time. Among the dietitians who work as employees, 12% of those who work full-time also do some self-employed work and 17% of those who work part-time also do some self-employed work.

Dietitians mainly work alone or in small teams. For this question, the response rate was 81% (n = 1,020). Of these respondents, 80%stated that there were 1–5 dietitians or persons with a similar role working at their facility or practice, 17% said there were between 6 and 15 such persons and 3% said there were more than 16.

Roles focusing on nutrition-related interventions with direct patient contact²

83% of the respondents answered this question (n = 1,043). Of those who responded, 89% said that their role did involve nutrition therapy² and of these, 44% said that this was their only role, whereas 45% said it was a part of their role. 11% said that this was not part of their role. 71% (n = 890) of the participants answered the question about the most common specialist fields that dietitians work in. These fields were obesity / obesity surgery (77%), gastroenterology / hepatology (65%), metabolic disorders (64%), diabetes (59%), cardiovascular disease (48%), oncology (44%), allergies / dermatology (35%), eating disorders (31%) and geriatrics (30%). For the question about cooperation with other professions,

 $^{^{\}mbox{\tiny 1}}$ An explanation of these school-leaving qualifications can be found at: www.wir-sind-bund.de/WSB/EN/Eltern/Bil dungs system/Schulabschluesse/schulabschluesse-node.html

 $^{^{2}}$ Hereinafter, the term "nutrition therapy" is used for the sake of readability, as nutrition therapy services predominate, even if in individual cases measures in the field of disease prevention and health promotion as well as rehabilitation are also meant.



the response rate was 67% (n = 840). The most frequently mentioned other profession cooperated with was physicians (83%), followed by nurses (61%). Other therapeutic professions were also frequently mentioned (43%), as were psychologists (39%). 79% said that they worked together with other dietitians, and 35% said they worked together with people who had completed home economics and nutrition or solely nutritional science qualification. 71% (n = 890) of the participants answered the question about specific activities within the field of nutrition therapy. 67% reported individual consultations on specific dietetic topics, 32% reported group training sessions, 31% reported prevention and treatment of malnutrition, 28% reported disease prevention and health promotion, 19% reported screening and assessment of mal-

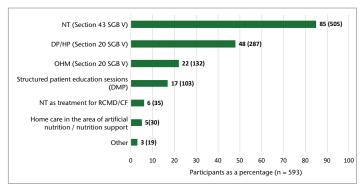


Fig. 2: Main activities of dietitians in the outpatient sector OHM = occupational health management, NT = nutrition therapy, DP/HP = disease prevention and health promotion, RCMD/CF = rare congenital metabolic disorders/cvstic fibrosis

nutrition, 15% reported nutrition support (enteral / parenteral nutrition), 9% reported adjustment of insulin or other medication, 9% reported quality assurance / quality management, and 5% reported discharge management.

Working in the outpatient context

84% of the respondents (n = 1,051) answered this question. 56%of those stated that they worked in the outpatient context. For this

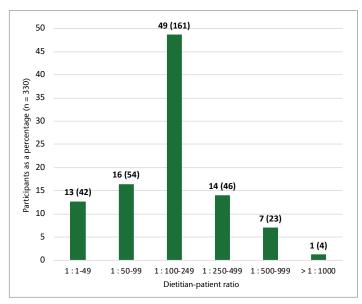


Fig. 3: Dietitian-patient ratio in the inpatient context

group, the following specific activities were recorded: 85% perform nutrition therapy in accordance with Section 43 of Volume V of the German Social Security Code (Fünftes Buch Sozialgesetzbuch—SGB V). 48% carry out disease prevention and health promotion measures in accordance with Section 20 of SGB V and 22% are involved in operational health management in accordance with this same section. Less common activities include structured patient education sessions (17%) and home care in the area of artificial nutrition (5%). 6% meet the requirements for working in the area of medical treatments and nutrition therapy for rare congenital metabolic disorders and cystic fibrosis and also work in this area (Figure 2).

Nutrition therapy in the inpatient context

The response rate for this question was 83% (n = 1,039). Of these respondents, 63% reported working in the inpatient sector in hospitals or rehabilitation clinics. Of those, the majority (56%) work in small or medium-sized facilities (100-500 beds), whereas 18% work in facilities with 500-999 beds and 20% work in facilities with 1,000 beds or more. 6% work in a facility with fewer than 99 beds. For the question about how many patients a dietitian is responsible for in the inpatient context (dietitian-patient ratio), the response rate was 26% (n = 330). The dietitian-patient ratio is 1:188 on average, although there is considerable variation in some cases (* Figure 3).

Less than half (43%) of the facilities have a nutrition team and there are plans to form such a team in the near future at 10% of the facilities (n = 612).

Working in the field of catering management

Out of the 79% (n = 995) of respondents who answered this question, 9% reported working exclusively in this area and 35% reported that it was part of their role. 32% (n = 400) provided details about what their role entails. Of those, 11% perform tasks that do not involve contact with patients and 9% perform administrative tasks only. In addition to duties in the area of catering management, 29% also provide nutrition counseling³ within a defined scope of activity, 28% provide nutrition counseling upon request and 14% are involved in individ-

³ This term also includes all forms of communicative intervention in accordance with the G-NCP [12].



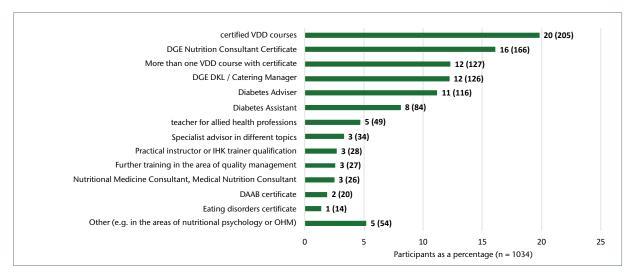


Fig. 4: Further training with certificate completed by dietitians

CHM = Corporate Health Management, DAAB = Deutscher Allergie- und Asthmabund (German Allergy and Asthma Association), DGE = Deutsche Gesellschaft für Ernährung (German Nutrition Society), DKL = Diätküchenleiter (Dietary Kitchen Manager), IHK = Industrie- und Handelskammer (Chamber of Commerce and Industry), VDD = Verband der Diätassistenten (German Association of Dietitians)

ual diet management of patients. 8% work as specialist advisers in the area of catering management. 33% (n = 417) of the participants answered the question about activities that are always or frequently performed in the field of catering management. Of those, 63% mentioned allergy labeling, 60% mentioned quality assurance including end-of-line testing and 54% mentioned menu planning and calculations.

Roles with a research focus

Among the 80% of respondents who answered this question (n = 1,008), 19% said that they were involved in research activities. Of these, 44% said that they had performed or are currently performing research tasks as part of their studies. Research is a regular part of the role for 39% of the respondents. 30% work or have worked occasionally on a research project as a member of a research team and 2% are performing or have performed research tasks as part of their doctorate.

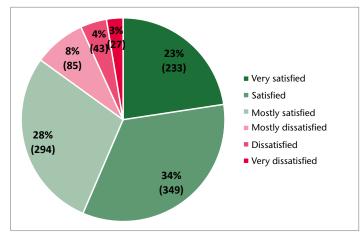


Fig. 5: Dietitians' satisfaction with their current work (n = 1,031)

Studies, further training and CPD

For this question, there were analyzable responses from 82% (n = 1,034) of the participants. Of these, 56% took part in more than 20 hours of continuing professional development (CPD) per year and 27% took part in more than 30 hours of CPD per year. 66% completed further training courses with an additional accreditation or certificate (* Figure 4). In terms of academic degrees started or completed, 20% of respondents mentioned a bachelor's degree, 9% a master's degree and 3% a PhD.

Job satisfaction

With an analyzable response rate of 82% (n = 1,031) for this question, 85% of these dietitians stated that they were satisfied in their work (◆ Figure 5). According to the survey, participants with more active years of work $(r_s = -0.192, p < 0.001)$, those who undertake more training ($r_s = -0.254$, p < 0.001) and those whose work comprises a high percentage of tasks that match their qualifications ($r_s = 0.377$, p < 0.001) are more satisfied in their work. In addition, participants who work exclusively in the field of nutrition therapy more frequently report being satisfied in their work than those who work exclusively in catering management (• Figure 6).

When asked whether they would take up the profession again, 84% (n = 1,052) responded. Of these, almost three quarters (73%) answered yes. In addition, participants were asked about the reasons for their answer about whether they would to take up the pro-



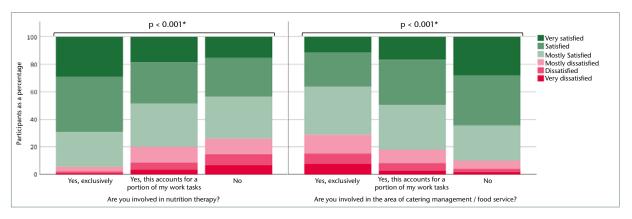


Fig. 6: Satisfaction with work as a function of work in the field of nutrition therapy and catering management (* chi squared test)

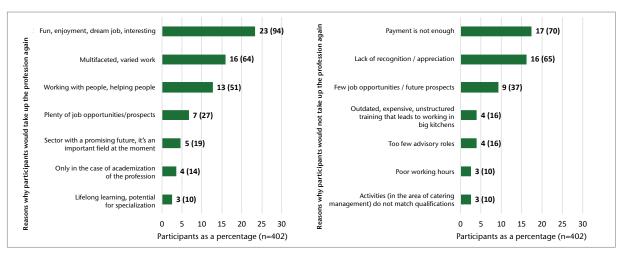


Fig. 7: Reasons given by dietitians for why they would (or would not) take up the profession again

fession again or not. • Figure 7 provides a summary of the most frequent reasons given.

Discussion

Demographic data and type of activity

The demographic data reveals that there have been changes in this professional group in the last 10 years. In terms of the highest school-leaving qualification, the number of people with a higher education entrance qualification has increased from 42% to 60%, which confirms the trend already observed in 2010. At the same time, the number of people with an intermediate level secondary school leaving certificate fell from 56% to 39%. Women continue to be the clear majority in the profession. In the 2010 survey, the proportion of male vocational college students was found to be 6%, which led to a prediction that the proportion of males in the profession would increase [13]. The present survey confirms this: the percentage of men in the profession has doubled from 2% to 4% since 2010.

As in 2010, the majority of dietitians work as employees. Compared to the data from 2010, the percentage of dietitians working as employees has increased by 4% to reach 89% and at the

same time, the percentage of those who are self-employed has decreased by 5%. The decline in numbers of self-employed dietitians could be due to the fact that outpatient nutrition therapy services are still not sufficiently anchored within the healthcare system and the way these services are billed is still flawed. This likely creates economic uncertainty [15]. According to Section 43 SGB V, outpatient nutrition therapy is designated as not compulsory benefits of the statutory health insurance (STI) (Kannleistung) [15, 16] and the way it is remunerated / reimbursed differs depending on the health insurance company. Currently, there is only a legal entitlement to outpatient nutrition therapy in the form of a remedy directive in the case of specific indications, namely rare congenital metabolic diseases and cystic fibrosis [8]. This is in stark contrast to other therapeutic professions, such as psychotherapy. The 2019 Remedy Report (Heilmittelbericht) states that approx. 483 physiotherapeutic services from the catalog of remedies were provided for every 1,000 persons with



Overview 1: German National Health Targets [20]

- Type 2 diabetes mellitus: Reduction of disease risk, early recognition and treatment of patients
- Breast cancer: Reduction of mortality, increase in quality of life
- Reduction of tobacco consumption
- Growing up healthy: Life skills, exercise, nutrition
- Enhancing health competence, strengthening patient sovereignty
- Depressive disorders: Prevention, early detection, effective treatment in the long term
- · Healthy aging
- Reduction of alcohol consumption
- Health in the perinatal period

statutory health insurance in the calendar year 2018 [17]. Unfortunately, no data are yet available for nutrition therapy as a remedy in this regard, but there is likely to be very little available data in any case due to nutrition therapy being restricted to the indications of congenital metabolic disorders and cystic fibrosis and the comparatively small number of people who have these conditions.

The advent of individual, behavior-based disease prevention and workplace health promotion under Section 20 SGB V (field of action: nutrition) [5] has brought with it new work opportunities. However, the VDD has received feedback from members who have said that obtaining approval for courses from the Federal Admission Office for Prevention Programms (Zentrale Prüfstelle Prävention—ZPP) is complex and bureaucratic, which could explain why nutrition-related measures for individual disease prevention account for only 3% of total statutory health insurance expenditure in this area [18].

Only 4 (0.4%) of the participating dietitians run their own practices and employ others. Another 108 (10%) work independently in their own practice without employees. Both the high prevalence of overweight and obesity, diabetes and other non-communicable diseases and the National Health Targets (• Overview 1) [19, 20] highlight the need for nutrition therapy and preventative nutritional care in the outpatient setting. The fact that so few practicing dietitians are self-employed may be an indication of imbalances in the healthcare system: i.e. an indication that self-employment is simply not economically viable. This hypothesis is supported by the fact that almost three times as many (29%) freelance dietitians combine their freelance work with a socially secure permanent

For inpatient rehabilitation, German Pension Insurance⁴ (Deutsche Rentenversicherung) requires a ratio of 0.8 dietitians (or comparably qualified professionals) per 100 patients in orthopedics, and a ratio of 1:100 in oncology, and 1.25:100 in cardiology and gastroenterology [21]. There are no comparable structural requirements for hospitals in Germany. For dietitians performing a clinical role, the Academy of Nutrition and Dietetics in the USA recommends a dietitian-patient ratio of 1:65 to 1:75 [22, 23]. The present survey showed that the average ratio here was 1:188. However, this figure is an average that takes both hospitals and rehabilitation facilities into account. The ratio is in fact much less

favorable in hospitals. For example, 22% of the respondents stated that one dietitian is responsible for more than 250 patients, and in a few cases, they were responsible for up to 1,000 patients. According to federal statistics, Germany has 1,942 hospitals with 497,182 beds [24]. Only 801 hospitals—less than half of the existing facilities—accounted for the total of 2,417 employed dietitians that were reported (including 1,277 part-time staff) [24]. This data was not collected together with data on the number of beds in each hospital. It is not possible to determine a dietitian-patient ratio from these statistics. However, it is possible to deduce that there is a high number of hospitals that do not employ any dietitians them-

The percentage of dietitians working in the field of nutrition therapy has now increased slightly to 89%, compared to 85% in 2010. Activities involving contact with patients in the field of nutrition therapy are the main area of work for the majority of dietitians, and this tendency is increasing. At the same time, the percentage of dietitians working in catering management has decreased from 54% to 43%. However, it should be noted that activities in the field of catering management have shifted towards more instruction, control and monitoring-focused roles. This can be explained by the establishment of new catering systems and the progressive centralization of hospital catering (with the emergence of "distribution centers") [25].

The percentage of hospital kitchens that are operated by the hospital itself fell by 15% between 2005 and 2019 [26].

Job satisfaction

Qualitative analysis of responses regarding job satisfaction showed a large degree of diversity in the responses. For 23% of respondents, their profession was a "dream job", but 16% said they felt there was a lack of recognition and appreciation, and 9% said that they felt there was a lack of future prospects. This estimation of the profession is probably primarily attributable to the activities performed, with the available data suggesting that activities involving patient contact increase job satisfaction (Figure 6).

The extent of cooperation with other professional groups remained almost unchanged

⁴ The German Pension Insurance is holder of more than 100 rehabilitation clinics in Germany.



compared to 2010. This supports the VDD proposal to give considerable weight to the development of interdisciplinary cooperation skills in the revision of the law and to explicitly anchor this in the training objective [27]. This proposal is also based on the recommendations of the expert reports of the German Council of Economic Experts from 2018 and 2007, which stated that interdisciplinary cooperation between healthcare professions is essential for good healthcare [28, 29].

The level of continuing professional development activities undertaken by this professional group, which was already observed to be high in the 2010 survey, remains almost unchanged in the present survey. The percentage of dietitians with further training remains about the same as in 2010, at 66%. The percentage of dietitians with an academic qualification was recorded for the first time in the present survey. The VDD conducted a survey of vocational training graduates from the graduating class of 2019 (n = 147). The data showed that 38% aspire to undertake academic studies immediately after their training or within 3-5 years after [30]. This indicates the high level interest in an academic degree, and therefore it can be assumed that the percentage of dietitians with an academic qualification will continue to increase. This in turn confirms that there is a demand for academization of the dietetic profession from the perspective of members of the profession.

However, the current German Dietitians Law does not allow for an undergraduate study model [1]. Therefore, in Germany, a bachelor's degree in dietetics can currently only be obtained via profession-specific dual or additive degree programs, of which there are three to date. In this context, it should be emphasized that Germany is the only high-income country in the world that does not provide undergraduate academic education for dietitians.

This isolated status of dietitians who have qualified in Germany is increasingly resulting in problems in terms of collaboration on the European and international level in the fields of research and teaching, and in terms of professional recognition. In addition, the lack of undergraduate academic training also means that the time required to train and obtain an academic degree is much longer: 4.5 or 5 years. Undergraduate degree programs for dietitians abroad usually take between 3 and 4 years. The EFAD recommends 3.5 years (7 semesters) for the first professional degree in dietetics [9].

Strengths and limitations

The available data are based on a questionnaire response rate of 9% of the 14,000 members of the profession who potentially could have been reached according to the German government's Federal Health Reporting (Gesundheitsberichterstattung des Bundes-GBE) [31]. For Germany, no data are available on exactly how many trained dietitians are actually working in the profession. Germany does not have a system of registration for members of the profession, as is the case in the UK or Scandinavia, for example. Due to the methodology of the online survey—the link to the survey was forwarded via the VDD or German Nutrition Society newsletter and via social media—it was not possible to determine the basic population of dietitians reached. In addition, an inherent limitation of online surveys is that it must be assumed that they will be more likely to reach a media-savvy target group. The rate of participation was highest in those aged 20-30 years. Nevertheless, a comparison of the response rates with the age distribution of VDD members suggests that the data from the various age groups were recorded in a roughly representative manner (◆ Figure 1). SurveyMonkey® only allows one response per IP address. Nevertheless, it is not possible to rule out the fact that some participants could have participated multiple times because a person may have multiple devices with different IP addresses.

This study is based on a cross-sectional survey by means of a questionnaire. Therefore, distortions are a possibility because people who are interested in the topic will be more likely to participate, and because some answers may be untruthful. In addition, despite the use of a pretest, it is possible that participants may have understood the questions to have a meaning other than the intended meaning. However, there was no alternative means of data collection given the available resources.

The dietetic workforce analysis of 2010 [13] (* Figure 9 in the online supplement), which is often used as a means of comparison, was based on a written survey which, in accordance with the VDD's mandate at the time, was directed exclusively at members of the VDD and also included dietitians in training attending vocational college. At that time, online questionnaires were not a standard procedure. The present study follows on from the 2010 survey and the questions cover many of the same themes, however the surveys are not identical. For example, there have been changes in the professional activities undertaken by dietitians in the last 10 years and in the terminology used to describe those activities. This necessitated some revisions and additions. No other values for comparison could be found.

The homogeneity of the answers, the age distribution and the percentage gender distribution of the respondents compared to distribution among the VDD's membership as well as the question results (which exhibit some differences compared to the 2010 survey, but are plausible) support the representativeness of the results for the members of the VDD at least. Because Germany does not have a registration system for dietitians, no statement can be made regarding the representativeness of the results for all dietitians living or working in Germany.



Implications and conclusions

The data collected highlights the fact that the main activities of dietitians as a professional group are focused on tasks in the field of nutrition therapy that involve contact with patients. However, the regulations governing training and examinations in Germany, which have been in force since 1994, do not always reflect or sometimes only partially or inadequately reflect the specific challenges dietitians face in their particular professional fields and areas of activity. This indicates that there is a need for reform. Fortunately, the willingness of dietitians to participate in further training and the increasing trend towards the academization of the dietetic profession has thus far been compensating for these deficits to a large extent. Nevertheless, it should be noted that compensating for these deficits comes at a high cost in terms of time and money. The additive and dual academic programs in dietetics in Germany are an example of these additional costs. The situation is unusual in Europe, and indeed in the international context, and therefore merits scrutiny.

Various developments indicate that the current training objective and the content and structural orientation of dietetic training require adaptation and modernization and that full academization is necessary. These developments include a need / demand for an evidence-based approach in dietetics, higher requirements in inpatient and outpatient nutrition therapy, the need for increased interdisciplinary cooperation, an increase in activities in the field of disease prevention and health promotion and changes in requirements in the field catering management, which are now more oriented towards monitoring and control.

Full academization is also necessary because dietitians are responsible for high numbers of patients while working in small teams, or in many cases, alone. There is hardly any scope for the delegation or grading of tasks. The Bund-Länder-Arbeitsgruppe Gesundheitsberufe (German Federal and State Working Group for Healthcare Professions) considers full academization particularly important for professionals working in small groups or alone because each professional in the group must have mastery of the entire spectrum of activities of the profession [2].

Another issue related to this is that the current German professional title, which contains the word "Assistant" ("DiätassistentIn") has long been failing to reflect the range of activities the holders of this title carry out and the extent to which they are legally and professionally responsible for proper implementation of the services provided, especially in the case of nutrition therapy. A corresponding title adjustment is long overdue. The VDD has been demanding this since 2007, as well as the academization of the profession. The survey results support the relevance and rationality of the VDD's call for the designation "ErnährungstherapeutIn" ("nutrition therapist"⁵) to be implemented in the future [27].

The present analysis is an important instrument for making statements about the profession and field of activity of dietitians, for showing how the profession is changing and for making it possible to intervene in professional policy accordingly. Mandatory monitoring increases its validity. Additional qualitative studies or surveys of stakeholders and actors in the healthcare system with whom dietitians work directly will further improve the quality of the available data. A smaller survey is planned for 2025. It will focus on the career paths of dietitians with academic qualifications.

Katrin Fuhse, B.Sc. Diätetik¹ Dr. Daniel Buchholz, MPH²

Dipl. med. päd. Sabine Ohlrich-Hahn^{1,3}

- ¹ Hochschule Neubrandenburg, Studiengang Diätetik
- ² Universitätsmedizin der Johannes-Gutenberg-Universität Mainz, School for Dietetics
- 3 ohlrich@hs-nb.de

Conflicts of interest

Katrin Fuhse received a one-off remuneration from the

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⁵ The international title is "dietitan" - since this cannot be translated 1:1 into German, the VDD has chosen the title "nutrition therapist".



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