



Online nutrition counseling: current state of developments in Germany

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Introduction

Changing communication and media use

Digitalisation is changing communication and media use [1]. The results of empirical studies show that digital media are playing an increasing role in everyday life and professional activities. The degree of digitalisation of media use in the German population, measured in terms of access, usage behaviour, competence and openness, has been increasing for years, with the coronavirus pandemic further reinforcing this trend [2, 3]. The level of home availability of corresponding technology also shows that the preconditions for digital media use are met in almost all private households in Germany. According to data from the Federal Statistical Office of Germany, 93.5% of households already had a (fixed and/or mobile) internet access in 2019 and around 95% in 2021 [4]. In 2021, a personal computer was available in 92.3% of households [4]. Although the level of availability of video and audio devices cannot be deduced from the data, given the increasing number of laptops/tablets and smartphones [14], it can be assumed that most households have the option of digital audio or video-based communication formats. One example of the impact of the coronavirus pandemic is the increase in visits to the website of the well-known video conferencing provider Zoom. During the first lockdown in Germany, the number of visits increased from 91.9 million in January 2020 to 1,904 million in April 2020 [5].

Development of online counseling

These developments are also reflected in counseling on various topics. Since the early 1990s, internet-based channels have been used to this end under the term "online counseling", describing a form of counseling "in which people can get in touch and communicate with each other using digital media" [6, translated by author]. Within this context, there are various forms mainly distinguished between those with and without personal support

Abstract

Communication and information behaviour is changing in everyday life and professional activities. The developments caused by the coronavirus pandemic have changed the perspective on online counseling and increased the range of digital forms of counseling. However, it is still unclear as to what extent online counseling is already established in professional dietary advice and which digital communication channels are used. Based on an analysis of 676 nutrition counselors websites, this article shows the developments and the need for professionalisation in the field of online counseling.

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from an expert [7]. The variations including personal support are further separated into synchronous and asynchronous counseling or a mixture of online and offline counseling (so-called blended counseling). While the offerings were at first limited to text-based forms, audiovisual forms such as video calling surfaced later. Another distinguishing feature is therefore written versus verbal counseling (♦ table 1).

Changes in communication behaviour are also having an impact on the demand for digital advice. However, the demand proves to be higher than the supply [8]. For the years before the coronavirus pandemic, it can be said that psychosocial counseling "completely missed the digital transformation" [9, translated by author]. A survey revealed that advisors in Germany are more sceptical about online technologies than those from other European countries [10]. The most common concerns are "lack of non-verbal communication", "risk of possible misunderstandings", "not appropriate for problems", "more non-committal" or "risk of security



	written	verbal
synchronous	chat, messenger	video calling
asynchronous	email, forum	voice messages, video messages

Tab. 1: **Examples of different online counseling formats based on selected characteristics** (Source: own representation adapted from [6])

gaps". A more distanced attitude went hand in hand with a lack of experience in dealing with online media [10]. According to the "BerIn" study, which investigated the professional internet use of counselors, there is a remarkable discrepancy between private and work-related use [11]. Furthermore, women and people who offer counseling in urban areas have a more positive attitude towards online formats. On the other hand, a higher level of professional experience goes hand in hand with a more negative attitude towards online counseling formats [12].

Changes due to the coronavirus pandemic

For a long time, the personal face-to-face conversation was considered the (only) gold standard of counseling [13], and although the technology was already in place, it was the restrictions on contact during the coronavirus pandemic that led to the breakthrough of digital services [14, 15]. The pandemic has thus led to a marked increase in online counseling, as "previously impossible things have become possible and a lot of experience has been gained" [9, translated by author]. A survey of 141 dietitians working in nutrition counseling and therapy showed that the coronavirus pandemic resulted in significantly more consultations via video call (+26%) and telephone (+13%), while face-to-face consultations decreased (-29%). Most respondents who used a digital service during the pandemic stated that they would continue to do so afterwards (82.7%). Client satisfaction was also mostly rated as positive by the respondents [16].

The advantages of online counseling include increased flexibility, elimination of location restrictions and the possibility of maintaining the counselor-client relationship even in the case of contact restrictions or immobility [6]. In a qualitative study, overweight patients were asked about their experiences with app-based nutritional counseling. According to this study, the app made it easier to integrate counseling content into everyday life. The respondents appreciated the regular contact with the dietitian, prompt feedback and the high level of flexibility. Limitations were identified due to the chat-based nature of the app in cases which required increased dialogue and complex topics [17]. A systematic review of the effectiveness of video-based online dietary counseling revealed that for aspects such as exercise and obesity, online formats are potentially more effective than face-to-face counseling or counseling via telephone [18]. During the coronavirus pandemic, more video counseling was provided [9]. This is partly due to the improved availability and partly because it is a handy alternative to face-to-face counseling in which, compared to text-based online counseling, counselors can draw on existing conversation management skills [9]. To be sure, the change to video counseling also comes with challenges. For example, widely used video chat services (e.g. Skype, Zoom) and messenger ser-

vices (e.g. WhatsApp) may not be suitable for face-to-face counseling due to data protection issues [19]. The list of certified video service providers compiled by the National Association of Statutory Health Insurance Physicians (KBV) [20] provides guidance on which tools can be used in counseling in order to ensure high data protection standards. The billability of the various services should also be taken into account.

Challenges for professional nutritional counseling

Digitalisation and associated changes pose challenges for professional nutrition advice [21]. Since the term "nutrition counselor" is not a legally protected professional title in Germany, providers with various qualifications and with more or less reputable offers can be found, especially online [22, 23]. The standards set out in the framework agreement on quality assurance in nutritional counseling and nutrition education in Germany [24] can be used to distinguish qualified nutrition counselors from others. According to this framework, quality-assured dietitians have a basic qualification (e.g. a nutrition-related degree or training as a dietitian) and an additional certificate. These qualified nutritionists are listed on the websites of the respective certification providers. Other nutrition counselors, some of whom are not sufficiently qualified, advertise their mostly digital counseling services via their own websites and/or social media such as Instagram or Facebook [7]. Social media such as these channels allow them to extend their reach and address online-savvy audiences [25, 26].

Research gap and research question

With the increasing use of digital communication media, reinforced by contact restrictions during the coronavirus pandemic, online counseling is becoming increasingly important. However, it is unclear to what extent and in what form online counseling is established in quality-assured nutrition counseling. Against this background, it is important to assess the current status in order to identify reference points for the necessary professionalisation.



Method

Subject of investigation

Websites can be seen as the starting point for all online communication [27]. They are used to promote people or a specific offer and to provide information [28]. For this study, publicly accessible websites of certified nutrition counselors were analysed to gain an overview over the online provision of qualified nutrition counseling. Each website was viewed in full to record the existence of an offer for online counseling. Three aspects are considered to be relevant to online counseling in this study: 1. references to digital counseling formats, 2. references or links to own social media channels and 3. information on contact options for clients. The analysis was partly standardised. Key features were statistically measured to determine their frequency. Text passages containing information about the online offer were collected verbatim and analysed in terms of content.

Sampling and selection of websites

In order to be able to focus on professional counselors, certificate providers were selected whose certificates fulfil the requirements for qualified nutritional advice as defined by the framework agreement on quality assurance [24]. In order to obtain a sample that was as representative as possible, two certificate providers were selected: the The German Nutrition Society (*Deutsche Gesellschaft für Ernährung*, DGE), which has been offering a certificate for nutritionists since 1957, and the professional association of ecotrophology (*Berufsverband Oecotrophologie e. V.*, VDOE), which has been offering a certificate since 1994 [22, 29]. Both have a post-code or 'expert search' function which lists counselors. Further search criteria can be defined within these lists. The defining criterion for the analysis presented here is that the service offered is nutrition counseling for private individuals. In a first step, all persons were included who could be found at the VDOE under the selection criteria "preventive nutrition counseling" or "nutrition therapy" and at the DGE under "nutritionist/DGE" using the search function. The initial list created on 27 September 2022 contained 1477 addresses, of which 946 had a website (i.e. 64.05%). As the analysis progressed (01/01/2023-01/06/2023), this list had to be adjusted according to the inclusion and exclusion criteria. Consultants whose services only refer to the areas of workplace health promotion, education, specialist journalism, PR or home economics and whose address is not in Germany were excluded. The list also had to be adjusted for duplicates, reducing the number of websites to be analysed from 946 to 780. Of these 780 websites, 50 were classified as 'out of date' and a further 54 as 'incomplete' and were therefore excluded from the analysis. Websites were categorised as "out of date" if the link to the website provided by the DGE or VDOE did not work or if the error message "website does not exist" or "a new website is being created here" or similar was displayed. Websites were classified as 'incomplete' if the link worked but did not contain any information about the advice service, for example only links to an online shop, or only information about a medical practice (with no content about the nutrition counselor), or similar.

The remaining valid sample consists of 676 websites.

Results

According to the information provided on the websites ($n = 674$), most counselors are self-employed (92.0%), of which 73.2% work alone and 18.8% in collaboration. In addition, there was information about being employed (3.4%) or working part-time (4.3%). In the cases this information was available on the websites, the age of the counselor and the length of time they had been working in this function were recorded. Information on the age of the counselor could be found on 89 websites. The age ranged from 22 to 64 years, with an average of 46.8 years (SD 10.4). Information about the length of employment could be found on 345 websites. Based on this information, the average duration of professional activity is 17.4 years (SD 8.8) and ranges from one year to 42 years.

Contact options

All 676 websites analysed contain information on contact options, mostly by telephone (96.3%) or by e-mail (92.6%). A contact form is less common (60.1%). A fax number is also provided by 160 counselors (23.7%) under the heading "contact". 73 counselors (10.8%) also offer other forms of contact, including direct booking of appointments. Contact by mail is less common (0.6%).

Social Media

Information or links to social media channels are available on roughly one in three websites (34%). The most common are Facebook (82.6%), Instagram (56.6%) and X (Twitter at the time of the initial survey) (10.9%). In addition, there were six other links, including YouTube and podcasts (some self-created). Where only one social media channel is linked (112 times in total), the most common is Facebook (79), followed by Instagram (32) and X/Twitter (1). Nine websites contain references to three different channels. When two channels are mentioned, these are predominantly Facebook and Instagram (88). Combinations with X/Twitter were much less common (15). The links provided were not always up-to-date, functional or openly accessible (Facebook: 32; Instagram: 28; X/Twitter: 12). The content of the linked social media channels and the number of followers were not included in the survey. Only rarely any information was provided about the social media channels, for example that the latest information could be found in the feed or on Instagram, or a reference to recipes on Facebook and an invitation



combination of offered channels	n = 276	
One channel	259	93.8 %
video	250	96.5 %
email	6	2.3 %
chat / messenger	3	1.2 %
Two channels	14	5.1 %
video and email	6	42.9 %
video and chat / messenger	8	57.1 %
Three channels	3	1.1 %
video, email and chat / messenger	3	100 %

Tab. 2: Channels for online counseling

to join a Facebook group.

Online Counseling

In this study, online counseling was defined as counseling via video, email or messenger, and non-specific information such as 'online' or 'digital' was also interpreted as such a service. About half (325 or 48.1%) of the websites refer to online counseling services. Face-to-face counseling is much more common. On-site counseling - i.e. in the counselor's practice or similar - is offered on 92.6% (626) of the websites. Ten websites (1.5%) do not give any information about the location or type of consultation. Other information (e.g. mobile or digital-only consultations) can be found on 40 websites (5.9%). Most of the online counseling services located are not exclusively digital. For example, 88.3% (287) of those offering online counseling (325) also offer on-premise face-to-face counseling and 52.6% (171) offer telephone counseling. The clients' choice is emphasised in this context. The formulations also reveal approaches to blended counseling: the online service is also seen as a possible combination with face-to-face or telephone counseling. Those who do not offer online counseling also provide different alternatives to face-to-face counseling. For example, telephone counseling is combined with the option of sending the necessary written documents by mail.

Channels and security aspects of online counseling

Online counseling can be provided via various channels. On 49 of the 325 websites that mention online counseling, no specific information is given about the channel used. When specific forms are mentioned (276; 84.9%), it is mainly video consultation, followed by email and/or messenger consultation. In most cases, only one channel was mentioned (93.8%). This mainly includes video, with less frequent mention of online counseling provided exclusively via email or messenger. Two different channels are offered by 14 counselors, and three websites offer information on three channels (♦ table 2).

As part of the partly standardised website analysis, the different video services were recorded for the cases in which information was available (♦ table 3).

Zoom and Skype are the most commonly used video conferencing tools. They are not included in the KBV list (see [20]), nor are the more frequently mentioned services MS Teams, FaceTime, Jitsi or WhatsApp. CLICKDOC and Sprechstunde.online, on the other hand, are certified. The reason given for video consultation is the immediate contact it creates and the possibility of viewing and discussing other documents (e.g. dietary protocols) or items (e.g. food stocks) together. The video services mentioned are usually accompanied by some formulations regarding security issues. However, this also includes rather un-specific phrases such as "quality-assured", "all

Video services	n
Zoom	63
Skype	38
CLICKDOC Videosprechstunde	15
Sprechstunde.online	8
MS Teams	7
FaceTime	6
Jitsi	4
WhatsApp	4
Webex	3
medflex	3
GoToMeeting	2
RED connect, RED medical	2
NOVENTI	1
WoMBA	1
Teamviewer	1
GoogleMeet	1

Tab. 3: Video services mentioned on the websites
Ranked in descending order, multiple answers possible

security requirements are met" or "in a virtual, protected space". With these formulations, a meaning relating to a possible risk of infection or similar cannot be ruled out. In addition to the mention of secure software, it should be noted that in some cases, also software that is considered unsuitable for counseling (see [19]) is described as "secure" (e.g. Zoom or Jitsi) or that other, non-secure services for online counseling are mentioned within a website in addition to secure channels (e.g. non-secure services such as Skype or WhatsApp in addition to Sprechstunde.online). Online counseling via messenger is much less common (14 times) than video counseling. The use of a messenger is motivated by the possibility to



easily stay in touch between appointments, e.g. for short questions, to get feedback on certain foods or meals or to exchange new data (e.g. body weight). Messenger services mentioned included WhatsApp and Facebook Messenger, which are not considered secure by the KBV. Only one person recommended the messenger service Threema, citing its high data security standards.

Reasons for online counseling and experiences

Some websites include some background for offering online advice service referring to the coronavirus pandemic (e.g. "coronavirus", "covid" or "current situation"). Online counseling is described as a "safe alternative" considering the then possible risk of infection. The coronavirus pandemic is also often cited as the reason for the expansion of the counseling service, sometimes described as "forced" or "necessary". More general phrases such as "now also" or "from now on" do not indicate a clear link to the coronavirus pandemic. Occasionally, expressions such as "routinely" or "of course" suggest a longer-term offer. Phrases such as "continue" or "recent experience" do not have a clear starting or ending point. In 17 cases the word "alternative" is used in relation to the online counseling channel offered. Face-to-face counseling is described as the 'usual' form. Some text passages suggest that some counselors still see face-to-face counseling as the gold standard and regard online counseling more as an additional service. Examples are formulations such as "face-to-face counseling always takes priority" or cases in which online counseling is explicitly seen as a remedy when face-to-face counseling is not possible for various reasons. Although online counseling is seen by some as a supplement to face-to-face counseling, there are several statements on the websites that indicate positive experiences with online counseling (especially in relation to video counseling). Evaluations of digital versus face-to-face nutritional advice range from 'fairly good' to 'useful' to 'very positive'. The reasons given by the counselors are the quality of advice, ease of access and efficiency. The clients' perspective is also included in the formulations on the websites and it is stated there that online counseling is popular with both younger and older clients - despite "initial scepticism". The main reasons given for using online counseling on the websites are flexibility in terms of location (e.g. 'location-independent', 'from your office', 'on holiday', 'wherever you are', 'even in rural areas', 'nationwide') and time ('no time pressure', 'flexible times'). This means that counseling sessions can be attended despite family responsibilities. There are also advantages in not having to travel and the associated aspects (no need to look for a parking space and potential cost savings). The particularly 'relaxed' atmosphere (similar formulations include 'comfortable', 'cosy', 'on the sofa'), which is made possible by the familiar home environment, is also emphasised. With regard to nutrition counseling in particular, the fact that the kitchen or the food to be discussed is nearby (e.g. checking the fridge) is mentioned as an advantage. Online counseling can also be indicated for medical (e.g. immobility) or hygienic reasons (e.g. protection against infection). Climate friendly aspects were mentioned only once.

Discussion

The analysis of websites shows that online advice already exists to a notable extent in the area of nutrition advice. However, this offer is relatively small - both in terms of the proportion of counselors with a website and the proportion of those who have information about the option of online counseling on their website. In terms of professional nutritional counseling, it is therefore still possible to speak of a "Sleeping Beauty" [7] in this context. The potential of online advice in the age of digitalisation has not yet been fully exploited. Websites help people seeking advice to find information at a low threshold, which offers advantages in acquiring new clients. The question of why so many counselors do not have a website or do not include it in their contact lists remains unanswered. Nor is it possible to clarify which access points are preferred by people seeking advice to find (digital) nutrition counseling. The proportion of digital counseling services compared to face-to-face services appears to be low. However, a comparison over time shows an increase. In 2019, a similar study¹ analysed the websites listed at DGE and VDOE [30]. While only 386 complete and functioning websites were found in the similar study in 2019, this time there were already 676 websites. The number of online counseling services has also increased: from 10.1% (n = 39) to 48.1% (n = 325). The fact that there was an increase is partly due to the coronavirus pandemic. Due to contact restrictions, offering a digital alternative was an existential necessity for many suppliers [31]. This is also confirmed by the results of Fuger et al. [16] and the corona-related formulations found in connection with the online counseling services on the websites. A coronavirus-related increase in online counseling was also observed in other areas such as psychosocial counseling, with video counseling in particular being used more frequently [14, 32]. Here, too, a clear shift towards video counseling was observed (2019: 68.4%; 2022: 96.7%). Whether this form of counseling will continue to be used after the pandemic, as found in other studies [32], can only be assumed for

¹ The samples are highly comparable in terms of gender (2019: 96 % female), age (2019: 44.9 years (n = 68; SD 9.4), duration (2019: 14.0 years n = 226; SD 7.9) and type of counseling activity (2019: self-employed (n = 357; 92.5 %).



the sample surveyed here. In principle, video counseling offers a number of advantages over other digital forms of counseling [9]. As it is usually carried out from home, it also allows greater insight into the privacy of clients [9]. The text sequences analysed show that nutrition counselors also use video consultations to carry out tasks such as a fridge check. Other advantages mentioned on the websites include the relaxed atmosphere due to the flexibility of time and place. Whether this offers particular potential for nutrition counseling can only be assumed on the basis of the selective references to possible applications and their evaluation by counselors and clients on the websites.

The importance of text-based online counseling has decreased [14], which can also be confirmed by the website analysis carried out here. In 2019, the proportion of counseling via email was still at 42.1%, in the current analysis it was only at 5.4%. Communication via chat / messenger, which is valued by clients due to regular contact and prompt feedback, among other things [17], is also declining based on the information found on the websites analysed. In 2019, references to this form of counseling still accounted for 29.0%; in 2022, only 5.1%. However, the category „chat / messenger“ is not clearly defined: it cannot be ruled out that different tools are referred to by this term or that not only text-based but also voice or video-based communication takes place via chat or messenger. Furthermore, it is still possible that communication will take place via chat or messenger or in an organised manner via an advice-specific app - even if this is not communicated on the website. It should also be noted at this point that hardly any information on the use of apps for nutritional counseling could be found on the websites.

The offer of social media channels has also increased since the first study in 2019. While around a third (34%) of websites already contained references to social media in 2022, only one in eight websites (12.7%) did so in 2019. The order of the most frequently channels has remained the same. Facebook is still leading the field, but its share has decreased (2019: 98.2%; 2022: 68.7%), as has X/Twitter (2019: 23.6%; 2022: 5.7%). Instagram, still in second place, is mentioned more often (2019: 25.5%; 2022: 44.3%). Although social media should not be used for confidential counseling sessions, these platforms offer counselors a good opportunity to tap into new target groups beyond locally oriented structures. The increased use of

digital media such as search engines also means that previously locally-based access to personalised services is being replaced. The challenge for nutrition counseling is therefore not only to digitise the advice services, but also to consider a "transformed search" [26] for advice services. In addition to social media, the information on the website plays an important role in making contact. Here, too, there are technical innovations that have already led to changes among dietitians. In comparison with the 2019 survey [30], it is noticeable that the "contact form" option is more common (2019: 49.5%; 2022: 60.1%) and other forms such as an online tool for booking appointments have been added. The "email" contact option, on the other hand, has decreased from 97.7% to 92.6%. As online information sources are developing rapidly (online self-learning courses, coaching, etc.), there is a competitive need to face up to this development [30]. All this considered it should be taken into account that there are still people who are unable or unwilling to use digital services. Although a large proportion of Germans now belong to the so-called digital centre or digital professionals, around 15% can be classified as avoiders [3]. The use of digital media also requires certain competencies [33]. A mixture of analogue (e.g. via multipliers such as doctors) and digital access channels is therefore recommended [34]. Older people in particular, who represent an important target group for nutrition counseling, are often sceptical about digital services [35] and/or have less technical equipment or competence [2]. However, it is not only elderly people who need support in finding reliable sources and information online due to a lack of skills [36]. In the field of nutrition counseling, certificates are important for this; communication about them can certainly be intensified. The advantages of online counseling and positive experiences have been described on individual websites. This can help to reduce scepticism or inhibitions. In some cases, explanations were also given on how to access online counseling and how it works, which can reduce uncertainty when dealing with digital media [37].

In conclusion, it can be said that counseling services have become more digital overall, but that face-to-face meetings still play a major role. Formulations on the websites suggest that online counseling is only seen as a supplement or temporary alternative. This is also evident from other articles. One nutritionist summarises her experiences during the coronavirus pandemic as follows: "*Face-to-face offerings remain the gold standard as far as counseling quality is concerned. Online services are a valuable addition, close gaps and will certainly replace some of the face-to-face services in the long term. However, they will not be able to completely replace face-to-face services.*" [31, translated by author]

Action needs

Nutrition counseling is facing a complex task. Digitalisation creates both opportunities and risks. In addition to professional and methodological know how, media expertise is also essential for the professional provision of online counseling. Based on the re-



sults, there is an urgent need for action concerning the enhancement of online presence and the application of digital technologies that meet the legal requirements of the counseling process. Online presence includes both websites and social media. In addition to the usual professional and methodological competence, online counseling also requires system competence, which includes, for example, the selection of software and hardware, consideration of security risks, and the design of one's digital presence [38]. In online counseling, the previous firmly rooted time and space location of on-site counseling is dissolved by de-territorialized and de-temporalized logics [38]. A well-grounded online presence can lead to better client acquisition and help ensure that those seeking advice can more easily find high-quality, certified nutrition counseling among the increasing variety of available options. However, communication through social media also comes with challenges. These include the need for quick responses to questions or posts and careful selection of content to encourage interactions while simultaneously preventing negative reactions [25].

Online counseling is an umbrella term for various forms of counseling and the channels used. It is therefore not surprising that the offers found here are very diverse, for example, regarding the video services used. A closer examination of the information given on the websites also revealed that video and messenger services that are unsuitable for counseling in terms of DSGVO compliance are being put to use. Reindl (2018) stated even before the coronavirus pandemic: "When one considers this complex picture of online counseling, it is easy to see that this development 'from the ground up' does not follow a well-developed concept. It resembles more of a patchwork quilt than a systematic development." [8, p. 20] From his perspective, a plan for the digitalization of counseling is lacking [8]. It is not only the counselors themselves who are challenged; superordinate entities (e.g., associations, certification bodies) can also contribute to the development of a common "digital self-image" [38]. The development and dissemination of standards, as well as suitable counseling software and technology, can further help to professionalize. In this context, existing quality standards for online counseling [6], as well as specific guidelines for the field of nutrition [39], or the chapter "Online Nutrition Counseling" in the DGE Counseling Standards [40], can be referenced. Such regulations could also be included in the existing framework agreement [24 and Infobox] and serve as a basis for the further education and training of nutrition consultants. Seminars tailored to online counseling are important for building necessary competencies and reducing possible concerns. Additionally, peer exchange regarding experiences and potential solutions is significant for this purpose [7].

Strengths and limitations of the study

The analysis of website content represents a non-reactive method with a straightforward empirical approach, allowing for timely data collection. The results provide only a snapshot, as the contents naturally can be continuously modified. Furthermore, examining websites allows for the perspective of potential clients, although design aspects or website usability were not the focus of this analysis. A fundamental challenge lies in the varied terminologies surrounding online counseling. For instance, it's difficult to discern the extent to which messenger services are used

in counseling, as they facilitate not only text but also audio or video-based communication. Furthermore, no insights could be gained regarding the use of purely technology-based interactions (e.g., apps or platforms). However, it cannot be ruled out that some counselors may already be using such apps without communicating this on their website.

Through the half-standardized survey of website content, additional insights could be analyzed. However, the presented website-analysis has limitations. For example, a direct survey could provide more information about motives or attitudes regarding online counseling. Access through publicly accessible address lists via the expert search functions of DGE and VDOE enabled a simple, comprehensive, and targeted approach to certified nutrition counselors, despite some challenges during data collection (e.g., entries and exits, additions of new websites, correction of faulty URLs, etc.). It is important to note, however, that this represents only a sample, as not all existing certified nutrition counselors were included. On the one hand, there are other certificate providers, and on the other hand, other nutrition counselors may have websites and/or offer online counseling services but are not listed in the lists or prefer other communication channels. However, since websites serve as a flagship, it is likely that the majority of those offering online counseling services were captured.

A new version of the framework agreement on quality assurance in nutritional counseling and nutrition education in Germany dated 1 February 2024 now also mentions online counseling formats. These are explicitly included in the counseling methodological and pedagogical standards: 'The methodology applied, the media used and the as well as spatial and temporal conditions (presence, digital or hybrid) must enable behaviour-oriented, person-centred or participant-oriented counseling.' [translated by author] <https://www.dge.de/fileadmin/dok/qualifikation/qs/Koordinierungskreis-Rahmenvereinbarung-QS-EB.pdf>



Research needs

Counseling will continue to mediatize [13]. Therefore, it is important to monitor the development within nutrition counseling. The focus should be expanded to include additional aspects, such as digital information offers or website usability. Besides analyses of internet presence, the content and presentation styles on social media are also relevant. This should not only consider professional nutrition counseling but also non-professional or uncertified providers. Surveys of clients could assess the demand and relevant approaches for online counseling. Surveys of counselors should identify potential barriers to establishing an online offering.

Conclusions

The presented website analysis of a sample of professional nutrition counselors illustrates the need for professionalization in the field of online counseling. Against the backdrop of increasing digital information and communication, nutrition counseling should also offer more digital services. The analysis highlights the following aspects as relevant opportunities for improvement: creating and continuously updating websites or other digital platforms and linking them in distribution lists (search functions at certificate providers), expanding online counseling services, and ensuring compliance with legal requirements when selecting the channels used.

Disclosure of conflict of interest and use of AI

The author declares that there is no conflict of interest and that no AI applications were used in the preparation of the manuscript.

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