BMJ Open

Motivational interviewing training for caregiver counsellors: study protocol of a mixed-methods evaluation using the Kirkpatrick model

Johanna Schmidt ,[1] Sophia Bösl ,[1] Natascha Lauer ,[1] Elmar Graessel,[1] Oliver-Timo Henßler,[2] Anna Pendergrass[1]

To cite: Schmidt J, Bösl S, Lauer N, *et al*. Motivational interviewing training for caregiver counsellors: study protocol of a mixed-methods evaluation using the Kirkpatrick model. *BMJ Open* 2025;**15**:e090454. doi:10.1136/bmjopen-2024-090454

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (https://doi.org/10.1136/bmjopen-2024-090454).

Received 25 June 2024
Accepted 20 January 2025

[1]Center for Health Services Research in Medicine, Department for Psychiatry and Psychotherapy, Erlangen University Hospital, Erlangen, Germany
[2]Medical Advisory Service of the Bavarian Health Insurance, Munich, Germany

Correspondence to
Johanna Schmidt;
schmidt.johanna@uk-erlangen.de

ABSTRACT

Introduction Caring for a relative in the home environment is a great challenge for many informal caregivers (CGs). Caregiver counselling offers support to the CGs and can, thus, help them improve CGs' burdensome home care situations, especially if the caregiver counsellors (CCs) have good communication skills. Motivational interviewing (MI) has the potential to further enhance the communication skills of CCs and the effectiveness of MI has been demonstrated internationally in a wide variety of contexts. However, MI has not been implemented and evaluated in the caregiver counselling context yet.

Methods and analysis The goals of our prospective, interventional, mixed-methods study are the development, implementation and evaluation of a training course for CCs on the topic of 'Motivational Interviewing for caregiver counselling' in Germany. The training is specifically adapted to the caregiver counselling context and consists of an e-Learning, an on-site workshop and a voluntary follow-up support phase. Its quality and benefits will be evaluated according to Kirkpatrick's four-level evaluation model. Measured outcomes will be participants' satisfaction with the training (level I: reaction), MI knowledge (level II: learning), perceived use (level III: behaviour) and counselling competence, self-efficacy, social cognitions about the use of MI and perceived impact of MI (level IV: results). Primary outcome is counselling competence measured by Counsellor Activity Self-Efficacy Scale. The data will be collected at baseline (t_0), after the on-site workshop (t_1), after the voluntary follow-up support (t_2) and 6 months after the training (t_6). Quantitative data will be analysed with several repeated-measures ANOVAs and qualitative data with qualitative content analysis. Recruitment is ongoing until 31 July 2024.

Ethics and dissemination All procedures were approved by the Ethics Committee of the Friedrich–Alexander University Erlangen–Nürnberg (project number 24–108-B). Informed consent will be obtained before participants are enrolled. Serious adverse events are not expected. Results will be published in peer-reviewed journals and presented at conferences.

Trial registration number ISRCTN14218056.

STRENGTHS AND LIMITATIONS OF THE STUDY

⇒ The concept of the well-evaluated and effective Motivational Interviewing is transferred to the context of caregiver counselling.
⇒ The training will be thoroughly evaluated by applying the well-established Kirkpatrick model, which means that the following four levels of the model will be evaluated in a mixed-methods analysis: participants' reaction, learning, behaviour as well as the final results of the training.
⇒ The use of the e-Learning offers the possibility of autonomous learning and the voluntary follow-up support will provide participants with assistance in integrating the content they learn into their everyday counselling practices.
⇒ Potential limitations of the design include self-selection bias, the lack of a control group and the reliance on the perception of the caregiver counsellors (CCs) to assess the impact of the training on informal caregiver.
⇒ Results will be based on the CCs' self-assessment and may be influenced by biased responses.

INTRODUCTION

Caring for a relative in a home environment is a major challenge for many informal caregivers (CGs). The majority of individuals requiring care at home are affected by chronic illnesses or age-related disabilities.[1 2] Research has already shown that caregiving is associated with high levels of stress and can lead to a decline in physical health (e.g. back problems) or mental health problems (e.g. depression, lack of coping mechanisms or poor quality of life) as well as to economic challenges (e.g. restriction or loss of employment).[1–6] The chronic nature of the underlying conditions requiring caregiving results in prolonged stress exposure. For many, home care is a persistent major stressor, which is typically unpredictable and difficult to manage. Furthermore, it often generates

secondary stressors in various domains of life.[7] The longer care is provided, and the more severe the functional status of the care receiver is, the higher is the caregiver burden.[2] Due to the ageing of society and the associated increase in people in need of care, this issue is becoming more relevant.[8]

In accordance with §7a SGB XI (the 11th Book of the German Social Code (SGB XI) defines social long-term care insurance in Germany and, thus, determines the financing of the need for inpatient and outpatient long-term care), in Germany, caregiver counselling can be used by all people with statutory long-term care insurance and provides an important key function in relieving the burden on CGs. Caregiver counselling provides individual, comprehensive advice on the use of social benefits and other offers of assistance to CGs with care and support needs. It aims to promote the autonomy of people in need of care and their CGs, thus enabling them to make an individual decision about the numerous services that are offered (e.g. day care or home care service).[9] In recent years, the already low use of the service has fallen slightly.[10 11]

The training to become a CC in Germany can be completed by nursing staff, social insurance employees or social education workers. It comprises a 9-day internship at a care facility and further training on nursing expertise, case management and law. Case management training covers theoretical and practical basics, in-depth knowledge of the specific field of work, and interviewing and counselling skills.[12] According to the German National Association of Statutory Health Insurance Fund, CCs should offer not only professional expertise (e.g. extensive knowledge and practical experience) but also personal skills. These include CCs' adoption of a cooperative, respectful, empathetic and communicative counselling attitude, which underlines the importance of communication skills for CCs. In addition to the regular mandatory education (e.g. updating knowledge), CCs can also participate in elective topic-specific training courses that serve to adapt and expand their professional skills and deepen their competencies, such as communication skills.[12]

Through good caregiver counselling, CGs can learn to better manage their environment and personal living situation in a more self-determined way, to set boundaries, and, ideally, to accept help and support.[1 10] To achieve these goals, caregiver counselling has to be structured in such a way that the CGs can actually benefit from it: individual and situational changes have to be developed and implemented to relieve the burden. As this concept goes beyond establishing a communicative counselling environment but requires specific skills, a continuous training programme in counselling techniques and relationship building for CCs is needed.

In this regard, Miller and Rollnick's Motivational Interviewing (MI) can provide support, particularly in difficult counselling situations.[13 14] MI is a client-centred conversational technique based on empathy and acceptance. It is used to strengthen an ambivalent person's self-motivation and willingness to change while focusing on the client's goals. The aim is an increase in personal motivation and commitment to change behaviour by exploring and strengthening one's own reasons for change.[13 14] MI integrates a variety of different evidence-based approaches from social and cognitive psychology and can be applied even with limited time resources.[15] The therapeutic effect of MI is based on general factors that can be found in different types of psychotherapy as well as factors that are specific to MI. The specific factors of MI, often referred to as the 'spirit of MI', include partnership, acceptance, compassion and empowerment and are complemented by general factors, such as some basic attitudes described by Rogers (congruence, expressing empathy and being non-judgmental).[13 14]

MI was originally developed in the field of addiction treatment but is now being used and showing positive effects in many different areas. According to a recent systematic review,[15] positive effects of MI have been found in studies on substance use, physical activity, dental hygiene, body weight, adherence to treatment, willingness to change behaviour, mortality and health-promoting behaviour, among others. With regard to the context of this study, only studies on MI with the CGs themselves or those in need of care could be found: for example, MI is beneficial for the CGs of people with poorly treated early psychosis,[16] for CGs of patients with breast cancer in chemotherapy,[17] for parents and CGs of children with asthma[18] or for parents with an emphasis on using services to improve parenting and prevent negative child outcomes.[19] An ongoing study is investigating the use of MI in a virtual health coaching intervention for CGs of adults with chronic heart failure.[20] Besides this, there are valuable effects on the patients themselves: for example, involving both patients and their CGs in an MI intervention could reduce the burden of physical heart failure symptoms[21] and mortality in heart failure patients.[22] In addition, MI can be effective when integrated into health promotion and disease prevention for older adults in primary care.[23] Moreover, a current systematic review[24] demonstrated the effectiveness of MI in encouraging older adults to engage in planning their own potential future care and complete their advance directives. As care planning counselling is in some regard similar to caregiver counselling, it can be assumed that integrating MI into caregiver counselling (as in the planning of care for others and at the same time oneself) can also be effective. Overall, these studies suggest that MI has potential in various occupational groups and healthcare settings[23] and can, therefore, be a useful technique when interacting with CGs.

However, there is still a need for more research. In particular, to the best of our knowledge, MI has not yet been studied in caregiver counselling. The literature indicates that MI training is primarily investigated among medical students and doctors, general healthcare practitioners (e.g. physicans and nurses), psychologists and social workers.[25–27] As MI is a client-centred technique with the potential to make a difference to stressful caregiving situations at home, a training course on 'MI for caregiver counselling' is being developed within the scope of this study. This training is intended to be an expansion of the already mentioned and very important

trainings on conversational techniques to strengthen CCs' personal competencies.

MI can be effectively taught through training: participants have consistently shown improved MI skills, which can promote the use of MI in practice and have a positive impact on client behaviour.[25–29] Furthermore, MI training for practitioners has also been shown to increase the clients' willingness to change.[27]

To evaluate training programmes in a structured way and to obtain a comprehensive overview, many studies (e.g. [30–33]) have used Kirkpatrick's[34] four-level evaluation model. Each level interacts with the others: at the first level (*reaction*), participants' satisfaction with the training is determined, including satisfaction with the content, the form, the method, the trainers and the working atmosphere. The second level (*learning*) assesses the learning success and, thus, the achievement of the previously defined learning objectives (e.g. improvement of knowledge and skills). The third level (*behaviour*) focuses on the transfer of the content learnt from the learning field to everyday working life. It is about whether what has been learnt can be applied and, thus, implemented in practice. The fourth level (*results*) deals with the final outcomes that can be linked to the training, for example, higher client satisfaction, higher quality of counselling, improved quality of work life or a change in attitude. According to the authors of this model, this level is the most difficult one to measure objectively.[34]

Aims and hypotheses

The aim of the study is to implement and evaluate a training for CCs on the topic of 'MI for caregiver counselling'. The training is designed to help CCs manage difficult counselling situations with the help of MI, thus strengthening the client's self-motivation and willingness to change.

The mixed-methods evaluation is intended to assess the benefits of the training and provide opportunities for further development. It is based on the Kirkpatrick model. The following hypotheses will be tested:

Primary hypothesis

Participants' subjective counselling competence is higher after the training than before the training (Level of evaluation according to Kirkpatrick model: results (IV)).

Secondary hypotheses

1. Participants' satisfaction with the training is high (Level of evaluation according to the Kirkpatrick model: reaction (I)).
2. Participants' knowledge of MI is higher after the training than before the training (Level of evaluation according to the Kirkpatrick model: learning (II)).
3. Participants' perceived use of MI after the training is high (Level of evaluation according to Kirkpatrick model: behaviour (III)).
4. Participants' experience of self-efficacy regarding their counselling sessions is higher after the training than before the training (Level of evaluation according to Kirkpatrick model: results (IV)).
5. Participants' level of social cognitions in terms of the theory of planned behaviour regarding the use of MI with future clients is higher after the training than before the training (Level of evaluation according to Kirkpatrick model: results (IV)).

METHODS AND ANALYSIS

Study design and data collection

The study is intended to evaluate whether participants benefit from the training and implement the content into their everyday practices. As only the participants in the training course will be included in the evaluation (without any 'control group'), no randomisation is planned. The training consists of a virtual introductory meeting, an e-Learning and an on-site workshop. The on-site workshop will take place in classrooms at the University Hospital Erlangen, and the e-Learning will be delivered via the learning platform 'StudOn' provided by the Friedrich–Alexander University Erlangen–Nürnberg.

Each participant will be surveyed prior to the intervention at the start of the e-Learning (t0), at the end of the compulsory intervention on completion of the on-site workshop (t1), at the end of the voluntary 6-week follow-up support (t2) and 6 months after the start of the training (equivalent to 4 months after completion of the voluntary follow-up support, t6). All variables will be collected with self-report questionnaires. Data will be collected by using the web-based data collection system Research Electronic Data capture hosted at the University Hospital Erlangen, as this secure web application builds and manages online surveys and databases.[35] The e-Learning will be available from mid-July onwards (first release on 8 July 2024), with the first on-site workshop beginning on 23 July 2024. The final assessment (t6) will start at the end of December 2024. The study procedure is shown in figure 1.

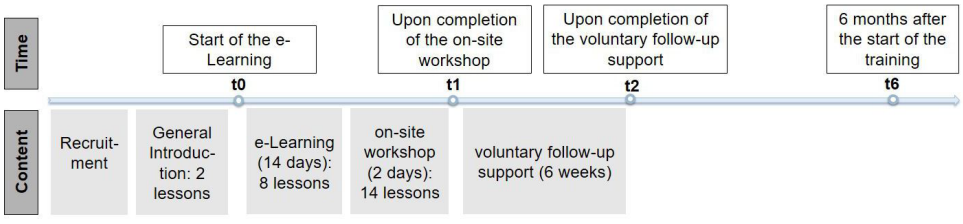

Figure 1 Study procedure for the participants.

Study population

Inclusion criteria for participating in the evaluation study include the completion of training as a CC, a current (at the time of the training) professional job in the caregiver counselling context and participation in at least 80% of the training (equivalent to 20 lessons) 'MI for caregiver counselling' in 2024.

Recruitment

The study will be carried out in Bavaria. Participants will be recruited from the pool of CCs in Bavaria (e.g. via the Medical Advisory Service of the Bavarian Health Insurance (MD), Deggendorf Institute of Technology (THD) and care support centres). Spots in the training course will be allocated on a first-come, first-served basis. If the training course is fully booked, other interested individuals will be placed on a waiting list and will be offered a free spot if possible. Recruitment is ongoing until 31 July 2024.

Sample size considerations

To determine the appropriate sample size for this study, a power analysis based on the primary outcome (counselling competence) was computed a priori with the G*Power software (version 3.1.9.7). The calculation was based on an alpha error of 5%, a statistical power of 95% and a correlation between repeated measures of 0.5. On the basis of these parameters, we will have the power to detect effects with an effect size of f=0.25 with a total sample size of 36 participants. The training will be conducted in four on-site groups of 12–15 CCs each, thus ensuring this sample size.

Data quality management

The study centre's staff can be contacted by participants for questions that arise at any point during the study. Data handling is in line with European Union data protection legislation and the corresponding German equivalent (DSGVO). Pre–post data will be linked by using pseudonymisation via a unique ID to protect confidentiality. Only members of the study team have access to the list regarding participants' names, contact information and corresponding codes. The list will be kept secure on a secured drive at the University Hospital Erlangen. The key for linking participants to the corresponding code has to be maintained in order to withdraw data from the study if a person no longer wishes to participate. All participants will be given an information sheet and must provide written informed consent before any study procedures are applied. Sample consent forms in the German language were approved by the Ethics Committee, the English version can be seen in online supplemental appendix 1. Published material will not contain any patient-identifying information.

Development of an MI training specifically for caregiver counsellors

The development of the training followed an evidence-based approach with a comprehensive literature review and the involvement of various experts and representatives from the field (e.g. CCs, head of caregiver counselling from the MD Bayern, training coordinators for CCs and psychologists trained in MI). Working closely with those responsible for training in caregiver counselling ensured that the training would complement the existing training content and has the potential to be included in the educational curriculum for CCs. The essential content of the training course was based on Miller and Rollnick's guidelines regarding the spirit, the four fundamental tasks and the corresponding MI methods.[13 14] Table 1 provides

Table 1 MI for caregiver counselling—structure and content

Subject	Content	Placement	
		e-Learning	on-site workshop
general principles	ambivalence	unit 1 (45 min)	day 1 (90 min)
*spirit of MI**	partnership, acceptance, compassion, empowerment	unit 1 (45 min)	day 1 (45 min)
*tasks of MI**	engaging, focusing, evocation, planning	unit 2 (45 min)	day 1 (45 min)
general conversational methods	active listening	unit 3 (25 min)	day 1 (140 min)
	open questions	unit 3 (10 min)	
	summarising	unit 3 (10 min)	
	appreciation	unit 4 (45 min)	
MI-specific methods	communication blocks ('road blocks')	unit 5 (45 min)	day 2 (145 min)
	dealing with resistance	unit 6 (45 min)	
	providing information and advice	unit 7 (45 min)	
	evocation	unit 8 (45 min)	
	change talk	–	day 2 (120 min)
	sustain talk	–	day 2 (45 min)

**spirit of MI* and *tasks of MI* are based on Miller and Rollnick[13 14]; The approximate duration (in minutes) of the content is stated in brackets.
CG, informal caregiver; MI, motivational interviewing.

a brief overview of the topics of the training and their placement. For each content section, an example and an exercise that was appropriate to the caregiver counselling context were created in consultation with people from practice. The training course was already carried out for the first time as a pilot project in cooperation with the THD. Participants' comments on how the training could be adjusted have been incorporated.

The training course consists of 24 lessons (1 lesson=45 min). It begins with a general virtual introductory meeting (2 lessons) to explain the e-Learning and to address questions about the course. This is followed by the e-Learning programme (8 lessons) that participants have 2 weeks to complete. The e-Learning covers the essential theoretical content of MI within the framework of eight units (see table 1). Each unit contains animated educational videos, texts and practical examples of MI in the setting of caregiver counselling. Corresponding questions to reflect on and quizzes are presented to support the learning progress. Questions can be asked and answered at any time via a forum that is visible to everyone. The on-site workshop (14 lessons) takes place after the e-Learning on two consecutive days in groups of 15–20 participants. The already acquired theoretical knowledge about MI is deepened via various exercises and discussions. Participants are given a workbook containing all the exercises, for example, a brainstorming task on ambivalence using a case study. Furthermore, the methods of active listening, dealing with resistance, providing information and advice and change talk are practised through role playing using example situations from caregiver counselling as well as personal issues. Feedback from the other participants and the instructors is intended to help participants improve and reflect on their implementation of MI. Subsequent to the on-site workshop, participants are given a self-check logbook. The logbook provides a guide for reflecting on the different components of the training and is intended to support the implementation of MI techniques in the counselling situations. All exercises and the contents of the self-check logbook will be available in the corresponding training manual.

In addition, the CCs will have the opportunity to engage in a voluntary 6-week follow-up support programme, consisting of weekly emails to refresh the knowledge and a final online meeting. This enables participants to discuss problems that may have arisen during the implementation of MI in their everyday work, reflect on their own approach and receive feedback.

Measures

All variables with the corresponding time of measurement, their level of evaluation according to the Kirkpatrick model and represented hypothesis are presented in table 2. They will all be measured on the CCs.

Primary outcome measures

Counselling competence (level IV: results) as a final outcome of the training will be assessed according to the *Counsellor Activity Self-Efficacy Scale (CASES-R)*.[36 37] The CASES-R measures counsellors' perceptions of their own implementation of counselling- or therapy-related tasks (e.g. helping clients set realistic goals) and is used for the purpose of evaluating the effectiveness of counselling trainings.[38] Scale scores showed strong correlation with an already established measure of counselling self-efficacy, weak correlation with social desirability, sensitivity to change and ability to discriminate between participants with different counselling experiences. The short version consists of three different subscales that can also be used separately and refer to basic counselling skills.[37 38] For content-related reasons, we used two of the three scales in this study. *Exploration and Insight Skills-Revised* refers to the exploration of the client's perspective on a problem. *Session management* refers to the management of counselling sessions.[38] In the present study, the subscales we mentioned from the German version[36] are used. Items are answered on a ten-point scale ranging from 0 (not at all confident) to 9 (completely confident). An overall score is calculated, and higher scores indicate higher counselling self-efficacy. The wording of the scale was adapted to the counselling context.

Secondary outcome measures

MI knowledge (level II: learning) will be measured with the total score from a test containing five multiple-choice and two open-ended questions. All questions are based on the questionnaires of previous studies with medical students[39 40] and extended by items that were developed by the authors on the basis of Miller and Rollnick.[13 14] An open question is, for example, 'Please name the four core elements of the spirit of MI'. Individual total scores can range from 0 to 13 points, with higher scores indicating higher MI knowledge. In addition, participants are asked to rate their perceived knowledge and skills in MI on a scale ranging from 1 (no knowledge) to 10 (extensive knowledge) before the e-Learning (t0) and after the on-site workshop (t1).

To operationalise participants' satisfaction (level I: reaction), the *training satisfaction rating (TSR) scale*[41] is used. The TSR scale is a 12-item rating scale for measuring general satisfaction with training as a global construct among people attending various training programmes. It was developed with regard to the Kirkpatrick model and includes the topics 'objectives and content', 'method and training context' and 'usefulness and overall rating' of the training. Items are answered on a five-point scale ranging from 1 (never) to 5 (always). Scores can range from 12 to 60, with higher scores indicating higher satisfaction.[41]

Based on the theory of planned behaviour,[42] the questionnaire *social cognitions for using MI with future clients* measures the following dimensions of these social cognitions: affective and instrumental attitudes, subjective norms, perceived behavioural control and intentions regarding the use of MI (level IV: results).[43] The items represent each dimension and originate from a study on MI among medical students,[44] in which the authors

Table 2 Assessed variables and corresponding time of measurement, level of evaluation according to the Kirkpatrick model and represented hypothesis

	Time of measurement						
	t0	t1	t2	t6	Hypothesis	Level*	Instrument (REFERENCE)
Variables							
Primary outcome							
Counselling competence	x	x	x	x	1	results	CASES-R([36])
Secondary outcomes							
Satisfaction regarding the training: self-report		x			–	reaction	self-report questionnaire†
Satisfaction regarding the training: TSR		x	x		2	reaction	TSR scale([41])
MI knowledge	x	x	x	x	3	learning	self-report questionnaire†
Perceived use of MI in everyday work			x	x	4	behaviour	self-report questionnaire†
Perceived impact of MI in everyday work			x	x	–	results	self-report questionnaire†
Self-efficacy in the counselling context	x	x	x	x	5	results	ASKU([46])
Social cognitions regarding the use of MI	x	x	x	x	6	results	Social cognitions for using MI with future clients([44])
Baseline variables							
Sociodemographic data	x				–	–	
Data regarding the caregiver counselling context	x			x	–	–	
Controlling variables							
Social desirability	x	x	x	x	–	–	

t0, baseline (start of the e-Learning); t1, end of compulsory intervention (on completion of the on-site workshop); t2, end of voluntary intervention (on completion of the voluntary follow-up support); t6, 6-month follow-up.
*Level from the Kirkpatrick model.[34]
†based on the items proposed by D. Kirkpatrick and J. Kirkpatrick[34] ; extended and adapted to the training context by the authors.
ASKU, general self-efficacy short scale; CASES-R, counsellor activity self-efficacy scale; MI, motivational interviewing; TSR, training satisfaction rating.

adapted a previously developed questionnaire[45] to the MI context. Items are answered on a seven-point Likert scale.

Self-efficacy in the counselling context (level IV: results) is assessed using the *General Self-Efficacy Short Scale (ASKU)*.[46] The ASKU measures self-efficacy as an individual's perception of their own ability to cope with everyday difficulties and challenges and to deal successfully with critical situations.[47] It is designed as a unidimensional scale with three items rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). A mean scale value between 1 and 5 is calculated.[46] Items were adapted to the counselling context in terms of content.

Self-report questionnaires: To cover all levels of the Kirkpatrick model, additional self-report questionnaires will be used. These are based on the items proposed by the authors of the Kirkpatrick model[34] and were extended and adapted to the training context by the authors. The self-report questionnaire on *satisfaction with the training* comprises items regarding the context of the e-Learning, the on-site workshop and the overall impression (level I: reaction). It consists of open questions and items that are answered on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In addition, the instructors and the training should be graded with marks ranging from 1 ('very good' = best mark) to 6 ('insufficient' = worst mark). The *perceived use of MI in everyday work* describes self-perceptions of changes in behaviour as a result of the training (level III: behaviour). It is measured with items representing the extent to which the content learnt has been integrated into the counselling sessions (e.g. 'to what extent did you integrate the content you learnt in the training into your counselling practice?' on a four-point scale ranging from 1 (not at all) to 4 (a lot)) and the difficulties encountered in integrating it into everyday work. Furthermore, participants are asked about their perceptions of differences in their counselling sessions since the training with respect to the training content (e.g. dealing with ambivalence, resistance and active listening) and intentions for the future with respect to their counselling sessions. The questionnaire on the *perceived impact of MI in everyday work* represents individual perceptions of the final results from participating in the training (level IV: results). Participants are asked about recognised changes in their relationships with their clients (e.g. 'My relationship with my clients has improved through the application of the techniques I learnt in the training'; rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree)) and the benefits

of the training. In addition, participants are asked specific questions about perceived changes in clients as a result of using the MI techniques. The self-report questionnaires can be found in online supplemental appendix 2.

Other variables

Sociodemographic data and data on the caregiver counselling context will be collected as confounding variables using a self-report questionnaire. The following information will be collected: *age, gender, duration of counselling activity, professional background, job status, percentage of clients seen multiple times, typical counselling setting, number of counselling sessions per week, duration of an average counselling session, information on previously attended training programmes* and *motivation to become a counsellor.*

In order to check for a *social desirability* response bias among the participants' answers, the *Social Desirability-Gamma Short Scale* will be included. It measures two facets of social desirability: the tendency to exaggerate positive qualities (PQ+) and to minimise negative qualities (NQ-). The social desirability score is determined separately for PQ+ and NQ- by calculating the unweighted mean of the three items within each subscale. Higher PQ+ scores and lower NQ- scores indicate a stronger tendency towards socially desirable responding.[48]

Data analysis

Data analysis will be carried out with the IBM Statistical Package for Social Science Statistics V.29 software. Missing values will be handled using the maximum-likelihood estimation: If the MCAR condition (missing completely at random) is fulfilled, missing values are imputed via expectation–maximisation algorithm.[49 50] All analyses will be performed on an intention-to-treat basis and will be based on participants with available outcome data at the corresponding measurement points. Cases that cannot be clearly matched using the ID will be excluded.

The participants' satisfaction with the training, their perceived use and their perceived impact of the MI skills they learnt will be analysed with descriptive statistics in order to assess the quality and perceived benefits of the training. Frequencies, proportions and mean scores or medians will be calculated, and answers to open-ended questions will be analysed with content analysis according to Mayring.[51] Quantitative data of the primary variable (participants' change in counselling competence) as well as of each of the remaining secondary variables (MI knowledge, social cognitions about the use of MI and experience of self-efficacy in the counselling setting) will be examined with a repeated-measures ANOVA (analysis of variance) and a potential adjustment of the alpha level to take multiple testings into account. Potential confounding variables will be included to control for their effects. As this is a mixed-methods approach with a parallel design, the results of the separate quantitative and qualitative analyses will also be compared. This mixing process enables checking whether the two analyses lead to similar results or can complement each other.

Patient and public involvement

The research question was informed by the needs of CCs to have more communication techniques for dealing with difficult counselling settings as well as CGs' needs for a good caregiver counselling programme specifically tailored to their needs. No patients were or will be involved in the design, the recruitment or the implementation of the study. As this study is an evaluation of a training programme for CCs, patient and public involvement was not included in the research design.

DISCUSSION

MI has a long research history and is used in a variety of contexts. A review of the literature suggests that training in MI is primarily offered and studied among medical students and doctors, general healthcare practitioners as physicians and nurses, psychologists and social workers.[25–27] This study provides a valuable contribution to the use of MI in the context of care counselling as it explores the potential of MI to strengthen the supportive role that CCs can provide to CGs. The current basic training of CCs provides only limited training in the communication techniques that will be required in their practice. Thus, the major goal of this study is to evaluate whether this MI training is useful for the CCs as an addition to the existing training programme and whether it has the potential to be provided nationwide in Germany. As this is the first study in this area with this specific target group, the initial focus is on how to conduct the training and whether MI training can increase participants' counselling competence and the self-efficacy they experience and, thus, sustainably improve the day-to-day work of CCs. It may also improve the counsellor–client relationship and increase the probability that appropriate changes (e.g. the use of support services) will be identified and implemented, thus helping to strengthen and support the important role of CCs.

As the goal is to implement this training on a national level, we have already considered CCs' tight schedules in making the training economically and time efficient by carrying out a hybrid approach. This approach allows the training to be conducted at various levels: in addition to the traditional on-site days (which are particularly beneficial for hands-on practice), the majority of the theoretical content is delivered through e-Learning, allowing for independent learning in terms of time and location. Furthermore, the optional follow-up support provides participants with guidance on integrating the acquired knowledge into their daily counselling practices.

For a comprehensive analysis of the training, the evaluation of the study is based on the well-established Kirkpatrick model,[34] which means that the results can be compared with a variety of training fields. Satisfaction, perceived use and perceived impact will be surveyed both quantitatively and qualitatively, thus increasing the quality of the results through subsequent comparative analyses as a part of a mixed-methods approach. In

addition to the primary and secondary outcome variables, various sociodemographic data will also be collected. These data can be used for a subsequent responder analysis to investigate which counsellors benefit the most from the training. Kirkpatrick levels I, III, and IV will be assessed subjectively. Thus, the evaluation of the impact of the training on the CGs is based on the perception of the CCs. To mitigate the potential influence of biased responses, a questionnaire will be included to address the issue of social desirability bias. We are using an open-trial design in which all participants receive MI training. Thus, potential limitations of the design include self-selection bias and the lack of a control group and corresponding randomisation. As this approach is not a novel approach to training, but rather a modification to suit a particular target group and evaluate the quality of the training itself, it is essential to conduct a pre–post comparison (e.g. to ascertain whether the selected instruments are sensitive to change in this respect). But if it can be shown that the training is useful for CCs and the quality of the training is high, a Randomized-Controlled-Trial will be conducted as a next step, which will also include evaluations of the effects of MI on CGs and care receivers.

Sustainable implementation of training programmes requires not only a detailed evaluation but also close collaboration with practitioners. To this end, practitioners were involved in the development of the training programme in order to fill the existing gaps and adapt the type of training to participants' needs. Contact with employers and responsible organisations will be maintained during the evaluation process, and key results will be passed on. In addition, a corresponding training manual will be developed and revised on the basis of the evaluation results.

ETHICS AND DISSEMINATION

All procedures have been approved by the Ethics Committee of the Friedrich–Alexander University Erlangen–Nürnberg (24–108-B). Participation is voluntary and can be withdrawn at any time without suffering any disadvantages.

The study was prospectively registered on 30 April 2024 at ISRCTN registry (ref. ISRCTN14218056). Online supplemental appendix table 3 shows the trial registration dataset in accordance with the recommendations of the SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials) statement.[52]

The risk potential by participating in the training and the subsequent evaluation is not to be classified as relevant. Thus, no stopping guidelines have to be defined. Since pre–post data will be linked by using pseudonymisation, it is not possible to determine the identity of an individual participant, and no conclusions can be drawn about individuals.

Participants will be given techniques to strengthen their clients' self-motivation and willingness to change and, thus, achieve positive changes in burdensome home care situations. Therefore, CCs can experience the positive effects as a greater experience of success and greater self-efficacy in their everyday work.

Results of the evaluation will be used to enhance the training and develop a manual so that the training can be distributed throughout Germany as a rollout and, thus, ensure the integration of MI in caregiver counselling nationwide. A report summarising the research findings will be published in a peer-reviewed journal.

Acknowledgements The present work was performed in partial fulfilment of the requirements for obtaining the degree 'Dr. rer. biol. hum.' at the Friedrich–Alexander Universität Erlangen–Nürnberg (FAU) by J. Schmidt. We would like to thank all caregiver counsellors who participated in the study and the Medical Advisory Service of the Bavarian Health Insurance, the Deggendorf Institute of Technology, the care support centres and everyone else who promoted the study. We also thank our language editor, Dr. Jane Zagorski.

Contributors AP, JS and EG designed the study. JS wrote the manuscript and constructed the tables. AP, SB and NL assisted with the writing and revised the manuscript. EG provided a critical review of the manuscript. O-TH supported the planning and implementation of the study. All authors read and approved the final manuscript. JS is responsible for the overall content as a guarantor.

Funding This work was supported by Reinhard Frank Stiftung.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

ORCID iDs
Johanna Schmidt http://orcid.org/0009-0005-4099-4235
Sophia Bösl http://orcid.org/0009-0008-6268-2568
Natascha Lauer http://orcid.org/0009-0001-7497-6431

REFERENCES

1 Büscher A, Peters L, Stelzig S, *et al*. Zu hause pflegen–zwischen wunsch und wirklichkeit. *Hochschule Osnabrück*; 2023.
2 Lindt N, van Berkel J, Mulder BC. Determinants of overburdening among informal carers: a systematic review. *BMC Geriatr* 2020;20:304.
3 Raffelhüschen B, Bahnsen L. Deutschlands Größter Pflegedienst: Pflegende Angehörige. Zufriedenheit Und Andere Ausgewählte Aspekte. Verband Der Privaten Krankenversicherung e.V. Forschungszentrums Generationenverträge der Albert-Ludwigs-Universität Freiburg, 2020.
4 Scheuermann J-S, Gräßel E, Pendergrass A. Pflegebedingte Beendigung der Erwerbstätigkeit pflegender Angehöriger: Identifikation eines Risikoprofils. *Gesundheitswesen* 2024;86:S37–44.
5 Serrano-Aguilar PG, Lopez-Bastida J, Yanes-Lopez V. Impact on health-related quality of life and perceived burden of informal caregivers of individuals with Alzheimer's disease. *Neuroepidemiology* 2006;27:136–42.

6 Molyneux GJ, McCarthy GM, McEniff S, *et al*. Prevalence and predictors of carer burden and depression in carers of patients referred to an old age psychiatric service. *Int Psychogeriatr* 2008;20:1193–202.
7 Schulz R, Beach SR, Czaja SJ, *et al*. Family Caregiving for Older Adults. *Annu Rev Psychol* 2020;71:635–59.
8 Pflegevorausberechnung. 1,8 Millionen mehr Pflegebedürftige bis zum Jahr 2055 zu erwarten, Available: https://www.destatis.de/DE/Presse/Pressemitteilungen/2023/03/PD23_124_12.html2023
9 GKV-Spitzenverband. Richtlinien des gkv-spitzenverbandes zur einheitlichen durchführung der pflegeberatung nach § 7a sgb xi vom 7. mai 2018 (pflegeberatungs-richtlinien), geändert durch beschluss vom 20.12.2021. 2021.
10 GKV-Spitzenverband. Bericht des gkv-spitzenverbandes nach § 7a abs. 9 sgb xi. 2023.
11 Scheuermann J-S, Gräßel E, Pendergrass A. Predictors of expressed, felt, and normative needs for informal caregiver counseling : Domestic care for people aged 65+ years. *Z Gerontol Geriatr* 2023;56:395–401.
12 GKV-Spitzenverband. Empfehlungen des gkv-spitzenverbandes nach § 7a absatz 3 satz 3 sgb xi zur erforderlichen anzahl, qualifikation und fortbildung von pflegeberaterinnen und pflegeberatern. *GKV-Spitzenverband*; 2018.
13 Miller WR, Rollnick S. *Motivational Interviewing. Helping People Change and Grow*. 4th edn. The Guilford Press, 2023.
14 Miller WR, Rollnick S. *Motivierende Gesprächsführung: Motivational Interviewing*. 3rd edn. Lambertus-Verlag, 2015.
15 Bischof G, Bischof A, Rumpf H-J. Motivational Interviewing: An Evidence-Based Approach for Use in Medical Practice. *Dtsch Arztebl Int* 2021;118:109–15.
16 Kline ER, Thibeau H, Sanders AS, *et al*. Motivational Interviewing for Loved Ones in Early Psychosis: Development and Pilot Feasibility Trial of a Brief Psychoeducational Intervention for Caregivers. *Front Psychiatry* 2021;12:659568.
17 Mourão CML, Fernandes AFC, Moreira DP, *et al*. Motivational interviewing in the social support of caregivers of patients with breast cancer in chemotherapy. *Rev Esc Enferm USP* 2017;51:S0080-62342017000100471.
18 Lima KF, Lima RBS, Ruiz VMT, *et al*. Booklet and Motivational Interviewing to Promote Self-efficacy in Parents/Caregivers of Children with Asthma: A Clinical Trial. *Int J Community Based Nurs Midwifery* 2024;12:76–85.
19 Berkel C, Mauricio AM, Rudo-Stern J, *et al*. Motivational Interviewing and Caregiver Engagement in the Family Check-Up 4 Health. *Prev Sci* 2021;22:737–46.
20 Riegel B, Hanlon AL, Coe NB, *et al*. Health coaching to improve self-care of informal caregivers of adults with chronic heart failure - iCare4Me: Study protocol for a randomized controlled trial. *Contemp Clin Trials* 2019;85:105845.
21 Caggianelli G, Iovino P, Rebora P, *et al*. A Motivational Interviewing Intervention Improves Physical Symptoms in Patients with Heart Failure: A Secondary Outcome Analysis of the Motivate-HF Randomized Controlled Trial. *J Pain Symptom Manage* 2022;63:221–9.
22 Iovino P, Rebora P, Occhino G, *et al*. Effectiveness of motivational interviewing on health-service use and mortality: a secondary outcome analysis of the MOTIVATE-HF trial. *ESC Heart Fail* 2021;8:2920–7.
23 Purath J, Keck A, Fitzgerald CE. Motivational interviewing for older adults in primary care: A systematic review. *Geriatr Nurs (Lond)* 2014;35:219–24.
24 Wang T, Ho M-H, Xu X, *et al*. Motivational interviews to enhance advance care plans in older adults: systematic review. *BMJ Support Palliat Care* 2023;0:spcare–2023.
25 Lei LYC, Chew KS, Chai CS, *et al*. Evidence for motivational interviewing in educational settings among medical schools: a scoping review. *BMC Med Educ* 2024;24:856.
26 Madson MB, Loignon AC, Lane C. Training in motivational interviewing: a systematic review. *J Subst Abuse Treat* 2009;36:101–9.
27 Söderlund LL, Madson MB, Rubak S, *et al*. A systematic review of motivational interviewing training for general health care practitioners. *Patient Educ Couns* 2011;84:16–26.
28 Barwick MA, Bennett LM, Johnson SN, *et al*. Training health and mental health professionals in motivational interviewing: A systematic review. *Child Youth Serv Rev* 2012;34:1786–95.
29 Schwalbe CS, Oh HY, Zweben A. Sustaining motivational interviewing: a meta-analysis of training studies. *Addiction* 2014;109:1287–94.
30 Abdulghani HM, Shaik SA, Khamis N, *et al*. Research methodology workshops evaluation using the Kirkpatrick's model: translating theory into practice. *Med Teach* 2014;36 Suppl 1:S24–9.
31 Alsalamah A, Callinan C. Adaptation of Kirkpatrick's Four-Level Model of Training Criteria to Evaluate Training Programmes for Head Teachers. *Education Sciences* 2021;11:116.
32 Diamantidis AD, Chatzoglou PD. Evaluation of formal training programmes in Greek organisations. *European Journal of Training and Development* 2012;36:888–910.
33 Steensma H, Groeneveld K. Evaluating a training using the "four levels model". *J Workplace Learn* 2010;22:319–31.
34 Kirkpatrick D, Kirkpatrick J. Evaluating Training Programs: The Four Levels. Berrett-Koehler Publishers, 2006.
35 Harris PA, Taylor R, Thielke R, *et al*. Research electronic data capture (REDCap)--a metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform* 2009;42:377–81.
36 Hahn D, Weck F, Witthöft M, *et al*. Assessment of Counseling Self-Efficacy: Validation of the German Counselor Activity Self-Efficacy Scales-Revised. *Front Psychol* 2021;12:780088.
37 Lent RW, Hill CE, Hoffman MA. Development and validation of the Counselor Activity Self-Efficacy Scales. *J Couns Psychol* 2003;50:97–108.
38 Hunsmann JJ, Ay-Bryson DS, Kobs S, *et al*. Basic counseling skills in psychology and teaching: validation of a short version of the counselor activity self-efficacy scales. *BMC Psychol* 2024;12:32.
39 Keifenheim KE, Velten-Schurian K, Fahse B, *et al*. "A change would do you good": Training medical students in Motivational Interviewing using a blended-learning approach - A pilot evaluation. *Patient Educ Couns* 2019;102:663–9.
40 Poirier MK, Clark MM, Cerhan JH, *et al*. Teaching motivational interviewing to first-year medical students to improve counseling skills in health behavior change. *Mayo Clin Proc* 2004;79:327–31.
41 Holgado Tello FP, Chacon Moscoso S, Barbero Garcia I, *et al*. Training satisfaction rating scale: development of a measurement model using polychoric correlations. *Eur J Psychol Assess* 2006;22:268–79.
42 Ajzen I. The theory of planned behavior. *Organ Behav Hum Decis Process* 1991;50:179–211.
43 Lowe R, Eves F, Carroll D. The Influence of Affective and Instrumental Beliefs on Exercise Intentions and Behavior: A Longitudinal Analysis. *J Applied Social Pyschol* 2002;32:1241–52.
44 D'Urzo KA, Flood SM, Baillie C, *et al*. Evaluating the Implementation and Impact of a Motivational Interviewing Workshop on Medical Student Knowledge and Social Cognitions Towards Counseling Patients on Lifestyle Behaviors. *Teach Learn Med* 2020;32:218–30.
45 Tomasone JR, Sweet SN, McReynolds S, *et al*. A multilevel modeling approach to examining the implementation-effectiveness relationship of a behavior change intervention for health care professional trainees. *Transl Behav Med* 2017;7:603–14.
46 Beierlein C, Kovaleva A, Kemper CJ, *et al*. ASKU-allgemeine selbstwirksamkeit kurzskala. 2012.
47 Hinz A, Schumacher J, Albani C, *et al*. Bevölkerungsrepräsentative Normierung der Skala zur Allgemeinen Selbstwirksamkeitserwartung. *Diagnostica* 2006;52:26–32.
48 Kemper CJ, Beierlein C, Bensch D, *et al*. Eine Kurzskala zur Erfassung des Gamma-Faktors sozial erwünschten Antwortverhaltens: Die Kurzskala Soziale Erwünschtheit-Gamma (KSE-G). 2012.
49 Dempster AP, Laird NM, Rubin DB. Maximum Likelihood from Incomplete Data Via the *EM* Algorithm. *Journal of the Royal Statistical Society Series B* 1977;39:1–22.
50 Millsap R, Maydeu-Olivares A. *The sage handbook of quantitative methods in psychology*. 1 Oliver's Yard, 55 City Road, London EC1Y 1SP United Kingdom, Available: https://methods.sagepub.com/book/sage-hdbk-quantitative-methods-in-psychology
51 Mayring P, Fenzl T. Qualitative inhaltsanalyse. In: Baur N, Blasius J, eds. *Handbuch Methoden der empirischen Sozialforschung*. Wiesbaden: Springer, 2022: 691–706.
52 Chan A-W, Tetzlaff JM, Gøtzsche PC, *et al*. SPIRIT 2013 explanation and elaboration: guidance for protocols of clinical trials. *BMJ* 2013;346:e7586.