Journal of Psychosomatic Research 143 (2021) 110386

Contents lists available at ScienceDirect

Journal of Psychosomatic Research

journal homepage: www.elsevier.com/locate/jpsychores

Barriers and facilitators to the implementation of interventions for medically unexplained symptoms in primary care: A modified Delphi study

Denise J.C. Hanssen *, Anika Ras, Judith G.M. Rosmalen

University of Groningen, University Medical Center Groningen, Interdisciplinary Centre Psychopathology and Emotion Regulation, Groningen, The Netherlands

ARTICLE INFO

Keywords:
Implementation science
Medically unexplained symptoms
Primary care

ABSTRACT

Objective: Medically Unexplained Symptoms (MUS) are physical symptoms that last for longer than several weeks and for which no (sufficient) somatic explanation can be found. Interventions for treating MUS in primary care are available, but their implementation in daily practice appears difficult. In the current study we aim to explore key barriers and facilitators to the implementation of MUS-interventions in primary care.

Methods: A three-round modified Delphi study was performed, using the input of 58 experts that are (in)directly involved in the care for patients with MUS (e.g. general practitioners (GPs), GP mental health workers, policy advisors). In the first online questionnaire, we generated ideas about relevant barriers and facilitators on different implementation levels. These ideas were independently coded by two researchers, and reformulated into unique barriers and facilitators. In round two, participants selected the ten most relevant barriers and facilitators from round one, which were ranked on importance in round three.

Results: We identified 42 unique barriers and 57 unique facilitators to the implementation of MUS-interventions. The three highest ranked barriers were all related to time, i.e. too little time for treating complex MUS-patients. The most important facilitator was a positive attitude towards MUS-patients. Results varied somewhat per profession.

Conclusion: Key barriers and facilitators to the implementation of MUS-interventions seem to exist on the level of the patient, intervention, professional, organization, and external context. All of these levels should be taken into account in order to increase implementation success of MUS-interventions in primary care.

1. Introduction

Medically Unexplained Symptoms (MUS) are physical symptoms that can be insufficiently explained by somatic disease. There is much discussion in scientific literature about the terminology to be used and the definition of MUS [1]. Dutch guidelines refer to MUS in the case of 'physical symptoms for which, after extensive physical examination, no sufficient medical explanation can be found' [2]. Common examples of MUS are pain, fatigue, and stomachaches. Although prevalence rates vary between studies, in an estimated two-thirds of all consultations with the General Practitioner (GP) symptoms are discussed for which no (sufficient) somatic explanation can be found [3]. Especially persistent MUS has great impact on the patient's daily functioning, reflected in decreased health-related quality of life scores [4], and on society, reflected in high healthcare costs and high work-related costs [5,6].

As described in available guidelines, GPs have a central role in the treatment of patients with MUS [7]. Treatment programs, such as psychological therapies, enhanced care, and physical therapies [8], are available for GPs, and there are several promising interventions under development [9]. However, implementation of these treatment programs proceeds with difficulty, since the treatments are hardly applied in clinical practice [10]. It seems that because of implementation challenges, patients with MUS have limited access to evidence-based interventions.

'Implementation' refers to the process-based and systematic introduction of a renewal or change in clinical practice [11]. In recent years, many theories, models and frameworks have been developed to help improve implementation success [11]. In general, these theories emphasize that implementation will be most successful when implementation strategies are adapted to the relevant context, the so-called 'tailored implementation' [12]. Specifically, implementation strategies should be adapted to relevant negative (barriers) and positive

* Corresponding author at: University Medical Center Groningen, Interdisciplinary Center Psychopathology and Emotion Regulation, HPC-CC72, Hanzeplein 1, PO Box 30001, 9700 RB Groningen, The Netherlands.

E-mail address: d.j.c.hanssen@umcg.nl (D.J.C. Hanssen).

https://doi.org/10.1016/j.jpsychores.2021.110386
Received 6 September 2020; Received in revised form 18 January 2021; Accepted 1 February 2021
Available online 5 February 2021

(facilitators) determinants of practice [13]. A previous study by Lau et al. [14] has shown that within primary care, implementation barriers and facilitators are present at four levels: the external context, the organization, the professional, and the intervention.

Specific barriers and facilitators to implementing MUS-interventions in primary care are as yet unknown. A literature study on barriers in *diagnosing* MUS [15] described barriers related to the patient (e.g. use of biomedical frameworks), the professional (e.g. attitude towards MUS), the situation (socio-legal context), and conceptual barriers (medical ideology). These barriers may also be relevant to the *implementation* of MUS-interventions. Further, based on previous research, a mismatch between the doctor's intentions and the patient's needs might hinder providing evidence-based care to patients with MUS in primary care. GPs feel pressured to offer medical treatment without overlooking underlying illness [16], whereas patients with MUS primarily ask for emotional support, explanation and understanding from their GP [17,18]. Also, frustrations and misunderstandings between GPs and patients [19] can possibly contribute to implementation difficulties of MUS-interventions in primary care.

The current study aims to explore the key barriers and facilitators for the implementation of MUS-interventions in primary care, according to professionals that are (in)directly involved in the care for patients with MUS. With these findings, implementation strategies for MUS-interventions can be tailored and optimized, herewith improving access to treatment for patients with MUS in primary care.

2. Method

2.1. Background & Study design

The present study was conducted as part of the ImpleMentAll project (www.implementall.eu). ImpleMentAll aims to provide an evidence-based answer to the problem of implementation of eHealth. To this end, ImpleMentAll has developed an online toolkit (Integrated Theory-based Framework for Intervention Tailoring Strategies; the ItFits-toolkit) that helps with the development, application, and evaluation of tailored implementation strategies. The ItFits toolkit is currently tested in a natural laboratory of on-going internet-based cognitive behavioural therapy implementation initiatives in the EU and beyond [20].

One of these implementation initiatives is Grip, an innovative person-tailored eHealth intervention aimed at improving the quality of life of patients with MUS (www.grip.health [9]). The ItFits toolkit provides concrete guidance on the implementation of Grip in general practices, starting with a systematic identification of determinants of practice among stakeholders, followed by the selection, application and evaluation of tailored implementation strategies. The current study supports the first step of the toolkit, i.e. a systematic identification of the most important barriers and facilitators to implementing MUS-interventions in primary care.

In order to explore the most important barriers and facilitators, we performed a three-round modified Delphi study of electronic surveys. Originally, the Delphi technique is a structured survey method that collects the knowledge of a panel of experts in order to obtain consensus on a certain topic. Important characteristics of the Delphi technique are anonymity of panel members, iteration of questionnaires, and controlled, regular feedback [21]. In this way, the Delphi technique reduces the potential bias that can arise during face-to-face meetings because of dominant individuals or group pressure [19]. In the last decades, multiple variations of the original Delphi technique were introduced, such as the ranking type Delphi study [22,23].

In the current study, we used this technique to brainstorm on possible barriers and facilitators (round 1), narrow down this list to central determinants (round 2) and, last, rank these determinants according to their importance for clinical practice (round 3). All three questionnaires were designed using Google Forms, and invitations were sent to participants by e-mail. Data collection was conducted between February 2018 and June 2018. Copies of the online questionnaires can be requested from the corresponding author. Results were described according to the research guidelines of the Delphi Study Technique [24].

2.2. Expert panel

Prior to the study we determined which types of experts we intended to involve, i.e. GPs, GP mental health workers, practice managers, medical advisors of health insurance companies, scientists, and authors of guidelines. In general, all experts needed to be professionals that were directly or indirectly involved in the care for patients with MUS. Considering the types of experts, we first recruited 30 experts via social media and by writing directly to experts (such as authors of guidelines). Next, we used snowball-sampling techniques to increase the number of participants to 58 participants.

2.3. Procedure and analysis

2.3.1. Round 1: Brainstorming

In the first round, all participants received an email invitation with a link to an online questionnaire. In this questionnaire we asked about general characteristics, such as profession, number of years working with patients with MUS, and degree of satisfaction with currently available care for patients with MUS (on a scale from 1- very unsatisfied to 5- very satisfied). Descriptive statistics (mean (M), standard deviation (SD)) were calculated for each of these variables, using SPSS version 24. Then, participants were asked about the most important determinants of practice for the implementation of MUS-interventions in primary care. Specifically, participants were asked to describe as many relevant facilitators and barriers as they could think of for each of Lau et al.'s [14] implementation levels (i.e. intervention, professional, organization, external context) using eight open-ended questions (Appendix A).

For the qualitative analysis of the first round, two authors (DH, AR) independently coded all given answers on the open-ended questions, using the categories of the Tailored Implementation for Chronic Diseases (TICD) checklist as codes [25]. In case of disagreement, both authors (DH, AR) discussed the coded answers until consensus was reached. If no code from the TICD checklist was applicable, a new code was created. All codes were processed in ATLAS.ti7, a program for qualitative data analysis.

Next, for every code the clearest statements were selected, and used to compile two lists, i.e. one list with facilitators and one with barriers for the implementation of MUS-interventions in primary care. The third author (JR) independently checked whether all mentioned factors were included, their applicability and consistent use of terminology. All authors agreed on the final versions of the two lists.

2.3.2. Round 2: Narrowing-down

The analyzed and grouped lists of barriers and facilitators from round one were used for the construction of the questionnaire for round two, the narrowing-down phase. In this second questionnaire, which was digitally send to all original participants of round one, participants were asked to select the ten most important barriers and the ten most important facilitators for the implementation of MUS-interventions in primary care. An open textbox was included to offer participants space for additional comments or explanations. Two reminders were sent (after 2 and after 3 weeks) to all participants.

2.3.3. Round 3: Ranking

In order to create a manageable list with determinants for the ranking-phase of round three, the percentage-wise ten most selected barriers and the percentage-wise ten most selected facilitators were listed. All original participants received two lists with the most selected barriers and facilitators (in alphabetic order), and were asked to rank these in descending orders from most important to least important.

Table 1
Characteristics of participants ($n = 58$).

Characteristic		Value
Female	% (n)	52 (30)
Age	Mean	50.0
	(SD)	(10.6)
Profession		
General practitioner	% (n)	48 (28)
GP Mental health worker	% (n)	16 (9)
Medical advisor health insurance company	% (n)	10 (6)
General practice manager	% (n)	7 (4)
Scientist	% (n)	5 (3)
Policy advisor	% (n)	3 (2)
Other participants	% (n)	10 (6)
Years of working with patients with MUS	Mean	15.1
	(SD)	(10.4)
Satisfaction about available care for patients with MUS (scale 1–5)	Mean (SD)	2.7 (0.6)

Assigning the same rank twice was allowed, but not encouraged. For the analysis of this last round, mean rank scores and SDs were calculated using SPSS version 24. Results will be presented both for the complete group of participants and per profession (GP, GP mental health worker, other).

3. Results

3.1. Participants

58 participants completed the first round; 84% ($n = 49$) of the participants completed round 2, and 64% ($n = 37$) completed round 3. See Table 1 for an overview of all participant characteristics. 'Other participants' included clinical psychologists and authors of the Dutch national guideline for treating MUS in primary care.

3.2. Barriers and facilitators to implementing MUS-interventions in primary care

In round one, a total of 884 answers with potential barriers and facilitators were collected. After deduplication and coding of these answers, 42 unique barriers (Supplementary Table 1) and 57 unique facilitators (Supplementary Table 2) to the implementation of MUS-interventions were identified. See Fig. 1 for a specification of the number of barriers and facilitators per implementation level [14], including the additionally found implementation layer of the patient.

The ten most selected barriers and facilitators are shown in Tables 2 and 3, respectively. Overall, the most frequently mentioned barriers in the narrowing-down phase (round 2) were not necessarily considered the most important barriers (round 3). For instance: 'patients sticking to a physical cause for their complaints' was the most frequently selected barrier in round 2; however, it was not considered to be the most important barrier in round 3 (4 out of 10). Instead, too little time to use the interventions was considered the most important barrier to implementing MUS-interventions in primary care (Table 2).

For facilitators to implementing MUS-interventions too, the most frequently mentioned determinants were not necessarily the most important ones. Although accessibility and applicability, as well as linkage to the electronic patient record were frequently mentioned as important facilitators, a positive attitude towards patients with MUS in general was considered the most important facilitator to implementing MUS-interventions in primary care (Table 3).

3.3. Barriers and facilitators per profession

The top ten most important barriers and facilitators per profession are presented in Fig. 2 and Fig. 3 respectively. Although, according to GPs, the most important barrier is at the patient level ('Patients are sticking to a medical cause for their symptoms'), GP mental health workers see the most important barrier at the level of the professional ('Not enough time to explore new MUS-interventions'). The most important helping factor is, according to the GPs, at the level of the professional ('positive attitude towards MUS'), while according to GP mental health workers and other disciplines, the most important helping factor is found at the level of the intervention ('MUS-intervention fits the patient's view about the physical complaints').

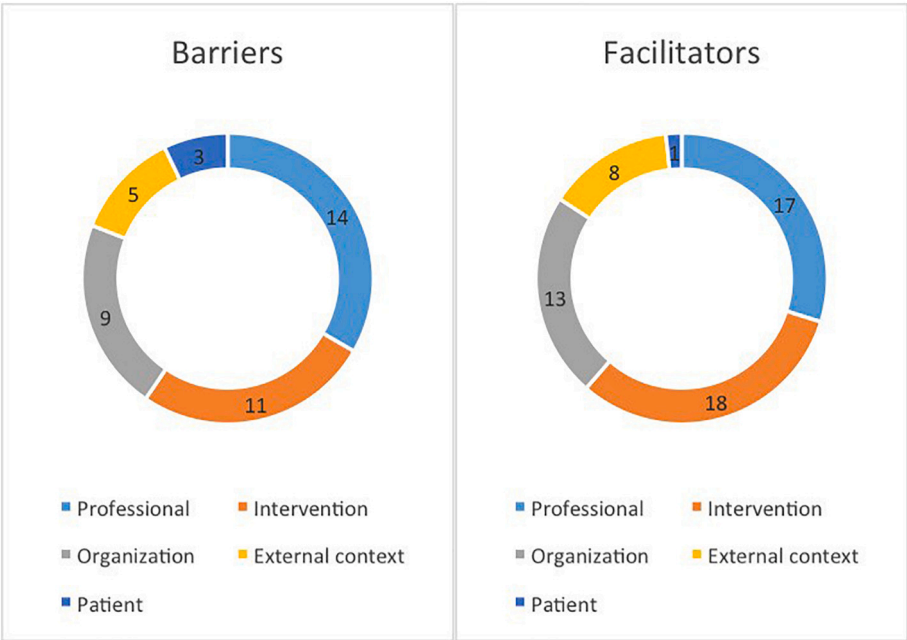

Fig. 1. Number of mentioned barriers and facilitators per implementation level in the brainstorm round (round 1).

Table 2
The ten most selected barriers for implementing MUS-interventions in primary care, ranked in order of importance.

	Barriers	Round 2 (n = 49)		Round 3 (n = 37)	
		% (n)[a]	Level of implementation	Mean rank	SD
1	In general practices, there is too little time to treat complex patients with MUS.	41 (24)	Organization	4.0	2.5
2	GPs and GP mental health workers experience a lot of time pressure in daily practice. As a result, they are not willing to invest extra time in the implementation of MUS-interventions.	47 (27)	Professional	4.2	2.1
3	GPs and GP mental health workers do not have enough time to explore new MUS-interventions.	28 (16)	Professional	4.5	2.3
4	Patients often stick to a physical cause for their complaints and do not accept that their complaints could be medically unexplained. Therefore, they do not accept MUS-interventions.	59 (34)	Patient	4.5	3.3
5	GPs and GP mental health workers do not feel capable to treat patients with MUS. For this reason, MUS-interventions are not used with enough confidence.	33 (19)	Professional	5.2	2.5
6	Too much emphasis is placed on short consultations and disease-oriented indicators in the financing structure. This is difficult to reconcile with the implementation of MUS-interventions.	36 (21)	External context	5.6	2.8
7	In general practices, not enough well-trained staff is present for successful implementation of MUS-interventions.	34 (20)	Organization	6.2	2.8
8	GPs and GP mental health workers are not used to working step by step, which is a requirement for implementing MUS-interventions.	28 (16)	Professional	6.6	3.0
9	The distinction between somatic care and mental healthcare hampers the implementation of MUS-interventions.	47 (27)	External context	6.7	3.2
10	Implementing MUS-interventions requires interdisciplinary collaboration and this appears difficult in a primary care setting.	66 (38)	Professional	6.8	2.4

[a] % (n) of participants who selected this determinant.

4. Discussion

4.1. Summary

The current study aimed to explore the most important barriers and facilitators to implementing MUS-interventions in primary care by using a three-round modified Delphi technique. In line with the primary care implementation framework by Lau et al. [14], we identified barriers and facilitators on all four levels of implementation, i.e. the external context, the organization, the professional and the intervention. In addition, we found barriers and facilitators present on the patient level, which is in line with the idea that patients influence the implementation success as well [8,26,27].

Table 3
The ten most selected facilitators for implementing MUS-interventions in primary care, ranked in order of importance.

	Facilitators	Round 2 (n = 49)		Round 3 (n = 37)	
		% (n)[a]	Level of implementation	Mean rank	SD
1	The GP or GP mental health worker has a positive attitude towards patients with MUS and is interested in working with patients with MUS.	33 (19)	Professional	3.9	2.7
2	The MUS-intervention fits the patients with MUS' view about their physical complaints.	31 (18)	Intervention	4.0	2.2
3	The MUS-intervention is accessible.	40 (23)	Intervention	4.3	2.8
4	The MUS-intervention is easy to use.	33 (19)	Intervention	5.0	2.6
5	GP mental health workers can help the GP to implement the MUS-intervention.	29 (17)	Organization	5.1	2.7
6	GPs and GP mental health workers are well trained and supervised before and during the implementation of the MUS-intervention.	31 (18)	Professional	5.8	2.8
7	GPs and GP mental health workers understand that working with the MUS-intervention will ultimately create more time.	29 (17)	Professional	5.8	3.0
8	The MUS-intervention is accessible to multiple disciplines, such as the GP, psychologist and the psychosomatic physiotherapist.	29 (17)	Intervention	6.1	2.6
9	The GP actively cooperates with the GP mental health worker when implementing MUS-interventions.	29 (17)	Professional	6.8	2.8
10	The MUS-intervention is linked to the electronic patient record.	40 (23)	Intervention	7.2	2.7

[a] % (n) of participants who selected this determinant.

The most important barrier is, according to our expert panel, present on the level of the organization (i.e. having too little time to use MUS-interventions), whereas the most important facilitator is on the level of the professional (i.e. having a positive attitude towards patients with MUS). Furthermore, our results suggest that the experienced importance of specific barriers and facilitators may vary between disciplines.

4.2. Strengths and limitations

Literature about implementation problems for MUS-interventions typically focuses on one level of implementation. Our current study focuses on barriers and facilitators at all implementation levels, which gives a more comprehensive view of implementation challenges in primary care. By using open-ended questions, we were able to collect a wide range of unique answers, herewith reducing the possibility of overlooking possible barriers and/or facilitators.

For proper interpretation of our results, however, several limitations should be taken into account. Unfortunately, the number of participants decreased per round; in the latter round even below the recommended 70% [28], which may adversely affect the validity of our study. In general, differences between mean rankings were occasionally limited. Also, given the small participant numbers, our analyses per profession

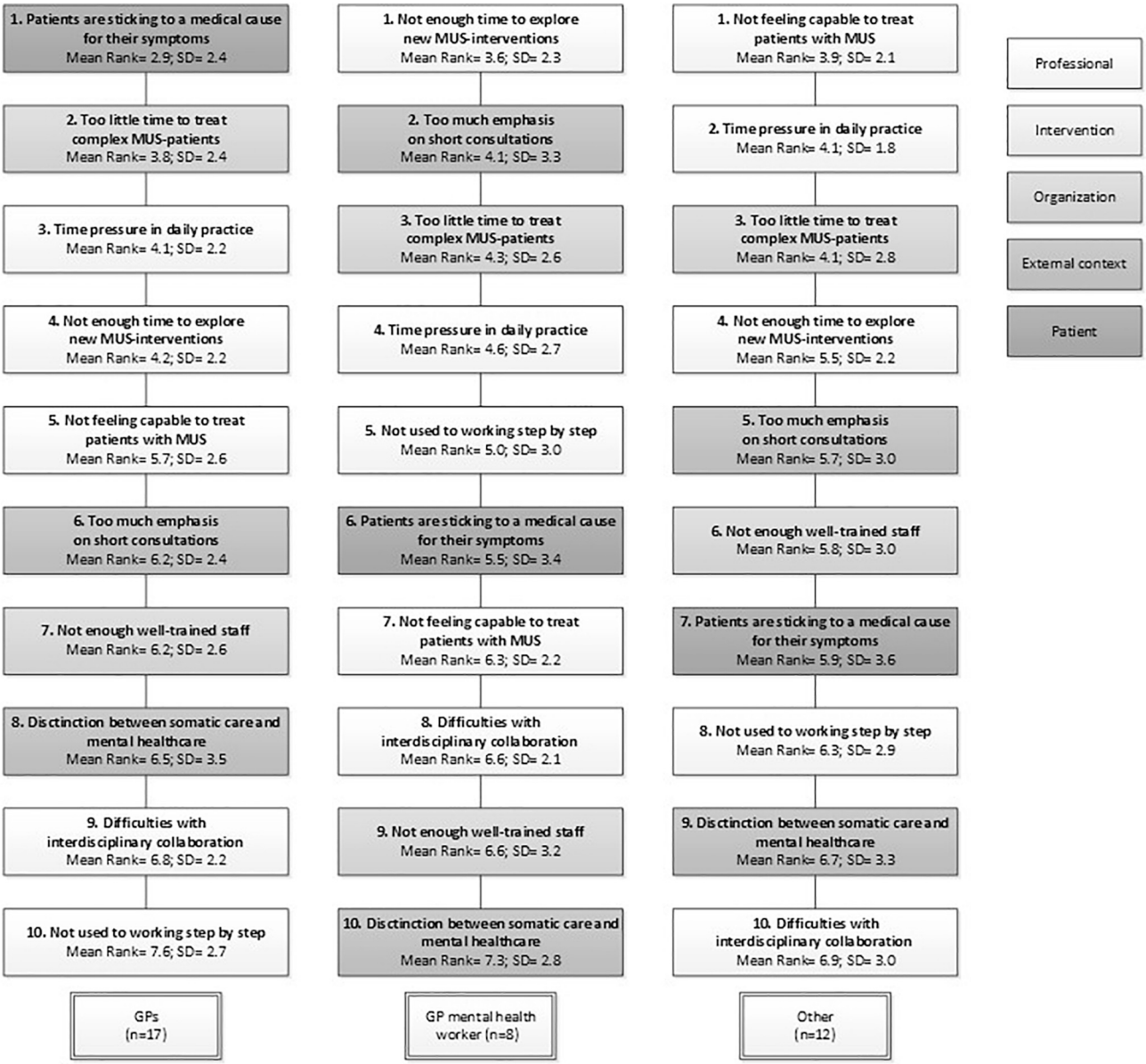

Fig. 2. The top ten most important barriers to the implementation of MUS-interventions per profession.

should be interpreted with caution. Because the researchers knew the names of the experts, one can only speak of quasi-anonymous answers. There may also be bias in the composition of the expert panel, as one can imagine that experts with a special interest in the topic of MUS are more likely to take part than experts without this interest. Regarding the analysis, each of the determinants was classified as belonging to only one implementation layer, even though it is conceivable that barriers and facilitators belong to several implementation layers. Moreover, because of our online approach, there was no possibility for a more in depth analysis of processes. Qualitative in-depth interviews might be helpful to gain a better understanding of processes contributing to each of these barriers and facilitators, and how these may prevent or help successful implementation. Moreover, the current study took place in the Netherlands, where every citizen has access to insurance-based healthcare. This has important consequences not only for the compilation of our expert panel (which included medical advisors of health insurance companies), but also for the generalizability of our results to other countries. It is quite conceivable that different barriers and facilitators will emerge in other countries with different healthcare systems when implementing MUS-interventions. Last, in the present study we have examined only one specific aspect of the complex process of implementation. In future research it would be interesting to study the process of implementation more as a whole, for instance by exploring the principles of the Normalization Process Model [29] in the context of primary care for patients with MUS.

4.3. Comparison with existing literature

4.3.1. Barriers

The three highest ranked barriers to the implementation of MUS-interventions are barriers about time, which is in line with previous findings that a lack of time in general is a significant barrier to the implementation of new interventions [14,30,31]. Implementation requires 'time to think, time to read, and time to implement', which places a significant burden on GPs and GP mental health workers who already experience time pressure in daily practice [31]. GPs experience patients with MUS as a time-consuming patient group, which is possibly associated with the complex communication style between patients with

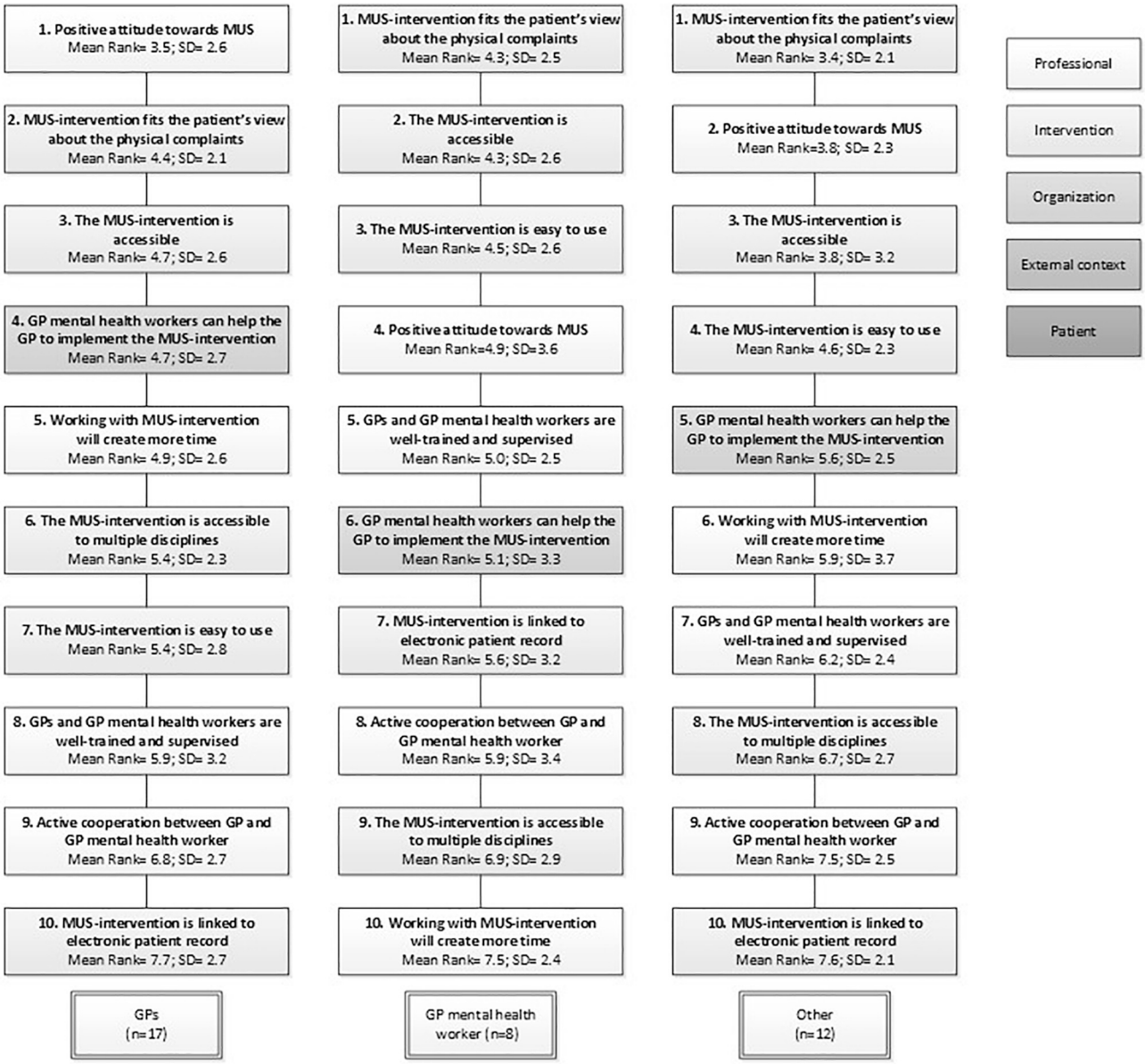

Fig. 3. The top ten most important facilitators to the implementation of MUS-interventions per profession.

MUS and healthcare professionals [32]. The patient's symptom presentation can be incomplete or implicit, resulting in chaotic, complex or inconsistent narratives [32,33]. More time for consultations and learning proper communication skills might help to overcome this implementation barrier. As a side effect, the professional's confidence in treating patients with MUS might increase, which is another top-10 barrier for the implementation of MUS-interventions.

The patient's tendency to stick to a physical cause for his/her complaints is, according to our expert panel and specifically GPs, also an important barrier for the implementation of MUS-interventions. This is in line with the idea that the biomedical disease model is still prominently present in patients' explanations for MUS [34]. Interestingly, the so-called 'mind-body dualism', which is according to our findings a barrier in itself, seems to be present in GPs as well, since doctors also tend to stick to a somatic explanation and pay little attention to psychosocial cues [35]. Even though in recent years more and more attention has been paid to the biopsychosocial model of MUS in scientific literature, in daily practice the biomedical model seems still predominant.

4.3.2. *Facilitators*

Half of our top-10 facilitators are linked to characteristics of the intervention itself. This highlights the importance of a good 'fit' between the intervention and the specific healthcare context for successful implementation. Some of our facilitators are general (e.g. the MUS-intervention is easy to use); others seem more specific for MUS-interventions, i.e. accessibility of the intervention to multiple disciplines, which is in line with the recommendation of a multidisciplinary approach in the treatment of MUS [2,36].

On the level of the professional, a positive attitude towards patients with MUS seems to enhance implementation of MUS-interventions. Previous studies have shown that, in general, a negative attitude increases the chance of health care workers lacking commitment to implement new interventions and returning to 'ordinary care' [14,37]. Changing negative attitudes into positive attitudes is challenging, however, given the feelings of frustration and powerlessness that are often experienced in consultation with patients with MUS [17,38]. Especially in case of unexplained symptoms, patients and GPs might have different ideas about the symptoms and the most appropriate intervention [39], while a shared perspective is an important condition

for a successful intervention. In that sense, it is remarkable that patients and their perspectives are relatively little considered in the implementation framework by Lau et al. [14] In sum, our findings suggest that training before using the new MUS-intervention should not only focus on technical use of the intervention, but also on the professionals' attitude towards working with the patient group.

4.4. Implications for research and/or practice

With the exploration of barriers and facilitators on five levels of implementation, we highlight the complexity of the implementation process for MUS-interventions in primary care. This complexity was previously described in a paper on barriers in *diagnosing* MUS [15], in which (often similar) barriers were identified at multiple levels, such as the professional's attitude towards MUS.

Future research could pay specific attention to the role of the patient perspective in the success or failure of the implementation of MUS-interventions. Patients with MUS in primary care seem to feel less taken seriously by professionals than other patient groups in primary care and are less likely to feel involved in the choice of interventions for their symptoms [40]. Research into these and other barriers and facilitators from the patient perspective is needed to extent knowledge on the implementation model for MUS-interventions in primary care, and to directly address these factors to optimize implementation. Moreover, this research could provide new entries to improve the previously described difficulties in interaction between patients, and thereby increase the chances of implementation of MUS-interventions.

In general, for successful implementation, change seems necessary on multiple implementation levels, which also raises questions about possible interactions between implementation layers. Some of the described determinants of practice can relatively easy be taken into account when implementing new MUS-interventions, such as the barriers and facilitators on the level of the intervention itself. Changing the external context, however, is probably more complicated; close cooperation between clinicians and intervention development teams on the one hand, and policy makers and medical advisors on the other hand seems needed to enhance successful, long-lasting implementation of MUS-interventions in primary care.

Ethical approval

No ethics approval was needed for this study.

Funding

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 733025. This content reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains. For more information, see: www.implementall.eu

Declaration of Competing Interest

The authors declare that they have no competing interests.

Acknowledgments

We would like to thank all professionals that participated in this study.

Appendix A. Appendix A

Questionnaire round 1 Delphi study –translation in English.

A.1. Questionnaire barriers and facilitators

Previous scientific research (Lau et al., 2016) has developed a framework in which the four most important domains influencing the implementation of innovations in general practice are described. Each of these domains has its own barriers and facilitators when introducing new interventions. These domains are:

1. The intervention itself.
2. The individual professional.
3. The organization.
4. The external context.

The following questions have been drawn up on the basis of these four general domains. You are asked to describe barriers or facilitating factors within a specific domain. We ask you to answer the following questions as concretely and specifically as possible.

Domain 1: The Intervention itself.

This domain contains barriers and facilitators related to the origin and characteristics of the MUS-intervention itself, such as cost-effectiveness, complexity, benefit and damage, sustainability, security, customization, privacy and liability.

Please note: Multiple factors may be mentioned in each response.

1) What are, in your opinion, barriers for the implementation of MUS-interventions in the domain of the intervention itself?

2) What are, in your opinion, facilitators for the implementation of MUS-interventions in the domain of the intervention itself?

Domain 2: The individual professional.

This domain contains barriers and facilitators related to the individual professional involved in the MUS-intervention, such as available knowledge, skills, training, attitude, professionalism, standards and values, self-confidence, personality.

Please note: Multiple factors may be mentioned in each response.

3) What are, in your opinion, barriers for the implementation of MUS-interventions in the domain of the individual professional?

4) What are, in your opinion, facilitators for the implementation of MUS-interventions in the domain of the individual professional?

Domain 3: The organization.

This domain contains barriers and facilitators related to the organization in which the MUS-intervention is implemented, such as the structure and organization of care, the policy pursued, the division of tasks between disciplines and colleagues, logistical processes and available resources, culture in a department, mutual involvement, leadership in an institution. Please note: Multiple factors may be mentioned in each response.

5) What are, in your opinion, barriers for the implementation of MUS-interventions in the domain of the organization?

6) What are, in your opinion, facilitators for the implementation of MUS-interventions in the domain of the organization?

Domain 4: The external context.

This domain contains barriers and facilitators related to the external context, such as applicable regulations and legislation, the local or national agenda, incentive structures, financial incentives, presence/absence of stakeholders, public awareness, dominant paradigms and advances in technology.

Note: Several factors may be mentioned in each response.

7) What are, in your opinion, barriers for the implementation of MUS-interventions in the domain of the external context?

8) What are, in your opinion, facilitators for the implementation of MUS-interventions in the domain of the external context?

Appendix B. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jpsychores.2021.110386.

References

[1] M. Greco, The classification and nomenclature of 'medically unexplained symptoms': conflict, performativity and critique, Soc. Sci. Med. 75 (12) (2012) 2362–2369.
[2] T.C. Olde Hartman, A.H. Blankenstein, A.O. Molenaar, et al., NHG-Standaard Somatisch Onvoldoende verklaarde Lichamelijk Klachten (SOLK), Huisarts Wet. 56 (5) (2013) 22–30.
[3] N. Steinbrecher, S. Koerber, D. Frieser, W. Hiller, The prevalence of medically unexplained symptoms in primary care, Psychosomatics. 52 (3) (2011) 263–271.
[4] M.L. Joustra, K.A. Janssens, U. Bültmann, J.G. Rosmalen, Functional limitations in functional somatic syndromes and well-defined medical diseases. Results from the general population cohort LifeLines, J. Psychosom. Res. 79 (2) (2015) 94–99.
[5] L. Zonneveld, M.A.G. Sprangers, C.G. Kooiman, et al., Patients with unexplained physical symptoms have poorer quality of life and higher costs than other patient groups: a cross- sectional study on burden, BMC Health Serv. Res. 13 (2013) 520.
[6] K. Lee, M.H. Johnson, J. Harris, F. Sundram, The resource utilisation of medically unexplained physical symptoms, SAGE Open Med. 4 (2016) 1–7.
[7] M. Rosendal, F. Olesen, P. Fink, Management of medically unexplained symptoms, BMJ. 330 (2004) 4–5.
[8] N. Van Dessel, M. Den Boeft, J.C. van der Wouden, et al., Non-pharmacological interventions for somatoform disorders and medically unexplained physical symptoms (MUPS) in adults, Cochrane Database Syst. Rev. 11 (2014).
[9] J.G.M. Rosmalen, A. van Gils, M.A.A. Mesa, et al., Development of grip self-help: an online patient-tailored self-help intervention for functional somatic symptoms in primary care, Internet Interv. 19 (2020) 100297.
[10] T.M. Edwards, A. Stern, D.D. Clarke, et al., The treatment of patients with medically unexplained symptoms in primary care: a review of the literature, Ment Health Fam Med 7 (4) (2010) 209.
[11] P. Nilsen, Making sense of implementation theories, models and frameworks, Implement. Sci. 10 (1) (2015) 53.
[12] R. Grol, J. Grimshaw, From best evidence to best practice: effective implementation of change in patients' care, Lancet 362 (9391) (2003) 1225–1230.
[13] M. Wensing, E. Huntink, J. van Lieshout, et al., Tailored implementation of evidence-based practice for patients with chronic diseases, PLoS One 9 (7) (2014), e101981.
[14] R. Lau, F. Stevenson, B. Nio Ong, et al., Achieving change in primary care—causes of the evidence to practice gap: systematic reviews of reviews, Implement. Sci. 11 (2016) 40.
[15] A.M. Murray, A. Toussaint, A. Althaus, B. Löwe, The challenge of diagnosing non-specific, functional, and somatoform disorders: a systematic review of barriers to diagnosis in primary care, J. Psychosom. Res. 80 (2016) 1–10.
[16] L. Sirri, S. Grandi, E. Tossani, Medically unexplained symptoms and general practitioners a comprehensive survey about their attitudes, experiences and management strategies, Fam. Pract. 34 (2) (2017) 201–205.
[17] A. Ring, C.F. Dowrick, G.M. Humphris, et al., The somatising effect of clinical consultation: what patients and doctors say and do not say when patients present medically unexplained physical symptoms, Soc. Sci. Med. 61 (7) (2005) 1505–1515.
[18] J. Houwen, P.L.B.J. Lucassen, H.W. Stappers, et al., Medically unexplained symptoms: the person, the symptoms and the dialogue, Fam. Pract. 34 (2) (2017) 245–251.
[19] L. Wileman, C. May, C.A. Chew-Graham, Medically unexplained symptoms and the problem of power in the primary care consultation: a qualitative study, Fam. Pract. 19 (2) (2002) 178–182.
[20] L. Bührmann, J. Schuurmans, J. Ruwaard, et al., Tailored implementation of internet-based cognitive behavioural therapy in the multinational context of the ImpleMentAll project: a study protocol for a stepped wedge cluster randomized trial, Trials. 21 (1) (2020) 1–15.
[21] N.C. Dalkey, The Delphi Method: An Experimental Study of Group Opinion, The RAND Corporation, Santa Monica, California, 1969.
[22] B. Ju, S. Pawlowski, Exploring the barriers and challenges of information and communication technology use in distributed research today: a ranking-type Delphi study, Am. Soc. Inform. Sci. Annu. Meet. Proc. 48 (1) (2011) 1–9.
[23] G. Paré, A.F. Cameron, P. Poba-Nzaou, M. Templier, A systematic assessment of rigor in information systems ranking-type Delphi studies, Inform. Manag. Amster. 50 (2013) 207–217.
[24] F. Hasson, S. Keeney, H. McKenna, Research guidelines for the Delphi survey technique, J. Adv. Nurs. 32 (4) (2000) 1008–1015.
[25] S.A. Flottorp, A.D. Oxman, J. Krause, et al., A checklist for identifying determinants of practice: a systematic review and synthesis of frameworks and taxonomies of factors that prevent or enable improvements in healthcare professional practice, Implement. Sci. 8 (1) (2013) 35.
[26] H. Baumeister, H. Seifferth, J. Lin, et al., Impact of an acceptance facilitating intervention on Patients' acceptance of internet-based pain interventions. A randomized controlled trial, Clin. J. Pain 31 (6) (2015) 528–535.
[27] A. Cooper, A. Abbass, J. Zed, et al., Implementing a psychotherapy service for medically unexplained symptoms in a primary care setting, J. Clin. Med. 6 (12) (2017) 109.
[28] T. Sumsion, The Delphi technique: an adaptive research tool, Brit. J. Occup. Ther. 61 (4) (1998) 153–156.
[29] C. May, A rational model for assessing and evaluating complex interventions in health care, BMC Health Serv. Res. 6 (1) (2006) 86.
[30] H. McKenna, S. Ashton, S. Keeney, Barriers to evidence-based practice in primary care: a review of the literature, Int. J. Nurs. Stud. 41 (4) (2004) 369–378.
[31] K. Parahoo, Barriers to, and facilitators of, research utilization among nurses in Northern Ireland, J. Adv. Nurs. 31 (1) (2000) 89–98.
[32] T.C. Olde Hartman, E. van Rijswijk, S. van Dulmen, et al., How patients and family physicians communicate about persistent medically unexplained symptoms. A qualitative study of video-recorded consultations, Patient Educ. Couns. 90 (3) (2013) 354–360.
[33] S. Nettleton, I. Watt, L. O'Malley, P. Duffey, (2005). Understanding the narratives of people who live with medically unexplained illness, Patient Educ. Couns. 56 (2) (2005) 205–210.
[34] M.H. Gendle, The problem of dualism in modern western medicine, Mens Sana Monogr. 14 (1) (2016) 141–151.
[35] P. Salmon, C.F. Dowrick, A. Ring, G.M. Humphris, Voiced but unheard agendas: qualitative analysis of the psychosocial cues that patients with unexplained symptoms present to general practitioners, Brit. J. Gen. Pract. 54 (2004) 171–176.
[36] C.A. Chew-Graham, S. Heyland, T. Kingstone, et al., Medically unexplained symptoms: continuing challenges for primary care, Brit. J. Gen. Pract. 67 (656) (2017) 106–107.
[37] F. Fischer, K. Lange, K. Klose, et al., Barriers and strategies in guideline implementation—A scoping review, Healthcare. 4 (3) (2016) 36.
[38] A.K.W. Brownell, C. Atkins, A. Whiteley, et al., Clinical practitioners' views on the management of patients with medically unexplained physical symptoms (MUPS): a qualitative study, BMJ Open 6 (12) (2016), e012379.
[39] C. Chew-Graham, J. Brooks, A. Waerden, et al., Factors influencing engagement of patients in a novel intervention for CFS/ME: a qualitative study, Prim. Health Care Res. Dev. 12 (2) (2011) 112–122.
[40] A.J.E. Dirkzwager, P.F.M. Verhaak, Patients with persistent medically unexplained symptoms in general practice: characteristics and quality of care, BMC Fam. Pract. 8 (1) (2007) 1–10.