

Attitudes and experiences towards the application of motivational interviewing by podiatrists working with people with diabetes at high-risk of developing foot ulcers: a mixed-methods study

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# Background (1)

Diabetes mellitus one of the most common chronic diseases worldwide

- Life time prevalence of foot ulcers 19-34%<sup>1</sup>

Diabetic foot ulcers major cause of:

- Foot infections, amputations, hospitalization<sup>1</sup>
- Immobility, reduced quality of life<sup>2</sup>

Orthopedic shoes:

- Essential to prevent (re)ulceration

However, adherence to wearing orthopedic shoes is low

- Wearing orthopedic shoes requires intrinsic motivation<sup>3</sup>

# Background (2)

## Podiatrists are key professionals

- Merely informing insufficient to realize behavioral change
- Podiatrists do not necessarily have the skills

## Motivational interviewing

- To create a working alliance between healthcare provider and patient to improve foot self-care

# Background (3)

Motivational interviewing consists of:

- Relational component: partnership and empathy
- Technical component: cultivating change talk and softening sustain talk
- General behaviors:
  - Asking questions
  - Giving information
  - Simple reflections
  - Complex reflections
  - Persuade with permission
- MI-adherent behaviors: affirm, seeking collaboration and emphasizing autonomy
- MI-non-adherent behaviors: persuade and confront

# Aims

More has to be known about the application of MI by podiatrists in clinical practice

- To analyze the MI-fidelity in consultations of MI-trained and untrained podiatrists in daily clinical practice
- To explore the podiatrists' attitudes and experiences towards the use of MI and the implementation of the MI-techniques in their work with people with diabetes at high-risk of foot ulcers



# Method - Study design

## Part of a randomized controlled trial (RCT)<sup>4</sup>

- Patients in the intervention group received one face-to-face MI-appointment with their MI-trained podiatrist

## Mixed-methods study:

- To obtain outcomes from different perspectives and contextualize the results of the MI-training

## Triangulation of:

- Quantitative data:
  - Standardized scoring of recorded patient consultations from MI-trained and untrained podiatrists score with the Motivational Interviewing Treatment Integrity (MITI) code<sup>5</sup>
- Qualitative data:
  - Semi-structured in-depth interviews with MI-trained podiatrists

# Method – Participants

Podiatrists at “Voetencentrum Wender”, a health organization in the Netherlands for, among others, treatment of people with diabetic foot disease

In the RCT, patients were randomized over the intervention and control condition at the level of the treating podiatrist

- Because in the RCT the ratio between patients in the intervention and control group became unbalanced, more podiatrists had to be trained

All podiatrists provided written informed consent to participate in the study



# Method – Intervention

## Three-day basic MI-training

- MI and the four processes of MI were explained
- Different MI-techniques were discussed and practiced
  - Asking Open questions, Affirmation, Reflective listening, and Summarizing (OARS)

## Monthly emails to support podiatrists to keep using MI

## Aim of MI-training

- To incorporate the specific coaching and communication techniques of MI in the consultations with the aim to increase adherence to wearing orthopedic shoes in people with diabetic foot disease

# Method – Quantitative measures

Audio recordings were scored to systematically observe and rate the MI-fidelity in daily clinical practice of podiatrists

- Median of the coded consultation length was 20 minutes (range: 15-20)

Motivational Interviewing Treatment Integrity 4.2.1. (MITI 4.2.1) coding system

The interrater agreement on five recordings (20% of total recordings) based on the intraclass correlation coefficients (ICCs)

- Mean interrater agreement between two coders was good (ICC=0.70±0.16)

# Method – Qualitative measures

Individual semi-structured in-depth interviews with the MI-trained podiatrists were conducted

## Discussed topics

- Podiatrists' attitudes and experiences towards the use of MI
- The implementation of the MI-techniques in daily clinical practice with people with diabetes at high-risk of foot ulcers

## Code scheme combination of inductive and deductive thematic analysis

- Main topics were set a priori by the researchers in the semi-structured in-depth interviews
- Subtopics represent the content mentioned by the podiatrists during the interviews

# Results

## Demographic data of the podiatrists

	MI-trained podiatrists (N=18)	Untrained podiatrists (N=4)	P-values
<b>Age (median (y), IQR)</b>	28.5 (26–34.75)	38.5 (31.5–47.5)	0.060
<b>Gender (M/F)</b>	10/8	0/4	0.044*
<b>Experience as podiatrist (median (y), IQR)</b>	4.5 (2.5–10.75)	14.75 (8.00–23.25)	0.039*
<b>Experiences with MI</b>			0.706
<b>Unknown</b>	1 (5.6%)	-	
<b>Unfamiliar with MI</b>	3 (16.7%)	-	
<b>Familiar with the name MI</b>	9 (50.0%)	2 (50.0%)	
<b>MI knowledge</b>	5 (27.8%)	2 (50.0%)	

Note: F female. IQR interquartile range. M male. MI motivational interviewing. N number. y year. Percentages may not add up to 100 due to rounding.

\*Significantly difference,  $p < 0.05$

# Results – MITI (1)

MITI coding results of audiotaped interactions of MI-trained (N=14) and untrained podiatrists (N=4)

MITI Variable	MI-trained Podiatrists Mean (SD; Range)	Untrained Podiatrists Mean (SD; Range)	P-values
<b>MI-adherent behavior total</b>	4.43 (3.94; 0.00-15.00)	1.13 (1.93;0.00–4.00)	0.076
<b>MI-non-adherent behavior total</b>	3.86 (3.49;0.00–11.50)	1.50 (1.29; 0.00–3.00)	0.216
<b>MITI summary scores</b>			
<b>Relational score</b>	3.14 (0.71; 2.00–4.50)	1.94 (0.43; 1.50–2.50)	0.009*
<b>Technical score</b>	3.11 (0.66; 1.50–4.50)	2.13 (0.25; 2.00–2.50)	0.011*
<b>Reflection to question ratio</b>	1.02 (0.64; 0.10–2.83)	0.29 (0.10; 0.19–0.38)	0.023*
<b>Percentage complex reflections</b>	23.42 (15.35; 0.00–57.14)	56.46 (40.49; 12.50–100.00)	0.136

Note: SD standard deviation. \*Significantly different between groups, p<0.05.

# Results – MITI (2)

## Comparison MITI summary scores with beginner proficiency level

- One MI-trained podiatrists met all four thresholds
- Four MI-trained podiatrists met three thresholds
- Four MI-trained podiatrists met two thresholds
- Two MI-trained and two untrained podiatrist met none thresholds

MITI summary scores	Threshold <sup>§</sup>	Threshold reached N (%)	MI-trained/Untrained	P-values
Relational score	≥3.50	8 (44)	8/0	0.043*
Technical score	≥3.00	11 (61)	11/0	0.004*
Reflection to question ratio	≥1.00	7 (39)	7/0	0.070
Percentage complex reflections	≥40	4 (22)	2/2	0.130

Note: \*Significantly different between groups,  $p < 0.05$ ; <sup>§</sup> The fair threshold was used (Moyers et al. 2016).

# Results - Interviews

## Podiatrists reported:

- Attitudes and experiences regarding partnership and cultivating change talk

*“That you make the patient think about why something might (not) work for him/her and very often then they come to new insights” (Pod07)*

- Facilitators and barriers to use MI
- MI as having added value due to cultivating change talk

# Triangulation (1)

Basic knowledge and skills regarding MI; but no MI-experts

- Less complex MI-related skills
  - With regard to the relational and technical component
  - Better MITI results on partnership, empathy and cultivating change talk
- More complex MI-relates skills
  - Not mentioned
  - Minimally applied in practice, e.g.:
    - Threshold for complex reflections only achieved by 2 of 14 MI-trained podiatrists



# Triangulation (2)

Untrained podiatrist scored considerably better on “persuade without permission”

- MI-trained podiatrist: giving advice is allowed, but forgets to ask permission

Use of MI is patient dependent

Contradiction on empathy within the relational component of MI

# Conclusions

MI-trained podiatrists used the principles of MI at a solid beginner proficiency level

- In accordance with their basic MI-training

Podiatrist can be effectively trained in applying MI in daily clinical practice

Findings support implementation of MI in practice

# Summary

## Take home message

podiatrist can be effectively trained in applying MI in daily clinical practice



a collaborative and empathetic way of communication



stimulating behavior change towards adherence with recommended foot self-care

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More information about the entire research: <https://www.utwente.nl/nl/bms/therapietrouw/>

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