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A field test of empathetic refutational and motivational interviewing to address vaccine hesitancy among patients

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Abstract

Vaccine hesitancy is among the most concerning public health issues due to declining immunization rates worldwide. We report a mixed-methods field test of two conversational techniques that allow for an empathetic dialogue on vaccination between health care professionals and patients: Empathetic-refutational interviewing (ERI) and motivational interviewing (MI). Thirty Romanian general practitioners were assigned to an untrained control group and to two experimental groups in which they were trained in ERI or MI. After training, physicians had conversations on HPV and influenza vaccines with 334 patients who were hesitant to receive a vaccination. Patients of physicians in the ERI group demonstrated larger increases in positive attitudes toward vaccines and willingness to get vaccinated, while a greater proportion of patients in the MI group scheduled vaccination appointments. Interviews with participating physicians revealed overall satisfaction with the conversational techniques. Empathetic interpersonal communication can have a substantial positive impact on vaccination rates, especially for vaccines subject to mass misinformation campaigns.
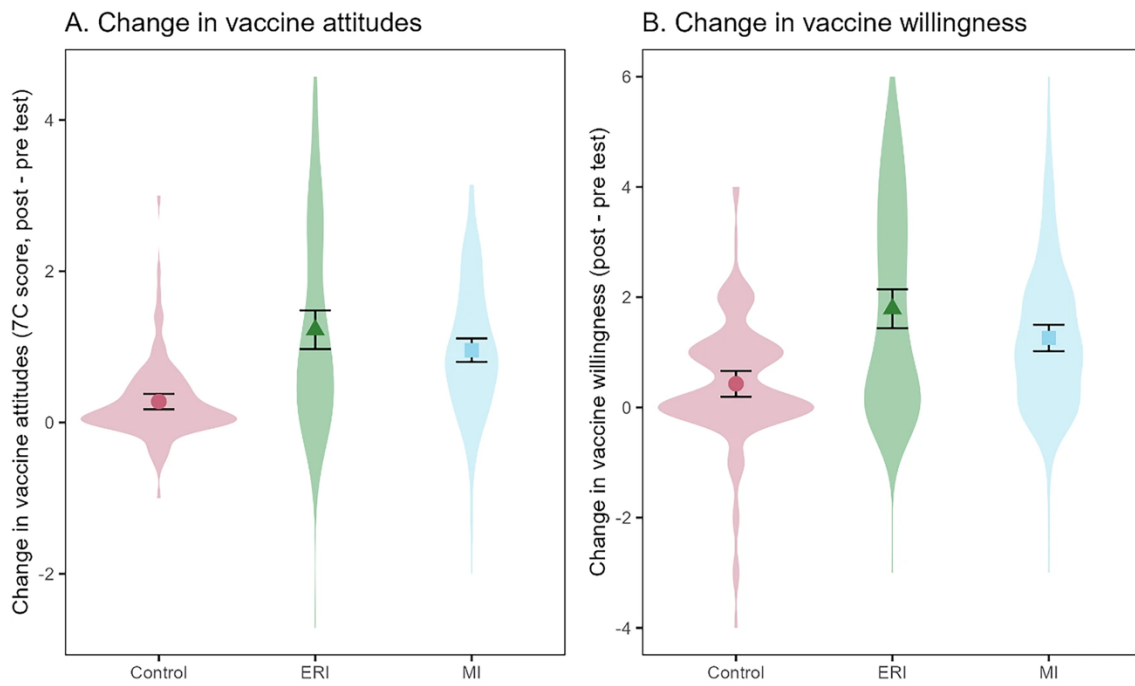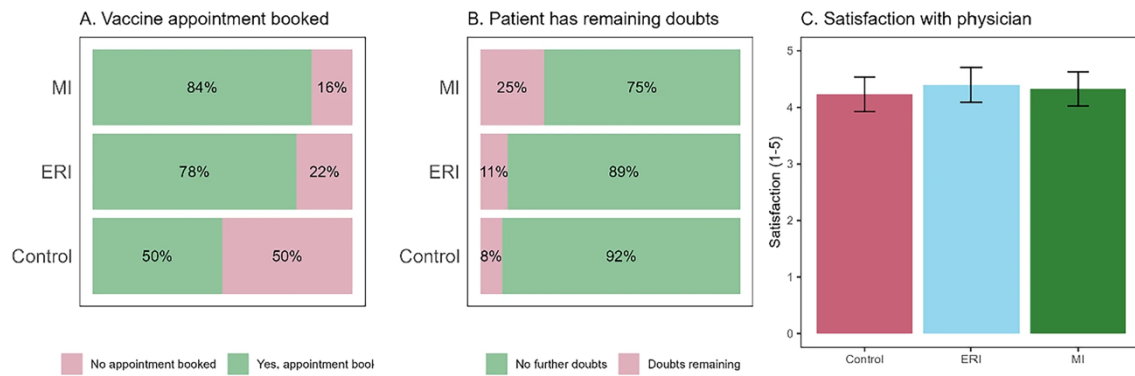
Figure1

Figure2

	ERI				MI			
	Pre-test M (SD)	Post-test M (SD)	t	Hedges' g	Pre-test M (SD)	Post-test M (SD)	t	Hedges' g
Confidence in vaccines	4.08 (0.33)	4 (0)	−0.709	−0.215	3.95 (0.37)	4.1 (0.32)	1.406	0.426
Proactive efficacy	4.5 (0.24)	4.85 (0.24)	**4.583*****	1.388	4.35 (0.24)	4.6 (0.32)	2.236	0.677
Trust in authorities	4.8 (0.42)	5 (0)	1.50	0.454	5 (0)	5 (0)	–	–
Openness to patients	4.3 (0.95)	4.7 (0.48)	1.809	0.548	3.6 (1.74)	4.1 (1.20)	1.342	0.406
Perceived constraints	2.50 (1.43)	2 (1.41)	−1.103	−0.334	2.7 (1.7)	2.5 (1.27)	−0.688	−0.208
Reluctant trust	3.11 (1.15)	3.67 (1.66)	−1.644	0.522	3.7 (1.34)	2.9 (1.85)	−1.309	−0.397
Knowledge about the technique	8.7 (2.26)	13.1 (1.29)	**6.41*****	1.941	4.1 (1.1)	7.1 (1.60)	**5.031*****	1.524
Behaviors related to the technique	–	–	–	–	3.88 (0.66)	4.64 (0.51)	**3.389****	1.026
Difficulties in addressing arguments	2.33 (0.6)	1.45 (0.38)	**−3.639****	−1.102	2.53 (0.69)	2.29 (0.92)	−0.89	−0.27

Note. Significant differences in bold. *p < 0.05, **p < 0.01, ***p < 0.001.

Table1

	ERI M (SD)	MI M (SD)	t	Hedges' g
Confidence in vaccines	4.00 (0)	4.10 (0.32)	1.000	0.428
Proactive efficacy	4.85 (0.22)	4.60 (0.32)	−1.987	−0.851
Difficulties in addressing arguments	1.45 (0.38)	2.29 (0.92)	**2.647***	1.134
Perceived competence in the technique	9.47 (0.4)	7.90 (1.7)	**−2.626***	−1.211

Note. Significant differences in bold. *$p<0.05$, **$p<0.01$, ***$p<0.001$.

Table2

Outcome	Fixed effects	b	SE	t	p
Post-test vaccine attitudes	Intercept	−0.28	0.17	1.65	0.111
	Group: ERI	0.38	0.24	1.59	0.123
	Group: MI	0.36	0.24	1.55	0132
	Pre-test vaccine attitudes	**0.80**	**0.04**	**19.28**	**<0.001**
Post-test vaccination willingness	Intercept	**−0.31**	**0.15**	**2.15**	**0.040**
	Group: ERI	**0.50**	**0.21**	**2.40**	**0.023**
	Group: MI	0.38	0.20	1.88	0.070
	Pre-test vaccination willingness	**0.64**	**0.05**	**13.25**	**<0.001**

Note. Pre- and post-test variables were *z*-scored. Intercept represents the control group mean. Significant effects in bold.

Table3

Outcome	Fixed effects	b	SE	t	p
Satisfaction	Group: ERI	0.30	0.31	0.97	0.339
	Group: MI	0.17	0.30	0.56	0.579
	Vaccine attitudes	**0.35**	**0.06**	**5.95**	**<0.001**

Outcome	Fixed effects	b	SE	z	p
Doubts	Group: ERI	0.25	1.08	0.23	0.817
	Group: MI	1.31	0.92	1.42	0.157
	Vaccine attitudes	0.17	0.32	0.53	0.597
Appointments	Group: ERI	2.25	1.21	1.85	0.064
	Group: MI	**2.66**	**1.24**	**2.15**	**0.031**
	Vaccine attitudes	**1.19**	**0.26**	**4.63**	**<0.001**

Note. Significant effects in bold.

Table4