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## TREATMENT PREFERENCE NOT ASSOCIATED WITH OUTCOME IN RANDOMISED TRIAL

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### *Abstract:*

**Background:** In a randomised trial of treatments for chronic widespread pain (CWP), participants were asked their treatment preference at baseline. This analysis examined whether treatment preference was associated with baseline factors and whether receiving preferred treatment affected outcomes.

**Methods:** The MUSICIAN trial was a 2x2 randomised trial of cognitive behavioural therapy (CBT) or exercise for people with CWP. Participants were randomly allocated to one of three active treatments - CBT (n=112), exercise (n=109), both exercise and CBT (n=112) - or usual care (n=109). Before allocation, participants were asked which of the active treatments they would choose if they had a choice. A positive outcome was self-reported improvement in health of 'much' or 'very much' better 6 months, 9 months and 30 months after entering the study. Associations between preference and baseline characteristics were examined: age, gender, Chronic Pain Grade (CPG), passive and active coping, fatigue, psychological distress, sleep problems, and kinesiophobia. Differences in gender and CPG between preferences were tested by chi-square tests. For continuous variables, comparison was by ANOVA and, where a difference was observed, Tukey's HSD was used to identify which preferences differed and then standardised mean difference (d) with 95% confidence intervals (CI) were calculated. Among those allocated to active treatment, logistic regression was used to calculate odds ratios, adjusted for factors associated with preference, with 95% confidence intervals of positive outcome in those receiving their preferred treatment with not receiving preferred treatment as the referent group.

**Results:** Of 442 participants:

- 144 (33%) expressed preference for exercise,
- 20 (5%) CBT,
- 199 (45%) combined exercise and CBT, and
- 79 (18%) expressed no preference.

Males were more likely to prefer exercise only (44%) and less likely to prefer combined treatment (35%) than females (28% and 50%). Those preferring CBT compared to those preferring exercise were higher in passive coping (d 0.9 95% CI 0.4-1.4), fatigue (0.8, 0.3-1.3), psychological distress (0.7, 0.3-1.2), sleep problems (0.7, 0.2-1.1), and kinesiophobia (0.6, 0.2-1.1). Those preferring CBT also had greater scores on passive coping than those preferring combined treatment (0.6, 0.1-1.0) or no preference (0.5, 0.0-1.0), and greater kinesiophobia than those with no preference (0.5, 0.0-1.0).

Of participants allocated to CBT 7% had a preference for CBT. Of those allocated to exercise 39% preferred exercise. Of those allocated to combined treatment 50% preferred combined treatment. There were no differences in the odds of achieving a positive outcome among persons who received their treatment preference compared to those who did not (table).

**Conclusion:** Exercise and exercise combined with CBT were the most preferred treatments. Participants with specific preferences differed from each other, with respect to factors which might influence outcome. However, receiving preferred treatment did not appear to influence treatment response.

**Category (Complete):** Health services research, economics and outcomes research

**Keyword (Complete):** preference ; pain ; treatment

Percentage with positive outcome by whether receiving preferred treatment

Timepoint	At 6 months				At 9 months				At 30 months			
Allocated Treatment	Did not receive preferred treatment	Received preferred treatment	Odds Ratio (95% Confidence Interval)	Adjusted Odds Ratio (95% Confidence Interval)	Did not receive preferred treatment	Received preferred treatment	Odds Ratio (95% Confidence Interval)	Adjusted Odds Ratio (95% Confidence Interval)	Did not receive preferred treatment	Received preferred treatment	Odds Ratio (95% Confidence Interval)	Adjusted Odds Ratio (95% Confidence Interval)
CBT Only	30%	33%	1.19 (0.20-6.92)	1.63 (0.22-12.0)	30%	67%	4.64 (0.80-27.00)	9.84 (1.08-89.5)	37%	17%	0.34 (0.04-3.09)	0.43 (0.04-4.68)
Exercise Only	36%	33%	0.90 (0.37-2.18)	0.58 (0.20-1.75)	23%	26%	1.20 (0.47-3.06)	1.03 (0.33-3.22)	25%	37%	1.81 (0.73-4.52)	1.32 (0.44-3.97)
Combined CBT and Exercise	42%	33%	0.69 (0.30-1.61)	0.70 (0.27-1.81)	35%	37%	1.08 (0.48-2.45)	0.86 (0.34-2.18)	27%	35%	1.51 (0.62-3.66)	1.16 (0.39-3.46)
All Active Treatments	34%	33%	0.95 (0.56-1.62)	0.96 (0.55-1.68)	29%	34%	1.28 (0.76-2.16)	1.07 (0.61-1.89)	30%	35%	1.23 (0.71-2.11)	1.13 (0.62-2.03)