Attitudes toward analgesic medications are associated with the degree of placebo analgesia: Preliminary findings

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Introduction

Placebo analgesia is pain reduction induced by a sham treatment and is mediated by at least two psychological factors: expectations for pain relief and classical conditioning (e.g., pairing an inert treatment with pain reduction). Although placebo analgesia is a replicable effect at the group level, there are tremendous individual differences in the degree to which individuals respond to a placebo manipulation. Individuals were randomly assigned to a Natural History control group (NH) or one of three placebo manipulations: Expectation-only (E), Conditioning-only (C), or Expectation + Conditioning (E+C). Suprathreshold electric stimulations were delivered to the ankle to evoke pain before and after two inert cream applications. Placebo groups were told the cream was a powerful painkiller (Lidocaine) whereas the NH and C groups were told the cream was an additional sensor gel. Following the first cream application, stimulus intensity was surreptitiously lowered in E+C and C to produce conditioning (ie, cream paired with pain relief). Stimulus intensity was not lowered after the second cream application; the sensor gel. Following the first cream application, stimulus intensity was surreptitiously lowered in E+C and C to produce conditioning (ie, cream paired with pain relief). Stimulus intensity was not lowered after the second cream application; the sensor gel.

Methods: Experimental Procedure

Methods: Perceptual Pain Ratings

Pain intensity ratings made following each stimulation using a computer-presented, vertically-oriented scale

Methods: Perceptual Pain Ratings

Pain threshold was defined as a rating of 40 or greater

Results: Correlations

• Results indicated that there was not a significant relationship between negative beliefs about the efficacy of pain relievers and a placebo response (r = .04, p = .76).

• Negative attitudes about the importance of analgesics were associated with a reduced placebo response (r=-.26, p<.05).

Conclusions

• These preliminary findings underscore the potential importance of pre-existing beliefs about pain-relievers on the placebo analgesia response.

• The identification of predictors of placebo responding could help tailor pain treatments and inform the design of subsequent placebo-controlled studies.

This project was funded by the Oklahoma Center for the Advancement of Science and Technology (HR12-100). YMG was supported by a National Science Foundation Graduate Research Fellowship (DGE-1004925). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Objective

To evaluate whether attitudes about analgesics were associated with the magnitude of placebo responding.

Participants

• Healthy Pain-Free Individuals: (n = 65)

<table>
<thead>
<tr>
<th>Group</th>
<th>Age (yrs)</th>
<th>Female (%)</th>
<th>White (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural History (NH)</td>
<td>30.31</td>
<td>95.6%</td>
<td>61%</td>
</tr>
<tr>
<td>Expectation-only (E)</td>
<td>39.13</td>
<td>12.4%</td>
<td>6%</td>
</tr>
<tr>
<td>Conditioning-only (C)</td>
<td>38.61</td>
<td>14.9%</td>
<td>10%</td>
</tr>
<tr>
<td>Expectation + Conditioning (E+C)</td>
<td>35.25</td>
<td>12.7%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Methods: Medication Attitudes Questionnaire

Benefits in the Efficacy of Pain Relievers

In general, I believe that pain-relievers are very effective at reducing my pain.

In general, I think pain-relievers should work better than they typically do. (Reverse scored)

Negative Attitudes about Pain-Relievers

I feel that pain-relievers are harmful and provide few benefits for the body. (Reverse scored)

I rarely take pain-relievers when I have any aches or pains. (Reverse scored)

I believe that pain-relievers are necessary in order to be able to be productive in this modern world. (Reverse scored)

Items to address problematic outliers greater than 2 standard deviations (sd) away from the mean include:

• Beliefs in Efficacy
• Negative Attitudes

Six 5-point Likert scale items

• Custom-built items were written by graduate research assistant and based on previous literature (i.e., McCracken, et al., 2006)

Internal consistency for items was α = .62

To tailor pain treatments and inform the design of subsequent placebo-controlled studies.

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