How to Make Medications Taste Better; Evaluation and Validation of Pictogram Sets

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Background

• Masking the taste of bitter medication can be useful in helping children inject their medication to ensure they get the recommended dose.1
• Pictograms can be used to help patients understanding the conveyed health information.2

Objective

• Evaluate and validate a set of pictograms describing how to make medications taste better for children.

Method

• Participants: Children aged 9 -17 and parents or guardians at the Children’s Hospital of Eastern Ontario.
• One-one-one structured interviews to test “guessability” where participants were asked to explain the meaning of pictograms
• Answers were recorded verbatim and scored as being correct, partially correct, incorrect, critical confusion, or no answer by three independent observers.
• To evaluate short-term recall, participants were asked to guess the meaning of each pictogram set after being distracted.
• Pictograms were validated according to the American National Standards Institute (ANSI) with at least 85% comprehension.

Results

• 11 out of 12 pictogram sets reached 85% comprehension at the initial guessability test.
• At recall, all 12 pictograms sets reached the American National Standards Institute (ANSI) standard and were validated and included in the CHEO Making Medications Taste Better pamphlet.

Table 1: Number of short-term recall correct and partially correct responses after being distracted (N=51).

<table>
<thead>
<tr>
<th>Pictogram Set</th>
<th>Intended Meaning</th>
<th>% Correct and Partially Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pour the medication into a glass and mix with orange juice or apple juice</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Cut the tablet in half with a knife</td>
<td>82.4</td>
<td></td>
</tr>
<tr>
<td>Take the medication then eat something with a strong flavour like cheese or jam</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Using a syringe, inject the medication into the side of the cheek</td>
<td>94.1</td>
<td></td>
</tr>
<tr>
<td>Eat something like chocolate or peanut butter to coat the tongue then take the medication</td>
<td>96.1</td>
<td></td>
</tr>
<tr>
<td>Eat something cold like ice cream or a popsicle to free the tongue then take the medication</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Take the pill with a glass of water</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Open the capsule and sprinkle the contents into a glass of water of juice</td>
<td>90.2</td>
<td></td>
</tr>
<tr>
<td>Chew the tablet</td>
<td>96.1</td>
<td></td>
</tr>
<tr>
<td>Crush the tablets into small pieces and sprinkle them onto food</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Pour the medication into a glass and drink it using a straw</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Open the capsule and sprinkle contents onto food</td>
<td>96.1</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion

• Validated pictograms can be used to instruct parents on how to make their children’s medication taste better.

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