The Implementation of a PictureRx Pill Card to Improve Medication Comprehension in a Refugee Population

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Background

- The National Assessment of Adult Literacy demonstrated that 14% of Americans have below average health literacy skills.1
- Does not account for yearly increase of 58,179 Refugees with below average health literacy due to language barriers.2
- PictureRx was developed in order to create a visual medication list to improve medication understanding and adherence.3

Objective

- To assess the effectiveness of implementing the PictureRx pill card among a patient population made up of primarily Refugees with below average health literacy skills to improve medication comprehension.

Method

1. Identification of the patient population.
   - Adult Refugee patients taking 1-5 medications
   - Normal hearing, visual acuity at least 20/50, no dementia
2. A pre-survey was administered.
3. A PictureRx pill card was created for each patient using their original pill bottles.
4. After 3 weeks of using the pill card, a post-survey was administered.

Results

The PictureRx pill card resulted in a statistically significant increase in patients’ understanding of the directions for their medications ($Z = -2.242$, $p = 0.025$).

<table>
<thead>
<tr>
<th>Screening Question</th>
<th>Scale</th>
<th>Pre-Survey Frequency of Response (%)</th>
<th>Post-Survey Frequency of Response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How confident are you taking your medications after your visit with your physician?</td>
<td>Not Confident</td>
<td>3 (30)</td>
<td>3 (30)</td>
</tr>
<tr>
<td></td>
<td>Somewhat Confident</td>
<td>4 (40)</td>
<td>4 (40)</td>
</tr>
<tr>
<td></td>
<td>Very Confident</td>
<td>3 (30)</td>
<td>3 (30)</td>
</tr>
<tr>
<td>How confident are you to take your medications with PictureRx?</td>
<td>Not Confident</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td></td>
<td>Somewhat Confident</td>
<td>6 (60)</td>
<td>6 (60)</td>
</tr>
<tr>
<td></td>
<td>Very Confident</td>
<td>4 (40)</td>
<td>4 (40)</td>
</tr>
<tr>
<td>How well do you understand the directions for your medications?</td>
<td>Not Well</td>
<td>3 (30)</td>
<td>3 (30)</td>
</tr>
<tr>
<td></td>
<td>Well</td>
<td>2 (20)</td>
<td>2 (20)</td>
</tr>
<tr>
<td></td>
<td>Very Well</td>
<td>5 (50)</td>
<td>5 (50)</td>
</tr>
<tr>
<td>How well do you understand the directions for your medications with PictureRx?</td>
<td>Not Confident</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td></td>
<td>Somewhat Confident</td>
<td>1 (12.5)</td>
<td>1 (12.5)</td>
</tr>
<tr>
<td></td>
<td>Very Confident</td>
<td>7 (87.5)</td>
<td>7 (87.5)</td>
</tr>
<tr>
<td>Would you like to continue to use a PictureRx pill card to help you understand your medications in the future?</td>
<td>Yes</td>
<td>7 (87.5)</td>
<td>7 (87.5)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1 (12.5)</td>
<td>1 (12.5)</td>
</tr>
</tbody>
</table>

Table 1: Table Comparing Participants Pre- and Post Pill Card Responses

Limitations

- Language Barrier
  - Use of 3-point Likert scale, limiting range of responses
  - Significant more time needed for patient calls and appointments
- Socio-Economic Status of Patients
  - Constrained population size (limited transportation and non-visit access), limiting further statistical analysis

Conclusion

- The participants’ enthusiasm toward the pill card and the increased understanding of their medications indicated that the PictureRx pill card was beneficial in a multi-linguistic, multi-cultural population to improve medication comprehension.

Future Implications

- Provide PictureRx pill cards for the entire Refugee population at NHCLV
- Future studies seeing if improvement of medication comprehension improves medication adherence

REFERENCES