The role of picture-based patient education pamphlets for enhancement of patient comprehension of prescription medication information

AhihAdai,PhaD,CiicaAiaPfe,MeceUieICeefPhaacadHeahSciece;Jalce,PhaacSde,MeceuieICeefPhaacadHeahSciece;JieicaJe,PhaacSde,MeceuieICeefPhaacadHeahSciece;Shefaidi,PhaacSde,MeceuieICeefPhaacadHeahSciece,Jeicayg,PhaacSde,MeceuieICeefPhaacadHeahSciece

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The edigeefheaaedageadciefheUiedSaieiaedahe8⁵⁰⁹⁵gadeec;heee,ehaabfieheahtciecieceeedaia1⁰⁵⁰gadehighe edigeef.¹Fehe,ihaheeheUiedSaes,23%ada34%fEgihadSaiah eaigaie,eeieceadeaeedadadeadedcifaiiheiie age.²

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Mehd
Study site and study population
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ice ed b he Ge gia SaeB ad fPha ac . A d aicia e ee ided iec e i he e e a i f he aie if ai ha d ad d e . A af he d a bai ed f he Me ce U ie i I i i a Re ie B ad.

**Patient education material**

Paie if ai ha d ee adef each e 20 edicai , de ed b ef- e ed 2009 e ci i -ba ed ac e , i gd gi f aif MedicieP (a ai abea: ed i e . g ). Tabe lic de he i if 20 d g f each ie.

T e faie if ai ha d e de i g ed f each ie, ec ai gi c e-ba ed aie if ai ha d ad he he c aig he a ee a b ace ih USP i g ga . Pie ga e ci c de ded i e fhe i c e-ba ed aie if ai ha d he e e e f he 81a i be USP i c g a i a ed i e if ai . Fig el ee ea e f he aie if ai ha d adef S b e (e b e hi e da a e).

**Interview process and data collection**

F a ei d fi ee , i e i g ca e ed he aie ce ei g a e ef edicai he e-de e i ed edicai i ee fic each ie. Pa i ci a , b i ded d e , e ec c e ed i gi e he e e e le i g a ai e if ai ha d , e ec ed a ad .

T de e i he effec i e e f ic ei aie if ai ha d , af e i e a c e ad (ee Fig e )2 a d fie ad a ai e he e c ei g e i . Ba ed a5- i Lie ca e , a i ci a ee a ed a e he e a effe ic e e , he e-fie die f he f a , a d he de de a di b i f he a e ia ee ed. Pa i ci a e e a ad a e he i e ih d f efe i g bac he ai e if ai ha d i he f e. Pa i ci a e ca i a e a e c ee he e a ad e a e a c e c ec ed.

**Statistical analysis**

Da af he a ici a c e d i g ic e-ba ed ha d e ec a ed da af he a ici a c e d i g - ic e-ba ed ha d , a ad ih de ci i e ai ic i g agg e g e da af b hi a e a i di da i g da af each i e. The Ma -Whi e U e a a i ed i de e de e a e (e c e di g e e e i l , 2 , a d 4) de e diffe e e i he ce a a e . The a ci a be he he a ici a eeci ed e e if ai ha d ad he i e ih d f efe i g he ha d i he f e (e c e di g e e i 3) a e a a ed ia b abe . O he e FFi he ' e ac e e ee ed beca e he ce e a be i eadi g f a a a e e. Sai ic a a a e e ef ed i g Sai i (e i 9).

Re

Tab e 2 e e a f he c e e each e e i , e a ed be ee ic e-ba ed d - ic e-ba ed e i g, ee ed i di da f each i e a c bi ed i g agg e g a da a.

**Discussion**

Acc di g he Nai a C ei Paie I f ai a d Ed eai (NCPIE), edicai - adhe c ee affe A eica f a age, ace , ge de , deg ee f ed cai , a d c i ee ic e e , e i gi c ei a d g e i f di e a e , dec e ad a i f i fe , dea h, a d i c ead hea hea c e . C, NCPIE i ga e de i hich he a i e ad hea hea e ea ge he a ai a d ai adhe e ce , ec e di g be e ed ca i f e adhe e ce .

C ide i g he ee ac f da di a i faie if ai ha d , e a ad d g ide he c e , a g age, f a a da e a c e f e ci i edicai a be ef ec h aie ead a d de a d edica i i ci a be ed a a i a e . I ai ca , a ed a da d i a ia if ai ead : Labe , ice , he e ea i f ai h d be e e di i e a de i ci a g age hai i i i ed a id di ac ig ai ih e e ia if ai . A he ec e da i i i if a g age.
The adding of pictograms within picture based health materials can facilitate communication of drug information, though future research is needed to substantiate the results. Pictograms may counsel, possibly attributable to the investigators counseling as opposed to the materials used to counsel. Other survey variables may be attributed to overwhelmingly positive responses to non-print educational materials, as demonstrated by the finding of pictograms on the patient’s ability to recall the information provided. The addition of pictograms to patient information handouts can facilitate communication of drug information, though future research is needed to substantiate the results.

References

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Table 1: Top 20 Drugs for Each Site (arranged alphabetically)

<table>
<thead>
<tr>
<th>Site 1</th>
<th>Site 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abilify ®</td>
<td>Ambien ®</td>
</tr>
<tr>
<td>Aricept ®</td>
<td>Aricept ®</td>
</tr>
<tr>
<td>Celexa ®</td>
<td>Calciferol ®</td>
</tr>
<tr>
<td>Cymbalta ®</td>
<td>Desyrel ®</td>
</tr>
<tr>
<td>Effexor ®</td>
<td>Fosamax ®</td>
</tr>
<tr>
<td>Geodon ®</td>
<td>Glucophage ®</td>
</tr>
<tr>
<td>Lexapro ®</td>
<td>Klor-Con ®</td>
</tr>
<tr>
<td>Lipitor ®</td>
<td>Lasix ®</td>
</tr>
<tr>
<td>Namend a®</td>
<td>Namenda ®</td>
</tr>
<tr>
<td>Neurontin ®</td>
<td>Neurontin ®</td>
</tr>
<tr>
<td>Nexium ®</td>
<td>Nexium ®</td>
</tr>
<tr>
<td>Plavix ®</td>
<td>Norvasc ®</td>
</tr>
<tr>
<td>Prozac ®</td>
<td>Novolog ®</td>
</tr>
<tr>
<td>Seroquel ®</td>
<td>Plavix ®</td>
</tr>
<tr>
<td>Singulair ®</td>
<td>Prilosec ®</td>
</tr>
<tr>
<td>Suboxone ®</td>
<td>Prometrium ®</td>
</tr>
<tr>
<td>Trazodone ®</td>
<td>Toprol, Lopressor ®</td>
</tr>
<tr>
<td>Wellbutrin ®</td>
<td>Valsartan ®</td>
</tr>
<tr>
<td>Zoloft ®</td>
<td>Zestril ®</td>
</tr>
<tr>
<td>Zyprexa ®</td>
<td>Zetia ®</td>
</tr>
</tbody>
</table>
### Table 2: Median Responses to Survey Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Site 1 (N = 62)</th>
<th>p</th>
<th>Site 2 (N = 22)</th>
<th>p</th>
<th>Site 1 &amp; 2 (N= 84)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you rate the effectiveness of this patient education material to provide the information you need?</td>
<td>Pictogram 5</td>
<td>0.553</td>
<td>5</td>
<td>0.182</td>
<td>5</td>
<td>0.575</td>
</tr>
<tr>
<td></td>
<td>Non-Pictogram 5*</td>
<td></td>
<td>4</td>
<td></td>
<td>5**</td>
<td></td>
</tr>
<tr>
<td>How would you rate the user-friendliness of the format in which this patient education material was presented?</td>
<td>Pictogram 5</td>
<td>0.822</td>
<td>5</td>
<td>0.01</td>
<td>5</td>
<td>0.117</td>
</tr>
<tr>
<td></td>
<td>Non-Pictogram 5</td>
<td></td>
<td>3</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>In the future, do you foresee referring back to the patient education material as a reference to review your medication taking behavior?</td>
<td>Pictogram 2*</td>
<td>0.721</td>
<td>2</td>
<td>0.011</td>
<td>2**</td>
<td>0.033</td>
</tr>
<tr>
<td></td>
<td>Non-Pictogram 2*</td>
<td></td>
<td>1</td>
<td></td>
<td>2**</td>
<td></td>
</tr>
<tr>
<td>How would you rate your long-term understanding of the patient education material presented today?</td>
<td>Pictogram 5</td>
<td>0.096</td>
<td>5</td>
<td>0.002</td>
<td>5</td>
<td>0.386</td>
</tr>
<tr>
<td></td>
<td>Non-Pictogram 5</td>
<td></td>
<td>3</td>
<td></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

* n = 61  
* n = 60  
** n = 83   
** n = 82
Figure 1: Example of Picture-based and Corresponding Non-picture-based Patient Information Handout

Suboxone®

How should this medication be taken?

- Follow the directions on your prescription label carefully, and ask your doctor or pharmacist to explain any part you do not understand. Take buprenorphine or buprenorphine and naloxone exactly as directed. Do not take more or less of it or take it more often than prescribed by your doctor.
- Buprenorphine and the combination of buprenorphine and naloxone come as sublingual tablets to be taken under the tongue.
- They are usually taken once a day. To help you remember to take buprenorphine or buprenorphine and naloxone, take it around the same time every day.
- You will start your treatment with buprenorphine, which will be taken in the doctor’s office. Your doctor will start you on a low dose of buprenorphine and increase your dose for several days before switching you to buprenorphine and naloxone. Your doctor may increase or decrease your buprenorphine and naloxone dose until the medication works properly.
- Place the tablets under your tongue until they melt. This should take 2 to 10 minutes. Do not chew the tablets or swallow them whole.
- Do not stop taking buprenorphine and naloxone without talking to your doctor. Stopping buprenorphine and naloxone too quickly can cause withdrawal symptoms. Your doctor will tell you when and how to stop taking buprenorphine and naloxone.
- Do not inject buprenorphine or buprenorphine and naloxone sublingual tablets. Severe reactions may happen, including withdrawal symptoms.
- Do not let anyone else take your medication. Ask your pharmacist any questions you have about refilling your prescription.
Dear Sir/Madame,

This 4 question survey is being conducted as part of a Community Pharmacy Foundation research project through Mercer University College of Pharmacy and Health Sciences. The survey results will be used to assess the effect of pictures to improve patient education. Information shared in this survey will be kept anonymous. We appreciate your participation.

1. How would you rate the effectiveness of this patient education material to provide the information you need?
   - Extremely Effective (5)
   - Somewhat Effective (4)
   - Neutral (3)
   - Somewhat Ineffective (2)
   - Extremely Ineffective (1)

2. How would you rate the user-friendliness of the format in which this patient education material was presented?
   - Extremely User-friendly (5)
   - Very User-friendly (4)
   - Neutral (3)
   - Somewhat User-friendly (2)
   - Not User-friendly (1)

3. In the future, do you foresee referring back to the patient education material as a reference to review your medication taking behavior?
   - Yes
   - No

4. How would you rate your long-term understanding of the patient education material presented today?
   - Complete Understanding (5)
   - Fair Understanding (4)
   - Neutral (3)
   - Little Understanding (2)
   - No Understanding (1)