Don’t assume the patient understands: A systematic review of interventions to improve medication information for the low health literate population

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Background

Health literacy is a barrier to accurately understanding medication information and is essential for individuals to confidently understand, act, and communicate personal medical needs to maintain good health. On average, individuals with low health literacy can read at a fifth-grade level, while medication information tends to be presented in a manner targeted for individuals who can read at a tenth grade level. With current medication information too difficult to understand, low health literate populations are at a higher risk of misinterpreting prescription label instructions, dosage, duration, frequency, warming labels, written information and verbal pharmacist counseling. For this reason improving the safety of patients with low health literacy is a primary goal and therefore indicates the immediate need to develop effective solutions to improving medication information for this population.

Objective

To systematically review the evidence on interventions for improving medication knowledge and adherence for low health literate populations.

Methods

Figure 1: Database search strategy
Figure 2: Inclusion criteria

2512 Studies identified from databases and hand searching
959 duplicates removed
1553 titles screened
544 titles removed
1009 abstracts screened
814 abstracts removed
169 Full text articles screened
361 Full text articles included for systematic review

Results

Figure 3: Determining health literacy levels
OR

Figure 4: Systematic Review Flow Chart

Table 1: Six categories of medication information interventions

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Oral information</td>
<td>Information expressed in written word</td>
<td>Patient information</td>
</tr>
<tr>
<td>2. Visual information</td>
<td>Information expressed in spoken word</td>
<td>Pharmacists</td>
</tr>
<tr>
<td>3. Written information</td>
<td>Information expressed in written format</td>
<td>Instructions</td>
</tr>
<tr>
<td>4. Label information</td>
<td>Information expressed on medication bottle</td>
<td>Information</td>
</tr>
<tr>
<td>5. Reminders</td>
<td>Services to remind patients about important medication information</td>
<td>Automated telephone reminder</td>
</tr>
<tr>
<td>6. Educational.program/service</td>
<td>Plan or schedule of action for a specific period of time</td>
<td>Pharmacy-based workshops</td>
</tr>
</tbody>
</table>

Figure 5: Publication year of interventions

Significant rise in studies focused on improving medication information for the low health literate population after the year 2005

Figure 6: Health literacy assessment tools

To confirm the use of demographic characteristics of age, ethnicity, income and/or education as a method of determining health literacy, we evaluated the correlation of these demographics in the 52 studies that used a health literacy test such as the TOFHLA, STOPLA and REALM. Results from all studies demonstrate that at least two demographic characteristics were present in the low health literate population.

Conclusions

This systematic review demonstrates that interventions targeted towards the low health literate population are a beneficial tactic to improving patient’s knowledge and adherence. Specifically, the strategies for an effective medication information intervention are to provide additional aid to enforce information and to personalize, easily navigate through and access information.

Contact

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