Evaluation of over the counter medication knowledge and literacy in middle school and high school students

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Abstract
Over the counter (OTC) medications are commonly utilized by the public, including adolescents, to self-treat many conditions. Unfortunately, these products can be dangerous if not used safely and appropriately. Adolescents between 13 and 19 years old composed 7.32 percent of the human exposure cases reported to U.S. poison control centers in 2014. Among these cases, there were 53 fatalities involving pharmaceuticals. This is an age range where medication use becomes more independent and the education they receive throughout the school curriculum is unknown. This study was designed to evaluate OTC medication knowledge and literacy among middle and high school students.

Disciplines
Education | Pharmacy and Pharmaceutical Sciences

Comments
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Evaluation of over the counter medication knowledge and literacy in middle school and high school students

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Introduction
Over the counter (OTC) medications are commonly utilized by the public, including adolescents, to self-treat many conditions. Unfortunately, these products can be dangerous if not used safely and appropriately. Adolescents between 13 and 19 years old composed 7.32 percent of the human exposure cases reported to U.S. poison control centers in 2014.1 Among these cases, there were 53 fatalities involving pharmaceuticals.1 This is an age range where medication use becomes more independent and the education they receive throughout the school curriculum is unknown.

Objective
This study was designed to evaluate OTC medication knowledge and label literacy among middle school and high school students.

Methods
A cross-sectional study assessing medication knowledge and label literacy. Middle school (grades 7-8) and high school (grades 9-12) students in a local school district were presented with the option to complete the survey by their teacher during their physical education class (study approved by IRB and consent indicated by voluntary completion of survey).

The survey questions included:
- Demographic information: age, grade, gender, race, ethnicity, etc.
- Medication History: use for chronic illness, sources of information
  - OTC Medication Knowledge: brand vs. generic (6 questions), indication (3 questions), side effects (4 questions) and combination use of OTC medications (2 questions)
  - OTC Literacy: Interpretation (4 questions), included a reference sheet with two drug information labels

Knowledge section of survey completed and collected before distribution of reference sheet. Data analyzed using simple descriptive statistics; chi-square and student t-test used for comparative statistics.

Results
A total of 309 students completed the survey.

<table>
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<tr>
<th>Source of Information</th>
<th>Middle School</th>
<th>High School</th>
<th>p-Value</th>
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<tbody>
<tr>
<td>Doctor</td>
<td>73.5</td>
<td>56.4</td>
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</tr>
<tr>
<td>Pharmacist</td>
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<td>53.5</td>
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<td>0.15</td>
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<td>TV</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions
Our study describes the knowledge and literacy levels regarding OTC medications in a large cross-section of middle school and high school students. Overall, students were better at the interpretation of drug labels compared to knowledge-based concepts. It is likely that this population needs additional education and counseling regarding safe and appropriate management of OTC medications. The information learned from this study is an important foundation for future educational programs aimed at proper use of OTC medications in middle school and high school students.

Disclosures
All authors have nothing to disclose.

References