Introduction

- Several studies demonstrate that children can be taught to swallow pills using a variety of protocols (Wright, Woodcock, & Scott, 1969; Sallows, 1980; Frank, Mullins, & Olson, 1984; Pelco, Kissel, Parrish, & Mittenberger, 1987; Walco, 1986; Dahlquist & Blount, 1984; Blount, Dahlquist, Baer, & Wuori, 1984).
- There is, however, a lack of literature describing the prevalence of medication acceptance problems among children.

Purpose

- The goal of this study was to document parent-reported medication acceptance among children.
- This is the first study to present normative data in this area.
- Parent’s interest in learning a pill-swallowing protocol for their child was also assessed.

Participants

- 304 parents completed a brief survey on medication acceptance for all children in the household (Table 1).
- Half (N = 155) of the participants were recruited in a nation-wide mailing.
- The other half (N = 149) were recruited in a pediatric primary care waiting room.
- Data were obtained for 702 children altogether.
- There were an average of 2.31 (S.D. = 1.13) children per household.

Method

- The following survey was completed by parents that participated in this study.

Measures

- Approximately one quarter of parents reported that their children required daily medication (Figure 1).
- Older children were able to “easily” swallow a greater number of the four pills than were younger children, yielding a statistically significant positive correlation, \( r = .67, p < .01 \) (Figure 2).

Results

- One-third indicated their child had rejected (e.g., spit out, refused to take) a pill and/or liquid medications (Table 2).
- Approximately 1/3 of all children have refused or rejected a pill at least once and almost 40% have refused or rejected liquid formulations (Table 2).
- Few children have never had the opportunity to try liquids (1.3%) as compared to pills (23.5%).

Table 1: Demographic Characteristics of Sample

<table>
<thead>
<tr>
<th>Total Sample</th>
<th>Surveys Collected</th>
<th>304</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Children</td>
<td>702</td>
<td></td>
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<tr>
<td>Child Age (Mean, S.D.)</td>
<td>8.15 yrs. (S.D. = 5.96)</td>
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<tr>
<td>Child Female</td>
<td>49.4%</td>
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<tr>
<td>Children with a Disability</td>
<td>6.9%</td>
<td></td>
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<tr>
<td>Child with a Chronic Illness</td>
<td>10.9%</td>
<td></td>
</tr>
<tr>
<td>Family Race / Ethnicity</td>
<td>90.4% Caucasian, 4.0% Hispanic, 2.3% Black, 1.0% American Indian, 1.0% Asian, 1.3% Other</td>
<td></td>
</tr>
<tr>
<td>Parent/Responder Age (Mean, S.D.)</td>
<td>38 yrs. (S.D. = 9.13)</td>
<td></td>
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<tr>
<td>Parent/Responder Female</td>
<td>79%</td>
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</tbody>
</table>

Table 2: Percent of Children Reported to Reject Pill and Liquid Medication

<table>
<thead>
<tr>
<th></th>
<th>Pill</th>
<th>Liquid Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child has rejected</td>
<td>33.5% (N=223)</td>
<td>39.2% (N=270)</td>
</tr>
<tr>
<td>Child has never rejected</td>
<td>43% (N=299)</td>
<td>59.5% (N=441)</td>
</tr>
<tr>
<td>No opportunity</td>
<td>23.5% (N=162)</td>
<td>1.3% (N=9)</td>
</tr>
</tbody>
</table>

Discussion

- These data suggest that liquid medication is not necessarily a “solution” for medication acceptance problems in children and that “a spoonful of sugar” does not always help the medicine “go down.”
- Parents expressed modest interest in teaching this skill.
- Data suggest that the pill swallowing problems among children are not of significant enough intensity or frequency to warrant a widespread protocol dissemination using the brief (one-hour) treatment protocols.
- Future research should focus on identifying protocols for pill-swallowing that are appealing to parents.
- This line of research should also attempt to identify the specific characteristics of parents that are interested in teaching pill-swallowing strategies to their children.

References