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### MEETING ABSTRACT

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##### **Increase of antibiotic inappropriate use among children: How can we help in pharmacy?**

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**Background:** Antibiotic resistance is a growing problem especially among children due to lack of parents' knowledge about antibiotic use [1]. It can be reduced by finding out the primary difficulties regarding utilization in such cases as disease conditions, preparation, storage and choice of drink [2].

**Objective:** To analyze more common mistakes during antibiotic treatment in children made by their parents.

**Methods:** Prospective quantitative study was conducted from December 2016 to January 2017 in Kazakhstan and Latvia. Data such as age, gender, location, illness conditions, experience with suspension usage were obtained by anonymous questionnaire.

**Results:** Data were collected from 100 parents (50 from Kazakhstan and 50 from Latvia), mean age was  $31.4 \pm 4.8$  years. Using independent samples *t*-test it was found that the average number of children differed statistically significant between countries: for Kazakhstan  $2.6 \pm 1.1$  and for Latvia  $1.4 \pm 0.5$  ( $t = 7.03$ ;  $p < 0.01$ ). More than half of the parents experienced antibiotic usage (66%). It was seen that Kazakhstan parents were likely to give antibiotics to children in comparison with negative attitude to it, 39% vs. 11% respectively ( $p = 0.021$ ). Taking the Latvian population, there was no significant difference between usage, 27% vs. 23% accordingly. Most inappropriate usage of antibiotics was observed in cases such as flu (59.1%), cold (31.8%) and cough (28.8%) in both countries. The data showed cold and cough were treated twice frequently in Kazakhstan than in Latvia (21.2% vs. 10.6% and 19.7% vs. 9.1%). More than half of all study parents stored ready suspension at room temperature rather than in fridge (59.1% vs. 40.9%;  $p = 0.012$ ). There was a representative difference among beverages such as tea and carbonated drinks compared to still water and juice (25.7% vs. 74.2%;  $p = 0.007$ ).

**Conclusions:** One of the reasons of inappropriate use of antimicrobial agents was lack of parent's knowledge about adequate antibiotic treatment for their children. Most of the population in both countries had been giving antibiotics to their children in conditions such as flu when it was not necessary. Mistakes in suspension preparation, storage conditions and use of inappropriate beverages could affect the pharmacokinetics and action of antibiotic active substance.

**Keywords:** antibiotics – children – inappropriate use

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