

Survey of non-prescribed use of antibiotics for children in an urban community in Mongolia

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Objective To estimate the prevalence and identify the determinants of non-prescription use of antibiotics for children in Mongolia.

Methods A community-based cross-sectional survey was undertaken in 10 subdistricts in Ulaanbaatar, Mongolia's capital. We used a structured questionnaire to collect data from a random sample of 540 households with at least one child aged <5 years. Logistic regression was used to identify factors associated with antibiotic misuse.

Findings Of 503 participating caregivers, 71% were mothers; 42.3% (95% confidence interval, CI: 37.8–46.9) of caregivers had used non-prescribed antibiotics to treat symptoms in their child during the previous 6 months. Symptoms commonly treated were cough (84%), fever (66%), nasal discharge (65%) and sore throat (60%). Amoxicillin was the most commonly used antibiotic (58%). Pharmacies were the main source (86%) of non-prescribed antibiotics. Non-prescribed use by mothers was significantly associated with keeping antibiotics at home (odds ratio, OR: 1.7; 95% CI: 1.04–2.79), caregiver self-medication (OR: 6.3; 95% CI: 3.8–10.5) and older child's age (OR: 1.02; 95% CI: 1.01–1.04). Caregivers with a better knowledge of antibiotics were less likely to give children non-prescribed antibiotics (OR: 0.7; 95% CI: 0.6–0.8).

Conclusion The prevalence of non-prescribed antibiotic use for young children was high in Ulaanbaatar. Because such use leads to the spread of bacterial resistance to antibiotics and related health problems, our findings have important implications for public education and the enforcement of regulations regarding the sale of antibiotics in Mongolia.

Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

Introduction

The emergence and spread of resistance related to the irrational use of antibiotics is a major global public health problem.^{1,2} The rapid increase in drug-resistant *Streptococcus pneumoniae* infections is a particular concern in paediatrics because pneumococci are the leading cause of bacterial meningitis, pneumonia, bacteraemia and otitis media in children.³

It is estimated that more than 50% of antibiotics worldwide are purchased privately without a prescription, from pharmacies or street vendors in the informal sector.⁴ The situation in developing countries is of particular concern because the use of antibiotics without medical guidance is largely facilitated by inadequate regulation of the distribution and sale of prescription drugs.^{5,6} Self-medication has also been noted in the United States of America and Europe, particularly for colds and upper respiratory tract symptoms, which are self-limiting and mostly caused by viruses.^{7,8}

Studies from American, Asian and European countries indicate that between 22% and 70% of parents have misconceptions about the appropriate applications and efficacy of antibiotics^{9,10} and often use them without a prescription.^{11–13} Other determinants of self-medication with antibiotics in low-income countries include over-the-counter sales of antibiotics, the high cost of medical consultations and dissatisfaction with medical practitioners.¹⁴

Previous studies have suggested that increased antibiotic prescription might increase self-medication with antibiotics.^{7,8,15}

This may be of particular relevance in Mongolia, where injection usage is high (as in many other formerly Socialist countries), e.g. 13 injections per person per year,¹⁶ and the prescription of antibiotics is widespread and often inappropriate.¹⁷ Moreover, after the establishment of a market-based economy in 1990, the number of private pharmacies rose sharply in Mongolia. This has increased the use of medicines by the population. In July 2001, a ministerial decree announced measures to stop over-the-counter sales of non-prescribed drugs, but in practice this still happens.¹⁸ Children are particularly prone to high rates of antibiotic use.¹⁹ Many parents ask paediatricians for antibiotics for conditions such as viral upper respiratory tract infections, non-specific diarrhoea or sore throats.²⁰

A qualitative survey reported that parents in Mongolia used antibiotics such as chloramphenicol to treat child diarrhoea,²¹ and another study noted that 32–35% of families practiced self-injection at home.²² To the best of our knowledge, however, no previous representative community-based studies in Mongolia have investigated the prevalence and determinants of caregivers' practice of using non-prescribed antibiotics to treat their children. Such studies are essential to obtain a clear understanding of the factors that underlie this practice and to develop measures to preventive antibiotic resistance and promote rational use. The aim of the present study was therefore to determine the prevalence of the administration of non-prescription antibiotics by caregivers to children younger than 5 years of age, and to identify factors associated with non-prescription use.

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(Submitted: 21 April 2010 – Revised version received: 4 July 2010 – Accepted: 10 August 2010 – Published online: 3 September 2010)

Methods

Study site

The study site was Ulaanbaatar (population 1 million), the capital of Mongolia. This city is the main cultural, industrial and commercial centre in the country. About 39% of the country's population lives in this city, and 8.8% of its inhabitants are aged between 0 and 4 years.

Study design and sampling

A community-based, cross-sectional study was conducted in Ulaanbaatar in March–April 2009. Because of the absence of relevant data, we estimated a sample size of approximately 400 for an assumed prevalence of self-medication of 50%, a 95% confidence level and a 5% margin of error.²³ In a recent government survey, a non-response rate of 15% was assumed in the sampling design²⁴ and with this in mind, we adjusted the sample size by 30% to compensate for potential problems of non-response or incomplete survey reports.

To obtain a representative sample, two-stage cluster sampling was used to select 540 households. In stage one, 10 out of 132 subdistricts were selected by simple random sampling. In the second stage, we selected households from each sampled subdistrict by probability proportional to size, using a list of households that had children aged < 5 years. Because coverage under the National Expanded Programme on Immunization is approximately 97% in Mongolia,²⁵ we used the list of households from its records. For households with more than one child aged < 5 years, we selected one of the children at random from the list before visiting the household. We excluded households from the survey if parents or caregivers were not present at the time of the interview or if they refused to participate, if they were medical professionals, or if they did not understand what the word “antibiotics” meant.

Study tool

A structured questionnaire was developed with validated questions from previous studies.^{10,25,26} The questionnaire consisted of sections on: (i) the socioeconomic and demographic characteristics of households; (ii) caregivers' knowledge and attitudes regarding antibiotic use to treat respiratory illnesses as well as about the usefulness of antibiotics for bacterial and viral infections; and (iii) the use of antibiotics for the index child in the

previous 6 months. If mothers or caregivers reported that their child had taken antibiotics without a prescription, they were asked for further details concerning self-medication with antibiotics.

A multiple-choice question asked respondents to state their reasons for self-medication, describe the symptoms, identify the source, names and dosages of antibiotics, and state the duration of use. Symptoms were self-reported and based on codes in the *International classification of primary care*,²⁷ and antibiotics were defined as antibacterials for systemic use.²⁸ Parents and caregivers also reported whether they took antibiotics themselves without a prescription and whether they kept antibiotics at home.

The questionnaire was translated into the Mongolian language and back-translated into English. It was pre-tested on a small pilot population and revised on the basis of feedback from the pilot test. The chief investigator provided training in the content of the questionnaire and the purpose of the study to a team of experienced interviewers. Interviewers visited households and explained the purpose of the study to parents or caregivers and asked them to participate.

Statistical analysis

We used logistic regression to identify factors associated with the non-prescription use of antibiotics for children. Sample weights were used to minimize bias in the selection of a given child in a household. We included in the model only responses for households in which the main caregiver was the mother, as mothers clearly accounted for the largest proportion of persons responsible for dealing with children's illnesses. The dependent variable was whether a child had received non-prescribed antibiotics in the previous 6 months. Explanatory variables used in the analysis were sociodemographic variables, distance to a family practice facility, availability of antibiotics at home, mother's knowledge regarding upper respiratory tract infections and antibiotic use, tendency to demand antibiotics, and mother's own self-medication with antibiotics.

To measure the mother's knowledge, we recorded an antibiotics knowledge score as the number of correct responses to 10 questions which assessed her knowledge of appropriate antibiotic use. Mothers were considered to have a tendency to demand antibiotics if they responded

affirmatively to two of the three questions about their expectations for antibiotics use. Sociodemographic variables included the mothers' education (years of school attendance ≤ 10 versus ≥ 11), mother's and child's age, and the wealth index score of households. The wealth index score²⁹ was recorded as a measure of household wealth status. We used principal components analysis to assign indicator weights according to the procedure used in the Demographic and Health Surveys.³⁰ For the statistical analysis we used SPSS version 16.0 (SSPS Inc., Chicago, USA). Statistical significance was set at $P < 0.05$.

Ethical approval for the study was obtained from the University of Tokyo and the Health Science University of Mongolia. Informed consent was obtained from individual respondents before each interview.

Results

In the 540 households visited, 24 parents or caregivers were unavailable at the time of the home visit, 3 parents were medical professionals and were not interviewed, and the results from 10 households were excluded because of incomplete information. The overall response rate was 93% (503/540).

Sociodemographic characteristics of respondents

Table 1 presents the sociodemographic characteristics of the participants, 71% of whom were mothers. The mean age of the participants was 35.4 years (standard deviation, SD: ± 11.9), and 53.7% reported having an undergraduate university education or higher. The average number of household members was 4.3 (SD: ± 1.1), and 39% of households had 5 or more family members. Most participants belonged to the Khalkh ethnic group and 73.6% were Buddhists.

Non-prescription use of antibiotics

Antibiotics had been given to 71% (356/503) of the children during the 6-month period before the study. About one-fifth (21%) of the 503 children had taken antibiotics without a prescription, and both prescribed and non-prescribed antibiotics were used concomitantly in 21%. In all, 42.3% (95% confidence interval, CI: 37.8–46.9) of the children were given non-prescribed antibiotics. Responses to a multiple-choice ques-

tion showed that fewer than half of the respondents (210/503) had given antibiotics to the index child without a prescription for symptoms of upper respiratory tract infection such as cough (84%), fever (66%) or nasal (65%) and throat symptoms (60%). The main source of non-prescribed antibiotics was pharmacies (86%). Amoxicillin was the most commonly used non-prescribed antibiotic (58%), followed by ampicillin (25%), erythromycin (6%), chloramphenicol (5%) and trimethoprim-sulfamethoxazole (5%). Most children took non-prescribed antibiotics for a period of 3 to 5 days (76%). Additionally, 8% of the children were treated with two non-prescribed antibiotics simultaneously, and 5% were given parenteral antibiotics if they had a sore throat with fever and cough or shortness of breath. Of the non-prescribed antibiotics, 31% were given on the advice of pharmacists, 35% on the advice of family members and 8% on the advice of friends. Reasons for not seeking a physician's advice included the belief that the illness was not severe (70%) and previous experience with the doctor always prescribing the same antibiotics for similar conditions (15%). Past experiences and familiarity with a drug were the main reasons for selecting a particular antibiotic (82%).

Knowledge about antibiotic use

Table 2 shows participants' knowledge of the appropriate use of antibiotics based on response alternatives from the Centers for Disease Control and Prevention (Atlanta, United States) as adapted by Huang et al.¹⁰ The median number of questions that were correctly answered was four (range: 0–10). Many respondents gave incorrect answers about antibiotic use for colds or flu (83%), a cough (81%), sore throat (74%) or purulent nasal discharge (64%). There was also a lack of understanding of antibiotic use for clear nasal discharge (runny nose) and middle ear fluid: about half the respondents answered incorrectly. Most participants (96%) incorrectly believed that most colds and cases of flu were caused by bacteria, and 76% incorrectly believed that antibiotics would accelerate recovery from these illnesses. A tendency to demand antibiotics was noted in 27% of participants.

Multivariate logistic regression

The odds ratios (ORs) for factors associated with the non-prescription use of anti-

Table 1. Characteristics of sample of caregivers (*n*=503) and children included in survey on the non-prescribed use of antibiotics for children in Ulaanbaatar, Mongolia, 2009

Characteristic	Value
Caretaker	
Relationship to child, no. (%)	
Mother	356 (71)
Father	66 (13)
Grandparent	81 (16)
Mean age, years (SD)	35.4 (11.9)
Education, no. (%)	
General ^a	183 (36.4)
College ^b	50 (9.9)
Institute or university ^c	270 (53.7)
No. of people in the household, mean (SD)	4.3 (1.1)
Religion, no. (%)	
Buddhist	370 (73.6)
None	114 (22.7)
Other	19 (3.4)
Ethnicity, no. (%)	
Khalkh	450 (89.5)
Other	23 (11.5)
Child	
Mean age, in months (SD)	28.3 (15.7)
Male, no. (%)	264 (52.5)

SD, standard deviation.

^a General education: 10 years of basic education from ages 8 to 18 years.

^b College education (vocational training): an additional 2 years of education following basic education (i.e. up to 12 years of education in total).

^c Institute or university education: an additional 4 years of education following basic education (i.e. up to 14 years of education in total).

biotics by the mother are shown in Table 3. Non-prescription use was positively associated with keeping antibiotics at home (95% CI: 1.04–2.79) and self-medication with antibiotics (95% CI: 3.8–10.5). Mothers with a higher score for knowledge of antibiotics were less likely to give their children antibiotics without a prescription (95% CI: 0.6–0.8), whereas respondents answering affirmatively to two or more items that investigated antibiotic demand were more likely to use non-prescribed antibiotics (95% CI: 1.4–4.0). The likelihood of treating a child with non-prescribed antibiotics increased with children's age (95% CI: 1.01–1.04).

Discussion

This study is the first community-based survey of non-prescription use of antibiotics in Mongolia. In both developed and developing countries, self-medication with antibiotics is common for illnesses presumed to be caused by a virus.^{11,13,31,32} Although this practice is well known, few previous studies have used research methods that allow their findings to be

compared with those from earlier studies. However, the methods used in the present study make it possible to document that the prevalence of non-prescription use of antibiotics for children in Ulaanbaatar, Mongolia is higher (42%) than in earlier reports from rural communities in Viet Nam (12%) based on a 2-week recall period,¹³ and from a Chinese city (35.7%) where the recall period was 12 months.¹¹

Acute respiratory infection was the condition associated most frequently with non-prescription antibiotic use, a result which substantiates findings from other Asian countries.^{11,13} Our results are also consistent with findings in China, where low-severity illness was a major reason for giving children antibiotics.¹¹ Most of our respondents used antibiotics because they considered themselves to be knowledgeable about antibiotic use, based on their past experience. This reason runs counter to findings from other developing countries, where relatively lower costs have been given as the main reason for self-medication.^{33,34} The difference in motives may be related to good health insurance coverage in Mongolia, especially

Table 2. Knowledge regarding appropriate antibiotic use and tendency to demand antibiotics among caregivers (n=503) in Ulaanbaatar, Mongolia, 2009

Item	Response	No.	%
Questionnaire item		Acceptable response^a	
How often are antibiotics needed for the following?			
Middle ear fluid without fever	Never/almost never	217	54
Clear nasal discharge (runny nose)	Never/almost never	237	47
Purulent nasal discharge	Never/almost never	179	36
Sore throat	Sometimes/almost never	130	26
Colds or flu	Never/almost never	84	17
Cough	Never/almost never	94	19
Ear infections	Sometimes/almost always	315	63
Are antibiotics helpful for treating bacterial infections, viral infections, or both?	Bacterial	100	20
Do most cold, cough and flu illnesses get better faster with antibiotics?	Disagree or strongly disagree	120	24
Are most cough, cold and flu illnesses caused by bacteria or viruses?	Viruses	22	4
Demand-related items		Affirmative response^a	
If I expected an antibiotic, I am less satisfied with a doctor's visit if I do not receive an antibiotic.	Strongly agree or agree	150	30
I would rather give my child an antibiotic that may not be needed than wait to see if s/he gets better without it.	Strongly agree or agree	184	37
If a doctor does not prescribe an antibiotic when I think one is needed, I will take my child to another doctor.	Strongly agree or agree	137	27

^a Acceptable and affirmative responses were adapted from reference Huang SS et al.¹⁰

in urban areas, where health services are free for children.^{35,36}

Although the non-prescription sale of antibiotics is illegal in Mongolia,¹⁸ our results replicate findings from other studies in settings where pharmacies were the main source of antibiotics for self-medication.^{11,32,37} In contrast, countries where over-the-counter antibiotics sales are strictly regulated have much lower prevalence rates of self-medication with antibiotics, ranging from 1% to 4%.³¹ The widespread availability of antibiotics without a prescription has given rise to concerns about their increased usage.³⁸ The uncontrolled use of antibiotics can be harmful because of adverse drug reactions, masking of symptoms of infection, the development of chronic disease and superinfection. It is also associated with the emergence and spread of antimicrobial resistance.³⁹ These problems require appropriate measures by policy-makers to develop pertinent policies as well as to ensure their implementation.

Keeping antibiotics at home was another important factor linked to the non-prescription use of antibiotics for children.⁴⁰ Leftover antibiotics may be available because of over-prescription or patient non-compliance with a course of treatment. It is therefore essential for physicians to appropriately prescribe the correct dosage, properly instruct patients to complete antibiotic courses, and encourage them to discard any leftover drugs.⁷

We found that 49.7% (250/503) of the children in households that participated in this study used prescribed antibiotics, and 50.2% (107/213) of the children who were given antibiotics by their caregiver used both prescribed and non-prescribed antibiotics. This practice can be traced back to Soviet-influenced health care practices, which included the prescription of heavy medication and injection usage.⁴¹ Effective strategies to

reduce the use of antibiotics include the development of policies to support the judicious use of antibiotics, strengthen the control of antibiotics consumption in clinical practice, and implement educational campaigns for prescribers.^{42,43}

In line with another study,¹¹ we found that higher age of the index child was linked to a greater likelihood of parental non-prescription use. When younger children become ill, parents may

Table 3. Odds ratios for risk factors linked to the use of non-prescribed antibiotics for children among mothers (n=465)^a included in survey in Ulaanbaatar, Mongolia, 2009

Independent variables	Value	95% CI	OR	95% CI
Distance to family medical facility (%)				
≤10 minutes	55.3	50.6–60.1	1.0	–
11–20 minutes	25.5	21.6–29.9	1.1	0.6–2.0
>20 minutes	19.1	15.6–23.2	1.6	0.8–3.1
Keeping antibiotics at home (mean no.)	58.4	53.6–63.0	1.7	1.04–2.79
Mean age of mothers (years)	30.3	29.8–30.8	1.0	0.9–1.07
Mother's education > 10 years (%)	69.0	64.4–73.3	1.2	0.7–2.2
Mother having self-medicated with antibiotics (%)	34.8	30.4–39.5	6.3	3.8–10.5
Tendency to demand antibiotics (%)	27.0	23.0–31.5	2.4	1.4–4.0
Knowledge about URTIs and of antibiotics (mean score out of 10)	3.5	3.3–3.7	0.7	0.6–0.8
Wealth index score ^b	–0.01	–0.10–0.08	0.9	0.7–1.2
Mean age of index child (months)	28.7	27.2–30.3	1.02	1.01–1.04

CI, confidence interval; OR, odds ratio; URTI, upper respiratory tract infection.

^a For the logistic regression analysis, only responses from households in which the primary caregiver was the child's mother were included.

^b Calculated as described in Rutstein SO & Johnson K.²⁹

be more careful and concerned and more likely to visit a doctor, whereas when the children are older, parents may have more knowledge about common illnesses and be more inclined to administer medical treatments themselves.

In countries that restrict over-the-counter antibiotics sales, studies of antibiotic use and parental knowledge have shown that patient's expectations about antibiotics influence their prescribing behaviour.^{3,9,10,44} These findings mirror those in our study: parents' past experience, expectations and knowledge level appeared to influence non-prescription medication practices. In particular, caregivers who had medicated themselves with antibiotics were more likely to give antibiotics to their children without a prescription.

Caregivers also had misconceptions about self-medication. Most respondents in our study believed that antibiotics were needed for colds or flu, purulent nasal discharge and cough, even though these are typical manifestations of upper tract respiratory infections, most of which are caused by viruses. Past exposure was also an influence: if antibiotics were previously prescribed for an infection and the child later developed similar symptoms, than a caregiver was more likely to use antibiotics.⁴⁴ Educational interventions for caregivers regarding acute respiratory tract infections and antibiotic use can reduce the inappropriate use of antibiotics. Previous interventions have included the distribution of educational materials to hospitals and pharmacies, and the communication of information through the media.^{9,42,45}

The use of non-prescribed medications for children might be a consequence of poor oversight of community pharmacies, and the widespread availability of

medicines has probably contributed to an increase in this phenomenon. Interventions in other developing countries that have reduced over-the-counter antibiotic sales suggest, however, that this situation can be changed. In Chile, the prohibition of over-the-counter sales of antibiotics and a simultaneous public education campaign had an immediate and significant impact on the acquisition of antibiotics from pharmacies.¹ Similarly, sales of antibiotics without prescription in Zimbabwe decreased when the law against over-the-counter sales was strictly enforced. Fear of losing their license was a factor mentioned by some pharmacists for their compliance.⁴⁶

This study has several limitations. Caregivers' self-reports about non-prescription use may be subject to recall bias. To minimize this possibility we limited the recall period to the previous 6 months, and attached a list of the most commonly used antibiotics to the questionnaires. We also asked participants to show us the antibiotics they kept at home. Another limitation is that findings from this urban sample cannot be generalized to the whole population of Mongolia. This would overestimate the prevalence of non-prescription antibiotic use since this study was done in the capital city, where access to pharmacies and information are higher than in rural settings. To better study this issue, future research should focus on both urban and rural areas, and should involve both prescribers and pharmacists. Additionally, seasonal variations in illnesses should also be taken into consideration, because they may have affected disease patterns and antibiotic use. As shown in a multi-country study in Europe, the attitudes and behaviour of health personnel may also reinforce self-

medication with antibiotics,¹⁴ although these factors were not examined in the current study. In the future, questions relating to the prescription of antibiotics, the doctor-patient relationship, patient satisfaction and perceived accessibility of health care should be included in survey instruments. The information obtained with these items will result in a better understanding of the determinants of non-prescription antibiotic use in Mongolia. Despite these limitations, our findings shed light on the relative importance of demand-side determinants related with non-prescription antibiotic use for children and the interventions needed to prevent this misuse.

Conclusion

The present study suggests that caregivers in Ulaanbaatar commonly use non-prescribed antibiotics for children younger than 5 years of age. Some determinants of this practice were the child's age, caregivers' misconceptions about the efficacy of antibiotics for upper respiratory tract infections, caregivers' own experience with self-medication, and the availability of antibiotics at home. Interventions aimed at preventing the unsanctioned use of antibiotics should be directed primarily at reducing the availability of non-prescribed antibiotics and educating the general public to dispel misconceptions about the use of antibiotics. ■

Funding: This study was supported in part by the Asian Development Bank and a grant from the Ministry of Health, Labour and Welfare of Japan (no. 2010-Global Issues-002).

Competing interests: None declared.

ملخص

مسح عن استخدام أدوية الأطفال بدون وصفات طبية في مجتمع حضري في منغوليا

التي ظهرت على أطفالهم خلال الشهور الستة السابقة. واشتملت الأعراض الشائعة التي عولجت على السعال (84%)، والحمى (66%)، ورشح الأنف (65%)، والتهاب الحلق (60%). وكان أموكسيسيلين هو أكثر المضادات الحيوية استخداماً (58%). وكانت الصيدليات هي المصدر الرئيسي لمصرف الأدوية بدون وصفات (86%). وارتبط استخدام الأمهات للدواء بدون وصفات بالإبقاء على المضادات الحيوية في المنزل (نسبة الأرجحية: 1.7؛ وفاصلة الثقة 95%: 1.04 - 2.79)، والمعالجة الذاتية لمقدمي الرعاية (نسبة الأرجحية: 6.3؛ فاصلة الثقة 95%: 3.8 - 10.5)، وكبر عمر الطفل (نسبة الأرجحية: 1.02؛ فاصلة الثقة 95%: 1.01 - 1.04). أما مقدمو الرعاية الذين لديهم معرفة أفضل عن المضادات الحيوية فكان من الأرجح عدم إعطائهم

الغرض تقدير الانتشار والتعرف على محددات استخدام أدوية الأطفال بدون وصفات طبية في منغوليا. الطريقة أجري مسح المقطع العرضي المرتكز على المجتمع في عشر مناطق فرعية في مدينة أولان باتار، عاصمة منغوليا. واستخدم الباحثون استبيانا لجمع المعطيات من عينة عشوائية مكونة من 540 أسرة لدى كل منها طفل واحد على الأقل دون عمر خمس سنوات. وأجري اختبار التحوف اللوجستي لتحديد العوامل المرتبطة بسوء استخدام المضادات الحيوية. الموجودات من بين 503 من مقدمي الرعاية المشاركين في الدراسة، كوّنت الأمهات 71% منهم؛ استخدم 42.3% من مقدمي الرعاية (فاصلة الثقة 95%: 37.8 - 46.9) مضادات حيوية بدون وصفات طبية لمعالجة الأعراض

نطاق مقاومة البكتريا للمضادات الحيوية والمشاكل الصحية ذات الصلة، فإن نتائج هذه الدراسة لها آثار مهمة لتوعية العامة وتعزيز نظم بيع المضادات الحيوية في منغوليا.

الأطفال مضادات حيوية بدون وصفات طبية (نسبة الأرجحية: 0.7؛ فاصلة الثقة 95%: 0.6 – 0.8).

الاستنتاج كان معدل انتشار استخدام المضادات الحيوية لصغار الأطفال بدون وصفات طبية عالياً في أولان باتار. ونظراً لأن هذا يؤدي إلى اتساع

Resumé

Enquête sur l'utilisation d'antibiotiques non prescrits chez les enfants d'une communauté urbaine de Mongolie

Objectif Estimer la prévalence et identifier les déterminants de l'utilisation sans prescription d'antibiotiques chez les enfants en Mongolie.

Méthodes Une étude communautaire transversale a été menée dans 10 sous-districts d'Oulan Bator, la capitale de la Mongolie. Nous avons utilisé un questionnaire structuré pour collecter des données à partir d'un échantillon aléatoire de 540 ménages comptant au moins un enfant âgé de moins de 5 ans. La régression logistique a été utilisée pour identifier les facteurs associés à l'usage abusif d'antibiotiques.

Résultats Sur 503 adultes référents ayant pris part à cette enquête, 71% étaient des mères; 42,3% (intervalle de confiance de 95%, IC: 37,8–46,9) des soignants avaient utilisé des antibiotiques non prescrits pour traiter les symptômes de leur enfant au cours des 6 mois précédents. Les symptômes fréquemment soignés étaient la toux (84%), la fièvre (66%), l'écoulement nasal (65%) et le mal de gorge (60%). L'amoxicilline était l'antibiotique le plus communément utilisé (58%). Les pharmacies

étaient la principale source (86%) d'approvisionnement des antibiotiques non prescrits. L'administration d'antibiotiques sans ordonnance par les mères de famille était largement associée au fait que ces médicaments étaient conservés à domicile (rapport des cotes, RC: 1,7; IC de 95%: 1,04–2,79), à l'automédication par les soignants (RC: 6,3; IC de 95%: 3,8–10,5) et à l'âge plus élevé de l'enfant (RC: 1,02; IC de 95%: 1,01–1,04). Les adultes référents avec une meilleure connaissance des antibiotiques avaient moins tendance à administrer des antibiotiques non prescrits à leurs enfants (CR: 0,7; IC de 95%: 0,6–0,8).

Conclusion La prévalence de l'utilisation d'antibiotiques non prescrits chez les jeunes enfants était élevée à Oulan Bator. Cet usage abusif entraînant une augmentation de la résistance bactérienne aux antibiotiques, ainsi que des problèmes de santé connexes, nos résultats ont des implications importantes pour l'information du grand public et l'application de réglementations en matière de vente des antibiotiques en Mongolie.

Resumen

Estudio sobre el uso de antibióticos de venta sin receta en los niños en una comunidad urbana de Mongolia

Objetivo Calcular la prevalencia e identificar los factores determinantes para la prescripción de antibióticos de venta sin receta para niños en Mongolia.

Métodos Se realizó un estudio transversal de la comunidad en 10 subdistritos de Ulaanbaatar, la capital de Mongolia. Un cuestionario estructurado nos permitió recopilar los datos de una muestra aleatoria de 540 hogares, con al menos un niño menor de 5 años. Para identificar los factores asociados a la mala utilización de los antibióticos se empleó la regresión logística.

Resultados De los 503 cuidadores participantes, el 71% eran madres; el 42,3% (intervalo de confianza del 95%, IC: 37,8-46,9) de los cuidadores había utilizado antibióticos sin receta en los últimos 6 meses para tratar los síntomas de sus hijos. Los síntomas tratados más habituales fueron: tos (84%), fiebre (66%), mucosidad nasal (65%) y dolor de garganta (60%). El antibiótico más utilizado (58%) fue la amoxicilina. Los antibióticos de

venta sin receta se obtuvieron principalmente (86%) en las farmacias. El uso de fármacos de venta sin receta por parte de las madres se asoció de manera significativa a la permanencia de los antibióticos en el hogar (oportunidad relativa, OR: 1,7; CI del 95%: 1,04-2,79), la automedicación de los cuidadores (OR: 6,3; CI del 95%: 3,8-10,5) y a la edad del hijo mayor (OR: 1,02; CI del 95%: 1,01-1,04). Los cuidadores que poseían conocimientos más amplios sobre los antibióticos fueron menos proclives a administrar antibióticos sin receta a los niños (OR: 0,7; CI del 95%: 0,6-0,8).

Conclusión La prevalencia del uso de antibióticos sin prescripción médica en los niños más pequeños fue elevada en Ulaanbaatar. Puesto que dicho uso conlleva un aumento de la resistencia bacteriana a los antibióticos y problemas relacionados con la salud, nuestros resultados tienen implicaciones importantes para la educación pública y para la aplicación de las normativas sobre la venta de antibióticos en Mongolia.

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