Over-counter Medications Used by Mothers for under five children Fever- Masaad Village-Gazera State-Sudan

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المستخلص:

المقدمة : الحمى من أكثر الأعراض شيوعا عند الأطفال عامة وخاصة في الفئة العمرية لأقل من خمس سنوات، وهي دوما تشغل اهتمام مقدمي الرعاية الصحية لهم وقبل ذلك الآباء والأمهات. الهدف من هذه الدراسة معرفة الأدوية الأكثر استخداما لمعالجة الحمى عند هذه الفئة العمرية وهي الأطفال دون سن الخامسة.

الادوات والطرق:

دراسة وصفية مستعرضة اجريت في ستة اشهر وشملت 332 من الأمهات اللائي لديهن أطفال أعمارهم أقل من الخمس سنوات. المتغيرات التي بحثت هي : متي يتم استخدام خافضات الحمى antipyretics,اكثر خافضات الحمي استخداما, حساب الجرعة العلاجية , المستخدمة لاعطاء مضادات الحمي(الشرابات). جمعت البيانات بواسطة استبيان حوى على مجموعة من الاسئله المغلقة وحللت بواسطة برنامج الحزمة الإحصائية للعلوم الاجتماعية (SPSS) اصدار 15

النتيجة: اغلبية الامهات يعتبرن الحمي العالية والمنخفضة من دواعي استخدام علاجات الحمي (96.6%) ، واكثر الأدوية استخداما هي: الاسبرين (اسادين) (56.8%) يتبعه البنادول (براسيتامول)حبوب ,شراب,لبوس واخيرا الايبوبروفين شراب 13.5%,13.5%,8.1%,8.1%علي التوالي . اكثر من نصف الامهات لا يثقن في اعطاء اكثر من علاج للحمي في نفس الوقت ولكن يغيرن العلاج اذا لم يتحسن الطفل. 21% من الامهات يعطين الدواء حسب التعليمات . ايضا كل الامهات اللاتي يستخدمن الحبون يكسرنها باسنانهن.اغلب الامهات يواصلن في اعطاء العلاج اعتمادا علي الحالة الصحية للطفل وليس حسب التعليمات . 27.1% يدركن مضاعفات علاجات الحمي وهي تاثيرها علي الكلي.

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الخاتمة: خلصت الدراسة بانه يوجد استخدام خاطئ لعلاجات الحمي مما يؤدي الي مضاعفات تؤثر علي صحة الاطفال الاقل من خمس سنوات

ABSTRACT

Introduction:

Fever in Fewer than five children is one of the most common clinical symptoms managed by pediatricians and other health care providers and a frequent cause of parental concern. The overall aim was to study the over-the counter medications used by mother for under five children fever.

Methodology:

Descriptive, cross – sectional community based study, was conducted in Masaad Village, Barakat locality at Gazera State during six months. 332 mothers l participated in this study who had children aged less than five years. Variables under study were; indication of administration of antipyretics, the common antipyretic used, calculation of dose, instrument used for syrup antipyretics and side effects of medications. The data were collected by using a standardized questionnaire and analyzed by SPSS software version 15.

Results:

Majority of respondents used antipyretic for both high and low grade fever (94.6%). The commonest drug used was Aspirin (Asadin), that was used by more than half of the respondents (56.8%), followed by Paracetamol tablets, syrup, suppositories, Ibuprofen syrup 13.5%,13.5%,8.1%,8.1% respectively. More than half of respondents never accepted a combination of two medications. Only 21% of mothers used the prescribed method of administering oral antipyretic. All mothers used to crash the antipyretics tablet by their teeth. The tablet by their teeth. 86% of mothers continued the medication according to status of the baby's illness rather than as it was prescribed. 27.1% of respondents knew that the antipyretic had side effects. 76% of the mothers believed that kidney impairment was the commonest side effect of antipyretics.

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Conclusion:

The study revealed that there are excessive and widespread uses of antipyretics by mothers to their children at ages less than five years, which could be harmful for their children.

Introduction

Fever is a common symptom of the disease in under five years children, affecting around 70% preschool children annually, it can be miserable for the child, causes anxiety for the parents and it has financial burden on health services. Up to 40% of preschool children checked by health providers for a febrile illness each year. Although many consider the fever caused by the interaction of the body as a result of it infection or inflammation, so it shouldn't be treated. The use of antipyretics is widespread. The reasons for treating fever are contested and not necessarily evidence- based, but includes minimizing discomfort, controlling the fever, and preventing febrile convulsions (1).

In spite of the beneficial effects of fever the parents used to treat low grade fever of under five children with drug. Many children tolerate low grade fevers up to 39.0 ºC with remarkable ease. There is consensus in the literature to reduce body temperature as they approach 40 ºC (moderate fever) as the immunological benefits of fever are reduced at 40.0ºC. Approximately 15% of all parents give supra therapeutic doses of acetaminophen or ibuprofen Caregivers who understand that the dosage of antipyretics should be based on weight rather than the age or the height are much less likely to give an incorrect dose (2).

The most common used drugs are paracetamol (acetaminophen) and ibuprofen. Because these drugs can be given at alternating intervals some doctors told the parents to use a combination of both drugs during the course of a febrile illness (3).

The National Institute for Health and Clinical Excellence review of feverish illness children found no evidence that reducing temperature shortens the duration of illness or reduces complications, such as febrile convulsions. In fact, reducing fever may prolong illness. In a trial of paracetamol in 50 children

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with *Plasmodium falciparum*, the clearance time of the malaria parasite was 16 hours longer in children treated with quinine and paracetamol than in those treated solely with quinine (3).

According to the 2003 clinical policy of the American College of Emergency Physicians (ACEP), response to antipyretic medication does not change the likelihood of a child having a serious bacterial infection and should not be used for clinical decision making. (4)

Paracetamol (called acetaminophen in united states of America) is a widely used minor analgesic and antipyretic (5).

The recommended fever-reducing medications for Under five are acetaminophen and ibuprofen. However, ibuprofen should only be given to children older than 6 months, according to the American Academy of Pediatrics (6). The official Journal of American Academy (AAP) of pediatrics has reported that combined prescribing is widespread and raised concerns about the parent in the community using both these medicines. Using multiple drugs can cause confusion with dosing and may lead to drug using errors. The AAP emphasizes the importance of good education for the parents regarding dosages and on not using antipyretics solely for reducing fever (7). incorrect dosing of antipyretics and frequency is common, reports of the parents overdosing febrile children increased by 21% from 1987 to 1999 (2).

The overall aim of the study was to study the medications used by mothers at home for treating childhood.

Methodology

This descriptive cross –sectional community based study, conducted in Masaad village, Barakat locality, Gezire State. The Study population was composed of 332 mothers and had at least one child under five years of age. The sample size was calculated based on total population. A Standardized questionnaire was used for data collection. The collected data were analyzed by using Statistical Package for Social Sciences (SPSS) version 15. An ethical clearance was obtained from the Institutional Review Board of El Neelain University, Faculty of Medicine and Health Science. Permission was obtained from the popular committee of the village. Verbal consent was obtained

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from each mother prior to the interview after thorough explanation of the aims and methods of the study.

Results

Table (1) Background characteristics of the study population:

Characteristics		Frequency	Percentage
Age in years	Less than 20 years old	33	9.9
	20-29 years	128	38.6
	30-39 years	147	44.3
	40-49 years	24	7.2
	Total	332	100.0
Educational level	Illiterate	134	40.4
	Informal education	2	.6
	Primary school	66	19.9
	secondary school	72	21.7
	University	55	16.6
	Above university	3	.9
	Total	332	100.0
Current Occupation	Employee	20	6.0

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	Private sector	3	.9
	Farmer	53	16.0
	Grazing	1	.3
	Retired	2	.6
	Housewife	251	75.6
	Other	2	.6
	Total	332	100.0

Table (2): Socio-economic characteristics of the study population:

Characteristic		Frequency	Percentage
Presence of the haspund			
	Yes	225	67.8
	No	107	32.2
	Total	332	100.0
Number of under five children	One child	141	42.4
	Two children	138	41.6
	Three children	46	13.9
	More than three	7	2.1
	Total	332	100.0

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Coverage by health insurance	Yes	62	18.7
	No	270	81.3
	Total	332	100.0
Annual incom	Low income	285	85.8
	Moderate income	19	5.7
	High income	28	8.4
	Total	332	100.0

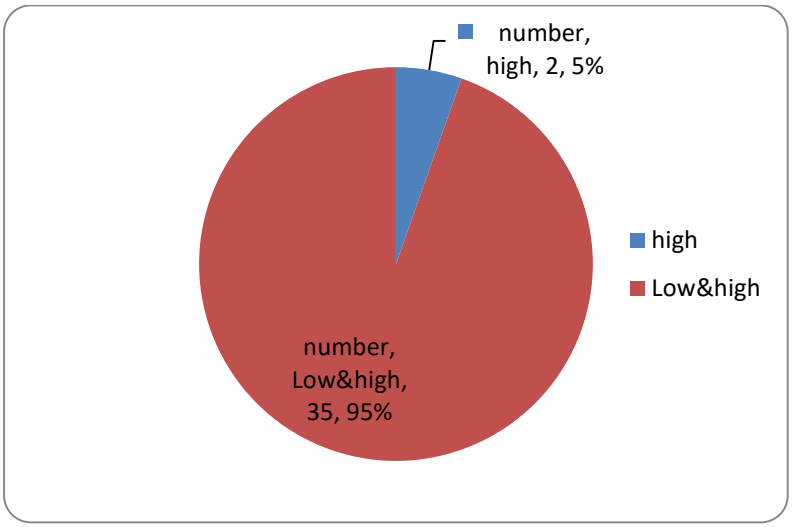

Figure (I): Degree of fever need antipyretic known by by mothers

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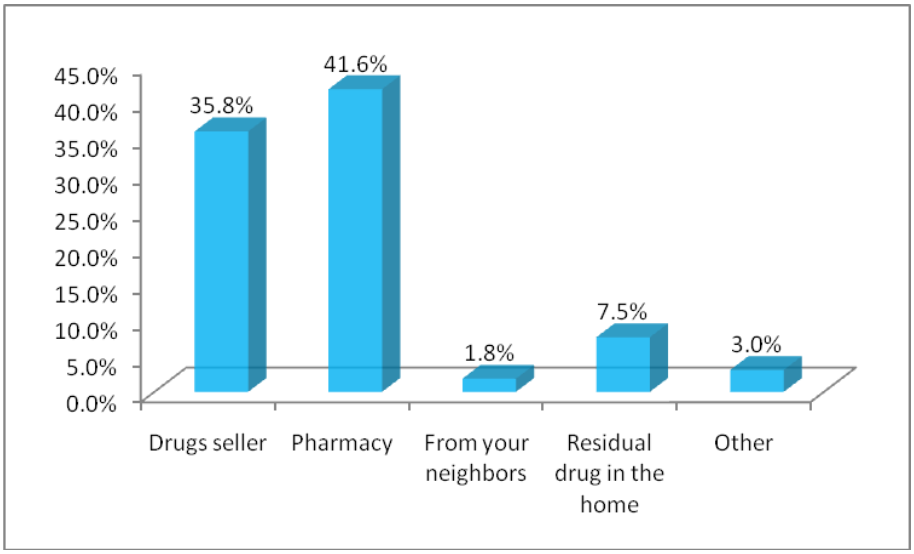
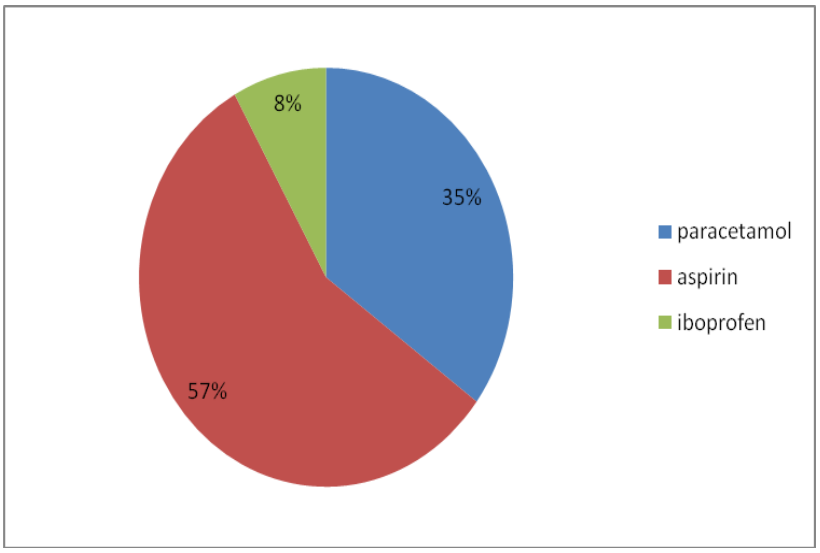


Figure (II): Source of drug



Figur(III): Antipyretic used by mothers

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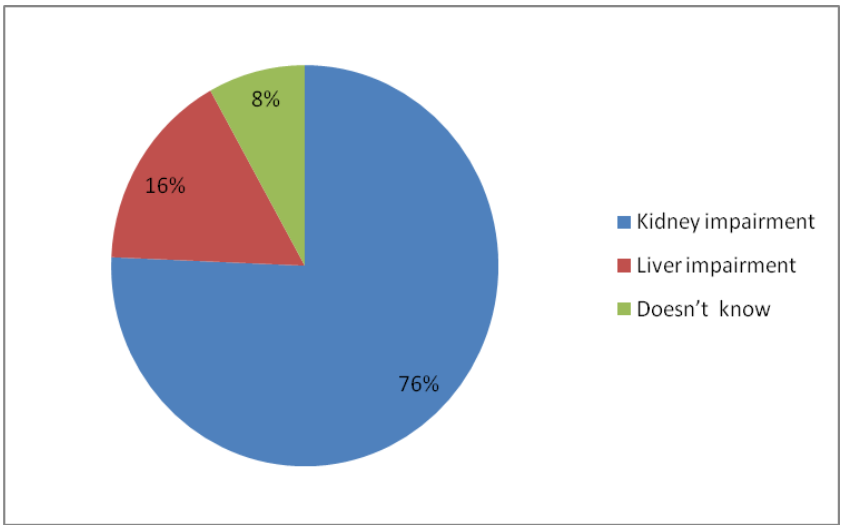

Figure IV Side effects of antipyretics identified by mothers

Table (3): Relation of the level of knowledge of mothers about the normal body temperature of the child and their educational level

Level of knowledge		Educational Level						Total
		Illiterate	Primary school	secondary school	University	Above university	Informal education	
Yes	count	1	5	14	32	0	0	52
	%	.7	7.6	19.4	58.2	0.0	0.0	15.7
No	Count	133	61	58	23	3	2	280

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	%	99.3%	92.4%	80.6%	41.8%	100.0%	100.0%	84.3
Total	count	134	66	72	55	3	2	332
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0

P value = 0.000

Table (4): Types of medications used by mothers in relation to their educational level.

Medicine used		Educational level						Total
		Illiterate	Primary school	secondary school	University	Above university	Informal education	
Antipyretic	count	75	45	58	47	2	2	229
	%	32.8%	19.7%	25.3%	20.5%	.9%	.9%	100.0%
Antibiotic	count	0	1	1	2	1	0	5
	%	.0%	1.8%	1.5%	3.8%	33.3%	.0%	1.9%
Antipyretic and antibiotic	count	3	5	6	3	0	0	17
	%	3.4%	8.9%	8.8%	5.7%	.0%	.0%	6.3%
Antimalarial	count	3	1	2	0	0	0	6
	%	3.4%	1.8%	2.9%	.0%	.0%	.0%	2.2%
Others	count	7	4	1	1	0	0	13
	%	8.0%	7.1%	1.5%	1.9%	.0%	.0%	4.8%
Total	count	88	56	68	53	3	2	270
	%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

P value=0.082

Discussion

In this descriptive cross –sectional community based study, conducted in Masaad village, Barakat locality, Gezire State, the mean age of participants was 29.37 with standard deviation 6.26. Common medications used were antipyretics and there is no significant relationship with their educational level (p value = 0.082). The commonest antipyretic used by the respondents was aspirin (56.8%). This can explain by the fact that Aspirin is easily accessible and cheap it is doubtful if this mother s are familiar

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with the serious side effects of aspirin on their under five years children. In contrast only 0.5% of the Italian mothers used Aspirin for their babies if they had fever On the other hand, this study revealed that 13.5% of respondents used Paracetamol less commonly while 96% of the Italian mothers used paracetamole for their baby (8), and the majority of Tanzanian children (72.1%) received mainly Paracetamol (9).

More than half of respondents refused to use the the combination of Ibuprofen and Paracetamol, stating that they were afraid of it is toxicity. Mothers thought about the toxicity of combination and not medication itself (aspirin); this is consistent with what has been mentioned in National Institute for Health and Clinical Excellence guide line (NICE), which advises against combining ibuprofen and Paracetamol to treat fever in children. The use of the alternative drug may be considered if the child does not respond to the first drug. It is important that the parents should read the dosage information carefully. With over-the-counter medicines, it is also important that the ingredients are studied to ensure that children do not receive two doses of the same drug from different preparations (10).

81% of the respondents did not use the standard method of giving the drugs; this can result in over or sub-dose. The interviewed mothers were not concerned with the explanation of the doctor or pharmacist regarding the proper dosing. Mothers believed that antipyretics had side effects when they were used improperly. Kidney impairment was the commonest side-effect identified by the interviewed. In fact over dose of Paracetamol produces liver damage which may be fatal and rarely renal failure develops (11). In the United States acetaminophen toxicity has replaced viral hepatitis as the most common cause of acute hepatic failure and is the second most common cause of liver failure requiring transplantation. On the other hand the US Food and Drug Administration (FDA) issued a safety announcement in August 2013 advising that anyone who has a skin reaction, such as the development of a rash or blister, while taking acetaminophen should stop using the drug and seek immediate medical care (12).

There is significant relationship between level of knowledge of the interviewed mothers about the normal body temperature of the child and their educational level (P value 0.00).

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Conclusion

Mothers used antipyretics to their under five years children even in cases of low grade fever.The commonest antipyretic used was Aspirin which is no longer used due to its association with Reye syndrome. Kidney impairment was the commonest adverse effect of antipyretic which brought from the pharmacy without prescription.

REFERENCES

1. Hay AD.et al Paracetamol plus ibuprofen for the treatment of fever in children

(PITCH): randomizedcontrolledtrial.BMJ 2008; 337 doi:http://dx.doi.org/10.1136/bmj.

a1302 available at: http://www.bmj.com/content/337/bmj.a1302.accessed 24/9/2013.

2. Janice E. Sullivan, Henry C. Farrar. Clinical report—fever and antipyretic use in children available at http://pediatrics.aappublications.org/content/127/3/580.full.html on 22/10/13.

3. Banks .T, et al. Managing fever in children with a single antipyretic. Available at www.nursingtimes.net/.../190213-Managing-fever-in-children-with-a-sin. Accessed on 11/11/13

4. Harnden .Anthony: Antipyretic treatment for feverish young children in primary care: BMJ 2008; 337 doi: http://dx.doi.org/10.1136/bmj.a1409 (Published 2 September 2008) available at http://www.bmj.com/content/337/bmj.a1409 access on 20/6/2013.

5. John W Graneto. Emergent Management of Pediatric Patients with Fever: medscape website availableathttp://emedicine.medscape.com/article/801598-overview#aw2aab6b3.april2013 accessed August 25.2013.

 online ISSN 1858-6279 ISSN 1858-6155

6. Greenstein, Ben. 2006 Trounce's clinical pharmacology for nurses, anti inflammatory drugs: treatment of arthritis and gout .the salicylate..17th edition, Churchill Livingstone. Philadelphia.

7. Hoven .Maria .children's fever and baby aspirin. August 2013.avilable at

http://www.livestrong.com/article/516286-childs-fever-and-baby-aspirin/

8. Chiappini et al. BMC Pediatrics 2012, 12:97Parental and medical knowledge and management of fever in Italian pre-school children. http://www.biomedcentral.com/1471-2431/12/97 22l11/2013.

9. HD Mazigo. Home treatments with antipyretics and antimalarials given to under fives with fever in Mwanza, north-western Tanzania .Tanzania Journal of Health Research Volume 13, Number 2, April 2011 .available at http://www.ajol.info/index.php/thrb/article/view/62989. Accessed on 11/11/2013

10. Advice for managing child fever NHS March 1 2011avialble at

http://www.nhs.uk/news/2011/03March/Pages/advice-for-managing-child- fever.aspx ..accessed on 22/9/2013.

11.Greenstein, Ben. 2006 Trounce' s clinical pharmacology for nurses, anti inflammatory drugs: treatment of arthritis and gout. the salicylate.17th edition, Churchill Livingstone Philadelphia

12-. Susan E Farrell. et alAcetaminophen Toxicity.avilable at http://emedicine.medscape.com/article/820200-overview#a0101 access on 6/12/2013

 online ISSN 1858-6279 ISSN 1858-6155