114 - PERCEPTIONS AND ATTITUDES OF PETROPOLIS-RJ PEOPLE OVER MANAGEMENT OF MEDICINES' WASTE.

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INTRODUCTION

Brazil is a major consumer of medicines, presenting a typical developed country profile. The country is the sixth largest pharmaceutical market in the world, which runs approximately 30 billion dollars per year (IMS, 2012). Interestingly, million Brazilian citizens still do not have the correct access to drugs, showing a clear imbalanced domestic consumption (Garrido, 2009). Moreover, between the portion of society that has access to pharmacological therapy, the expired and unexpired medicines remains are notorious (Eickhoff, Heineck and Seixas, 2009).

In order to reduce leftover drugs, the federal government issued Decree Nb. 5.775/2006, which redefined the fractionated sales of medicines. However, for some drugs remains, there are two basic targets: reuse or proper disposing. In spite of technical regulations and the National Policy on Solid Waste (Law 12.305/2010), a specific law for disposing, collection, transportation and disposing of household waste of expired or unused are not in the national legal framework (Eickhoff, Heineck and Seixas, 2009). As a consequence of the lack of legislation, it is estimated that about 20% of drugs prescription are dropped in the domestic sewage or domestic waste (Cunha, Zorzatto and Castro, 2002).

Several studies have shown the presence of pharmaceuticals in water and soil. These studies analyzed the social and environmental problems associated with medications that were not properly disposed. Admittedly, this problem also affects other countries (Bila and Dezotti, 2003; Zuccato et al, 2006; Heineck and Ribeiro, 2010).

The consequences of these remaining drugs for the environment are not yet fully known. However, the presence of medicines groups such as antibiotics and hormones in water have already been linked with a potential effect on human health as well as the ecosystem damages. This contamination is a result of improper disposing and also the excretion of metabolites that are not removed by sewage treatment (Zuccato et al, 2005; Zuccato et al, 2006; Falqueto & Klingerman, 2013).

About the reuse, it should be noted that taking drugs without prescription, either intentionally or by accident, causes health risks (Garrido, 2009). So, the improper use of medicines disposed incorrectly can lead to a variety of effects such as intoxications and death (Oliveira et al, 201 0).

For these reasons, it is necessary to recognize the perceptions and attitudes of the population on management of waste medicines. This study aimed at identifying the type of household disposing of medicines, so this way can be based guidelines for a program of collection of such waste.

METHODOLOGY

It is cross-sectional study, in which the data collection instrument was a questionnaire with 13 questions. The questions are related to general information of residents, such as age, education level, family income, and issues relating to the use and how to dispose medical waste. People were also inquired about the knowledge of purchasing and fractionated using.

The samples consisted of 102 residents of the city of Petropolis, in Rio de Janeiro, representatives of households in different neighborhoods. The interviewees signed an informed consent form in the manner established by resolution CNS 196/96 (2012 version).

We used the Microsoft Excel® to build the database and descriptive statistics.

RESULTS

Nearly half of the 102 interviews (73 women and 29 men) were aged 20 to 30 (Table 1).

Table 1: Distribution of participants by age group

Age	N	%
Less than 20 years	6	5.9
20 to 30	50	49.0
31 to 40 years	15	14.7
41 to 50 years	20	19.6
51 to 60 years	10	9.8
Over 60 years	1	1.0
Total	102	100.0

The educational levels are shown in Table 2.

Table 2: Distribution of participants by education.

Education	N	%
Literate	5	4.9
Complete primary	12	11.7
School graduate	63	61.7
University Graduation	22	21.6
Total	102	100.0

Most participants (84) lived with two or more people, with only 7 living alone (Table 3).

Table 3: Distribution of participants by the number of household members.

Household members	N	%
Live alone	7	6.9
2 people	11	10.8
3 people	45	44.1
4 people	19	18.6
5 or more people	20	19.6
Total	102	100.0

In regard to family income, the majority earns up to 5 minimum wages (Table 4).

Table 4: Distribution of participants by family income.

Family income	N	%
Up to 2 minimum salaries	26	25.5
3-5 minimum salaries	45	44.1
6-8 minimum salaries	17	16.7
Over 8 minimum salaries	14	13.7
Total	102	100.0

A representative number of interviewed people know the proper way to dispose of medications (93% of responses), and only 7 people disposing through medical waste (Table 5).

Table 5: Disposing of medicines.

Method of Disposing	N	%
Household waste	86	84.3
Domestic sewage	9	8.8
Hospital waste	7	6.9
Total	102	100 0

Three quarters of participants stores leftover medication after use (Table 6).

Table 6: Destination of medicines after use.

Destination	N	%
Store	77	75.5
Disposing	14	13.7
Donate	8	7.8
Returns	3	2.9
Total	102	100.0

Although almost half of the participants know the fractionated sales (42.1%), only 18.9% have done this type of purchase.

From the 102 participants, 96 claimed that they have not received instruction regarding disposing of medicines. For six who were instructed, the knowledge was given by the health worker, teacher, nurse, pharmacist, relative; television ad.

Forty-eight participants make use of any medication continuously, 31 said they did not make use of any medication and 23 make occasional use of any medication.

In Table 7 it can be seen that the vast majority at all levels of education is the disposing of waste medicines in the household trash. However, significant percentage of participants, especially at the lowest level of education, ruled in the sewer.

Table 7: Form of disposing of medicine by schooling.

Schooling	Form of Disposing						
	Domestic waste		Domestic sewage		Hospital waste		Total
	N	%	N	%	N	%	N
Literate	4	80.0	1	20.0	0	0.0	5
Basic Education	12	100.0	0	0.0	0	0.0	12
High School	53	84.1	8	12.7	2	3.2	63
Higher Education	17	77.3	0	0.0	5	22.7	22
Total	86		9		7		102

DISCUSSION

In Brazil the lack of specific legislation on disposing of medicines has a direct impact on the orientation and awareness. The disposal is inappropriate, causing environmental pollution, leaving medicines into sewer and also trash (Falqueto and Klingerman, 2010). Among participants in the household garbage disposing is the most common which can cause problems especially in cities that do not have regular solid waste depositories. The large number of disposing in trash was also observed by Ribeiro and Heineck (2010), where 57% of participants had this practice. However, the percentage of people that use the sewer to deposit pharmaceuticals is impressing (Table 5), especially at the lowest level of education, perhaps because they do not realize that water is a limited resource.

Notably, the education level of the participants was higher than that found among the Brazilian population (IBGE, 2010), due to the participation of undergraduate students. However, it could lead to a bias research has determined that there is no great variation in the form of discharge with increasing education (Ribeiro and Heineck, 2010). It was surprising the number of disposing through hospital waste (Table 7).

However, this is related to responses of professionals working in these health units. Anyway, without a proper chain of reverse logistics, to submit forms and ideal locations for recovery drug's residues, it increases the possibility of finding pharmaceuticals in water and soil (Bila and Dezotti, 2003; Zuccato et al, 2006). The ANVISA RDC 44/09 provides some rules for the collection of expired medications. In addition to that, some initiatives pharmaceutical and retailers have already occurred, but were few. However, the theme is the agenda of future federal regulations (Favoretto, 2011).

It might be observed that a leftover medicine after treatment is a reality because most people keep medicines after using (Table 5). The practice of keeping the drug after its use is common in our country as was observed in a study conducted in Minas Gerais (Bueno et al, 2009). This study showed that the drugs that kept families at home, 18.5% were overcome even with a collection program established by the Family Health Program.

Remainder of medicines after treatment still occurring despite the existence of Decree No. 5.775/2006 opens the possibility of fractionated sales of medicines. The vast majority of interviewees unaware of the possibility of buying and never bought this way. This contributes to increase the amount of drug residues due and not due in the households.

CONCLUSION

It was found disposing of medicines is mostly done improperly, irrespective level of education or age. Such attitudes may be related to the lack of specific legislation. Furthermore, the lack of knowledge about fractionated sales of medicines leads to leftovers in these households after treatment.

With the establishment of clear rules for disposing, collection, transportation and disposing of waste, labeling actors related to the production and sales of drugs can be established awareness campaigns that should have as precursor's health professionals.

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PERCEPTIONS AND ATTITUDES OF RESIDENTS OF PETRÓPOLIS-RJ ON MANAGEMENT OF WASTE MEDICINES

ABSTRACT

Brazil is a major consumer of drugs, but there is a clear imbalance in the domestic market. Millions of citizens have no access to drug treatment and those who consume, the expired and unexpired medicines remains are notorious. This table associated with the lack of specific legislation on the disposing, collection, transportation and destination of household waste medicines, has caused contamination of water and soil by pharmaceuticals. These reasons justify the need to recognize the attitudes of the population regarding the disposing of household medicines. Questionnaires were given to representatives of 102 households in the city of Petrópolis-RJ. It was found that the disposing of drugs is mostly done improperly, regardless of age or level of education and lack of knowledge about fractionated sales these drugs leads to leftovers after treatment. Certainly, the establishment of clear rules on the subject, combined with awareness campaigns would have great impact on this dangerous context.

KEYWORDS: waste management; environmental contamination; pharmaceutical care.

PERCEPTIONS ET ATTITUDES DES HABITANTS DE PETRÓPOLIS-RJ SUR LA GESTION DES DÉCHETS DE DROGUES

RÉSUMÉ

Le Brésil est un grand consommateur du médicaments, mais il ya un déséquilibre évident dans le marché intérieur. Des millions de citoyens n'ont pas accès à un traitement médicamenteux et parmi ceux qui consomment, c'est commun une quantité de médicaments plus grand qui la necessaire. Cette cadre associée à l'absence de législation spécifique sur l'élimination, la collecte et le transport des médicaments domicilier residuel, il a causé la contamination des eaux et des sols par les produits pharmaceutiques. Ces raisons justifient la nécessité de reconnaître les attitudes de la population concernant l'élimination des médicaments domicilier. Des questionnaires ont été remis à 102 représentants des maisons dans la ville de Petrópolis-RJ. Il a été constaté que l'élimination des médicaments est, dans sa majorité, effectué de façons incorrect, peu importe le niveau d' éducation ou l'âge et l'absence de connaissances sur la vente de fractions de ces médicaments amene des résidus après le traitement. Surement, établir de règles claires en cette matière, combinées avec des campagnes de sensibilisation aurait un grand impact sur ce cadre dangereux.

MOTS-CLÉS: gestion des résidus; contamination de l'environnemen; soins pharmaceutiques.

PERCEPCIÓN Y ACTITUDES DE HABITANTES DE PETRÓPOLIS-RJ SOBRE EL USO DE LOS RESÍDUOS DE MEDICAMENTOS

RESUMEN

El Brasil es un gran consumidor de medicamentos, pero hay un claro desequilibrio en el mercado interno. Millones de ciudadanos no tienen acceso al tratamiento farmacológico y entre los que consumen la sobra de medicamentos es común. Este cuadro asociado a la carencia de legislación específica sobre la eliminación, acopio, transporte y envío de los residuos domiciliares de medicamentos, han llevado a la contaminación del agua y del suelo por productos farmacéuticos. Tales motivos justifican la necesidad de reconocer las actitudes de la población cuanto al descarte de los medicamentos domiciliares. Fueron aplicados cuestionarios para representantes de 102 domicilios del municipio de Petrópolis-RJ. Se pudo constatar que la eliminación de medicamentos en su mayoría es realizada de forma inadecuada, independientemente del nivel de instrucción o edad y que la falta de conocimiento sobre la venta fraccionada de medicamentos lleva las sobras de estos después del tratamiento. Podemos concluir, el establecimiento de reglas claras sobre el tema, asociadas a campañas de cuidado sobre el tema tendría un gran impacto sobre este peligroso cuadro.

PALABRAS-CLAVE: manipulación de residuos; contaminación ambiental; asistencia farmacéutica.

PERCEPÇÃO E ATITUDES DE MORADORES DE PETRÓPOLIS-RJ SOBRE O MANEJO DOS RESÍDUOS DE MEDICAMENTOS

RESUMO

O Brasil é um grande consumidor de medicamentos, porém há um claro desequilíbrio no mercado interno. Milhões de cidadãos não têm acesso ao tratamento farmacológico e entre os que consomem a sobra de medicamentos é comum. Este quadro associado à carência de legislação específica sobre o descarte, recolhimento, transporte e destinação dos resíduos domiciliares de medicamentos, tem acarretado contaminação da água e do solo por produtos farmacêuticos. Tais motivos justificam a necessidade de reconhecer as atitudes da população quanto ao descarte dos medicamentos domiciliares. Foram aplicados questionários para representantes de 102 domicílios do município de Petrópolis-RJ. Pôde-se constatar que o descarte de medicamentos em sua maioria é realizado de forma inadequada, independentemente do nível de instrução ou idade e que a falta de conhecimento sobre a venda fracionada de medicamentos leva a sobras destes após o tratamento. Certamente, o estabelecimento de regras claras sobre o tema, associadas a campanhas de conscientização teriam grande impacto sobre este perigoso quadro.

PALAVRAS-CHAVE: manejo de resíduos; contaminação ambiental; assistência farmacêutica.