

**Strategy for the promotion of rational drug use in Youth and Adult Education****Estratégia para promoção do uso racional de medicamentos na Educação de Jovens e Adultos****Estrategia para promover el uso racional de medicamentos en la Educación de Jóvenes y Adultos****Received: 25/07/2019****Approved: 18/11/2019****Published: 17/02/2020****Danielle da Nóbrega Alves<sup>1</sup>****David Henrique Xavier Barbosa<sup>2</sup>****Maria Rejane Cruz de Araújo<sup>3</sup>****Maria Laura Pimentel Andrade da Rocha<sup>4</sup>****Paula Tayanne Pontes de Souto<sup>5</sup>****Susana Thaís Pedroza Rodrigues da Cunha<sup>6</sup>****Marcela Bandeira de Mello Almeida<sup>7</sup>****Gisely Maria Freire Abílio<sup>8</sup>****Ricardo Dias de Castro<sup>9</sup>**

This study aimed to describe health education actions and analyze the pharmacotherapeutic profile of students from youth and adult education. This is a study that analyzes the contributions of educative health actions focused on a class Cycle I, consisting of 24 students, aged 21 to 62 years, enrolled in an educational public institution in the city of João Pessoa, Paraíba, Brazil. In characterizing the pharmacological profile, five drug interactions were identified among the drugs used by them, especially those with no prescription, indicating the occurrence of self-medication. The classes of drugs most used by the group were: anti-hypertensive, benzodiazepines, analgesics, non-steroidal anti-inflammatory drugs and proton pump inhibitors. The activities performed in health education actions were centralized on self-care, focusing the impact on the quality of life of these students.

**Descriptors:** Health promotion; Prescription drug overuse; Health education.

Este estudo teve como objetivo descrever ações de educação em saúde e analisar o perfil farmacoterapêutico de alunos da modalidade de educação de jovens e adultos. Trata-se de um estudo que analisa as contribuições das ações educativas em saúde voltadas para uma turma do Ciclo I, composta por 24 alunos, com idade entre 21 a 62 anos, matriculados em instituição pública de ensino do município de João Pessoa, Paraíba, Brasil. Na caracterização do perfil farmacoterapêutico foram identificadas cinco interações medicamentosas entre os medicamentos por eles utilizados, principalmente aqueles isentos de prescrição, apontando a ocorrência da prática da automedicação. As classes de medicamentos mais utilizadas pelo grupo foram: anti-hipertensivos, benzodiazepínicos, analgésicos, anti-inflamatórios não esteroidais e inibidores da bomba de prótons. As atividades realizadas nas ações de educação em saúde foram centralizadas no autocuidado, com o foco no impacto da qualidade de vida desses alunos.

**Descritores:** Promoção da saúde; Uso excessivo de medicamentos prescritos; Educação em saúde.

Este estudio tuvo como objetivo describir acciones de educación en salud y analizar el perfil farmacoterapêutico de alumnos de la modalidad de educación de jóvenes y adultos. Se trata de un estudio que analiza las contribuciones de las acciones educativas en salud dirigidas a una clase del Ciclo I, compuesta por 24 alumnos, con edad entre 21 y 62 años, matriculados en institución pública de enseñanza del municipio de João Pessoa, Paraíba, Brasil. En la caracterización del perfil farmacoterapêutico se han identificado cinco interacciones medicamentosas entre los medicamentos que utilizan, principalmente aquellos exentos de prescripción, señalando la existencia de la práctica de la automedicación. Las clases de medicamentos más utilizadas por el grupo fueron: antihipertensivos, benzodiazepínicos, analgésicos, antiinflamatorios no esteroidales e inibidores de la bomba de protones. Las actividades realizadas en las acciones de educación en salud fueron centralizadas en el autocuidado, con el enfoque en el impacto de la calidad de vida de esos alumnos.

**Descritores:** Promoción de la Salud; Uso Excesivo de medicamentos recetados; Educación en salud.

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## INTRODUCTION

The rational use of medicines, a relevant topic discussed by the World Health Organization (WHO), is one of the key elements of health promotion policies, with emphasis on strategies related to the provision, therapeutic efficacy and safety of medicines. The discussion on the rational use of drugs ranges from the appropriate prescription to the proper use by the patient<sup>1</sup>.

The population does not have much knowledge about the risk of inappropriate use of drugs and, then, is subject to the inappropriate prescriptions or makes use of them irrationally. Therefore, it is important to control the production and distribution of drugs and better training of prescribers. In addition, it is essential that the community is educated about the use of drugs to prevent indiscriminate self-medication, the irrational use of natural substances and improper storage, consolidating a more conscious use of medicinal substances<sup>2</sup>.

Further accentuating the problem of self-medication, there is the pharmaceutical industry with its sales strategies, encouraging inappropriate use and intensifying the process of medicalization of society globally. In Brazil, the situation is even more worrying, as the country presents poor access to health services, high prevalence of drug consumption and poor adherence of the population to service and search to prescriptions<sup>3</sup>.

The indiscriminate sale of medicines and self-medication in Brazil make medicines occupy the first place as the cause of poisoning (30.7%). The main cause of this problem is the home storage and easy access of children to these substances. Therefore, measures suggested by experts to minimize the risk of this type of accident in home are not to store medicines at home, after the treatment<sup>4</sup>.

According to the National Poisoning Information System (SINITOX), in Brazil, in 2016, at about 27,000 cases of poisoning by drugs were identified, with the occurrence of 52 deaths. These data underscore the need for educational activities around the subject<sup>5</sup>.

Educational strategies aimed at health promotion, conducted from a dialogical approach, value knowledge of learners and facilitators, and seeks to foster meaningful learning able to develop a sense of responsibility and self-care, which allow the audience to better understand their reality and find ways to solve their problems<sup>6</sup>.

Based on this concept of the relationship between education and health, the development of an extension project, linked to the Federal University of Paraíba (UFPB) was proposed, aimed at promoting the rational use of drugs in a school for youth and adult education. In this sense, this article aims to describe health education actions and analyze the pharmacotherapeutic profile of students of youth and adult education.

## METHOD

This is an exploratory study, which analyzes the contributions of the actions of an extension UFPB project, developed in a school focusing Youth and Adult Education (EJA) in the city of João Pessoa, Paraíba.

The project entitled "Education and Promotion of Rational Use of Drugs" was carried out in 2018 and involved the participation of students in adult education, university professors, students of undergraduate courses in Pharmacy and Dentistry, as well as teachers of municipal elementary school institutions. The project was approved by the Ethics Committee on Health Sciences of the Federal University of Paraíba (opinion number 2928313).

The study was carried out on the basis of three axes: 1) Description of the students' demographic profile; 2) analysis of drugs stored in the homes of students for definition of pharmacological profile; and 3) identification of potential drug interactions among these drugs listed in the previous step.

On the first visit, the extensionists took various pharmaceutical forms to discuss with the EJA students the knowledge of basic medicines. After the presentation of the project, a

round of conversation was held, in order to discuss dosage forms of drugs, get acquainted with the reality experienced by the students and solve emerging questions.

In a second phase of the intervention, an individual interaction was implemented, in which each extensionist talked particularly with each student, seeking to question them about some aspects such as the presence of underlying disease, use of any medication and method of disposal. Thus, with the information available, the register of the form on demographic and socioeconomic characteristics and general knowledge about medicines of each student were recorded.

In addition, to become the most dynamic and playful, active methodologies have been used in order to make approaches more dynamic and playful, promoting the discussion of general issues on the health-disease process, in addition to issues related to disposal of medicines and their correlation with the environment and health.

In the characterization stage of pharmacological profile, it was asked them to take the drug prescriptions and all the medications stored in their homes. This information was recorded in a pharmacotherapeutic profile form. In addition, they listed some problems related to the use of drugs, such as drug interactions, misuse and expired medicine.

The analyses of the drug list were based on the available literature on virtual libraries, pharmaceutical inserts and Micromedex® system, which is an online database that can be accessed via smartphone application, which provides information on dosages, pharmacokinetic, toxicology, drug interactions. It is also used as query option in clinical decision among health professionals, in order to minimize the appearance of adverse events and potential drug interactions<sup>7</sup>.

The data were included in pharmacotherapeutic profile records, which were classified between mild drug interactions, potential drug interactions or with no relevant drug interactions.

To end the meetings and actions, it was proposed an activity to stimulate health self-improvement. Therefore, students were sensitized for the preparation of educational materials from the discussions held during the project. It was offered students a universe of figures depicting the most varied situations such as healthy eating, physical exercise, hygiene, physical inactivity, excessive consumption of salt and sugar, medications and unbalanced diet. Thus, students had to, while working on posters, assign habits that favor the onset of diseases or health promotion to each situation depicted in figure.

All activities at the school were previously planned by the performing team, which held fortnightly meetings for theoretical discussion on topics such as education and health, youth and adult education, drug interactions and rational use of drugs.

## RESULTS

In the early stages of discussion and presentation of the project, the students were participative and responsive to the activities proposed, which were presented in a perspective of sharing knowledge and personal experiences. By depicting dosage forms, the students raised questions regarding drug administration, as well as the possibility of form violation (split tablets, capsules opening, medication intake with food, and others).

Participants were 24 students in the first EJA cycle conducted in 10 meetings, which lasted 60 minutes each. With regard to demographic and socioeconomic aspects, there was a predominance of females (86.7%) aged between 41 and 62 years (66.7%), self-perception of skin color/race mulatto (46.7%), married (46.7%), unemployed (46.7%), with family income up to 1 minimum wage (80.0%), participants of minimum income program (60.0%).

EJA students joined satisfactorily to the questions and talked freely about their uniqueness about some diseases they had, drugs they used with no prescription, as well as the use of natural products, with special emphasis on teas. The interaction promoted by

questioning enabled the identification of inappropriate practices on the use of some medications. This issue was addressed in a subsequent visit on the theme of drug interactions.

As for general knowledge and drug consumption profile, 80.0% said they seek medical care when they are in a situation of disease, and 13.3% go straight to the pharmacy. 33.3% reported the use of donated medicine or indicated by neighbor or relative, 53.3% have bought medicines under the influence of marketing on TV or at the pharmacy; 10 (66.7%) said they have already received information about the risks of health medicines, 46.7% reported they purchase medicines by indication of the clerk and 60.0% discard expired medications in the general trash, while 33.3% do not discard these drugs and store them in their homes.

Despite the underlying diseases described in the pharmacotherapeutic profile card, 4 (40.0%) reported having hypertension and 6 (60.0%) had no underlying disease. The classes of drugs most referred were antihypertensive, benzodiazepines, analgesics, non-steroidal anti-inflammatories and proton pump inhibitors. Table 1 shows the main problems related to drug use by students of EJA.

**Table 1.** Problems related to drug use in Youth and Adult Education students, João Pessoa, Paraíba, Brazil, in 2018.

Problems related to drug use	Number of cases
Expired medicine	6
Drug interactions	5
Incorrect drug use	1

From the information obtained about the availability of drugs in students' homes, it was possible to perform a theoretical study of possible drug interactions. The major findings are shown in Table 2.

It is proposed a self-care activity and discuss important lifestyle habits for health promotion, mainly related to the irrational use of drugs and its consequences on the emergence of diseases, EJA students produced educational materials (posters) on the themes discussed throughout the project. This activity fostered teamwork, critical discussion, development of creativity, as well as exchange of information. The team performing the project fostered the development of the activity, but prioritized students' active participation. One of the products produced can be seen in Figure 1.

**Table 2.** Possible interactions between the drugs available in the residences of the Youth and Adult Education students, João Pessoa, Paraíba, Brazil, in 2018.

Drug interaction			Effect
Medication in combination of caffeine 30mg, carisoprodol 125mg, paracetamol 300mg and diclofenac sodium 50mg	+	Bromazepam 3mg	Reduction of the sedative effect and risk of respiratory depression
Hydrochlorothiazide 25mg	+	Ibuprofen 600mg	Decreased effect of anti-hypertensive/diuretic
Metformin hydrochloride 850mg	+	Buscopan 10mg / ml (10mg hyoscine butylbromide)	Possibility of increasing the plasma levels of metformin hydrochloride
Hydrochlorothiazide 25mg	+	Buscopan 10mg / ml (10mg hyoscine butylbromide)	Diuresis patterns can be changed, given that anticholinergic increases the oral absorption of the thiazide
Diclofenac Potassium 500mg	+	Ibuprofen 600mg	Mild interaction described in potassium diclofenac bull



health professionals. The drugs most used in self-medication are the analgesics, followed by anti-inflammatories, most often indicated for the rapid relief of symptoms<sup>12</sup>.

These drug classes include OTCs that, despite being free sale and considered safe, can trigger poisoning, adverse reactions and potential drug interactions when used irrationally. Thus, it is recommended to better control the use of these drugs, supported by dialogic educational activities<sup>12</sup>.

In a study conducted in the city of Salgueiro, Pernambuco, Brazil, the self-medication in the older adults were evaluated and it showed that antipyretics and analgesics are the drugs most used by this group. It was also identified that symptoms of pain and fever are considered the major inducers of self-medication and insecurity, and public health access difficulty induce directly to this practice. Another study conducted in the city of Goiania concluded that the practice of self-medication, painkillers and muscle relaxants are the most cited, and of 462 cases, 142 corresponded to these drugs. The same study demonstrated a correlation between education and self-medication practice, indicating that the lower the educational level, the greater the implementation of this practice<sup>8</sup>.

The practice of self-care in health activities, combined with health education, is one of the ways to address the practice of irrational drug use. Dialogue and interaction between health professionals and education with students is key to building knowledge on rational use of medicines and health and disease processes.

In the posters production activity, students used the prior knowledge of information developed during the educational activities previously carried out for the construction of a product with approach on the knowledge related to the issues discussed in all the meetings held by the project. This kind of activity helps to promote meaningful learning, as it is guided in the active and critical position of the students. Apprenticeships may be shared with family members or acquaintances, enabling knowledge diffusion<sup>13</sup>.

## CONCLUSION

This study reinforces the need for daily dialogic educational practices of rational use of drugs, not only within the health facilities, but also in educational institutions, enabling increased access to information related to health self-treatment.

The limited number of participants is a limitation of this study, thus suggesting that further studies with larger groups can extend the achievement of the problem. However, it shows the possibility of an intervention based on the reality of those involved.

EJA Students constitute an important audience to build knowledge about the rational use of drugs, since their life experiences, socioeconomic and educational conditions, as well as lack of access to health services indicate a higher risk for misuse medicines.

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#### CONTRIBUTIONS

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