



## ORIGINALES

### Realities of the practice of self-medication in students of the Magdalena University

Realidades de la práctica de la automedicación en estudiantes de la Universidad del Magdalena

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#### ABSTRACT:

Self-medication is part of self-care and is considered as a primary public health resource in the health care system.

**Objective:** To determine the prevalence and consumption patterns that influence the automation of the students of the Universidad del Magdalena.

**Methods:** The study corresponds to a descriptive cross-sectional and quantitative approach investigation; the sample was determined by conglomerates, made up of 312 active students enrolled in undergraduate studies at the Universidad del Magdalena the city of the Santa Marta.

**Results:** The practice of self-medication was reflected in 97%; the reasons for which the students self-medicate are related to the appearance of symptoms stories, such as pain and flu-like symptoms, which are treated from the consumption of analgesic, anti-inflammatory drugs with prevalence of 84,26%. The main reason for self-medication is related to the mildness of the symptoms; the council of relatives in 46,87% reflects their source of information; there is influence by advertising especially television and internet; finally 71% are aware of the consequences of self-medication.

**Conclusions:** The practice of self-medication in the University population is high; influencing factors are related to the appearance of symptoms the advice of relatives, the influence of advertising the mildness of symptoms and lack of the time to visit the doctor.

**Key words:** Self-medication, Self-care, medications

## RESUMEN:

La automedicación forma parte del autocuidado y es considerada como un recurso de salud pública primaria en el sistema de atención de la salud.

**Objetivo:** Determinar la prevalencia y patrones de consumo que influyen en la automedicación de los estudiantes de la Universidad del Magdalena

**Métodos:** El estudio corresponde a una investigación de carácter descriptivo, de corte transversal, y enfoque cuantitativo; la muestra se determinó por conglomerados, conformada por 312 estudiantes activos matriculados en pregrado de la Universidad del Magdalena de la ciudad de Santa Marta;

**Resultados:** La práctica de la automedicación se vio reflejado en un 97%; los motivos por los cuales se automedican los estudiantes tienen relación con la aparición de síntomas tales como el dolor y síntomas gripales, los cuales son tratados a partir del consumo de medicamentos tipo analgésicos, antiinflamatorios, con una prevalencia del 84,26%; El principal motivo para automedicarse se relaciona con la levedad de los síntomas; el consejo de familiares en un 46,87% refleja su fuente de información; existe influencia por la publicidad especialmente televisión e internet; finalmente el 71% tiene conocimiento de las consecuencias que acarrea el automedicarse.

**Conclusiones:** La práctica de la automedicación en la población universitaria es alta; los factores influyentes se relacionan con aparición de síntomas, el consejo de familiares, la influencia de la publicidad, la levedad de los síntomas y la falta de tiempo para visitar al médico.

**Palabras claves:** Automedicación, Autocuidado, medicamentos

## INTRODUCTION

Throughout the history of human care, figures can be identified who stood out within the primitive communities being experts or accumulating the ability in the maintenance and conservation of life and health <sup>(1)</sup>, therefore these members within the stages of the evolution of care are recognized the domain of plants and the generation of the first drugs for the cure of diseases.

As the concept of health, disease and care figures evolved, changes were also made in pharmacopoeia, together with the development of science, until it was fully developed as an important component in the therapeutic management of health situations.

Self-medication appears as one of the phenomena to socially face the disease, being defined as the administration by own decision, or by not qualified advice, of medicines either to alleviate a symptom or to cure a disease; or simply as the free decision to take medicines without medical prescription <sup>(2)</sup>.

According to the World Health Organization (WHO), self-medication is defined as the selection and use of medicines by individuals to treat self-recognized diseases or symptoms. Self-medication is part of self-care and is considered a primary public health resource in the health care system <sup>(3)</sup>.

However, in an alarming way, self-medication has been increasing as a voluntary action that implies health risks, not only because of the effects that can be caused at some point by the indiscriminate use of the medicine, but also because of the masking of symptoms of some disease, the prolongation of the same, the resistance or even the aggravation of the same disease in more vulnerable groups such as children, pregnant and lactating women.

It is a fact that this phenomenon is affected by the political, economic, social and cultural determinants that characterize the environment giving the ease of purchase

and the use of medicines without control, which can bring short, medium and long term consequences such as the appearance of adverse reactions, complications in the timely diagnosis and drug resistance <sup>(3)</sup>.

On the other hand, organizations such as the International Pharmaceutical Federation and the world industry of responsible self-medication, point out some positive aspects of this practice of self-medication, among which are the lower health demand to minor ailments that do not require it, thus reducing costs to the health system, greater accessibility of the patient to the medicine which leads to a faster relief of their ailment and the implementation of health care framing self-medication as one of the self-care that the person assumes within their lifestyle, nutrition and hygiene <sup>(4)</sup>.

Several authors recognize in addressing this issue that this practice has both benefits and risks, so it is vitally important that the patient knows how to distinguish situations that require a health professional to resolve the health condition or can through their own knowledge solve them, but there are several factors that may interfere with this decision, such as saving time and money when requesting a medical consultation, even more so if the health system tends to collapse <sup>(5)</sup>, or reducing the loss of working time or travel among others; However, the disadvantages that this practice can bring to people can also be reviewed, the most representative being the health risks they represent due to the appearance of adverse reactions, drug interactions, increased bacterial resistance, and increased duration of the illness, to name a few <sup>(6)</sup>.

In Latin America, studies carried out in Ecuador <sup>(7)</sup>, Peru <sup>(8)</sup>, Argentina <sup>(9)</sup> and Mexico<sup>(10)</sup>, have reflected the prevalence of this practice in different environments and it has been possible to evidence the strong influence that it has in the university environment, being significant the practice of self-medication in students who are studying careers in the health area, from semesters in which they have already seen the course of pharmacology.

Similar studies carried out at the Universidad del Rosario in Colombia indicate that the greatest frequency of self-medication is obtained by students of the health faculty, especially those who are studying for clinical degrees or advanced semesters <sup>(11)</sup>.

However, with respect to the city of Santa Marta and especially the University of Magdalena, there are no known records that allow us to know the behavior of this phenomenon, so it is interesting to investigate if this practice is equally common among university students, since our health system allows the free sale of medicines.

## **MATERIALS AND METHODS**

The study corresponds to a cross-sectional descriptive research, and quantitative approach. The universe for this study is made up of undergraduate students of the Universidad del Magdalena enrolled in the second period of the year 2019; the formula for finite populations for descriptive studies was used to obtain the sample size; the sample size calculation was 300 students, and 330 surveys were carried out contemplating a loss percentage of 8%. Of the 330 surveys, 305 were analyzed because those excluded were not fully completed or belonged to a university technical program

The sampling was by conglomerate of the different areas that compose the University, by means of the selection of random numbers in Excel of classrooms and open spaces, later the draw was made being selected 8 classrooms and two common areas. The data collection technique was carried out by direct survey by the researchers; to fulfill the objectives of the research, a questionnaire of 15 questions was used as an instrument to evaluate the proposed variables, validated by Flores and Santos in their work on self-medication in students of the Schools of Pharmacy, Dentistry, and Nursing at UNAP Peru <sup>(12)</sup>; the questionnaire is divided into three parts; The first part will allow the characterization of the study population, which will include socioeconomic and demographic data; the second part focuses on the pattern of self-medication, seeking to collect information related to the type of medicines consumed, the reasons for self-medication, the informative references and the places of acquisition that favor behavior; and finally the third part investigates the perception of the respondent with respect to self-medication.

Descriptive statistical techniques were used to present the variables according to their nature and measurement scale that explained the behavior of self-medication in the study population. The data base was created in EXCEL, double fingering and validation of the information was carried out, later the data base was exported to EPI INFO VERSION 7.2.3.1 for analysis. Absolute and relative frequency measurements and central tendency measurements were calculated for the quantitative variables according to their distribution and proportions.

### **Ethical aspects**

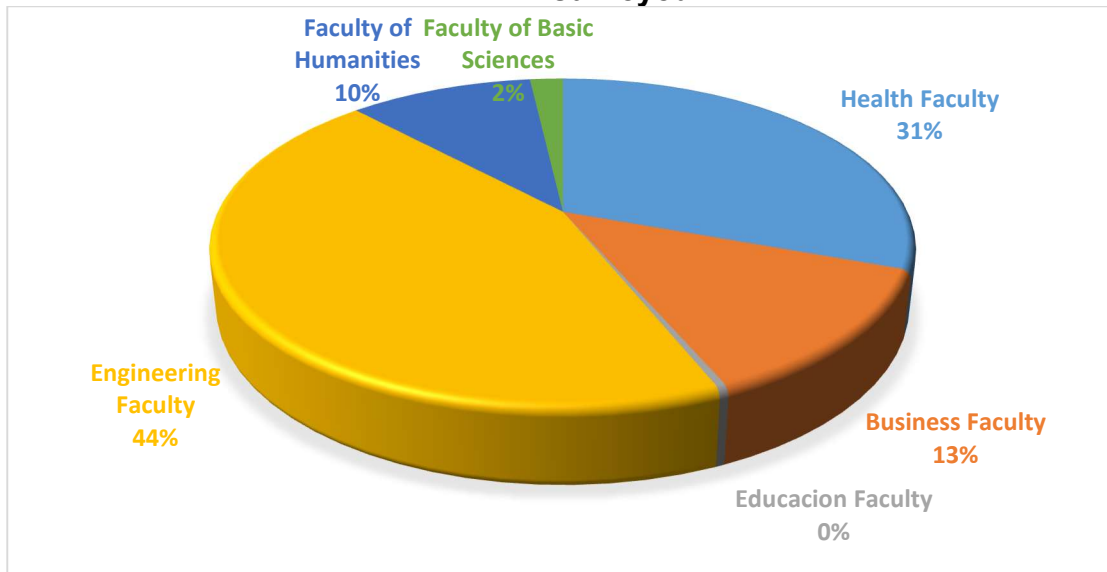
The study was approved by the Ethics Committee of the Faculty of Health Sciences of the University of Magdalena. In accordance with the ethical considerations of research on human beings as set out in the Declaration of Helsinki <sup>(13)</sup> and the Ministry of Health Resolution 008430 of 1993.

In order to protect the rights of the participants, the project was presented to them individually, and they were informed that the results of the research would only be used for academic purposes. The informed consent form was filled out and their participation was completely voluntary, guaranteeing the principles of confidentiality and privacy.

## **RESULTS**

It was found that 97% used medicines on their own, without a prescription, with the male sex having the highest percentage, 56%. The age range where the greatest practice of self-medication was observed is between 16 - 19 years old and the first two years of study of the Engineering and Health faculties.

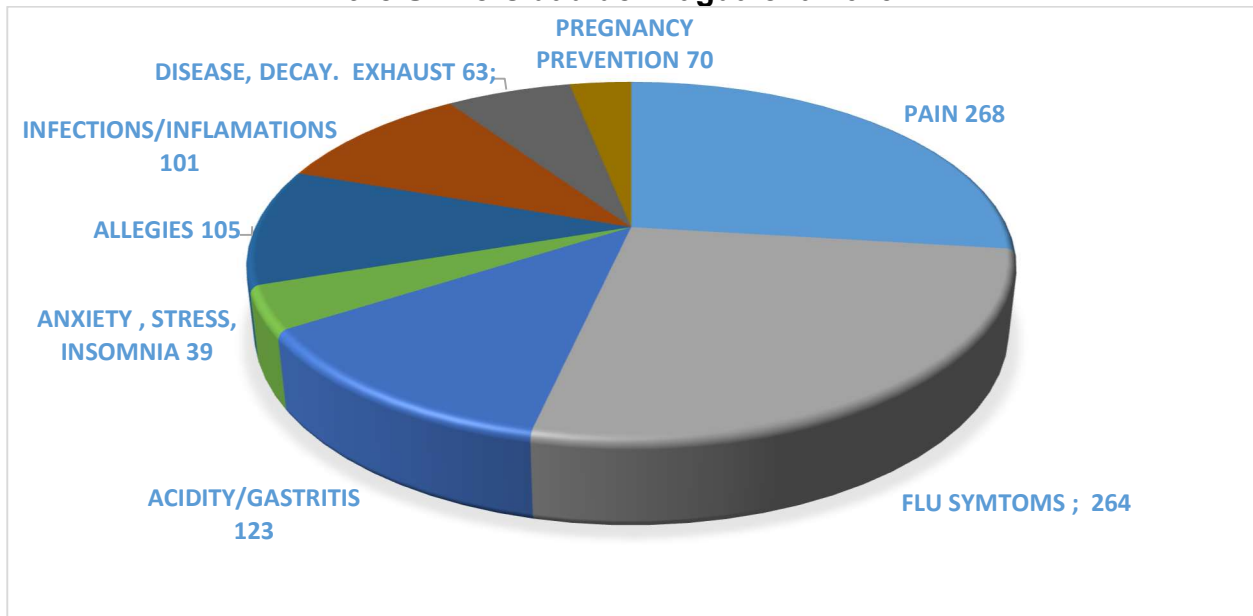
**Figure 1. Distribution by program of the Universidad del Magdalena students surveyed**



SOURCE: OWN CREATION

The students who self-medicated stated that the main symptoms or signs for which they did this practice at some point were pains {headache, menstruation, stomach, throat, etc.} (87.87%), flu symptoms {cold, fever, cough} (86.56%), on the other hand, of the women who referred to self-medication, 23.13% indicated that they had ever done it for pregnancy prevention.

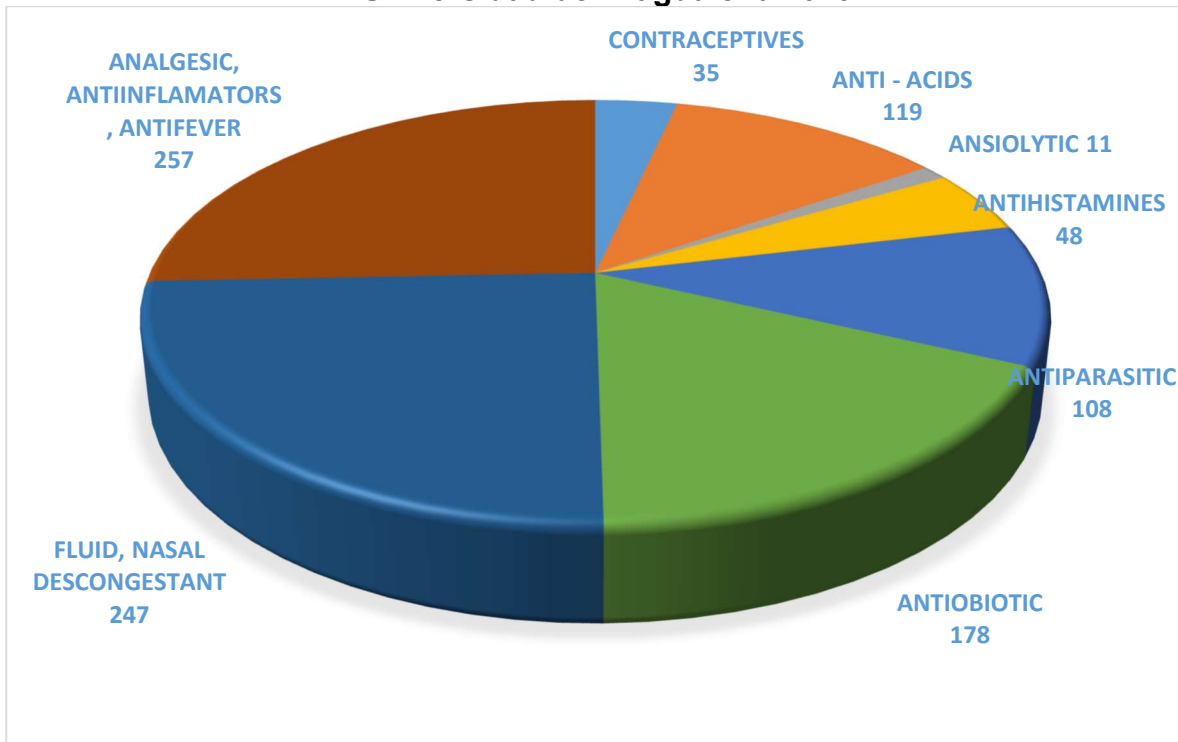
**Figure 2. Symptoms or signs that motivated the self-medication of students at the Universidad del Magdalena 2019**



SOURCE: OWN CREATION

In relation to the reasons for the consumption of non-prescription medicines for which students decide to carry out this practice of self-medication, it is found that the main cause is due to the lightness of the symptoms in 74.75% followed by easy access and comfort in 50.49%, continued by the dislike of going to the doctor in 34.10%.

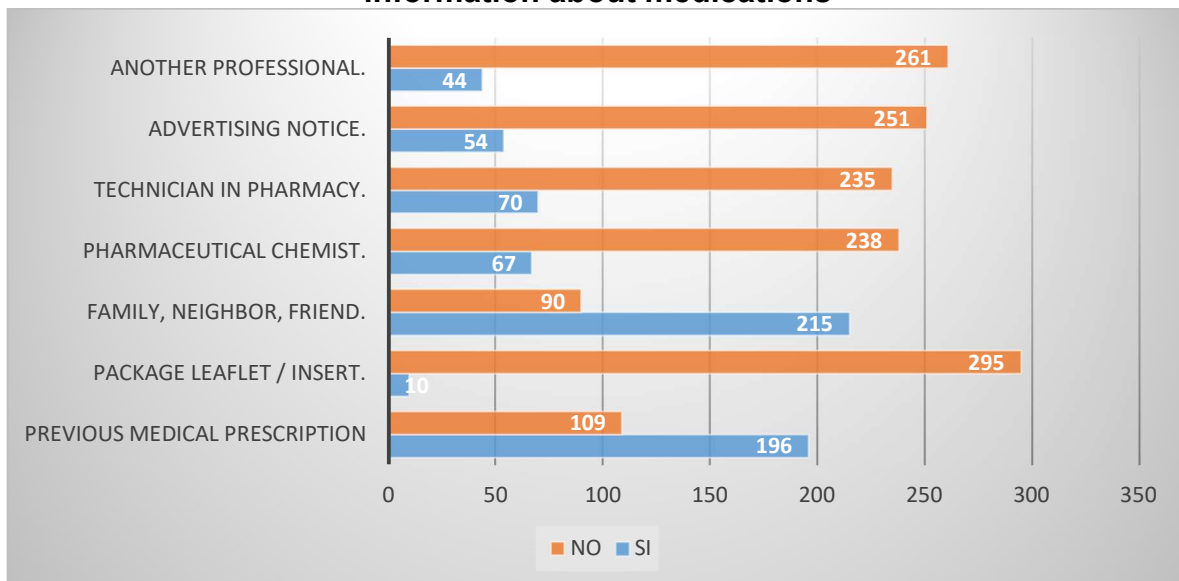
**Figure 3. Relationship and type of medications most used by students at the Universidad del Magdalena 2019 II**



SOURCE: OWN CREATION

In relation to the type of medicine used in self-medication, it was found that the main groups of medicines that have been used are analgesics, anti-inflammatories, antipyretics with a prevalence of 84.26% (257 students used it) and anti-influenza, antitussives, and decongestants. The prevalence of the disease was 80.98% (247 students consumed it) followed by antibiotics with 58.36%.

**Figure 4. Percentage of Sources where Magdalena University students acquire information about medications**



SOURCE: OWN CREATION



Another of the aspects that were investigated in the population of students surveyed, corresponds as shown in Graph 4 to the main sources of information that students use to decide to take some medicine without a doctor's prescription; the results reflect the advice of a family member, a neighbor or a friend (70.49%) followed by a previous medical prescription (64.26%), followed by the opinion of a pharmacy technician (22.95%).

In relation to the way in which the media or advertising can influence the decision of university students in self-medication; when asked, 46.89% said that they had once consumed medicines influenced by this type of advertising. Likewise, the main types of advertising that influence this action are television (43.61%), followed by the Internet (21.64%) and radio (17.05%).

On the other hand, the answers given by those surveyed regarding the frequency with which they go to the doctor reflect that 67.21% of those surveyed go to the doctor only when they are sick, 14.75% go to the health professional annually, while 10.16% do so for disease control and only 7.87 go to a monthly doctor's appointment.

During the development of the survey, discovering the reasons why students do not go to the doctor was another factor to be analyzed within the phenomenon of self-medication; one of the reasons is related to the inefficiency of the services in 59.34%; 51.48% of those surveyed do not go because of lack of time, 15.74% say it is not because of lack of money, while the main reason for 7.21% of the population surveyed is distrust of the medical professional.

Correspondingly, when the population surveyed was asked about the knowledge of the consequences of self-medication, it was found that 71% of the respondents reported knowing the factors that this practice can trigger, while 29% do not know the consequences of taking medicines without a doctor's prescription.

## DISCUSSION

Based on the analysis of results, we can affirm that self-medication is a widely extended practice in the university population studied, reaching 97%; these figures are higher if we compare with the results of Castronovo C, et al.<sup>(5)</sup>, in their study, which indicated that 95% of the respondents who stated that they self-medicated at some time; likewise López-Cabra C.A et al.<sup>(15)</sup> obtained a prevalence of 79% in their study conducted at the Universidad del Rosario in Bogotá, which indicates that self-medication is an increasingly common practice among young people.

The results disagree with studies previously carried out by Guillem<sup>(16)</sup>, in which they assure that the rate of self-medication is higher in women than in men, but they agree with the results obtained by Moraga C. et al.<sup>(17)</sup>, who did not observe significant differences with respect to sex and age; since in the results of the present work a 1:1 relation is observed being the self-medication similar in both sexes with a tendency of a slight inclination towards the masculine sex.

Analyzing the results in relation to different variables, the main reasons that induced the consumption of medicines were the different types of pain, flu symptoms and acidity/gastritis, these causes agree with the study carried out by De Pablo<sup>(4)</sup> with students in Caracas where he indicated that the reasons for which the self-medication

was induced were the headaches and migraines, muscular pains, stomach upsets. This confirms what was revealed by Souza L et al <sup>(18)</sup>, which tells us that pain is the factor that students self-medicate the most. Morillo <sup>(19)</sup> in his study highlights as symptoms headache with 18%, menstrual cramps 16%, fever 13% and abdominal pain 2%.

With regard to the most widely used groups of medications, there is a correlation with studies carried out in countries such as Brazil <sup>(20)</sup>, Venezuela <sup>(21)</sup>, Paraguay <sup>(22)</sup>, Chile <sup>(23)</sup>, and Peru <sup>(24)</sup>, which show that analgesics/anti-inflammatory/anti-fever medications are the most widely used group, followed by anti-influenza drugs, antacids and antibiotics, as shown by Morillo <sup>(19)</sup> in his study the use of analgesics was reflected in 46%, followed by anti-influenza drugs 28% and contraceptives 9%, the latter being different from what was found in the present study; Likewise, Garrigoza S et al <sup>(25)</sup> in their study conducted in Santa Rosa de Araguay in Paraguay showed that 69% of the medicines reported as self-medication corresponded to analgesics, 11% to anti-allergens, 6% to anti-inflammatories and 3% to antibiotics. At the same time, as indicated by Bonilla <sup>(26)</sup>. in his study carried out in the University Pedro Ruiz Gallo of Lambayeque Peru, he showed that the anti-inflammatory drugs (49.2%) are the group most used by those surveyed, followed by anti-inflammatory drugs (26.9%), antibiotics (21.3%), fever reducers (15.8%), and analgesics (12.5%). In contrast, the study by Naznin Alam<sup>(27)</sup>, conducted in Bangladesh in 2015, shows that the groups of medicines that students bought most were herbal medicines and vitamins and minerals.

According to the data obtained through the survey, the process of self-medication is directly related to important factors within which stand out, the lightness of the symptoms in 74.75% followed by easy access and comfort in 50.49%, continued by the preference not to go to the doctor in 34.10%. Similarly compared to Tobon F. <sup>(28)</sup> it can be seen that in their study the factors that can influence self-medication are: the deficiency in the provision of health services to a large part of the population and dependence on drugs, culture, politics, society and the economy; as well as, the time to go to a doctor's appointment. In contrast with. et al, <sup>(29)</sup> they refer that in their study the factors that influence the taking of medicines are the belief that you do not need a doctor's appointment, the over-the-counter sale of medicines and the lack of time.

Other factors that directly influence the decision to self-medicate are evident in this study, expressed by the students surveyed, of which the sources of information that induced the respondents to take some medicine without a doctor's prescription stand out, the main ones being the advice of a family member, a neighbor or a friend (70.49%) followed by a previous medical prescription (64.26%), followed by the opinion of a pharmacy technician (22.95%); Likewise, the advertising and media influence the young people of the University of Magdalena, as demonstrated by the 46.89% of the students who once referred to the consumption of medicines, persuaded by this type of diffusion. Likewise, the main types of advertising that influence this action are television (43.61%), followed by the Internet (21.64%) and radio (17.05%).

The above coincides with the results of the study carried out in the faculty of medicine of the University of San Francisco Xavier de Chuquisaca in Sucre (Bolivia)<sup>(17)</sup> which indicated that self-medication in students is induced by the social circle (friends and



parents), the advertising of some medicines, the access to internet (60%) and the lack of time that induces fifth year students.

Likewise, Garrigoza S et al <sup>(25)</sup>, points out that the main people involved in this process are family and friends who recommend drugs according to their previous experience.

Felipe D et al <sup>(30)</sup>, refer that 33% of the individuals received suggestions from a family member, 7.1% received suggestions from a neighbor or friend; while 42.9% received suggestions from the staff at the pharmacy and 16.7% received suggestions from other non-medical health professionals. In addition, he indicates that the main advertising media influencing the respondents in his study were television (56.0%), advertising panels (11.9%) and the Internet (25.0%). Hermoza <sup>(31)</sup> also coincides in recognizing the most frequent types of self-medication and being suggested by the same patient in 49.13%; by family members in 21.74%, by the pharmacy technician in 14.35%; by a neighbor or friend in 10.87%) by the pharmaceutical chemist in 3.91%.

In relation to the places where students often go to acquire the medicines they consume, the pharmacy or drugstore was found (91.71%), followed by the family medicine cabinet (44.92%), and in lesser prevalence they go to health centers (24%). Compared to Morillo et al (19), the individuals surveyed in their study acquire medicines in the pharmacy or drugstore, followed by consumption from some that are given to them as a gift and purchase in popular sales.

In accordance with the studies analyzed above, the previous medical prescription, the influence of neighboring relatives and friends, as well as the lack of time and the inadequacy of health services showed the prevalence of factors that induce self-medication.

## CONCLUSIONS

We conclude that in the students of the Universidad del Magdalena, there is a high frequency of self-medication, being predominant in the male sex, in students between 16 and 19 years old, located in great part in the first 4 semesters of the different careers mainly in the faculties of Engineering, health, and business and in smaller proportion basic sciences and ,education; this practice is related to the most frequent signs and symptoms among which pain, flu symptoms, and gastritis stand out, these being treated with analgesics, anti-influenza and antibiotics.

The main reasons why the students surveyed self-medicate are the lightness of the symptoms followed by the easy access and comfort in a continued by not liking to go to the doctor. Students' sources of information for this practice of self-medication are related to their environment being the recommendation of a close relative, neighbor or friend; at the same time they are influenced by advertising through television and the internet. In great proportion they go to the doctor annually or only when they feel sick, since they consider the health services inefficient, due to lack of time, lack of money, or distrust in the medical professional. Finally, respondents say they know the consequences of this practice.

Although these results show the reality on the University campus, it is important according to the profile of self-medication of students at the Universidad del

Magdalena to carry out nursing actions aimed at the education of the student community. Likewise, the health week should be used to instill responsible self-medication in all the people of the Universidad del Magdalena through didactic talks, games and dynamics in the entire alma mater where the university, the health faculty and the nursing program work together.

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