



African Journal of Biological Sciences



Research Paper

Open Access

Risk Factors That Cause Respiratory Infections in Patients Attending the Tulcán South Health Center

Johanna Valentina Acosta Rosero, Mayra Jeaneth Jiménez Jiménez, Mónica Alexandra Bustos Villarreal

Universidad Regional Autónoma de Los Andes, Sede Tulcán, Ecuador

Corresponding Author: Johanna Valentina Acosta Rosero

E-mail: ut.johannaar09@uniandes.edu.ec, ut.mayraj22@uniandes.edu.ec,
ut.monicabv32@uniandes.edu.ec

Article Info

Volume 6, Issue 8, Month 2024

Received: 12 Feb 2024

Accepted: 14 March 2024

Published: 08 April 2024

Abstract

Respiratory infection is a group of diseases that occur in the respiratory tract, caused by different microorganisms such as viruses and bacteria, which begin suddenly and last less than 2 weeks. This research aims to determine the risk factors for respiratory infections. The research modality was mixed quantitative-qualitative, theoretical level methods such as systemic, inductive-deductive, historical-logical and analytical-synthetic; observation as an empirical method at first contact; bibliographic, descriptive, correlational, field and action research, directing the application of the instrument. The population taken in this research is 40 patients. Among the main findings we have that the main risk factor that we found at the level of our study is smoking, 68%, since both active and passive, it is considered that it affects a large part of the population due to its contamination and destruction in the respiratory system, this being the main risk factor at the general level in highlighting serious acute respiratory infections both low and high, We also found that chronic diseases such as diabetes and hypertension that affect our survey population in 53% and include our patients in a vulnerable group prone to contract any type of disease, among these respiratory infections, as well as another one of the main risk factors for respiratory infections.

Keywords: Risk factors, respiratory infections, Tulcán south health center

© 2024 Johanna Valentina Acosta Rosero, this is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made

Introduction

Respiratory, or airway, infections are an infection that arises in any region of the respiratory tract, reaching from the upper or upper airways, throat or sinuses, to the lower or lower airways such as bronchi and lungs.

Generally, this type of infection is caused by microorganisms such as viruses, bacteria or fungi of various types, causing symptoms such as coryza, sneezing, coughing, fever or sore throat. For example, these infections are more common in winter, as it is the period in which there is

greater circulation of microorganisms, caused by the drop in environmental temperature and this makes it more likely to stay in closed spaces.

Among the most relevant antecedents we have.

According to Geisy Natalie Sosa, in 2016 in Latin America, acute respiratory infections are among the top five causes of death. The objective of which is the adequate administration of antibiotics in hospitalized patients, it is essential to avoid the emergence of resistant microorganisms. This cross-sectional study was carried out with patients hospitalized at the Federico Gómez Hospital in Mexico, with a diagnosis of lower respiratory infection and detection of respiratory viruses. The results included 110 patients (55.4% female) and the most frequently found agent was influenza a virus (48%); the most frequent subtype was H1N1 (26.3%), followed by respiratory syncytial virus (21.8%). Within one day of hospital admission, only 26.3% of patients received an adequate antimicrobial prescription. The present study demonstrated that acute lower respiratory infections are of viral etiology in a high percentage of cases, based on this and analyzing the factors that contribute to the inadequate care of patients in the sectors surrounding the hospital.

Villacís, 2018, in his research study in Ecuador verified that there is a persistence of infectious diseases. By 2016, 91 (4.9%) cases were found to be the leading cause of illness in outpatient care, followed by diarrhea and intestinal parasitosis.

According to the National Directorate of Epidemiological Surveillance and the National Undersecretary of Public Health Surveillance, in the epidemiological update. Influenza. 2019, whose objective is to reduce the incidence and avoid complications in the population, indicates that influenza is an endemic disease with high transmission capacity caused by viruses of seasonal influence, where the subtypes circulating in Ecuador are: type A (H1N1) pdm09 A (H3N2) and type B, the first being the one that caused the pandemic in 2009, and circulates annually and is now considered a seasonal influenza strain, it is estimated that only 10% of individuals who acquire influenza virus may develop a severe respiratory infection (SARI) and potentially require hospitalization. The possibility of developing an SARI is greater in vulnerable groups such as pregnant women, people over 65 years of age, children under 5 years of age and patients with chronic diseases (diabetes, asthma, immunodeficiencies, obesity, among others).

According to Marco Alban in 2018 in his study mentions that risk factors cause respiratory conditions in patients who come to the Tulcán health center in the City of Tulcán, whose objective was to determine health problems, the objective is to reduce mortality from respiratory infections, respiratory infections generally affect the upper airways (ears, nose, mouth, larynx, pharynx), and are considered mild and self-limiting in course. Among the main etiological agents are those of viral origin such as: influenza virus A or B, rhinovirus and bacterial, mainly: *Streptococcus pneumoniae*, *Streptococcus pyogenes*, *Streptococcus aureus*, *Moraxella catarrhalis*, and *Haemophilus influenzae*. However, lower respiratory tract infections by any of these infectious agents or others such as *Mycobacterium tuberculosis* or *Pseudomonas aeruginosa*, are potentially serious and require hospitalization in most cases, complications increase when antibiotic-resistant strains are present.

Materials and Methods

This research project falls within the following types of research:

Types of Research

Purpose: Applied Research

The application of this research is based on implementing theory with practice and solving specific problems about the risks that trigger respiratory infections in the general population,

through the identification of risk factors to avoid complications in patients who come to the Tulcán Sur Health Center.

By the means used: Field research

It is used in the determination of the problem to be investigated because it is used for the purpose of research to identify causes and risk factors of respiratory infections in patients who come to the Tulcán Sur Health Center.

Bibliographic Research

It is applied because research is carried out in different bibliographic sources such as books, journals, articles, websites, repositories, which will serve as a basis for the development of the theoretical bases.

By the link

Descriptive Research: This type of research is used because it describes each of the risk factors that will contribute to promoting the prevention, control and elimination of respiratory infections in patients who come to the Tulcán Sur Health Center.

Correlational research: Because the two variables are related to each other, these two variables merge to reduce complications due to risk factors for respiratory infections.

Historical Research: For the development of this research, it is necessary to collect information about respiratory infections, their main risk factors, their prevention, control and elimination in patients who come to the Tulcán Sur Health Center.

Research Techniques and Instruments

Research Techniques

Survey: It will be applied to patients who come to the Tulcán Sur Health Center.

Research Instruments: Survey

Empirical Methods

This method will help to find preventions for people with symptoms of respiratory diseases with the help of observation and validation.

Scientific Observation

The observation will be carried out in order to identify risk factors, which could lead to respiratory infections.

Results and Discussion

Validation by experts in the field will help to strengthen the study carried out.

Theoretical Methods: This method encompasses the historical-logical, inductive-deductive and finely with analysis and synthesis.

Historical-Logical: This method is based on the tradition of respiratory diseases with which educational strategies will be carried out to reduce the risk factors of this health problem that affects the people who attend the Tulcán Sur Health Center, it includes the collection of historical information, starting with all the information made to people who present symptoms or by general consultation.

Analytical-Synthetic: It allowed the analysis and decomposition of the research problem, which was then expressed in the theoretical foundation.

Inductive-Deductive: It allowed the general analysis of the topic under study, such as the problem of respiratory infections at the global, national, provincial level and finally focus on the Tulcán Sur Health Center.

Survey: Allowed us to obtain accurate information on an individual basis, necessary to determine the current status of the risk factors that affect the population to be studied.

Population: The study population of the research is 40 patients with symptoms of respiratory infections.

Sample: As it is a relatively small population, it is not necessary to apply a type of sampling, rather a population census will be used in the research, in which the entire universe of study will be part of the research process and to which the respective surveys will be applied.

Results and Discussion

Results of the survey aimed at patients with symptoms of respiratory infections who come to the Tulcán Sur Health Center.

Question 1. Have you had any of these respiratory symptoms?

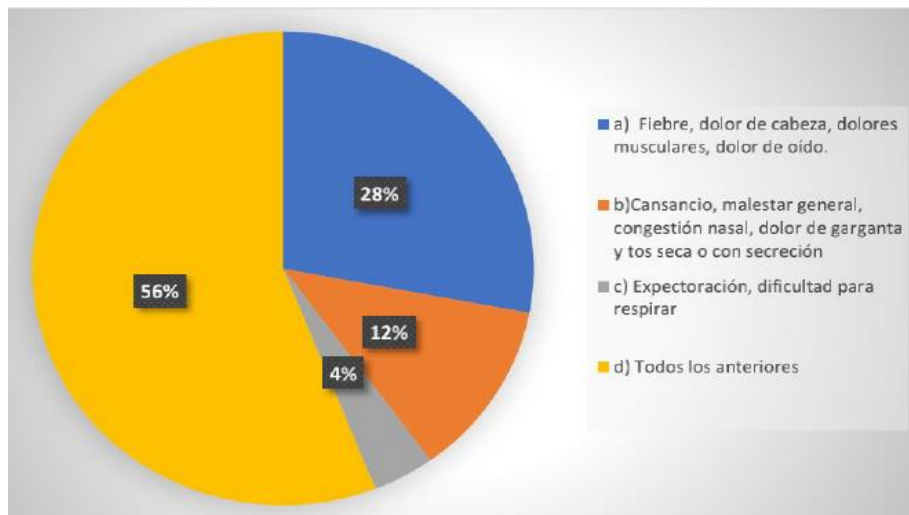


Figure 1: Respiratory symptoms

Source: Field Research

Analysis and interpretation

According to the information obtained in the survey applied, the results indicate that most of the patients who come to the South Health Center affirm that these are the common symptoms of a respiratory infection, the most common being fevers, headache, muscle aches, ringing in the ears.

Question 2. How many days do you usually have respiratory symptoms?

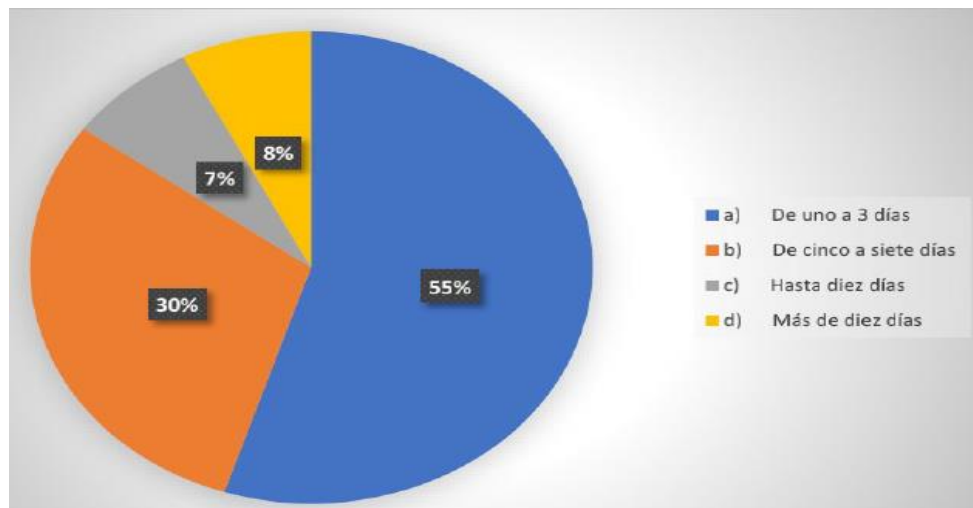


Figure 2: Time of Respiratory Symptoms

Source: Field Research

Analysis and interpretation

According to the information obtained in the survey applied, the results of the patients who come to the South Health Center indicate that most of them affirm that a respiratory infection has a period of 1 to 3 days, they affirm that they are mild infections, generally, they are colds.

Question 3. How often do you get flu shots?

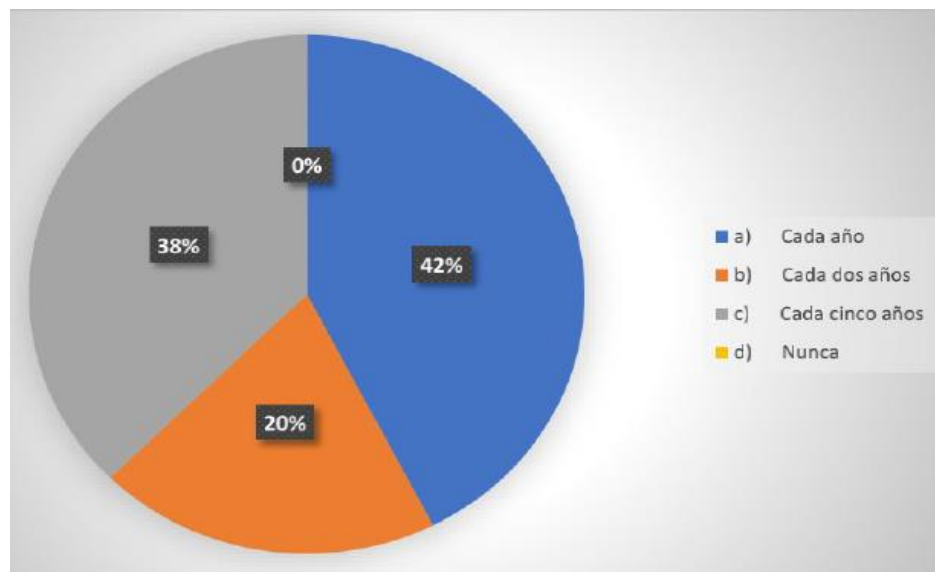


Figure 3: Vaccines against influence

Source: Field Research

Analysis and interpretation

According to the information obtained in the survey applied, to the patients who come to the South Health Center, it can be evidenced that most people get the flu vaccine, this is very important since, either by promotion or obligation, patients remain immunized against severe respiratory infections.

Question 4. How many times do you wash your hands a day?

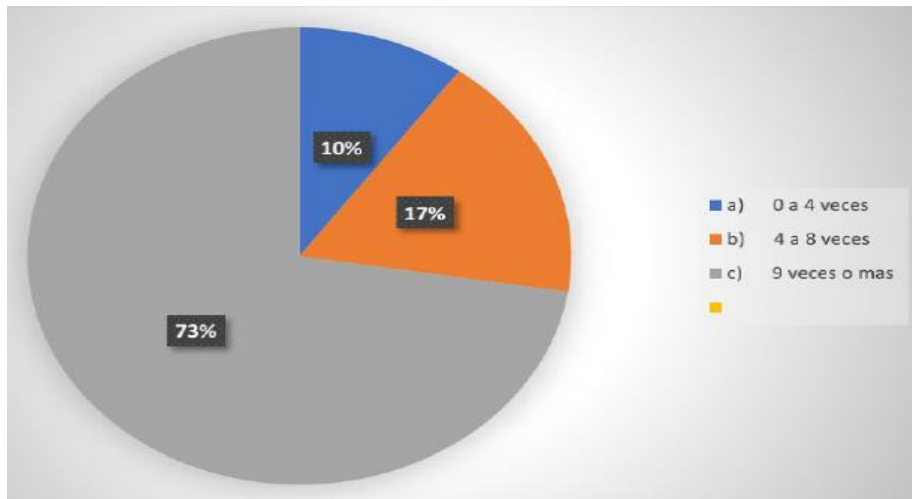


Figure 4: Hand hygiene

Source: Field Research

Analysis and interpretation

According to the information obtained in the survey applied to the patients who come to the Sur Health Center, the results indicate that most patients affirm that they wash their hands at least nine times a day, which indicates that this pandemic has left us with a good habit of disinfection to prevent the spread of infections.

Question 5. Do you suffer from or have you suffered from diseases such as:

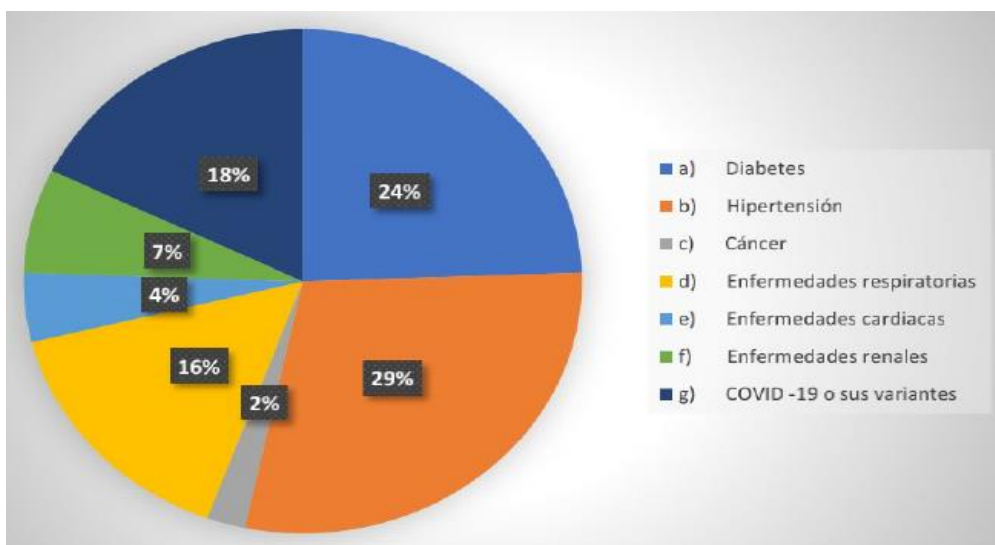


Illustration 5: Suffers from diseases

Source: Field Research

Analysis and interpretation

According to the information obtained in the survey applied, according to the results of the patients who come to the South Health Center, it is observed that a large number of the population suffers from arterial hypertension, thus analyzing that most people are vulnerable and must be very careful with these patients.

Question 6. The moment you have a symptom of a respiratory infection, the first thing you do is?

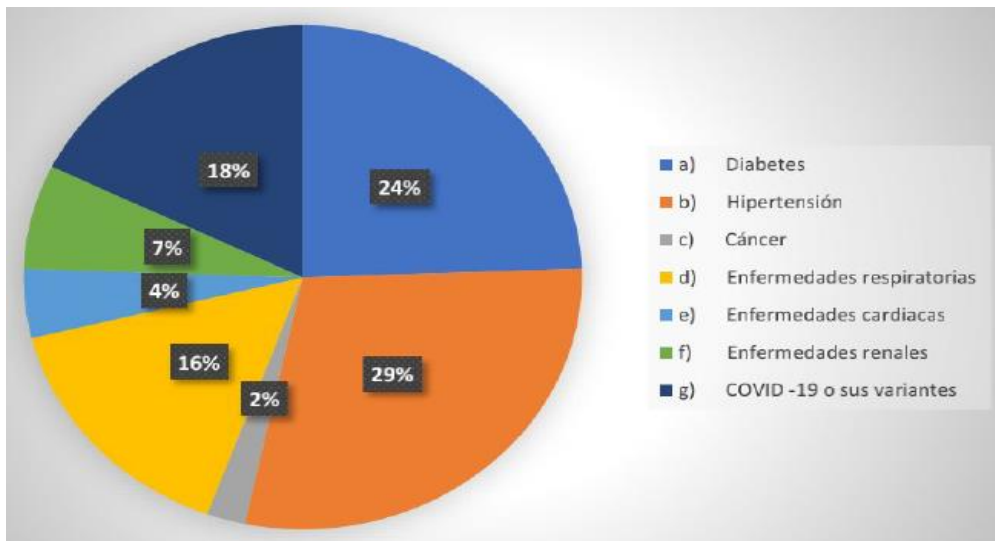


Figure 6: How it acts in the face of a respiratory infection

Source: Field Research

Analysis and interpretation

According to the information obtained in the applied survey, according to the results obtained, the majority of patients who contract a respiratory infection decide to treat themselves with home and natural remedies, unless it is more serious, or with several days of evolution there they go to the Health Center.

Question 7. How many inhabitants live per room in your household?

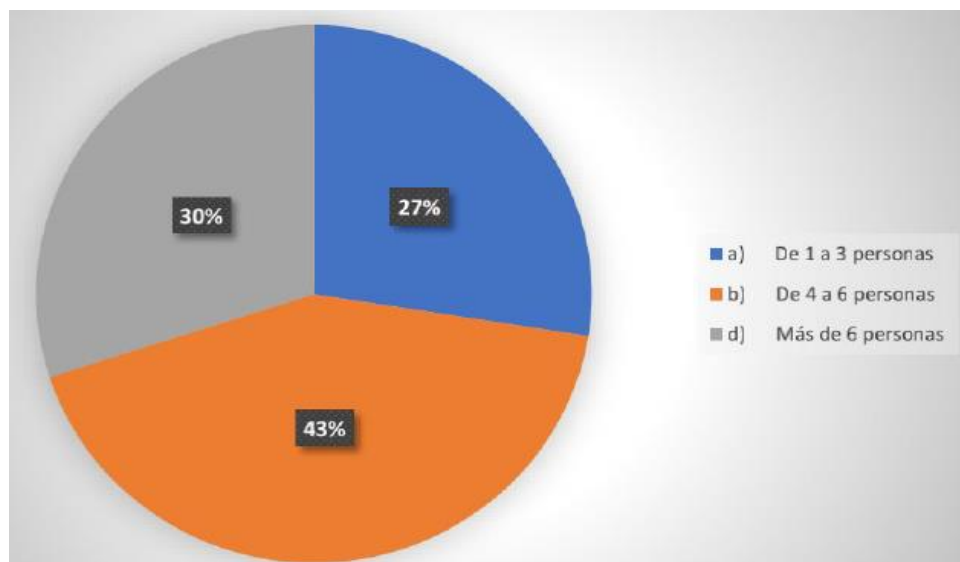


Illustration 7: Coexistence

Source: Field Research

Analysis and interpretation

According to the information obtained in the survey, the results obtained indicate that most of the patients who come to the South Health Center live between 4 and 6 family members in a

room, which means that there is overcrowding, a risk factor that causes respiratory infections and massive contagion.

Question 8. What Habits Do You Consider Toxic to Develop Respiratory Diseases?

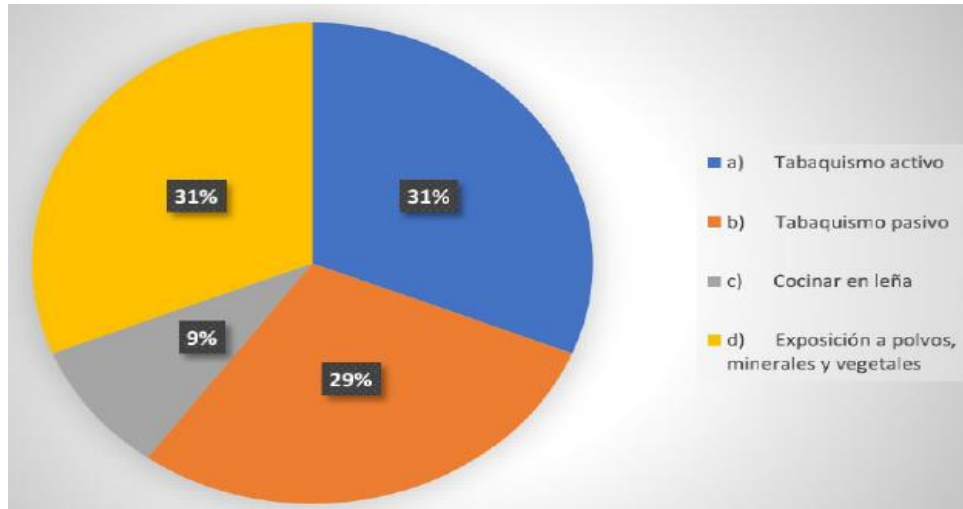


Figure 8: Habits

Source: Field Research

Analysis and interpretation

According to the information obtained in the applied survey, the results obtained indicate that smoking as a risk factor harms active and passive smokers, since it considerably affects the vitality of their lungs, this being something very serious that makes one vulnerable to contracting respiratory infections; Something that is also important and highlights is the exposure to chemical fertilizers that are used in agriculture.

9. What do you think are the main environmental factors that worsen respiratory diseases?

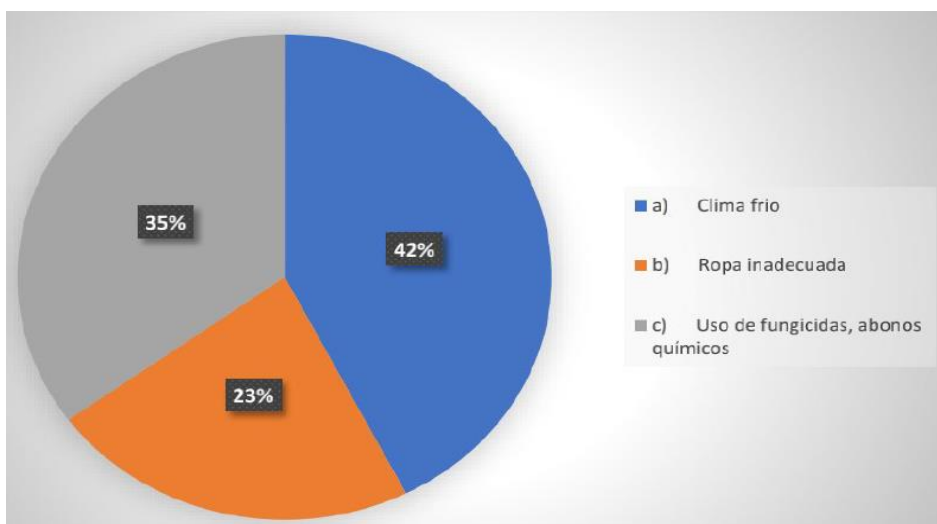


Figure 9: Habits

Source: Field Research

Analysis and interpretation

According to the information obtained in the applied survey, the results obtained indicate that most of the patients who come to the South Health Center indicate that most of the main reasons why respiratory infections are acquired are due to the change of climate, cold weather, heavy rains, strong sunshine; as well as the inhalation of fungicides, chemical fertilizers, as this is a province, whose source of sustenance is mostly agriculture, which uses toxic substances that are harmful to humans.

10. How many respiratory infections have you had in the past 6 months?

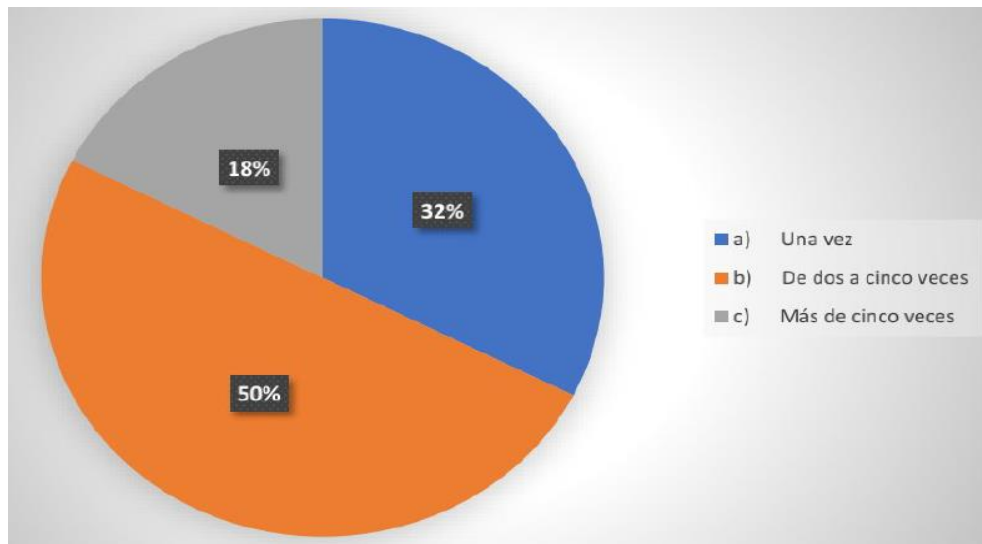


Figure 10: Habits

Source: Number of Respiratory Infections

Analysis and interpretation

According to the information obtained in the survey, according to the results obtained, half of the patients who come to the South Health Center have had between two and five respiratory infections in the last six months, while a smaller percentage has contracted a respiratory infection at least once during the last six months. Therefore, it is evident that the population has constant and repeated respiratory infections, which implies greater morbidity.

Conclusion

Respiratory infections, which are caused by bacteria, fungi and viruses, arise in any region of the respiratory tract, whose common symptoms are fever, cough, sore throat, sneezing, muscle pain, among others. The most common being high infections and the most serious being low infections, so the prevention method is correct and frequent hand washing, followed by a good diet, with a healthy lifestyle, doing sports and avoiding tobacco or any psychotropic substance that affects our body.

The risk factors highlighted at the Tulcan Sur Health Center are: mainly smoking that affects both actively and passively in 68% of our population, followed by chronic diseases such as hypertension and diabetes, these make our patients more vulnerable and prone to contracting any type of infection and affect 53% and are the main reasons for consultation at the Health Center, Another important risk factor is overcrowding, which is the main cause of the spread of any type of viral infection, and this factor affects 43% of our surveyed population; Other less prevalent risk factors include climate change and exposure to chemicals used in agriculture, which are very harmful to health.

References

Martin Cantera 2014. Epidemiology of respiratory diseases. Pdf.

Abigail R. Lara M. (May 2020) Exposure to gases and chemicals. MSD MANUAL.

Carvajal Castaño, Luisa Maria; M. H (Dec. 2021) Respiratory infections and diabetes, Latin American Journal of Hypertension.

Frazao, D. A. (August 2021) Respiratory infection: symptoms, causes.

TAUSAUDE. H, S (April 2020) Effects of overcrowding on respiratory infection diseases. Evidence Aid.

Revelo, D, S (2019). Treatment of respiratory infections. MAYO CLINIC.

Smiths, D. (2017) Chronic respiratory diseases. THE NORMAN LEAR CENTER.

Villacis, J.A. (2018, May 22) file://C:\Users\Lenovo%20;7\Downloads\ccsbrief_ecu_en.pdf.

Bush, L M. (2020) Infectious diseases. MSD MANUAL.

Gonzales, D (Feb 16, 2019). Most common respiratory diseases. Hospital San Angel inn.

KIRCHHER, D. C (2019). Respiratory infection.

Published by M. M (2021). Respiratory diseases: Pneumonia ICD-10J09-J22 SE 01-47 Ecuador 2021. UNDERSECRETARY OF PUBLIC HEALTH SURVEILLANCE, NATIONAL DIRECTORATE OF EPIDEMIOLOGICAL SURVEILLANCE, PNEUMONIA GAZETTE.