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Health in an interconnected world

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SUMMARY

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EXPANDED SUMMARY

ANALYSIS OF THE PREVALENCE OF MORTALITY FROM TUBERCULOSIS IN DIVERSE REGIONS OF BRAZIL ACCORDING TO DATASUS

ANÁLISE SOBRE A PREVALÊNCIA DE MORTALIDADE POR TUBERCULOSE NAS DIVERSAS REGIÕES DO BRASIL DE ACORDO COM DATASUS

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ABSTRACT: Tuberculosis is a bacterial disease caused by Mycobacterium tuberculosis. This can affect the lung, as well as other organs in the human body. It is a neglected disease in Brazil, and has a high mortality rate. The objective is to understand the prevalence rate of deaths in the different regions of Brazil according to DATASUS, from 2014 to 2018. The materials and methods were research of articles in available databases, in addition to the collection of secondary data available on the DATASUS platform. As a result of the research, the highest rates were in the Southeast, followed by the Northeast. It is concluded from the results that this fact may be related to pre-existing risk factors and prevention factors. From this, it will be possible to analyze it to propose actions to mitigate this statistic.
KEYWORDS: tuberculosis, mortality, epidemiology

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1. INTRODUCTION

Tuberculosis is defined as a bacterial disease, caused by a bacterium, Mycobacterium tuberculosis, also called Koch's bacillus. It affects the lung, but can reach other organs of the human body, depending on its severity. Many people can serve as incubators for Koch's bacillus, even if they don't have the symptoms caused by tuberculosis. Approximately 70,000 Brazilians are diagnosed with tuberculosis each year (RABAHI *et al*., 2017).

Tuberculosis is a major public health problem and is considered one of the neglected diseases in Brazil. It is one of the causes of death among communicable diseases in adults (CECCON *et al.,* 2017).

Its high prevalence associated with the great potential for dissemination has made it classified as an emerging condition, which has high and increasing levels of morbidity and mortality, especially in poor countries. According to the high rates presented in the studies, it is concluded that among the reasons for the situation, the relationship between tuberculosis and poverty and social exclusion stands out, these issues being central to vulnerability to illness (SILVA, MELLO, MIGLIORI, 2020).

Risk factors for tuberculosis are diabetes, smoking, alcohol and use of other drugs (BOFFO, *et al.,* 2017).

And the aim of this study was to analyze the prevalence of deaths from respiratory tuberculosis in different regions of Brazil to understand this pathology.

2. METHODOLOGY

The study was a documentary research. Statistical data were used, from the database of the Department of Informatics of the Unified Health System (DATASUS), from 2014 to 2018, using the respiratory tuberculosis filters in the North, Northeast, South, Southeast and Midwest regions.

3. RESULTS

The regions with the highest incidence were the Southeast, followed by the Northeast, within the period from 2014 to 2018. The total number of cases was 20,664. Thus, the percentage of deaths representative of the Southeast region was 42.96% of the total deaths over the entire period. In the Northeast it was 32.72%. The remainder, corresponding to 24.36%, represents the North, South, and Northeast regions. which can be seen in figure 1.

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Figure 1 - Identification of the percentage of mortality from tuberculosis according to the regions of Brazil from 2014 to 2018
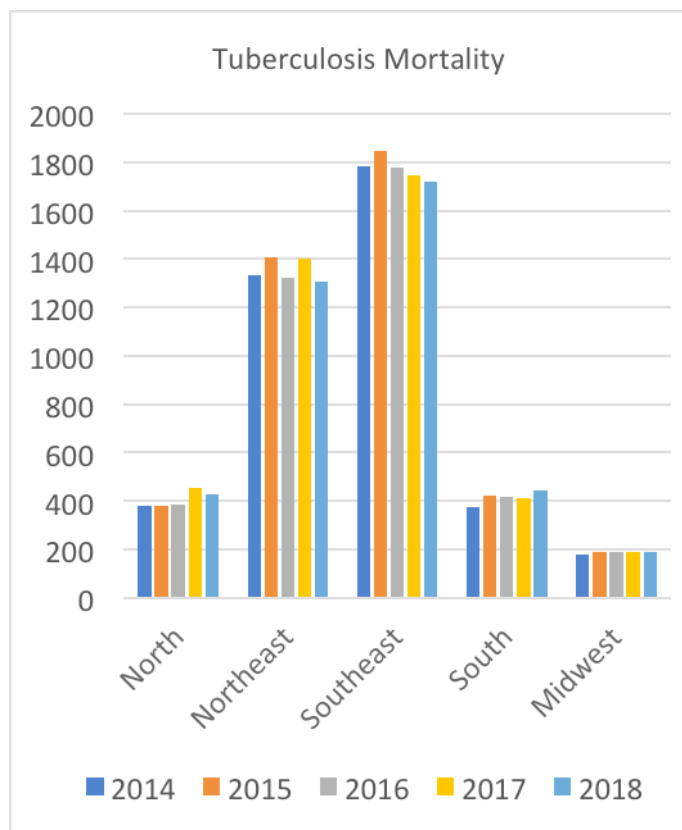
Source: DATASUS, 2020.

4. CONCLUSIONS

Thus, according to the results presented, it is concluded that the highest incidence of cases is in the Southeast, followed by the Northeast. This fact may be closely related to risk factors and forms of prevention. Thus, it is important to carry out health education so that it can provide guidance on tuberculosis, in addition to the elaboration of public policies to improve the population's socioeconomic condition.

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EXPANDED SUMMARY

DIABETIS AND ITS BIGGEST SUSCEPTIBILITY TO THE SERIOUS FORMS OF COVID-19

DIABETES E SUA MAIOR SUSCETIBILIDADE AS FORMAS GRAVES DA COVID-19

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ABSTRACT: *According to Sociedade Brasileira de Diabetes (2020) the biggest risk of evolution of the serious forms of COVID-19 is related with a long history in high rates of glucose, bad metabolic control, presence of micro or macro vasculars complications, concurrent diseases and specially in seniors older than 60. The objective of this work is to identify the evidence available in the literature on the relationship between the SARS-CoV-2 pandemic with diabetes and whether both increase the severity of COVID-19. It's a narrative review of the literature, in which it was selected articles published since March 2020 on the search basis of PubMed, Scielo and LILACS. Although the pathophysiology of COVID-19 is not completely clear, studies have demonstrated a relationship between diabetes and the mortality rate of COVID-19. It is identified that when related to diabetes mellitus the cases of COVID-19 have a bigger susceptibility to the gravest forms, raising the numbers of hospitalizations and death rate.*
KEY-WORDS: *Pandemic; Diabetes; COVID-19*

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1. INTRODUCTION

The pandemic of this century emerged on December 31, 2019 when the World Health Organization (WHO) received notification of cases of unexplained pneumonia in the city of Wuhan, China, with the probable etiology of the new Corona virus strain. A few days later, the suspicion was confirmed and, even during this period, the WHO declared a public health emergency of an international character, since the speed of spread of the disease was becoming a concern. However, it was only on March 11 that this disease started to be classified as a pandemic (World Health Organization, 2020).

COVID-19 it's the name of the disease caused by the new coronavirus, SARS-CoV-2. Although it is a pathology still unknown, WHO defined some groups of risk according to the gravity of the disease, including carriers of lung diseases, hypertension, senior citizens, cardiopathy patients, cancer patients, diabetics, among others carriers of pre-existing comorbities. In the context of diabetes, according to Sociedade Brasileira de Diabetes (2020), the biggest risk of evolution of the serious forms of COVID-19 is related with a long history in high rates of glucose, bad metabolic control, presence of micro or macro vasculars complications, concurrent diseases and specially in seniors older than 60. A Chinese study with 1099 patients with COVID-19 showed that in 173 carriers of the serious forms of the disease, 16,2% were patients with diabetes mellitus (GUAN *et al.,* 2020).

Given the above, the objective of this work is to identify the evidence available in the literature on the relationship between the SARS-CoV-2 pandemic with diabetes and whether both increase the severity of COVID-19 and, consequently, lead to a greater number deaths of those infected.

2. METHODOLOGY

It's a narrative review of the literature, in which it was selected articles published since March 2020 on the search basis of PubMed, Scielo and LILACS. It was used the terms "diabetes mellitus", "coronavirus" and "mortality''.The Boolean operator employed was AND and as a filter the publications of the last year. In PubMed, 7 articles were found, of which 4 were selected and read in full. In Scielo, 4 articles were found, with a duplication of 3 of them, thus selecting 1 of them for reading. In LILACS, 6 articles were found, 4 of which were most relevant to the topic of this review.

3. RESULTS AND DISCUSSION

Although it isn't completely clear the fisiopatology of COVID-19, a study showed a significative relation between diabetes and the mortality rate from COVID-19 through a chance of 1,9 (KUMAR *el al.,* 2020). Another study showed that the growing chances of death at hospitals are associated with advanced age and organic failures and dimer-d higher than 1 µg / mL in admission. (ZHOU, 2020).

The authors cited and some more have established studies to demonstrate this important relationship. These studies and their respective conclusions are presented in table 1.

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Table 1 - Authors who studied the relationship between Diabetes mellitus and SARS-CoV-2 and their respective conclusions.

Authorship and year	Objective of the study	Design	Results
KUMAR et al., 2020	To explore the relationship between diabetes and mortality and severity of COVID-19, and to determine the prevalence of diabetes in patients with COVID-19.	Meta-analysis	33 studies - bringing together a total of 16,003 patients - found a significant relationship between diabetes and mortality from new strains of corona virus, with a combined odds ratio of 1.90 (95% CI: 1.37-2 , 64; p <0.01).
ZHOU, 2020	Demonstrate that BG management strategies for patients with diabetes with COVID-19 should be optimized.	Retrospective multicenter cohort study	Of the 191 patients with COVID-19, 137 were discharged and 54 died. Of these, 48% had comorbidities (60% hypertension; 19% diabetes).
MANTOVANI et al., 2020	To estimate the prevalence of established diabetes and its association with clinical severity and in-hospital mortality associated with COVID-19.	Meta-analysis	It was identified that the combined prevalence of established diabetes was 14.34% (95% CI 12.62-16.06%). It demonstrated that the major ratio occurred in non-Asian countries (23.34% [95% CI 16.40-30.28] and in patients aged ≥60 years (23.30% [95% CI 19.65-26.94].
GUAN et al., 2020	Assess the risk of serious adverse outcomes in patients with COVID-19, stratifying the state of comorbidity.	Cohort study	It demonstrated that among 173 carriers of the severe form of the disease COVID-19, 16.2% had diabetes mellitus.
ZHANG et al., 2020	To investigate the clinical characteristics and allergy status of patients infected with SARS-CoV-2.	Original article	Evaluated COVID-19-related hospitalization of 140 patients and showed that 12% of them had diabetes.
WU et al., 2020	Summarizes the main findings of the largest published case series report and discusses the emerging understanding and lessons	Case series study	Regarding lethality, a study of 44,672 cases of COVID-19 in China observed a rate of involvement of 7.3% diabetic patients.

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	from the COVID-19 epidemic.		

4. CONCLUSION

Although there are gaps on the relation of the infection by SARS-CoV-2, it is identified that when related to diabetes mellitus the cases have a bigger susceptibility to the gravest forms, raising the numbers of hospitalizations and death rate. Also, monitoring the glucose and adjusting medications in general, because they are effective not just to the prevention of complications, but also of diabetes itself.

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EXPANDED SUMMARY

INFORMAL URBAN SETTLEMENTS AND THE SPREAD OF DISEASES: VULNERABILITY INDEX

ASSENTAMENTOS URBANOS PRECÁRIOS E A DISSEMINAÇÃO DE DOENÇAS: ÍNDICE DE VULNERABILIDADE

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ABSTRACT: Introduction: *About 1 billion people live in informal settlements worldwide. Poor access to infrastructure affects health, leading to an increase in the spread of diseases, including the new coronavirus. Aiming to contribute to the safety and quality of human settlements, this study suggests a method to measure poorly infrastructured living spaces' susceptibility to the spread of diseases.* **Methods:** *The methodology adapts the Environmental Health Index in Slums (ISA/F), published by Almeida in 1999 and adds indicators related to urban quality, that can influence the spread of diseases.* **Results and Discussion:** *The preliminary results are the indicators, which were evaluated and qualified according to their influence on the general index.* **Conclusion:** *The index can be applied in local slums to test the indicators and undergo comparative studies. The development of the index is an important method to help to comprehend how physical, social and economic factors favor the spread of diseases in slums and can be an important tool for authorities to define priorities to improve public health.*

Keywords: *Vulnerability; Environmental Health; Public Health; Global Health.*

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1. INTRODUCTION

According to the United Nations Indicators (2019), about 1 billion people worldwide live in slums and other types of informal settlements. This number corresponds to an increase of 23.5% when compared to 2018 and indicates an accelerated rate of growth in poverty worldwide. Thereby, the lack of access to inappropriate urban amenities and services have become more common, negatively affecting the health and safety of these people, besides intensifying inequality and decreasing livelihood conditions.

In the beginning of 2020 the world faced a new alarming emergency, the COVID-19 pandemic, which has encouraged scientists to study the prevention and cure of many pathologies. The pandemic has emphatically underlined the vulnerability of slums to the spread of diseases. According to Instituto Igarapé, "slums are becoming a focal point of the pandemic" as areas "disproportionately impacted" with COVID outbreaks (CityMetric, 2020). Like so, the World Bank has stressed that the health and economic impact of the pandemic are "far more devastating for slum dwellers" (World Bank, 2020).

While the increase in the number of studies addressing this problem is important, to the best of our knowledge, there has been no published attempt to develop an index to measure the slum's susceptibility to the spread of diseases, such as the new coronavirus, which can spread more easily where prevention conditions are precarious. Therefore, this study aims to develop an index to measure the relationship between precariousness and the spread of diseases, to contribute to this discussion by documenting and evaluating urban health related indicators

This paper presents a summary of the objectives and structure of an ongoing study, which integrates a multidisciplinary undergraduate research project developed by the brazilian *Ânima Educação* group, involving researchers from the Architecture and Urbanism, Biomedicine, Civil Engineering and Medicine departments of UNICURITIBA in Curitiba/PR and UNIBH and UNA Guajajaras, in Belo Horizonte/MG.

2. METHODS

To understand and select the indicators which contribute to the vulnerability Index, a literature review and documental study were developed. The choice of indicators was based on its suitability to measure the relationship between the items that condition informal urban settlements to precariousness, and the spread of diseases. To select the themes of the indicators, important bibliographic references in studies on favelas were consulted, as well as current publications by local research groups that analyze Covid-19 and its effects on favelas, such as the group "Paraná against Covid".

The methodology used to develop the Index is based on the Environmental Health Indicator in Slums (ISA/F) developed by Almeida (1999). The study adds new indicators to those used by the autor, resulting from the applied research that was previously developed.

The new indicators were developed using data collected by the Latin American NGO TETO, a community organization that works with informal settlements, and complemented by information

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reported through public agencies, such as the civil defense and Brazil's Unified Health System (SUS).

3. RESULTS AND DISCUSSION

The preliminary results of this ongoing study are the indicators which were organized by category and score, using the method proposed by Almeida (1999) in the ISA/F.

The indicators of the environmental health index in favelas by almeida are these: Water Supply Coverage Indicator, Coverage in Sewage Collection and Septic Tanks Indicator, Garbage Collection Indicator, Drainage Indicator, Circulation Path Indicator, Geological Geotechnical Safety Indicator, Gross Demographic Density Indicator, Electricity Indicator, Land Regularization Indicator, Street Maintenance Indicator, Public Lighting Indicator, Public Space Indicator, Income Indicator and Education Indicator. As an example, the Water Supply Coverage Indicator measures the access of the houses to the public water system. It was maintained as an indicator, since it serves several purposes, such as personal consumption, bathing, washing food, watering crops, and therefore it directly interferes in the spread of mainly parasites and other pathologies which can be transmitted by water. Also, the lack of access to safe water sources can complicate the prevention of the spread of the new coronavirus.

The indicators added to those already selected by Almeida (1999) are these: Rustic households, Households without an exclusive sanitary unit, Excessive rental spending, Excessive density or cohabitation, Work formality, Longevity, Concentration of elderly people, Existence of air pollution emitters, Flood risk and Paving type. The density or cohabitation indicator was included, for example, in reference to the spread of the new coronavirus. It is known that agglomeration makes isolation difficult and it tends to contribute to the spread of diseases, especially respiratory ones and others involving direct contact. It can also be linked to psychological and stress conditions.

The figure 1 below contains a sample of some of the indicators which were used to develop the vulnerability Index. Each one was attributed a grade from 0 to 100, the closer to 0, the lesser the susceptibility to the spread of diseases. Then, all results will be added and divided by the number of total indicators to obtain the final result of the vulnerability Index of the settlement.

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Figure 1: Example of Indicators used to develop the Vulnerability Index

CATEGORY	INDICATOR	JUSTIFICATION	SCORE
SOCIOECONOMIC ASPECTS	Income	Higher-income makes it possible to enjoy better health status throughout the acquisition of health services, housing and living conditions.	No income or government aid: 100 < 0.5 minimum wage per capita: 80 0.5 to 0.1 minimum wage per capita: 60 1 to 2 minimum wage per capita: 40 2 to 3 minimum wage per capita: 20 > 3 minimum wage per capita: 0
HOUSING	Cohabitation	Overcrowded living spaces, with more than one family living at the same house, tend to favor the spread of infectious diseases.	Density of residents per bedroom: Less than 3: 0 Greater than 3: 100
NATURAL ENVIRONMENT	Presence of public spaces	Existence of safe spaces to gather can influence the maintenance of physical and mental health.	Public spaces located within a radius up to 1 km from the slum: 0 greater than 1 km from the slum: 100
INFRASTRUCTURE	Public water supply system	Access to safe water supplies allows several uses, such as human consumption, bathing, washing food, watering crops, and therefore it directly interferes in the spread of parasites and other pathologies transmitted by water.	Public network: 0 Clandestine connection: 50 No water supply: 100

Source: the authors (2020).

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4. CONCLUSION

For the conclusion of the study, the index will be applied in local slums in Curitiba and Belo Horizonte, Brazilian state capitals where the study members reside, in order to test the indicators and undergo comparative studies.

Since adequate housing is a human right in the The Universal Declaration of Human Rights (United Nations), the local governments must be able to provide assistance and living improvements to people in situations that are more vulnerable. This study is an important method to help to comprehend how physical, social and economic factors favor the spread of diseases in slums. It can be an important tool for the authorities to define priorities actions in each in attending to the precariousness of informal urban settlements, helping to improve public health and ensuring fundamental rights. Furthermore, it can be a tool for people who live in precarious conditions to demand improvements in order to achieve safer living conditions.

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IN TIMES OF CRISIS, DOES THE URGENCY OF TREATING AN EMERGING DISEASE OUTWEIGH EVIDENCE-BASED MEDICINE?

EM TEMPOS DE CRISE, A URGÊNCIA DE TRATAR UMA EMERGENTE DOENÇA SUPERA A MEDICINA BASEADA EM EVIDÊNCIA?

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ABSTRACT: *On January 30, 2020, the World Health Organization (WHO) declared the new coronavirus an International Public Health Emergency. Thus, medicine found itself at war against a still very unknown enemy, in which Evidence-Based Medicine (EBM) can be a tool when it comes to methodology and strategy for combat. The objective of this study was to analyze the possible actions in a time of health emergency, bringing Evidence-Based Medicine in its various forms as the main point of the search for standardized and effective medical conduct. Concerning the methodology, it is a narrative review of literature, of a qualitative nature and the bibliographic search was carried out in July 2020 in the Scielo and Pubmed databases. It is pointed out that the number of studies related to Covid-19 is growing exponentially, however, the health professional must always evaluate and prioritize those that offer solid and impartial scientific evidence. In conclusion, it is essential that health professionals make their decisions safely, based on reliable interventions. This guarantee is only possible when there are strict studies on which to base it.*

Keywords: *"Coronavirus Infections", "Evidence-Based Medicine" and '' Review''.*

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1. INTRODUCTION

On January 30, 2020, the World Health Organization (WHO) declared the new coronavirus an International Public Health Emergency, warning of the risks that exist in countries with vulnerable health systems. Thus, medicine found itself at war against a still very unknown enemy, in which the weapons to be used in combat are of unproven effectiveness. Therefore, Evidence-Based Medicine (EBM) is one of the most accurate tools when it comes to methodology and strategy for combat. However, its use has been questioned and neglected, in view of the urgency to find treatment responses and possible cures for Covid-19. Thus, questions about the current validity of the MBE are constantly raised. An analysis of the approach taken against other agents with potential epidemiological risk, such as Ebola, and the precepts established by Medical Ethics can be the tools used to arrive at a medical approach standardization. The objective of this study was to analyze the possible actions in a time of health emergency, bringing Evidence-Based Medicine in its various forms as the main point of the search for standardized and effective medical conduct.

2. METHODS

It is a narrative review of literature, of a qualitative nature. A critical and personal analysis of the authors was carried out in an attempt to answer the question: "In times of crisis, does the urgency of treating an emerging disease surpass evidence-based medicine?".

The bibliographic search was carried out in July 2020 in the Scielo and Pubmed databases. There was no time limit, country of origin of the study and area of knowledge. Literature review and opinion article in English and Portuguese on the topic of interest was included in the research. Thus, 20 publications made up the study.

5. RESULTS AND DISCUSSION

Evidence-Based Medicine can be understood as being explicit awareness and judicious use of the best current evidence in decision-making about the care of individual patients (SACKETT, *et al.*, 1996). In this context, at the beginning of the 21st century, it was decided that medical decision-making should be based on three primary factors: the best available scientific evidence, the physician's experience and intuition, and the patient's preferences and values (SACKETT, *et al.*, 1996; SACKETT, *et al.*, 2000).

It is known that the number of studies related to Covid-19 is growing exponentially on a daily basis, however, the health professional must always evaluate and prioritize those that offer solid and impartial scientific evidence. Despite recent data showing that about 95% of intensive care studies show no benefit (HARHAY, WAGNER, RATCLIFFE, *et al.,* 2014), the hope of providing new treatments for Covid-19 exceeds the discouraging numbers. Therefore, the health professional, when analyzing a scientific article, must know the hierarchy of quality of evidence to be used as

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a tool in the conduct with his patient. In order of most relevant to least relevant there are: systematic reviews, randomized controlled clinical studies, cohort studies, case control studies, case series and case reports (SACKETT, *et al.*, 2000). Finally, expert opinion is rarely used, only in cases where there is no stronger evidence (SACKETT, *et al.*, 2000).

It is worth mentioning that, although the hierarchy of levels of evidence is dynamics since new studies appear every day and new hypotheses are formulated, MBE still aims to comply with less risky clinical decisions and with rates of minimized errors and unwanted effects. In this sense, the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) is the platform most used by health professionals, gathering important evidence and recommendations for clinical practice, in order to guide on the quality of published studies. In it, there are four levels of evidence, also known as certainty of evidence or quality of evidence: very low, low, moderate and high, with evidence from randomized clinical trials generally classified as high quality (GUYATT, OXMAN, VIST, *et al.*, 2008). In this way, the recognition of the quality of the evidence will help to avoid errors, as insufficient attention to the quality of the study allows the formulation of inappropriate guidelines and recommendations that can influence doctors to act to the detriment of their patients (SIEMIENIUK, GUYATT).

Non-specialists on the subject of Evidence-Based Medicine may think that only medical professionals use evidence to guide their conduct. However, the MBE panorama has expanded to include subjects such as Nursing, Dentistry, Public Health and Health Policies. Thus, the importance of the subject goes beyond medicine, encompassing the evidence-based

conduct of the entire multidisciplinary team that aims to help the patient in a vulnerable situation (FERGUSON, *et al., 2005*).

Currently, the scientific need for evidence-based implementation is recognized to ensure the optimal functioning of clinics, hospitals and health services (DJULBEGOVIC, 2014) and to make public health policy decisions. One difficulty with public health systems in several countries is the resources allocation to ensure that the program works correctly. Thus, health research will produce alternatives for the detection, prevention and treatment of diseases, but budget restrictions will not allow access to the entire population (CANUTO, 2012). For that, the cost-effectiveness analysis is used, which is a form of complete economic evaluation in which both the costs and the consequences of health treatments are examined (CANUTO, 2012). This analysis makes it possible to save more lives in the context of a pandemic, assuming the recurrent scarcity of resources in the world's public health systems.

In the uncertain context of a tragic Ebola epidemic or a pandemic as in Covid-19, it is evident how necessary responses are needed. Like the avian flu, the World Health Organization offered guidelines that were supported by a rapid review methodology, in which only 12 weeks passed from the formation of the guidelines panel to the conclusion of the recommendations (SCHÜNEMANN, HILL, KAKAD, *et al.*, 2007). This experience shows that the rapid synthesis of evidence can be done to support decisions that range from clinical policies to health policies (SCHÜNEMANN, MOJA, 2015).

The delay in most revolutionary randomized clinical trials should not persuade the physician to believe that doing something is better than doing nothing. This is

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because, according to the principle of beneficence and not maleficence, the physician's action must always cause the least damage or aggravation to the patient's health, reducing the adverse or undesirable effects of diagnostic and therapeutic actions in humans and maximizing the benefits to their integrity and quality of life (BEAUCHAMP, CHILDRESS, 1989).

In addition, it is always important to provide the patient with proper information about their health condition, risks, and appropriate measures so that the shared decision of conduct is possible; even in cases of scarce evidence and when individuals are unable to make choices concrete personal information without supporting the numerical probabilities to which they are subject (FERGUSON, *et al, 2005*). Thus, the development of person-centered care emphasized the priority of considering an individual perspective, with the patient's role not only consenting to what is offered by the health system, but being an active part in choosing and adapting treatment according to their needs, resulting, ideally, in a joint decision on treatment (SANDMAN, MUNTHE, 2010), which advocates one of the three basic pillars of EBM.

When it comes to diseases in advanced stages and with little probability or hope of cure, patients tend to make decisions about therapy that can hopefully bring about a longer survival or regression of the disease, even if this treatment has little evidence (SANDMAN, LILIEMARK, 2017). The health professional must show and explain to the patient the scientific information about the medications and treatments available and try to avoid producing more harm to the individual. This fact can be applied not only to conducts for more lethal diseases, but also to test treatments for relatively new diseases, such as Covid-19. Corroborating this perspective, studies show that patients and professionals alike have difficulty understanding and

interpreting information about probabilities and risks (PILARSKI, 2009; REYNA, 2009), showing that, more than the unbridled production of new scientific articles, it is essential to train professionals to work with the information presented.

It is known, however, that scientific articles produced in a short period can have important flaws, such as the suppression of research results (DJULBEGOVIC, GUYATT, 2017). However, if the validity of the review is not compromised, they can and should be done quickly, respecting the conduct guidelines and being transparent regarding the results (SCHÜNEMANN, MOJA, 2015). Thus, quick reviews that are not systematic run the risk of any other narrative review, making it necessary to always produce quality and genuine articles, even during a period of crisis.

Although the evaluation of drug efficacy involves in vitro studies as an initial step, new treatments should be adopted after more prolonged and rigorous stages of studies in humans, thro'ugh randomized clinical trials to really understand their benefits and risks (BHIMRAJ, *et al*., 2020). Only from then on, these substances could become evidence-based therapeutic resources, since in similar cases, several drugs have failed RCT tests. In this way, the "abandonment" of the principles of Evidence-Based Medicine can occur due to fear, overload professionals, due to lack of time to produce quality RCT studies or credibility of some professionals, who mistakenly believe that after some months of experience a complex syndrome is already known, which violates the ethical principle of non-maleficence to the patient.

Thus, EBM and the use of evidence are an essential requirement in the introduction of new treatments in the health area, as well as in the reevaluation of old treatments (SANDMAN, LILIEMARK, 2017). The

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beneficial effects of this development include: more safety by health professionals when providing information to the patient about the promised effects of treatment, less chance of unexpected and serious side effects, and the use of limited resources in treatments that really work for a reasonable cost.

MBE needs to also include mathematical, sociological and anthropological analyzes of local changes caused by a disease, like Ebola again, since it is already possible to measure the actions taken and their effects. Mathematical models produce evidence to support political decisions in new outbreaks and viral pandemics and in situations of uncertainty. Sociological and anthropological work shows how pandemic models do not always adapt well in their local contexts of implementation and can perpetuate the damage by silencing rationalities and alternative models (RHODES, *et al*., 2020). It is clear, therefore, the need to check the patterns of disease beyond the niche in the health area.

Continued updating has always been an important requirement for good medical practice. Nowadays, globalization, at the same time that it allows a fast traffic of information, can have harmful effects, depending on how this information will be treated, a term currently known as ´infodemic´ (GARCIA, *et al*., 2020). In this sense, Evidence-Based Medicine is a tool that should contribute to the training of professionals capable of properly selecting the source of knowledge and transferring information to medical practice, through attitudes that result in improving the quality of care. It is essential that health professionals make their decisions safely and that their interventions are reliable, making it unlikely that any undesirable effect will occur for the patient (EL DIB, 2007). This guarantee is only possible when there are strict studies on which to base it. Finally, adaptive science is present

to balance the need for conduct during an unknown outbreak.

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