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## CHANGES IN THE EDUCATIONAL SCENARIO POST PANDEMIC: THE CHALLENGES OF TEACHERS AND STUDENTS IN MEDICAL TRAINING

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**Abstract:** The COVID-19 pandemic led to significant changes in the educational scenario, profoundly impacting medical training. This challenging period highlighted the need for adaptation and innovation in the educational process, both for teachers and students. In this context, the importance of understanding and addressing the specific challenges faced by teachers and students in post-pandemic medical training stands out. This article explores changes in the educational scenario, focusing on the obstacles faced by education professionals and future doctors, in addition to proposing reflections on strategies and approaches to overcome these challenges. To carry out this study, an exploratory approach with a qualitative nature was adopted, involving the participation of professors and students of the medical course at a private institution located in the western region of Bahia. Interviews were conducted following a pre-defined script, covering a set of questions and topics related to the theme to be explored. Data processing occurred using the content analysis technique, following three essential steps: pre-analysis, exploration of the material (coding and categorization) and interpretation of results. Four central classes emerged from the process: I) Changes and adaptations in teaching medicine post-COVID-19 pandemic; II) Positive and negative impacts on medical training post-COVID-19 pandemic; III) Challenges in medical learning post-COVID-19 pandemic; IV) Consequences for medical training post-COVID-19 pandemic. Understanding these transformations is fundamental to shaping a resilient and effective educational environment, capable of preparing health professionals for the challenges of the future.

**Keywords:** COVID-19; Medical education; Educational Adaptation; Educational Challenges, Medicine Teachers; Medical students.

## INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) officially recognized the pandemic status associated with SARS-CoV-2, responsible for the development of Covid-19 (PARASHER, 2021). The risk posed by the virus' high contagion capacity caused devastating effects, triggering a global crisis in several sectors of society (RODRIGUES and COSTA, 2021).

To contain the spread of the virus, several countries have implemented significant restrictive measures in everyday life, including the mandatory use of masks, the practice of social distancing, the imposition of lockdowns, the cancellation of events, travel restrictions and the closure of businesses, schools and universities (LEE et al., 2021).

The pandemic impacted approximately 1.5 billion students in more than 200 countries, resulting in the largest disruption to the education system in history (UNESCO, 2020). These abrupt changes raised unique questions in several universities about how to conduct teaching within the restrictions imposed by the pandemic, triggering the implementation of a new form of education (MUKHTAR, 2020).

Due to the health emergency that emerged, medical training was modified in response to social distancing requirements, directly impacting the activities of medical students (BRASIL, 2020). For Kim et al. (2020), medical schools faced the challenge of adjusting their teaching methodologies to the virtual environment, without time to adapt to new technologies and virtual platforms.

These events had a significant impact on the teaching-learning relationship, which is traditionally based on face-to-face and practical classes (ALKHATEEB, et al. 2022; SILVEIRA, et al. 2023). Hands-on learning opportunities in hospitals and clinics have been reduced due to the risk of infection. Students

had less access to patients and participation in real clinical procedures (AHMED, ALLAF, ELGHAZALY, 2020; MENON et al., 2021).

Teachers and students had to quickly adapt to the online environment. Faced with the abrupt changes, student assessment methods were also impacted (FREIRE, et al., 2021). Practical assessments and clinical examinations have been restructured or postponed, and new forms of assessment, such as online assessments, have been implemented (GAMSIZKAN, 2021).

Studies indicate that the pandemic has impacted the physical and psychological well-being of both medical students and teachers. Both presented high levels of stress, anxiety, development of addictions and depression (DOBRACHINSKI, et al., 2021). These stressors arise from uncertainty related to the pandemic, changes in the teaching method, direct exposure to the disease, social isolation and loss of support, the high workload imposed on teachers, pressure and responsibility, as well as exposure to the suffering of patients in times of adversity (HAIDER, et al., 2022).

The reality imposed by the pandemic highlights the urgent need to investigate trends in undergraduate Medicine courses (GARCIA-JR, et al., 2022). Therefore, conducting research on changes in the post-pandemic educational scenario, focusing on the challenges faced by teachers and students in medical training, is essential given the uniqueness and scope of the impacts caused by the pandemic context. Deeply understanding these changes is essential not only to meet the immediate demands of the present, but also to strategically guide the construction of the future of medical education.

Research on this topic offers crucial insights to inform educational policies, develop innovative methodologies and promote resilience in both faculty and students, thus contributing to continued excellence in the

training of health professionals.

The general objective of this research is to comprehensively investigate and understand changes in the post-pandemic educational scenario, focusing on the challenges faced by both teachers and students in medical training.

## METHODOLOGY

This is a qualitative research of an exploratory nature conducted from data obtained through semi-structured interviews carried out with 20 professors and 20 students of the medical course at ``Centro Universitário UNI-NASSAU``, located in the municipality of Barreiras, Bahia. Data collection took place in the post-COVID-19 pandemic period, during the months of May and June 2023. The sample was determined by convenience, using the saturation technique common in qualitative studies. Previous contact was made with the participants to clarify the objectives of the study, obtain consent and collect signatures on the Free and Informed Consent Form.

As a guiding instrument, the researchers developed a script containing three questions for each sample group: For teachers: What is your perception regarding medical teaching in the post-pandemic period? What are the perspectives regarding the experience? What is the impact on the training of future medical professionals? For students: What is your perception regarding medical education in the post-pandemic period? What are the perspectives regarding the experience? What is the impact and consequences on your training? The interviews were conducted individually, through virtual platforms, taking into consideration, the convenience of each participant in relation to the schedule. This provided convenience, tranquility and privacy to the interviewees. All interviews were audio recorded and later transcribed in

full to facilitate preliminary analysis of the responses.

Data processing was carried out using the Content Analysis technique proposed by Bardin, following three essential steps: pre-analysis, exploration of the material (coding and categorization) and interpretation of results (BARDIN L, 2011). To analyze the speeches, the software IraMuTeQ (*Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires*) was used, which allowed the analysis of the textual corpus and words (SOUZA MAR, et al., 2018). The Descending Hierarchical Classification (CHD) technique was used, which consists of grouping words into classes, classifying them according to the vocabulary used. To assess the dendrogram data according to the generated classes, considering the words with  $X^2 > 3.84$  ( $p < 0.05$ ). In order to preserve the identity of the participants and guarantee anonymity, all names were replaced by words that express positive feelings, as a form of gratitude and encouragement in a time of great uncertainty.

The research was submitted to the Human Research Ethics Committee of Faculdade São Francisco de Barreiras - UNIFASB, following the criteria established in Resolution 466/12, and was approved under opinion number 4,627,156.

## RESULTS

In relation to the teachers who participated in the study, approximately 60% were between 35 and 45 years old, with 80% being female. Of the total, 70% had more than 10 years of experience in higher education, while 55% held a master's and/or doctorate degree. The vast majority, representing 95%, were employed as hourly workers, and 80% were dedicated exclusively to medical school. With regard to students, 75% were between 18 and 25 years old, and 70% were female. Additionally, 95% reported having studied at

a private school, and 65% were studying the basic medical cycle (1st - 5th semester).

With the aim of describing the perception of teachers and students about the impacts and consequences of COVID-19 in the educational scenario of medical training, the participants' statements were analyzed using the Descending Hierarchical Classification (DHC) technique. The general corpus was composed of 40 texts, subdivided into 226 text segments (ST), of which 197 STs were considered (87.16%). 6,437 occurrences (words, forms or words) were identified, covering 2,017 different words, of which 652 occurred only once. The analyzed content was categorized into four classes: Class I - Changes and adaptations in medical teaching post-COVID-19 pandemic, with 54 STs (24.41%); Class II - Positive and negative impacts on medical training post-COVID-19 pandemic, with 46 STs (23.35%); Class III - Challenges in medical learning post-COVID-19 pandemic, with 62 STs (31.47%); and Class IV - Consequences on medical training post-COVID-19 pandemic, with 35 STs (17.76%), as shown in Figure 1.

In the dendrogram (Figure 1), the classes were branched into three categories (A, B and C) of the total corpus under analysis. Subcorpus A, called "Changes and impacts in post-pandemic medical training", refers to classes one and two, subcorpus B, called "Post-pandemic scenario and challenges in medical learning", refers to class three and "Impact on post-pandemic medical training" refers to class IV.

With the aim of improving the visualization of words in the textual corpus in relation to their corresponding classes, a class diagram was created containing examples of words from each class, evaluated using Pearson's chi-square test ( $X^2$ ). This diagram highlights evocations that share similar vocabulary with each other and differ from the vocabulary

of other classes. Then, each of these classes, identified through Descending Hierarchical Classification analysis, will be presented, operationalized and exemplified (Figure 2).

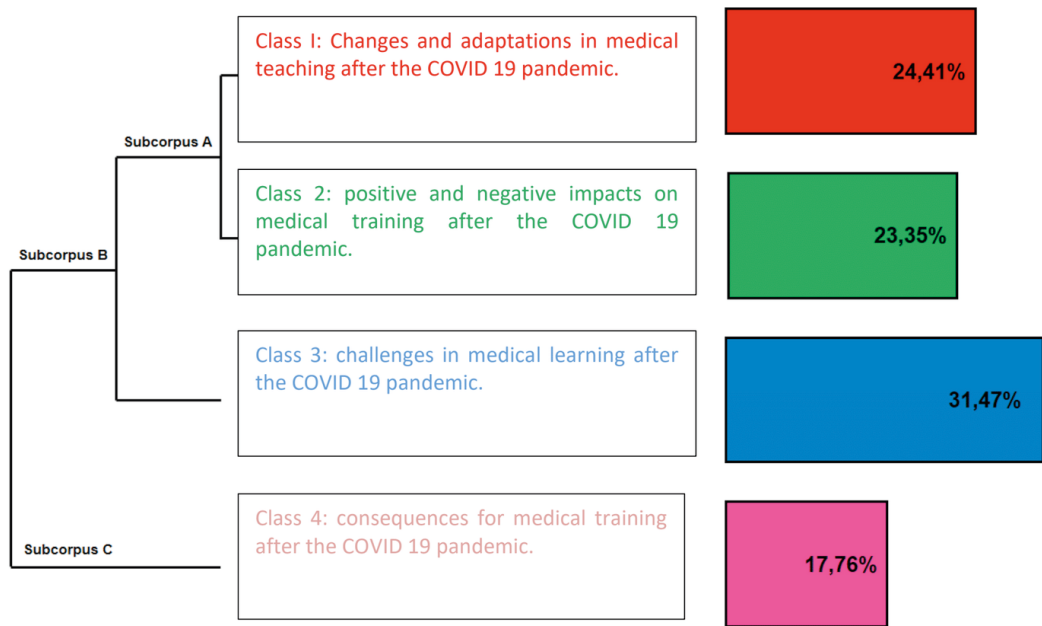
Based on pre-analysis, exploration of the material (coding and categorization) and interpretation of results, based on the Descending Hierarchical Classification, four central thematic classes were revealed.

### **CLASS I: CHANGES AND ADAPTATIONS IN MEDICAL TEACHING POST-COVID-19 PANDEMIC.**

It comprises: 24,41% ( $f = 54$  ST) of the total corpus analyzed. Consisting of words and radicals in the interval between  $X^2 = 4,17$  (Transition) and  $X^2 = 43,2$  (Adaptation). Class I covers the significant transformations and necessary adaptations in medical teaching after the COVID-19 pandemic period. This theme has the following keywords: adaptation, transition, updated, balance, resilience, skills, reflection, flexible and humanized. Faced with the challenges posed by the COVID-19 pandemic, medical teaching has undergone significant changes and adaptations. The transition to the remote format, the need to incorporate innovative educational technologies and the restructuring of curricula were some of the transformations observed, as highlighted in the following statements:

"The physical distancing required by the pandemic accelerated the transition to online medical teaching, creating new opportunities for virtual learning, virtual clinical simulations and educational telemedicine." (Professor 8)

"The interruption of face-to-face activities led medical schools to rethink their approaches, incorporating more teaching based on real problems and clinical cases, allowing students to develop practical skills even at a distance." (Professor 13)



**Figure 1:** Dendrogram of the Descending Hierarchical Classification of the textual corpus of the perception of teachers and students regarding the impacts and consequences of COVID-19 in the medical educational scenario. Barreiras, Bahia, Brazil, 2023

Source: Field research, 2023.

Text corpus (226 ST Total, use of 197 (87.16%))											
Class 1: changes and adaptations in medical teaching after the COVID 19 pandemic (24.41% STS)			Class 2: positive and negative impacts on medical training after the COVID 19 pandemic (23.35%, STS)			Class 3: challenges in medical education after the COVID 19 pandemic. (31.47% STS)			Class 4: consequences for medical training after the COVID 19 pandemic (17.76% STS)		
Word	f	X <sup>a</sup>	Word	f	X <sup>a</sup>	Word	f	X <sup>a</sup>	Word	f	X <sup>a</sup>
Adaptation	38	43,2	Virtualization	27	23,7	Experience	17	19,8	Technology	15	15,56
Balance	24	19,7	Flexibility	17	17,8	Empathy	11	11,8	Needs	13	13,8
Skills	14	12,1	Autonomy	14	12,1	Relationship	11	11,1	Innovators	13	13,8
Reflection	10	8,9	Simulation	13	10,6	Uncertainty	9	9,07	Investments	10	9,07
Humanized	10	8,9	Digitization	11	9,98	Focus	9	9,07	Tool	10	9,07
Flexible	7	6,4	Video classes	12	7,43	Motivation	7	8,4	Collaboration	11	7,11
Resilience	5	5,6	Practice	12	7,43	Updated	10	6,93	Dialogue	8	6,78
Updated	4	4,8	Overload	12	7,43	Capacity	10	6,93	Telemedicine	6	6,45
Transition	3	4,17	Emotional	8	4,01	Contact	5	4,76	Opportunity	4	5,88

**Figure 2.** Class Diagram

Source: Field research, 2023.

“The pandemic highlighted the importance of resilience and adaptation in medical training, preparing students to face situations of crisis and uncertainty, and promoting more flexible and self-directed learning.” (Teacher 4)

The transition to online learning following the COVID-19 pandemic represented a significant milestone in global education. With the closure of schools and universities around the world, educational institutions were forced to quickly adapt to new ways of teaching and learning (SILVA, et al., 2022).

Technology played a crucial role in this transition, allowing teaching to continue through online learning platforms, video conferencing and other digital resources. Although there were challenges, such as the lack of access to technology and high-speed internet for some students, the transition also opened up new opportunities for innovation in teaching (SANTOS et al., 2021).

During the COVID-19 pandemic, medical schools have had to implement new pedagogical strategies to ensure the continuity of students' education. Remote teaching and telemedicine have become essential tools in this process. However, this transition was not without challenges (GUSSO et al., 2020). The lack of practical contact with patients, which is crucial for medical training, was one of the main concerns. In this context, resilience proved to be a vital skill for students, being fundamental to overcoming times of crisis and uncertainty (SANTOS et al., 2020).

In the post-pandemic scenario, marked by significant transformations, medical education has experienced notable evolution. In this context, teachers highlight paradigmatic changes in the teaching approach, emphasizing fundamental values that include ethics, humanized care and interprofessional learning. This relationship can be seen according to the statements:

“Collaboration between global medical institutions has intensified, enabling the rapid sharing of information and best practices in teaching, resulting in medical education that is more up-to-date and aligned with contemporary demands.” (Teacher 2)

“The emphasis on ethics and humanized care gained prominence in post-pandemic medical education, reminding students of the importance of balancing the use of technology and empathetic connection with patients.” (Teacher 15)

“Interprofessional learning has gained relevance, providing reflection on the need for future doctors to better understand the functions and contributions of other areas of health, aiming for a more holistic and integrated approach.” (Teacher 7)

In the post-pandemic era, medical education is undergoing a transformation marked by the reinforcement of ethics and humanized care (FREITAS, et al., 2021). The appreciation of non-verbal communication stands out, showing that facial expressions, especially a smile in the eyes, are essential for establishing meaningful relationships (MARRA et al., 2020).

The difficulty of physical interaction highlights the ethical challenge of distancing, while the promotion of empathy is emphasized by learning about self-knowledge, self-care and compassion. The combination of ethical, human and technical aspects reflects the search for comprehensive medical training that is aware of its role in society (FERREIRA et al., 2022).

The COVID-19 pandemic has driven a rapid transformation in teaching-learning methods, highlighting the pressing need for innovation. Accelerating the use of digital technologies and adapting to these tools have become imperative, especially when associated with active methodologies (SILVA et al., 2022).

The use of platforms for remote, distance and hybrid teaching emerged as an essential strategy during the pandemic, enabling the continuity of educational processes. In addition to their role in training activities, digital technologies and remote access were widely adopted as tools for disseminating information and as an alternative to promoting social interactions (GOMES et al., 2020).

In this context, collaboration between global medical institutions was strengthened, allowing the rapid sharing of information and best practices in medical education (SILVA, CASTRO, SALES, 2018). This collaborative exchange contributed to a more up-to-date medical education aligned with contemporary demands, reflecting the dynamic adaptation to the new educational scenario (DE NEGRI et al., 2020).

## **CLASS II: “POSITIVE AND NEGATIVE” IMPACTS ON MEDICAL TRAINING POST-COVID-19 PANDEMIC.**

It comprises: 23,35% ( $f = 46$  ST) of the total corpus analyzed. Consisting of words and radicals in the interval between  $X^2 = 4,01$  (Video lessons) and  $X^2 = 23,7$  (Virtualization). Class II covers the positive and negative impacts on medical teaching after the COVID-19 pandemic period. This theme has the following keywords: Virtualization, Flexibility, Autonomy, Simulation, Digitization, Video classes, Practice, Overload and Emotional.

The positive aspects and learning opportunities that have emerged in post-pandemic medical training emphasize resilience, innovation and the importance of holistic skills in modern medical practice. This relationship was evident in the teachers' speech:

“A Virtualization has brought flexibility to teaching, allowing greater access to

interactive online resources. Students have more autonomy in learning.” (Teacher 9).

“Virtual clinical simulation provides a safe environment for practice.” (Teacher 17).

“Virtualization allowed the participation of renowned speakers from anywhere in the world, enriching our courses.” (Teacher 10).

“The digitization of study materials and the production of video classes made access easier for students. Recorded classes allow for flexible revisions.” (Teacher 20).

Distance learning emerged as an emergency measure in the context of higher education during the Covid-19 pandemic, expanding instruction and learning opportunities through information and communication technologies (ICT) in Medicine courses (PAULINO, et al, 2023).

Remote teaching, driven by necessity during the pandemic, has brought with it a series of benefits for higher education. According to Koch, et al. (2021) the possibility of learning in small groups contributes to a more enriching and personalized educational experience because in small groups, there is closer interaction between participants, facilitating the exchange of ideas, questions and more in-depth discussions.

For Dhillon, Salimi, Elhawary (2020), shorter teaching sessions are considered more effective as they maintain students' attention more effectively. According to the authors, concentrating intensively for a short period is easier than maintaining attention for long periods, reducing the likelihood of distractions.

Authors have highlighted as a positive aspect the ability to grant greater autonomy to the student in building their own study schedule, an autonomy that serves as a catalyst for the student's discernment and responsibility, playing a fundamental role in their maturation process (ZAHIRANI et al,



2021; LIEBERMAN, et al., 2021).

Furthermore, video classes played a significant role in medical training during the pandemic, presenting several positive points. For Shaw, Hennessy, Anderson (2021), the use of visual resources, such as graphs and simulations, enriches the understanding of complex concepts. The virtualization of classes also expanded access to specialized teachers, regardless of students' geographic location, promoting a diversity of perspectives (MORETTI-PIRES et al. 2021).

However, professors also mentioned negative aspects, emphasizing the difficulties and limitations that the pandemic imposed on medical training. Specifically, the lack of practical experiences and face-to-face interactions were highlighted, as well as the challenges associated with the quality of online teaching and disparities in access. This vision is evidenced in the following statements:

“ Virtual clinical practice does not fully replace practical experience in the hospital environment.” (Teacher 6).

“Some students struggle with digital overload and lack of physical contact during practical classes.” (Teacher 13).

“The emotional connection between teachers and students was compromised. We missed the face-to-face dynamics.” (Teacher 16).

“Practical assessment has become more challenging, and the lack of face-to-face interaction impacts the building of the teacher-student relationship.” (Teacher 2).

The move to remote teaching, carried out through digital distance education platforms, has emerged as a key piece in this scenario. On the other hand, this transition was not without its challenges. For Samueli et al. (2020), the fact that remote teaching was carried out abruptly and without the possibility of gradual adaptation caused digital overload, especially

in teachers who did not have the ability to handle the digital tools available.

Many teachers needed to quickly adapt to new technologies and platforms that were previously little known, resulting in an accelerated learning curve. Furthermore, the limitations of this new approach included the suspension of practical classes and the absence of social interaction, pointing to the need for improvements in remote teaching (GARCIA JR et al, 2022).

The COVID-19 pandemic has brought significant challenges to medical training, requiring a reevaluation of the teaching-learning process. With the implementation of social distancing as a primary preventive measure, medical students around the world found themselves compelled to adopt information and communication technologies to maintain a study routine (SKRZYPEK, et al., 2020).

However, this transition to remote teaching exposed significant gaps, especially due to the lack of interaction between teachers and medical students. Additionally, restrictions on in-person activities reduced learning experiences in hospital and clinical environments, harming students' exposure to a variety of medical cases (KHAN, et al., 2021).

This scenario compromised the professional development of medical students, limiting the diversity of care contexts and hindering the training of versatile doctors (GARCIA, JR et al, 2022).

### **CLASS 3: CHALLENGES IN LEARNING IN MEDICAL TRAINING POST-COVID-19 PANDEMIC.**

It comprises: 31,47% ( $f = 62$  ST) of the total corpus analyzed. Consisting of words and radicals in the interval between  $X^2 = 3,87$  (Contact) e  $X^2 = 19,82$  (Experience). Class III covers the positive and negative

impacts on medical teaching after the COVID-19 pandemic period. This theme has the following keywords: Experience, Trust, Empathy, Relationship, Uncertainties, Focus, Motivation, Updated, Capacity and Contact.

The experience of learning medicine after the pandemic demonstrates the importance of adaptation and flexibility, as online teaching and limitations in practical activities have completely changed the dynamics of training. This condition can be seen in the following student statements:

“The lack of real clinical practice was a big challenge. We learn a lot online, but nothing replaces practical experience. I feel like we lost a lot in this aspect.” (Student 7)

“The incorporation of technology and virtual simulations has brought new ways of understanding diseases and treatments, but I recognize that nothing replaces the real experience of dealing with real patients and cases.” (Student 16)

“The lack of internships and intensive clinical practice impacted my confidence in applying knowledge in real situations. I believe that this practical experience is fundamental to becoming a confident and competent doctor.” (Student 10)

“The pandemic highlighted the importance of communication in medicine, as restrictions made me realize how essential empathy and the ability to explain medical information clearly are for relationships with patients.” (Student 6)

The COVID-19 pandemic had significant impacts on social relations, leading to the adoption of individual protection protocols as a form of prevention. These measures, although essential to contain the spread of the disease, caused psychological and physical impacts on health care.

Medical communication has become a major challenge in this scenario, as it requires currently limited verbal and non-

verbal expressions (SEKINE, et al., 2023). In healthcare, communication is essential to establish a good doctor-patient relationship, obtain information necessary for diagnoses, build therapeutic plans compatible with the patient's reality, inform and comfort (BESSE, et al., 2022). Therefore, developing effective communication is an essential skill in the training of health professionals (BOMFIM, et al., 2020).

The global health crisis has emphasized the need to understand not only medical issues, but also the social, economic and ethical aspects surrounding population health. This condition is made explicit in the following statements:

“The lack of exposure to a wide variety of clinical cases during the pandemic concerns me, as I feel this may affect my ability to accurately diagnose and make informed decisions.” (Student 1)

“Despite the challenges, I believe that the pandemic taught me the importance of resilience and the constant search for knowledge, as medicine is always evolving and it is crucial to stay up to date.” (Student 19)

“The lack of human contact during internships and clinical practices was difficult. Medicine is about dealing with people, and the physical distance made us miss this essential part of learning.” (Student 11)

“Anxiety increased. Uncertainty about the future and constant changes in class format were challenging. This affected our focus and motivation.” (Student 5)

The COVID-19 pandemic has posed significant challenges to medical training, especially with regard to the diagnostic capacity and safety of doctors in training during emergencies (RIEDEL, et al., 2022).

Social distancing and restrictions on in-person activities limited students' exposure to

a variety of medical cases, directly impacting the development of their diagnostic skills (ZALAT, et al., 2021).

Medical practice requires practical experience in emergencies, and the reduction of these practical opportunities can have serious implications for the training of these professionals (GOMES et al., 2020). For Forycka, et al. (2022), also show that the limitations in clinical practice caused by the pandemic result in concerns and reduced motivation. The limitation of practical opportunities compromised students' confidence in applying theoretical knowledge in real scenarios, emphasizing the undeniable need for a solid clinical experience to complement theoretical instruction (SANTOS et al., 2020).

#### **CLASS IV: CONSEQUENCES FOR POST-COVID-19 PANDEMIC MEDICAL TRAINING.**

It comprises: 17,76% ( $f = 35$  ST) of the total corpus analyzed. Consisting of words and radicals in the interval between  $X^2 = 4,09$  (technology) and  $X^2 = 15,56$  (Opportunity). Class III contemplates the consequences on post-pandemic medical training. This theme has the following keywords: Technology, Needs, Innovators, Investments, Tool, Collaboration, Dialogue, Telemedicine and Opportunity.

The pandemic left a profound mark on medical training, highlighting the importance of flexibility and the ability to adapt in the face of unexpected changes. This condition was observed in the following statements:

“I believe that the use of technology will continue to be an important part of learning. I hope that we can better integrate online classes with practical experiences for a more complete training.” (Student 2)

“In the future, it would be interesting to allow students to choose between in-person

and online classes, adapting to individual needs.” (Student 9)

“The pandemic has taught us to be more resilient and adaptable. I believe this will shape the future approach to medical education, encouraging more innovative and flexible methods.” (Student 17)

“Virtual reality can be a valuable tool for practical simulations. In the future, I hope to see more investment in technologies that can offer close-to-real experiences, even at a distance.” (Student 11)

The implementation of digital platforms and remote methods during the COVID-19 pandemic provided new ways of accessing knowledge, but simultaneously highlighted the importance of face-to-face interactions for the comprehensive training of future health professionals (KANASHIRO, GRANDINI, GUIRRO, 2021).

The complexity of the medical field requires not only the assimilation of theoretical knowledge, but also practical experiences and personal guidance to shape qualified professionals capable of facing the challenges of clinical practice. However, practical experience in the context of medical training was adversely affected by the pandemic (YUSOFF, et al. 2020).

Limited exposure to diverse clinical scenarios during the pandemic may affect the ability to differentially diagnose and make informed decisions in complex situations. This approach is consolidated in the following reports:

“Interaction between students and teachers must be prioritized. Post-pandemic, I hope we can find ways to maintain collaboration and dialogue, even with the resumption of in-person classes.” (Student 3)

“Telemedicine is here to stay. I believe that remote clinical practice will be increasingly integrated into the curriculum, preparing us for changes in the healthcare landscape.”

(Student 14)

“Valuing student mental health must be a priority. I hope institutions implement measures to support student wellbeing, recognizing the emotional challenges faced.” (Student 5)

“Global collaboration can be strengthened. With online classes, we have had the opportunity to connect with students from all over the world. I hope this continues to promote a more comprehensive view of medicine.” (Student 1)

The health crisis, imposed by the COVID-19 pandemic, emerged as an essential catalyst for the development of essential skills in medical training. The ability to deal with uncertainty and pressure has been highlighted as a crucial skill for future healthcare professionals (MIAO, 2021).

The implementation of telemedicine during the COVID-19 pandemic has played a crucial role in the training of medical students, providing an innovative and adaptive approach to clinical teaching. Telemedicine offered students the unique opportunity to participate in virtual consultations, enriching their practical experience even amid social distancing restrictions (MASSUCATO, et al. 2021).

Furthermore, it allowed access to a variety of clinical cases, expanding the scope of clinical learning and understanding of the nuances in providing healthcare in a pandemic context (OTAKI, et al 2021). This valuable exposure to telemedicine not only strengthened the technical skills of future doctors, but also enabled them to adapt to rapid changes in the healthcare landscape, promoting more versatile medical training prepared to face emerging challenges (CAETANO, et al. 2020).

Experiencing this challenging context provided students with a unique opportunity to develop resilience, essential to face complex scenarios that may arise throughout

their medical careers. (MELO, et al., 2021). The challenges faced during this period made students aware of the importance of comprehensive preparation, including the management of critical situations and active participation in public health initiatives (GOMES et al., 2020).

## CONCLUSION

The research carried out investigated the significant impacts of the pandemic on the educational scenario, focusing on the challenges faced by teachers and students in post-pandemic medical training. The results highlighted a series of changes, both positive and negative, that directly influenced the teaching-learning process in the health area.

In the teaching context, there was a need to quickly adapt to the new demands imposed by the pandemic, with the incorporation of remote teaching methods, the restructuring of assessments and the search for innovative strategies to maintain the quality of teaching. Medical training, traditionally based on practical experiences, faced challenges in replacing these activities with virtual alternatives, highlighting the importance of rethinking pedagogical approaches and teaching strategies.

For the students, the research revealed obstacles related to the lack of practical experiences and face-to-face interactions, negatively impacting the comprehensive training of future health professionals. Furthermore, disparities in internet access were identified, affecting participation in online classes and widening educational inequalities.

Faced with these challenges, the research highlights the importance of a balanced and innovative approach to post-pandemic medical training. Strategies that integrate educational technologies, promote equity in access to education and value students' mental

health are fundamental. Continuing dialogue between teachers and students, combined with a reflective and adaptive stance, will be crucial to shaping a resilient and effective educational environment in the future. It is concluded,

therefore, that the research offers valuable insights for reflection on the impact of the pandemic on medical training and points out ways to build an educational scenario that is more prepared for future challenges.

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