Retrospective analysis of activities developed by the PET Dentistry in the Valley group

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ABSTRACT
The Tutorial Education Program (PET) aims to strengthen the model of inseparable teaching, research, and extension, contributing to the teaching and learning process in the Brazilian higher education institutions. The PET Dentistry in the Valley group was founded in 2009 at the Federal University of the Vales do Jequitinhonha e Mucuri (UFVJM). Since then, the group has been active in the development of activities that cover dialogic integration, with actions aimed at excellent academic training and community health needs, considering the social, cultural, and economic realities of the Jequitinhonha Valley. This article aimed to report the activities developed by the PET Dentistry in the Valley group from 2013 to 2020. Ninety-three activities were documented, comprising 49 teaching actions, 35 extensions, and 9 research. Of these, 79 have been fully developed and 14 have been partially developed. Regarding the target audience, 71 (76.34%) were aimed at the academic community at UFVJM and 15 actions (16.13%) at the external community. These results show the importance of PET Dentistry in the Valley and its values in the context in which the group is inserted.


1 INTRODUCTION
Teaching, research, and extension constitute the fundamental axis of the Brazilian university and their inseparability of these practices configures the basic principle of all higher education institutions. Present in several universities, the Tutorial Education Program (PET) assists in citizen education with quality, aiming to improve the skills of undergraduate students and fostering the creation of a professional that is multiform and articulated, who is active in the integrality of care, with initiative, communicative and with leadership. Thus, it corroborates the inseparability through the development of actions that enable the exchange of knowledge, development of critical thinking and teamwork, integrating service and community.

The PET has a positive impact on the teaching and learning process, encourages participants in dialogic integration with the community, articulates knowledge from
experience and pedagogical knowledge for the quality training of capable, humanized professionals and who is able to create social transformation. This integration allows the adoption of pleasurable, critical, and reflective teaching and learning practices, surpassing traditional teaching methods.

PET groups are present in numerous Brazilian higher education institutions. In 2007, the Federal University dos Vales do Jequitinhonha e Mucuri (UFVJM) was awarded its first PET group, a milestone that coincided with the moment of expansion of the Vale do Jequitinhonha region, in which this institution is located.

The Jequitinhonha Valley is located in the northeast region of Minas Gerais, known as Misery Valley due to its low socioeconomic and quality of life indicators. Although this reality lasts until the present time, it was attenuated due to the presence of the UFVJM; a highly relevant factor, since the region already presented, according to the demographic census of the Brazilian Institute of Geography and Statistics (IBGE) in 2010, one of the highest illiteracy rates when compared to other regions of Minas Gerais. According to the Atlas of Human Development in Brazil, from 2000 to 2010, the dimension that the index grew the most in the region in absolute terms was education; which corroborates the growing performance of the UFVJM and its expansion process that took place from October 2002.

As of 2013, the group's actions began to be reported annually and indexed in the Tutorial Education Program Management System (SIGPET). This form of data storage allowed better monitoring of the actions of the PET groups. Although PET Dentistry in the Valley was implemented in 2009, the present work accounts for the research, teaching, and extension activities carried out by the group from 2013 to 2020, which are documented on the SIGPET platform.

Therefore, the objective of the present study was to assess the actions developed by the PET Dentistry no Vale group from 2013 to 2020, as well as their impacts.

2 METHOD

This is a descriptive study with a quantitative and qualitative approach. Data collection was carried out by the students of the group, from 2019 until 2020, with the purpose of describing and accounting for the activities carried out by PET Dentistry in the Valley, available on the SIGPET platform.

The quantitative approach was developed through a documentary survey of the number of actions developed in each classification: teaching, research, and extension, as well as the target audience (internal or external community). Data referring to the number of participating students, scholarship holders, and volunteers, during the predefined period were also retrieved. The impact of the actions was observed qualitatively, through data compiled in the annual reports present on the SIGPET platform.

Data collection was carried out by two Petian scholarship holders who verified the documentary bases indexed in the SIGPET platform. The first step consisted of accessing the SIGPET platform and transcribing the actions recorded in the system into a Word document for better organization. The second step consisted of verifying the data as a guarantee of the full record of the actions and their impacts.

In the third step, the data were organized in a spreadsheet in Excel software and analyzed by descriptive statistics. Then the file was inspected to avoid possible errors. The activities were didactically classified into three pillars: teaching, research, and extension. Through the spreadsheet, it was possible to compile the data
into tables. Frequency analysis was obtained using the total number of projects carried out in the predefined period as a reference. Thus, the statistics were presented in percentage terms and the impact of the actions developed was observed through the analysis of the reports available on the SIGPET platform.

3 RESULTS

By analyzing all the data present on the platform involving projects, actions, and activities developed by the PET Dentistry in the Valley group between 2013 and 2020, 93 activities were documented. Forty-nine teaching actions, 35 extensions, and 9 research actions were carried out. According to the annual reports, of the 93 activities performed, 79 were fully developed and 14 were partially developed.

In addition to the activities carried out, the present investigation also accounted for a total of 57 Petians, among which 50 were scholarship holders and 7 volunteers.

Due to the Covid-19 pandemic in 2020, it was necessary to adapt the activities to the remote modality. Despite this challenge, the group carried out 17 activities, five of which were teaching; four of extension, and three of research, as can be seen in table 1.

<table>
<thead>
<tr>
<th>Teaching</th>
<th>Extension</th>
<th>Research</th>
<th>Target audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign language study</td>
<td>Healthcare exchange</td>
<td>Scientific paper writing</td>
<td>Petians</td>
</tr>
<tr>
<td>Courses</td>
<td>Health care exchange</td>
<td>Ten years of PET Dentistry in the Valley Group</td>
<td>Internal/External Community</td>
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<td>Preparation and entries of the Curriculum Lattes</td>
<td>Virtual Memorial of the School of Dentistry</td>
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<td>Financial education for dentists</td>
<td>Botulinum Toxin and Hyaluronic Acid, the Foundations of Facial Harmonization</td>
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<tr>
<td>Freshman Tour Reception 2020/1</td>
<td>InterPet UFVJM</td>
<td>Healthcare Exchange: Quantitative Research</td>
<td>Freshman at the School of Dentistry</td>
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<tr>
<td>Tutorials production</td>
<td>Globalizing PET Instagram Facebook</td>
<td>Qualitative Research</td>
<td>Academic community of the School of Dentistry</td>
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<tr>
<td>Preparation of educational booklets</td>
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<td></td>
<td>External community</td>
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</table>

The target audience was classified as academic and external communities. Among the 93 activities recorded, 71 (76.34%) were aimed at the academic community of UFVJM, and 15 actions...
4 DISCUSSION

Ninety-three activities were documented in SIGPET. Although on the platform it was necessary to choose a category to register the action, all of them involved the university tripod, proving the inseparability among teaching, research, and extension. It is important to emphasize that this division has a didactic character\(^1\).

The planning of the PET group’s actions is carried out in the previous year and submitted for consideration by the Local Monitoring and Evaluation Committee (CLAA), as well as by the Dean of Graduation (PROGRAD). In this sense, we sought to develop activities that meet the requirements, highlighting the closeness between the university and the community, through dialogic integration and the exchange of knowledge between the various actors, providing the group’s exchange with the pedagogical project and agreeing with the recommendations of the National Curricular Guidelines (NCD)\(^2,12\). Such an approach indicated a positive impact on quality education for undergraduates, directly and indirectly, involved in the process with integrative practices that brought together students from the earlier academic years.

The year 2020 was an atypical year, in which the World Health Organization decreed the Covid-19 pandemic, which culminated in the suspension of the academic calendar in many higher education institutions (HEIs), with the interruption of face-to-face activities and the adoption of emergency remote teaching\(^13\). Thus, this reality became a huge challenge and caused social, economic, political, and educational changes\(^14\). In this context, PET Dentistry in the Valley reformulated its planning, adapting it to the remote modality. Despite this challenge, the group carried out 17 activities.

These data show the resilience of the group, which, even facing new challenges, managed to adapt and execute excellent activities aimed at the internal and external communities. Developing different teaching, research, and extension methodologies and adapting them to the current needs, allow applying the knowledge acquired during the academic education, which promotes new skills and competences\(^2,14\). The adoption of the remote format to carry out the activities allowed greater access and participation, reaching an audience that would normally be unlikely in the face-to-face activities. In this way, it is also possible to highlight the greater access and participation of both the internal and external communities, fulfilling the prerogatives of the program.

Similar study was published in the literature, in which the PET-Saúde Interprofessionalidade group at the Federal University of Mato Grosso (UFMT) reported their experiences in teaching, research, and extension, demonstrating their importance in strengthening and integrating teaching-service-community\(^15\). Additional publications are necessary, as, in addition to encouraging the maintenance and expansion of PET groups, they help to value this type of tutoring as a link between the university and the external community.

The results showed the highest percentage in teaching activities, followed by extension and research, in the pre-pandemic period. The teaching, research, and extension tripod serves as a foundation and parameter so that the University can exercise intellectual and social functions. Despite this, the articulation of this triad is a challenge that makes it difficult to perpetuate extension and/or research actions\(^16\). Even with all the adversities, it is necessary to include strategies that enable the formative dialogue...
among the plural knowledge that permeates the university and the service.

Given this scenario, the group realized the need to develop more research and extension activities.

In this perspective, PET Engineering of the Federal Institute of Bahia (IFBA) reported data related to the actions carried out, as well as adherence to the proposals. Five extension activities and two teaching activities were carried out, and the teaching activities, mainly those aimed at the initial academic years, were the ones with the greatest participation. The authors concluded that this type of observation helps in the perception of the scope and adherence to the proposals, which guides the planning and development of future studies\(^\text{17}\). In this sense, it is imperative to evaluate the results and scope of activities, both qualitatively and quantitatively, as well as the analysis of feedback from target audiences to optimize future activities.

Knowing the great impact that the UFVJM has on the structuring of the community of Vale do Jequitinhonha\(^8\), PET brings the extension as a mechanism of insertion and humanization of the university with the population. This fact justifies that the extension actions have the second-largest number of actions.

The University extension can be understood as an exchange activity between the academic environment and the community, whose transfer of knowledge and experiences is bidirectional and results in broader and more practical training. In addition, students are free to choose the aspects that best integrate their profile, providing a reflective, autonomous, and intellectual experience\(^18\).

The development of extension projects actively contributes to the awareness of undergraduates about the importance of their social commitment, since the actions consider the social, cultural, and economic reality of the population of the Jequitinhonha Valley, always paying attention to the humanization of approaches and excellence in care. The group accounted for 35 extension activities in the aforementioned period.

The research consists of the materialization of knowledge aiming to solve problems, validating or invalidating theories, as well as revealing scientific knowledge, applicable to reality, in relation to the object of study\(^18\). A total of nine research projects were developed by the group from 2013 to 2020.

The relevance of the research when dissociated from the other pillars decreases, since developing it independently implies not employing it to benefit the external or the academic communities\(^1,18\). Therefore, it is understood that research must always act inseparably once to generate impact it must be integrated with teaching and extension. In this way, the inseparability between teaching, research, and extension is proven because, even in activities where there was a predominance of one pillar, the other two were intrinsically evidenced, aiming at the effectiveness of the action.

Most of the actions were aimed at the academic community of UFVJM, which is composed of students, professors, and other collaborating members of the University. The teaching action “I graduated. And now?” set up a genuine example of activity developed for the academic community. In this lecture, dentists who graduated from the University were invited to share their experiences and provide an overview of their performance in the job market. This type of action was also carried out by other PET groups that report its importance to help students in the possible choices once they graduate\(^15,17\).

Fifteen actions (16.13\%) were carried out aimed at the external community, of which a
broad audience participated composed of the elderly, children, adolescents, music students, and quilombola communities, as well as the entire population of the town of Diamantina. Examples include actions at the Casa Frederico Ozanam Nursing Home, Casa Lar (a philanthropic entity that welcomes children up to 12 years of age who need to be removed from family life), and Casa Mel (an institution that shelters girls aged 12 to 18 who are at risk).

During the period 2013 to 2020, the group developed seven long-term projects, of which the duration varied between two and five years. Longitudinal studies allow a better investigation of the researched problems, their risk, and protection factors, contributing to the elaboration of possible inferences and allowing to assess the results achieved1,6.

An example of these projects is the Tour de Calouros, which takes place at the beginning of every semester, when the scholarship students collectively organize a presentation of the general panorama of the UFVJM Dentistry School to the freshmen. This Tour begins at the premises of Campus I of the UFVJM, presenting the physical spaces (classrooms, clinics, and laboratories), the course (pedagogical project, academic activities, academic leagues, PET, and other student representations) as well as the functioning of the Institution, its administrative bodies, faculty and administrative staff. The first year is a critical period that promotes important experiences and changes. The project is justified since the reception and entry into the university context stand out as key factors for the adaptation and permanence of the newcomer to the University19.

The Tour de Calouros project has improved over the years and has been renamed: Reception and Sponsorship of Freshmen. The initiative was proposed by PROGRAD, thus promoting greater acceptance of newcomers to the course and reducing dropout and retention. University students who are academically and socially integrated at the beginning of their studies have greater chances of growing intellectually and personally19. Literature also emphasizes the importance of providing quality information to newcomers regarding academic life and also effective support so that the student can properly enjoy the benefits of the academic life19, which is provided by the Reception and Sponsorship of Freshmen of the PET Dentistry in the Valley group. Similar results were also reported by the PET group from the IFBA, which was highlighted as the activity performed by the group that showed the highest adherence17.

The constancy of long-term projects was only possible due to the fact that the PET is a long-term initiative that covers a variety of projects and provides for their continuity, reiterating the need to review actions, discuss the results, file notes and carry out new planning.

We can also highlight other actions such as the activity carried out in 2013, in which once again the inseparability of teaching, research, and extension can be observed. In this project, the nutritional status of institutionalized elderly was evaluated, and later complete dentures were manufactured to meet their needs. None of these steps could be performed without prior theoretical and practical learning. Thus, an epidemiological survey of the oral and nutritional health of the elderly at Casa Frederico Ozanan was carried out, with anamnesis, clinical examination, and complete denture manufacturing protocols for the elderly who agreed to participate.

Another activity also carried out by the group was the service to the population of São João da Chapada (a district of Diamantina), where educational activities were carried out with an emphasis on prevention, guidance, and health promotion for the entire community. The event
was attended by people of various age groups, as well as professors and volunteers. Similar actions were recently carried out by the PET Dentistry of the State University of Feira de Santana (UEFS) in a digital form, using social media\textsuperscript{20}.

Also along the same lines, PET Dentistry welcomed patients in socially vulnerable conditions from the community of Jenipapo de Minas as part of the Health Interchange project at the UFVJM dental clinic. The group prepared through conversation circles, study groups, and dynamics to deepen the knowledge and provide humanized care to patients. New care practices were used through methodologies that responded to the health needs of the community. A total of 124 dental procedures were accounted for in this project, which focused on raising awareness among patients about their autonomy. The impact of this work has a positive influence on patients' oral health and quality of life\textsuperscript{21}.

PET Dentistry in the Valley also participated in the organization and coordination of several events of high relevance to the scientific community in the field of Dentistry, such as the Dental Week, the Minas Gerais Stomathology Conference, and the International Dentistry Congress. Lectures and presentations of studies with a multidisciplinary approach were held, in addition to the reunion of groups who graduated in Diamantina to celebrate the 65th anniversary of the implementation of the dental school in the town. Participation in events as listeners or organizers is important for the development of skills such as decision-making, communication, leadership, and administration, which are important for their generalist training according to the DCN\textsuperscript{2,12}.

The implementation of the UFVJM Human Teeth Bank made it possible to regulate the use of human teeth in dental education by offering an adequate place to stock the elements extracted from the UFVJM clinics and from public and private dental offices\textsuperscript{22}. The presence of the Human Teeth Biobank is essential for the proper functioning of Dentistry Schools and is present in most dental teaching institutions. The insertion of PET in the performance of activities related to the human teeth biobanks helps in their maintenance, as well as in the integral formation of the Petian and is also present in the PET Dentistry of the Universidade Estadual Paulista (UNESP), PET Dentistry of the Federal University of Pelotas (UFPe) and PET Dentistry of the Federal University of Rio de Janeiro (UFRJ).

The Dentistry School Memorial aimed to rescue the memory of the pioneering school at UFVJM, through the capture of material and intangible assets and thus consolidate a historical-cultural collection of the course. As a result of the COVID-19 pandemic in 2020, PET continued to collect materials for the Memorial's collection and modified the project to a virtual format, thus using social media to share part of this content with the public. Academics and partners participating in this project were encouraged to learn about the functioning of museum units and their collections in order to optimize the construction and development process. In addition, participants were able to learn about and share the political and social history of the UFVJM and the Dentistry School. This project helped to develop skills that go beyond technical practice, also helping in the cultural and social formation of all participants and collaborators\textsuperscript{23}.

The suspension of face-to-face activities made the group look for a way out to continue its activities in the remote format. Mini-courses were held on various topics, taught by specialists from a wide range of areas. For greater adherence to the courses, initially, in response to the request of the School Coordination, a survey of intentions among the students was carried out to verify the topics of interest so that the meetings
could be planned according to it. The events were presented monthly, using PET media for dissemination, the Even3 platform for registration, frequency control, and issuance of certificates, and the YouTube platform for broadcasting. The contents were broadcast free of charge and are available on the PET Dentistry in the Valley channel. Thus, it was possible, even remotely, to improve knowledge in several areas, enhance the curriculum and develop skills related to the use of information and communication technologies (ICTs).2,14

In addition, weekly meetings were held among the members to discuss the various types of research and their methodologies. At the same time, seminars were held to study the writing of scientific articles, where each group presented the characteristics and components of a scientific article as well as logical requirements for its construction.24 The study sessions were intended to understand the content and, at the same time, provide experiences, reflection, and discussion, encouraging the development of a critical and reflective posture.25 As a result of these meetings, three scientific articles were written, in addition to simple and expanded abstracts for submission at scientific events.

The National Curriculum Guidelines emphasize the inseparability of teaching, research, and extension, giving each pillar of knowledge the same weight. The PET group acts in order to fulfill this premise in the development of its activities and highlights the importance of university productivity.

5 CONCLUSION

Considering the significant number and relevance of activities carried out by the PET Dentistry in the Valley group throughout this period, it is suggested that the program contributes in the context of the university and the communities in which it operates.

Also, it is noteworthy the group's resilience through its ability to reinvent itself in the face of adversity, as was the case with the adaptations for carrying out remote activities in 2020.

In this way, the group follows the natural course of its history, reverting to Vale do Jequitinhonha and UFVJM all the values that make the existence of the program indispensable in the light of teaching, research, and extension.

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RESUMO

Análise retrospectiva das atividades desenvolvidas pelo grupo PET Odontologia no Vale

O Programa de Educação Tutorial (PET) visa fortalecer o modelo de indissociabilidade de ensino, pesquisa e extensão, contribuindo para processo de ensino e aprendizagem nas instituições de ensino superior brasileiras. O grupo PET Odontologia no Vale foi fundado em 2009 na Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM). Desde então, o grupo atua no desenvolvimento de atividades que abrangem a integração dialógica, com ações voltadas à formação acadêmica de excelência e às necessidades de saúde da comunidade, considerando a realidade social, cultural e econômica do Vale do Jequitinhonha. O presente artigo teve por objetivo reportar as atividades desenvolvidas pelo grupo PET Odontologia no Vale no período de 2013 a 2020. Foram documentadas 93 atividades, que compreenderam 49 ações de ensino, 35 de extensão e 9 de pesquisa. Destas, 79 foram plenamente desenvolvidas e 14 foram
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parcialmente desenvolvidas. Referente ao público-alvo, 71 (76,34%) foram destinadas à comunidade acadêmica da UFVJM e 15 ações (16,13%) à comunidade externa. Esses resultados apontam a importância do PET Odontologia no Vale e seus valores no contexto em que o grupo se insere.


**REFERENCES**

14. Oliveira WA, Chaves SN. Os desafios da
23. Sanson BT, Vasconcelos GSS, Horioka VP. Museu Odontológico: O Resgate de uma História. 8º Congresso de Extensão Universitária da UNESP; 2015; São Paulo.

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