

An innovative model for mental health care and educational support in Brazilian medical education context: Personal Development Planning (PDP) Framework

Fernanda Brenneisen Mayer (✉ fernandabremayer@gmail.com)

Pontifícia Universidade Católica do Paraná <https://orcid.org/0000-0002-4152-034X>

Jean Rodrigo Tafarel

Pontifícia Universidade Católica do Paraná Departamento de Medicina

Andressa Salles

Pontifícia Universidade Católica do Paraná Departamento de Medicina

Rogério de Fraga

Pontifícia Universidade Católica do Paraná Departamento de Medicina

José Knopfholz

Pontifícia Universidade Católica do Paraná Departamento de Medicina

Lídia Zytynski Moura

Pontifícia Universidade Católica do Paraná Departamento de Medicina

Research article

Keywords: mental health, medical students, medical education, personal development planning

Posted Date: October 29th, 2019

DOI: <https://doi.org/10.21203/rs.2.16616/v1>

License:  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background The prevalence of mental health problems among medical students have significant proportions worldwide. The spirit of time (germ. Zeitgeist) is to “Act” in favor of health promotion.

Methods Conception of a PDP-Framework in a Brazilian Medical School based on medical students' needs and curriculum reform. PDP definition and model were based on QAA Guidance Document (2009). The PDP-Framework received approval from the rector of the University, and was endorsed by the students' representations. PDP-Framework were included in the Course Pedagogic Project and shared with academic community. The implementation of the PDP started in the first-semester of the medical program in 2018.

Results The main issues of the medical students were lack of time for extra-curricular activities, lack of mental health care and educational support. Based on these results we performed a curricular reform that reduced the hours of curricular activities in 30% and conceived the PDP-Framework. Our model was to embed PDP into mainstream curriculum as a subject discipline one hour per week in tutorial groups of ten students, facilitated by two psychologists and one doctor specialist in all years of the medical program. We defined two main competences that foresee transitional skills, self-regulation, self-care, professionalism, resilience and personal, educational and career planning. Learning outcomes were defined for each semester. The PDP privileges active methods of learning based on the process of reflection and transformation of reality. Assessment of student performance includes both formative and summative manner with self-perception questionnaires, reflective writing, ePortfolio, and peer and teacher feedback. The PDP evaluation will be based on Kirkpatrick's Model.

Conclusions Evidence on interventions in educational environment for the promotion of medical students' mental health is limited and the quality of the studies is generally low. Partial results of a national survey on support models for medical students in Brazil point to three main models: psychopedagogical, mental health care and mentoring, optional and parallel to curriculum. The PDP-Model embedded into mainstream curriculum in all years of the course seems to bring a new concept of mental-health care and educational support for medical students in Brazil.

Background

The evidence shows that concerns about undergraduate students' mental health exist for decades and the prevalence of mental health problems among medical students has significant proportions worldwide.¹ The estimated global prevalence rate for depression was 27% and 34% for anxiety among medical students^{2,3}

In Brazil, the results of a multicenter study including 1350 Brazilian medical students from 22 medical schools on the prevalence of anxiety and depression symptoms showed a prevalence of 41% of depression symptoms, 82% of state-anxiety 86% trait-anxiety symptoms.⁴

Ripp and colleagues published at Academic Medicine in 2017 an article with the title "Well-Being in graduate Medical Education: a Call for Action", which outlined initial recommendations at the national, hospital, program, and nonwork levels and were meant to inform stakeholders who have taken up the charge to address trainee well-being.⁵

The spirit of time (*germ. Zeitgeist*) seems to be to "Act" in favor of health promotion also in undergraduate Medical Education.⁵

The question is how?

The evidence on interventions for medical students' well-being, according to a systematic review of 28 studies, concluded that limited evidences suggested that some specific learning environment interventions were associated with improved emotional well-being among medical students. However, the overall quality of the evidence was low. The interventions associates with better quality of life were *Pass/Fail Grading system, Mental health Programs, Wellness Program, Faculty advisor/mentor, Curriculum structure, Multicomponent Program Reform.*⁶

Partial results of a national survey on support models for medical students in Brazil point out to three main models: *psychopedagogical, mental health care and mentoring* frequently offered optional and parallel to curriculum.⁷

The International Guidelines for Undergraduate Medical Education, as defined in chapter 4.3, by the World Federation for Medical Education (WFME), outlines that every medical school should have a system of social, financial and personal student counseling and support, with a guarantee of confidentiality. In addition, it should monitor student progress and assist with academic and personal planning.^{4,8}

The National Committee of Inquiry in Higher Education recommended in 1997 that UK universities introduce so-called "progress files" to document students' personal, academic and professional development. (relatórios de Derick e Garrick).⁹ The Quality Assurance Agency for Higher Education (QAA) adopted this recommendation and solicitou para as Universidades a implementação dos arquivos de progresso em duas partes:¹⁰

- Transcription: a formal record of student performance maintained by the University
- Personal Development Planning (PDP): an informal personal record and developed by the student with teaching support.

The transcription is equivalent to the Brazilian's educational history that register grades and frequency of the students in the disciplines of the undergraduate' programs.¹⁰

Personal Development Planning (PDP) is defined by QAA as "a structured process carried out by a student, with teacher support, of reflection on one's own learning process and academic performance, as well as planning for personal, educational and professional development.¹⁰

Based on this evidence we aimed to concept an innovative model for mental health care and educational support for medical students in Brazil: The Personal Development Planning - Framework.

Methods

The conception of a Personal Development Planning - Framework (PDP) for medical students began with the definition and model design performed by a group of specialists on medical education and psychology. This process was based on medical students' needs accessed by a questionnaire, on curriculum reform and on the Quality Assurance Agency for High Education Guidance Documents of United Kingdom.^{9,10,11}

The questionnaire was developed and performed by the students' representation CAMMA (acronym for Centro Acadêmico de Medicina Mário de Abreu) in 2017. The reform for a competences based curriculum was carried out between 2017 and 2018 by a core group of professors responsible for conception and consolidation of the medical program, denominated *in port. Núcleo Docente Estruturante (NDE)*.

The PDP-Framework received the approval of the University Reactor and was endorsed by the students' representations. It was added to the Pedagogical Program Project and shared with the academic community.

The implementation of the PDP-Framework was carried out in 1st semester 2018 for ninety (N = 90) incoming undergraduate students of the School of Medicine of Pontifical University Catholic of Paraná (PUCPR) in Brazil. This process was conduct and facilitated by three professors (two psychologists and one physician) with support of the coordinators of the medical school. In parallel, the professors participated on a Faculty Development Program; the PDP-Educational Plan underwent a peer-review by a group of four professors from other areas (physical education, biology, chemical engineering and information science) and by the faculty development team of Center for Teaching and Learning (CrEAre).

Results

The results of the survey showed that the main issues of the medical students were lack of time for extra-curricular activities, lack of mental health care and educational support.

Based on these issues the hours of curricular activities were reduced in 30%. In the reform to a competency-based-curriculum, seven competencies were defined for the medical program. PDP-Framework based on two of them: Competence A and G (Table 1). The two main competencies in which

the PDP in based on foresee transitional skills, self-regulation, self-care, professionalism, resilience, personal development, educational and career planning.

We conceived a PDP-Model embebbed into mainstream curriculum as a discipline, with activities one hour per week in tutorial groups of ten students facilitated by two psychologists and one physician for all years of the medical program. The facilitators defined the learning outcomes for the semester and privileged active methods of learning based on the process of reflection. The assessment of students' performance includes formative and summative manners with national validated self-assessment questionnaires, reflective writing, ePortfolio and feedback (peer and facilitator).

The medical program in Brazil has six years (12 semesters) and it is divides into basic sciences, clinical sciences and clerkship.

We consider the periods between these three phases as transitions points including the transition from college to faculty as first transition and undergraduate to graduation as fourth transition. In these four transitions' points we emphasize the development of transitions' skills. In basic sciences period we emphasize also adaptation to medical education and personal planning. In the clinical sciences the emphases is on socioemotional skills' development, academic and career planning and in the last semester of the clerkship on the enhancement of the skills, career planning and transition to graduate life. (Figure 1)

Results Of The Peer-review

The peer-review of the PDP-Educational plan contributed to the enhancement of the learning outcomes (Table 2) and mental map (Figure 2) of the first semester.

The mental map is a visual representation of the leaning outcomes defined in the PDP-Educational program of the first semester of the medical school. The first version of PDP-Mental map represented a generally idea of the transition between college to undergraduate. The peer-revision contributed to enhance the mental map with more details about the learning outcomes. the final result of the peer-review process is the image 3 of the figure 2.

Discussion

The educational context in which medical students demand mental health care and educational support, concomitant with the curriculum reform in which managers were sensitized and committed to the prevention of students' mental health problems, led to the conception of a personal development framework embebbed in mainstream curriculum with improvements of the model proportionate by the peer-review.

Stuart J. Slavin, senior scholar for well-being and member of Accreditation Council for Graduate Medical Education (2016) affirmed that well-being issues of medical students should be considered as a health

issue related to the educational environment and not just to the student.¹ The NDE-members of PUCPR contemplated this prerogative when designed competences including self-regulation, resilience, self-care, quality of life and personal, academic and professional planning.

Changes related to students' mental health begins when higher education managers elect mental health as a strategic priority, affirmed Steve West, chair of Universities UK Mental Health in Higher Education Working Group (2017).¹² The rector of the PUC-PR University approved the PDP-Framework and the managers of the medical school are strongly committed with mental health care and educational support for the students. They hired specialists and provided financial support for the conception of the PDP-Framework.

There is scope for a variety of PDP-Frameworks (QAA, 2011).¹¹ Embedding PDP into mainstream academic activities in a subject discipline has been suggested as one of the effective PDP practice.¹¹ This model can increase staff and student engagement and result in students' performance success.¹¹ Atlay (2006) outlined six main points in favor of this model: 1. it supports learning; 2. all students can benefit from PDP; 3. it ensures a common and coherent student experience; 4. it more effective use of resources (ex.: through staff working with a class rather than individuals); 5. it prepares students for life beyond university; 6. it fosters belief—by sending a clear message that PDP is valued.¹¹ The voluntary approach seems to equate to "less important", and students have demonstrated that they will prioritize other "more important" activities.¹¹ The conception of PDP-Framework of the school of Medicine of PUC-PR considered this evidence and designed a model as a discipline embedded in mainstream curriculum from the first to the eighth and twelfth semester.

Evidence suggested that mentoring-model is also effective to support the students.⁶ The group of specialists considered this evidence and designed for the PDP-Framework activities one hour per week in tutorial groups of maximal 15 students facilitated by one.

Peer-review of teaching is one tool that provides rich, qualitative evidence for teachers, quite different from closed-ended student evaluations. It has the potential to facilitate reflective change and growth for teachers.¹³ The peer-review process of PDP-Educational plan carried out by teachers from different fields improved the learning outcomes and mental map providing significant reflective changes for the teachers as suggested in the AMEE Guide (2007).

Ron Thereza May (2008), ex-minister from UK, affirmed that young people want to grow to be confident and resilient, supported to achieve their goals and ambitions and we need to emphasize resilience development, health and well-being promotion, prevention and early intervention and to understand how we can do more to prevent mental health problems before they arrive.¹² These are some values from the group of specialists and the mission for which they believe they are working on PDP-Framework in the School of Medicine of the pontifical Catholic University of Paraná. They foresee as next challenges the implementation, integration with other disciplines, and the evaluation of the PDP in the other semesters.

Conclusions

PDP-Framework embedded into mainstream curriculum in all years of the course seems to be a new concept of mental-health care and educational support for medical students in Brazil. The PDP-Conception based on evidence described in the literature by a group of specialists in medical education, mental health and psychology and peer-reviewed by teachers from different fields and the faculty development team of the institution. The conception of the PDP was only possible due to the support of the school coordinators and the rector of the institution.

Abbreviations

PDP: Personal Development Planning

PUCPR: Pontifical Catholic University of Paraná

NDE: Núcleo Docente Estruturante

WFME: World Federation of Medical Education

AMEE: An International Association for Medical Education

QAA: Quality Assurance Agency for Higher Education in United Kingdom

Declarations

Acknowledgments

The authors thank the medical students, academic representations, coordinators, rector of the PUCPR, professors of other fields participated in the peer-review (Marco Paludo, Mônica Bufarra Cecato Stocco, Luciana Zischler e Priscila Silva Rocha) and the faculty development team of CrEAre (centro de Ensino e Aprendizagem) of PUCPR.

Funding

The research was supported by FINEP (Funding Authority for Studies and Projects) an organization of the Brazilian federal government, and was developed in a Faculty Development Program realized by CrEAre (Center for Teaching and Learning) of Pontifical Catholic University of Paraná (PUC-PR)

Availability of data and material

The datasets and material analysed during the current study are available from the corresponding author on request.

Author's contributions

FBM analyzed the data and drafted the manuscript. JRT, JK and LZM participated in the conception and design of the study and critically reviewed the manuscript. AS and RF participated in the design of the PDP-Framework, carried out the data collection and reviewed the manuscript. All authors read and approved the final version of the manuscript

Competing interests

The authors declare that they have non-financial competing interests concerning the study

Consent for publication

Not applicable

Ethics approval and consent to participate

This study is part of a research project entitled "Análise de programas de desenvolvimento professional docente voltado à implementação de metodologias para aprendizagem ativa na PUCPR" approved by the Ethical Committee of the institution (CAAE 65161317.0.0000.0020). All participants in the study signed the informed consent.

Author details

^{1–6} School of Medicine, Pontifical Catholic University of Paraná, Rua Imaculada Conceição, 1155, bloco 6, 1º andar, 80215–901 - Curitiba - PR - Brasil.

References

1. Slavin S. Medical student mental health—Culture, environment, and the need for change. *JAMA*. 2017;316(21):2195–2196.
2. Rotenstein et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students. A systematic review and meta-analysis. *JAMA*. 2016;21:2214–2236.

3. Tian-Ci Quek T, Wai-San Tam W, Tran BX et al. The global prevalence of anxiety among medical students: A meta-analysis. *Int J Environ Res Public Health.* 2019;16:2735–2752.
4. Mayer FB. A prevalência de sintomas de depressão e ansiedade em estudantes de medicina: Um estudo multicêntrico no Brasil. (tese). São Paulo: Faculdade de Medicina, Universidade de São Paulo; 2017.
5. Ripp AJ, Privitera MR, West c et al. Well-being in graduate medical education: a call for action. *Acad Med.* 2017
6. Wasson LT, Cusmano A, Meli L, et al. Association between learning environment interventions and medical student well-being: a systematic review. *JAMA.* 2016;316(21):2237–2252.
7. Baldassin, Sergio Pedro et al. I Fórum Paulista de Serviços de Apoio ao Estudante de Medicina—Forsa Paulista—“A Carta de Marília”. *Rev. bras. educ. med. [online].* 2016;40 (4):537–539.
8. World Federation for Medical Education. Basic Medical Education: WFME Global Standards for Quality Improvement. The 2015 Revision. Copenhagen: World Federation for Medical Education, 2015.
9. The National Committee of Inquiry into Higher Education. The Dearing Report—Higher Education in the learning society - Main Report. London: Her Majesty's Stationery Office, 1997.
10. The Quality Assurance Agency for Higher Education. Personal development planning: guidance for institutional policy and practice in higher education. (online) (cited in 20 September 2019). Available from: <http://www.qaa.ac.uk>
11. QAA Scotland. A toolkit for enhancing personal development planning strategy, policy and practice in higher education institutions (Second edition). The Quality Assurance Agency for Higher Education. 2011. (online) (cited in 20 September 2019). Available from: <http://www.qaa.ac.uk>
12. Universities UK. Mental Health in Higher Education. (online) (cited in 20 September 2019). Available from: <http://www.universitiesuk.ac.uk>
13. Siddiqui ZS, Jonas-Dwyer D & Carr SE. Twelve tips for peer observation of teaching. *Med Teach.* 2007; 29(4): 297–300.