

Profile of graduates from the Faculty of Medicine at Federal University of Mato Grosso, campus Cuiabá

Perfil dos egressos da Faculdade de Medicina da Universidade Federal de Mato Grosso, campus Cuiabá

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ABSTRACT

Introduction: The knowledge of the career trajectory and performance of graduates from a medical course, along with their perception of the education provided during their undergraduate studies, allows for the recognition of the needs and shortcomings in the medical training process.

Objective: This study aimed to describe the socioeconomic profile, qualifications, and professional activities of graduates from the Faculty of Medicine of the Federal University of Mato Grosso (FM/UFMT), Cuiabá campus.

Method: This is a descriptive, exploratory, and cross-sectional study involving physicians who graduated from FM/UFMT, between 1986 (class 1) and 2021 (class 57). Data was collected through an online questionnaire, available via Google Forms, and sent to the graduates via email.

Results: Out of a total of 1,670 graduates, 344 (21%) participated in the study. Of these, 55% were male, 51% were married, and the average age was 39.6 years. Among the respondents, 78.2% expressed satisfaction with the education they received, and 72.7% work as specialists. Additionally, 82.3% have completed or are currently enrolled in a medical residency, and only 19.5% have completed or are pursuing a master's or doctoral degree. In terms of competencies, 43.6% consider themselves proficient in health management and 54.3% in health education.

Conclusion: The study revealed that the graduates, predominantly male and aged between 30 and 40 years, mostly work as specialists. There was a positive perception among alumni regarding the education provided by the program and their preparation for the job market. It is recommended to conduct periodic surveys on the profile of graduates to continually evaluate the training provided by the institution.

Keywords: Medical Education; Educational Measurement; Undergraduate Medical Education; Professional Practice Location.

RESUMO

Introdução: O conhecimento da trajetória e atuação dos egressos de um curso de Medicina, assim como sua percepção sobre o ensino oferecido durante a graduação, possibilita a identificação das necessidades e falhas no processo de formação médica.

Objetivo: Este estudo objetivou descrever o perfil socioeconômico, de qualificação e de atuação profissional dos egressos da Faculdade de Medicina da Universidade Federal de Mato Grosso (FM/UFMT), campus Cuiabá.

Método: Trata-se de um estudo descritivo, exploratório e transversal, cujos participantes são médicos formados pela FM/UFMT, entre os anos de 1986 (turma 1) e 2021 (turma 57). Para a coleta de dados, utilizou-se um questionário online, disponibilizado pela plataforma Google Forms e enviado aos egressos via e-mail.

Resultado: Do total de 1.670 egressos, 344 (21%) participaram do estudo, sendo 55% do sexo masculino, 51% casados e com média de idade de 39,6 anos. Entre os entrevistados, 78,2% demonstraram satisfação com a formação recebida e 72,7% atuam como especialistas. Além disso, 82,3% cursaram ou estão cursando residência médica, e apenas 19,5% cursaram mestrado ou doutorado. Em termos de competências, 43,6% se consideram proficientes em gestão de saúde e 54,3% em educação em saúde.

Conclusão: O estudo revelou que os egressos, predominantemente do sexo masculino e com idades entre 30 e 40 anos, atuam majoritariamente como especialistas. Identificou-se uma percepção positiva dos ex-alunos em relação à formação oferecida pelo curso e ao preparo para o mercado de trabalho. Recomenda-se a realização periódica de levantamentos sobre o perfil dos egressos, visando promover uma avaliação constante da formação proporcionada pela instituição.

Palavras-chave: Educação Médica; Avaliação Educacional; Educação de Graduação em Medicina; Área de Atuação Profissional.

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INTRODUCTION

The medical career, like that of other professions, is full of challenges and rapid changes over time. In this sense, the evaluation of medical school graduates is important for analysing the students' training by identifying the strengths and weaknesses of the course and promoting the improvement of the skills of future physicians¹.

Since 2000, the number of medical professionals in Brazil has grown by 156%. Between 2018 and 2023 alone, the national rate of professionals registered with the Regional Councils of Medicine (CRM) per 1,000 inhabitants rose from 2.18 to 2.60. The biggest expansion of medical education in Brazil occurred between 2013 and 2022, and the country now has 389 medical schools offering around 41,805 undergraduate medical places².

Knowing the trajectory and performance of graduates is considered an important institutional strategy for obtaining information about the quality of student training. This can be considered a key point for identifying education gaps and adapting them to the new demands of society and the labour market^{3,4}.

Graduates provide essential feedback to strengthen the link between academic training and medical practice and become active agents in the process of implementing curricular adjustments^{5,6}. However, even though the Ministry of Health recommends alumni monitoring, there are few published studies on the subject^{1,7}.

The medical course at the Federal University of Mato Grosso (UFMT) was recognised by MEC Decree No. 658 of 10/09/1986, and to date there has been no form of evaluation of its graduates. The aim of this study was therefore to carry out a descriptive profile of the qualifications and work of graduates from the Faculty of Medicine of the Federal University of Mato Grosso (FM/UFMT), Cuiabá campus - MT.

METHOD

A descriptive, exploratory and cross-sectional study was conducted among physicians who had graduated from the FM/UFMT between class 1 (1986) and 57 (2021). A free and informed consent form was drawn up along with the questionnaire, both of which were applied online. The questionnaire was drawn up using Google Forms and sent to the graduates via e-mail, whose addresses were provided by the FM/UFMT administrative office, or by contact via Whatsapp or Instagram. The questionnaire was split into three parts: the first focussed on the graduate's socio-demographic profile, the second on their training profile and, finally, the third on their professional practice. This study targeted a total of 1,670 medical professionals who graduated from FM/UFMT during the study period. For the sample calculation, a significance level of 5%, statistical power

of 90%, an expected error of 5%, an expected proportion of 50% of non-blank answers in the block of questions on current professional performance and a design effect of 1.5 were considered. Therefore, the estimated sample was 322 doctors, according to the following sampling calculation⁴:

$$n0 = 1/E^2$$

$$n = N \times n0 / N + n0$$

where:

n0 is the first approximation of the sample size;

E² is the margin of error (e.g: 5% = 0.05);

N is the number of elements in the population;

n is the sample size.

For this study, the definition of graduates was adopted as former students who graduated from the FM/UFMT medical programme.

Ethical Considerations

The study was duly approved by the Research Ethics Committee (CAAE number 35543920.0/0000.8124). The participation of the research subjects who signed the Free and Informed Consent Form was kept confidential in order to guarantee the confidentiality of their responses.

RESULTS

Of the total 1,670 eligible graduates, 344 (21.0%) took part in the study. With regard to socio-demographic data, 55% of the respondents said they were male and 44.2% female. The average age was 39.6 years and 51.0% of all the graduates were married.

Regarding their perception that the medical course provided them with a humanistic education, the majority (45.6%) of graduates responded positively to this being true to a large extent. For those now in general practice, 46.5% answered that it had favoured them to a large extent, and 32.6% that it had favoured them totally. As for training to be a critical-reflective doctor, again 46.5% said that the faculty had favoured them to a large extent. In terms of ethics, almost half of the participants (44.2%) said that the university had favoured them totally.

As regards satisfaction with the course, on a scale from 1 to 5, where 1 was "totally dissatisfied" and 5 "totally satisfied", 78.25% of the participating graduates gave a score of 4 or 5. Of all those interviewed, 72.7% work as specialists. In addition, 57.6% believe that they have been fully prepared for the labour market (Table 2).

Following undergraduate training, 283 graduates (82.3%) had completed or are currently attending a medical residency. Of these, 213 (75.0%) entered a medical residency programme in less than a year (Table 3). The most popular

medical residencies are Internal Medicine (18%), Paediatrics (14.1%) and General Surgery (13.4%). Of all the interviewees, 45.2% had studied some kind of sub-speciality, the most common being Cardiology (6%), Plastic Surgery (5.2%) and Endocrinology (4.7%).

The majority (80.5 per cent) of graduates did not choose to do a master's degree and/or doctorate. After training, 52% said they had submitted some kind of abstract to a congress, but only 27% had published in journals (Table 4).

When asked about the Covid-19 pandemic, 80.8% said they had worked in the care and/or management of patients with a suspected or confirmed Covid-19 diagnosis. Of these, 50.5% believe that the medical degree course at FM/UFMT had a positive influence on the way they dealt with care in medical practice during the pandemic.

Regarding health management capacity, 43.6% said they were competent in health management. As regards competence in health education, which includes the ability to learn continuously, socialise knowledge and participate in the training of future professionals, more than half (54.4%) said they were competent. When asked about business management, 64.5% said they did not conduct this activity.

As for current participation in teaching and research activities at public or private universities, the majority (66.6%) responded negatively.

Table 1. Demographic characteristics of graduates from the Faculty of Medicine of the Federal University of Mato Grosso - Cuiabá (n=344).

Variable	n	%
<i>Gender</i>		
Female	152	44.2
Male	192	55.8
<i>Marital Status*</i>		
Married	175	50.9
Single	112	32.6
Civil Partnership	35	10.2
Separated/Divorced	17	4.8
Others	5	1.5
<i>Age Group</i>		
18 to 30 y.o	80	23.3
31 to 40 y.o	122	35.5
41 to 50 y.o	75	21.8
51 to 60 y.o	55	16.0
Older than 60 y.o	12	3.4

Source: Prepared by the authors.

Table 2. Current professional performance and perceived preparation for the labour market among graduates of the Faculty of Medicine of the Federal University of Mato Grosso (n=344).

Variable	n	%	Cum.
<i>Satisfaction score</i>			
Dissatisfied	4	1.2	1.2
Not very satisfied	5	1.4	2.6
Moderately satisfied	66	19.2	21.8
Satisfied	167	48.5	70.3
Extremely satisfied	102	29.7	100.0
<i>Role</i>			
Specialist doctor	250	72.7	72.7
General practitioner	89	25.9	98.6
Not currently in professional practice	5	1.4	100.0
<i>Preparation for the labour market</i>			
Yes, fully prepared	198	57.6	57.6
Yes, with some shortcomings	116	33.7	91.3
Feel ill-prepared	7	2.0	93.3
Feel reasonably prepared	22	6.4	99.7
Feel totally unprepared	1	0.3	100.0

Source: Prepared by the authors.

Table 3. Time taken to enter medical residency after graduating from the Faculty of Medicine of the Federal University of Mato Grosso (n=283).

Time	n	%	Cum.
Up to 1 year	213	75.2	75.2
Between 1 and 2 years	35	12.4	87.6
Between 2 and 4 years	22	7.8	95.4
More than 4 years	13	4.6	100.0

Source: Prepared by the authors.

Table 4. Professional and academic qualifications of graduates from the Faculty of Medicine of the Federal University of Mato Grosso (n=344).

Variable	n	%	Cum.
<i>Medical residency</i>			
No	61	17.7	17.7
Yes	283	82.3	100.0
<i>Have studied or are studying a sub-speciality*</i>			
No	183	54.8	54.8
Yes	151	45.2	100.0

Continue...

Table 4. Continuation.

Variable	n	%	Cum.
<i>Master's/Doctorate (Stricto Sensu)</i>			
No	277	80.5	80.5
Yes, only doctorate	13	3.8	84.3
Yes, only master's	42	12.2	96.5
Yes, master's and doctorate	12	3.5	100.0
<i>Abstract in conference after training</i>			
No	165	48.0	48.0
Yes, both	66	19.2	67.2
Yes, expanded abstract	8	2.3	69.5
Yes, brief abstract	105	30.5	100.0
<i>Publication in a journal after training</i>			
No	251	73.0	73.0
Yes	93	27.0	100.0

Source: Prepared by the authors. *Ten participants failed to answer in accordance with the response pattern stipulated in the questionnaire. They were therefore disregarded in this regard.

DISCUSSION

A fundamental metric for evaluating the quality of teaching at any institution is to assess the integration of its graduates into the labour market, as well as their level of satisfaction. This study was the first to be conducted at the FM/UFMT Cuiabá campus since its creation. One of the main difficulties was the number of responses obtained, taking into account the graduate population of 1,670 trained medics; however, the number remained proportional to the sample calculation. Furthermore, it was not possible to find participants from all the classes, due to the difficulty in contacting and locating graduates from the earliest classes.

Among the responses obtained, there was a balance between the sexes, with male participation slightly higher (55.8%) than female. This is in line with demographic studies of medicine, which show that 54.4% of all professionals in the country are male⁸. With regard to age, the average presented here (39.6 years) is lower than the national average (45.2 years), the difference between which can be attributed both to the fact that most of the participants graduated more recently, since the UFMT medical course was recognised less than 40 years ago, and also to the current national trend whereby the average age of medical graduates is coming down^{8,9}.

With regard to aspects of medical training, taking into account the humanist, generalist, critical-reflective and ethical aspects, the majority of graduates considered that their degree had largely or totally covered these aspects, corroborating the objectives proposed by the National Curriculum Guidelines (DCN) for medical courses (2014).

This result is significant, given that current medical training is highly technical and rooted in medical culture itself, the reinforcement of humanisation should be developed and applied during undergraduate studies¹⁰.

The former students' level of satisfaction with the medical course was considered positive, since on a scale of 1 to 5, where 1 was "totally dissatisfied" and 5, "totally satisfied", approximately 79% of the respondents gave a score of 4 or 5. With regard to preparation for the labour market, 57.6% of graduates feel fully prepared.

As regards medical residency, this is understood to be of paramount importance for the continuity of professional training, especially given the large number of new physicians entering the job market. As a result, there is a huge demand for specialisation among medical graduates, a fact borne out by the 82.3% who reported that they were currently engaged in or had completed a medical residency programme. Of these, it is important to note that around 75% began their medical residency within a year of graduating. It should be noted that, since entry to medical residency programmes is highly competitive, the high rate of graduates being admitted shortly after completing their undergraduate training can be considered an indirect indicator of the quality of that training⁴.

When comparing specialists and general practitioners in the country, 72% of FM/UFMT graduates follow the national trend of specialisation (62.5%)². The growing demand for specialisation may be related to the higher earnings and quality of life of specialised doctors to the detriment of general practitioners, especially regarding medical working conditions and the professional's financial capacity¹¹.

The most commonly chosen specialities among the alumni are Internal Medicine (18%), Paediatrics (14.1%) and General Surgery (13.4%), corroborating the findings of the study Medical Demographics 2023². It should be underlined that Internal Medicine and General Surgery may enjoy a higher preference rate due to their status as basic prerequisites for studying other specialities and areas of practice^{4,6}. As far as sub-specialisation is concerned, the choices were more diverse and there was no predominance of one over the others.

At the same time, only 20% of those interviewed said they had some training in *Stricto Sensu* programmes (masters and doctorate) and 27% said they had published in journals after graduating. These data corroborate studies by Castellanos et al¹³ (2009), for whom this level of education tends to be sought by professionals who wish to pursue an academic career, which is not generally considered a relevant area of activity by medical graduates.

The DCNs clarify the importance of the professional being committed to the education and training of future

health professionals, in addition to administering and managing the workforce and resources, as well as being managers, employers or leaders in the health team¹². With regard to management skills in health and education, the majority of graduates consider themselves competent or very competent. However, there is a deficiency in the training of business managers, given that more than half of the graduates replied that they do not participate in the management of corporations, whether public or private. Furthermore, contrary to the continuing education competences of the DCNs, 66.6% of alumni do not take part in teaching and research activities at public or private universities.

Due to the global pandemic, medical practice during the Covid-19 pandemic in 2020 and 2021 was addressed. It was found that 80% of the graduates have worked in medical care for patients suspected or confirmed of having the disease and half of them believe that their undergraduate training had a positive effect on their conduct. However, 31% of those interviewed perceived no direct influence of their training on their performance, a finding that correlates with the perception of other publications. According to Fernandez, Lotta and Oliveira¹⁴ (2020), medical training, even if geared towards dealing with emergencies, is not entirely sufficient to deal with situations such as the Covid-19 pandemic.

CONCLUSIONS

The study made it possible to describe the sociodemographic, qualification and work profile of FM/UFMT graduates. The sociodemographic data obtained showed that the majority of these alumni were men, married and aged between 30 and 40.

With regard to professional training, the majority of the interviewees consider themselves satisfied. On the other hand, there is a notable need for making changes for graduates to feel better prepared to work in the labour market. The high percentage of former students who have attended or are attending medical residency programmes follows the trend of professionals seeking specialisation. However, there is little demand for master's or doctoral programmes, as well as the health education activities recommended by the DCNs, highlighting the need to broaden the discussion on the subject.

Also noteworthy is the significant number of graduates who worked in the Covid-19 pandemic, as well as the interviewees' positive perception of the influence of their training on their performance during the pandemic.

For the future, it is recommended that further studies be conducted to monitor the profile of graduating physicians in order to maintain constant self-reflection and improve the training offered to future professionals.

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CONTRIBUTION OF THE AUTHORS

Bruna Marcante: Contributed to research and writing – proofreading and editing. Ananda Gimenez Oberthir: Contributed to the formal analysis, methodology and writing – proofreading and editing. Iris Alvina Guarim Soares Badini: Contributed to the conceptualisation, methodology and research. Patricia Cristiane Gibbert: Contributed to the conceptualisation, methodology and research. Hingrid Cristine Arruda de Oliveira: Contributed to the conceptualisation, methodology and research. Bianca Borsatto Galera: Contributed to conceptualisation and writing – proofreading and editing. Cor Jesus Fontes: Contributed to the conceptualisation, data curation and formal analysis. Eliângela de Lima: Contributed to the formal analysis, project management and writing – proofreading and editing.

CONFLICT OF INTEREST

We declare no conflict of interest.

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DECLARATION OF DATA AVAILABILITY

Research data is available in the body of the document.

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