Academic Success and Satisfaction of Medicine Students at the Agostinho Neto University in the Pediatrics Course Unit in the 2011 Academic Year

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Abstract
Background: *Knowing the reality of academic success in Higher Education, as well as the factors associated with it and the way they interact, is essential to be able to intervene preventively in terms of promoting success at this level of education.* **Objective:** *To evaluate the relationship between academic success and satisfaction of medical students at Universidade Agostinho Neto in the pediatrics curricular unit in the 2011 academic year.***Methodology:** *Descriptive cross-sectional and observational study in the Department of Pediatrics through a questionnaire survey of fifth year students, in a universe of 127, with a sample of 113 (88.9%) being taken.***Results:** *Of the 113 students, the average age was 29.4 ± 6.1 years, with no significant difference between genders, with the female group being larger (50.4%). Regarding the final grade, 70.8% obtained values between 10-11, while 4.4% obtained values between 14-15. The dissatisfied constituted 69% and the satisfied 18.6%.* **Conclusions:** *Dissatisfaction was evident in 69% of students despite good academic performance, which will require greater reflection from teachers.*
Keywords: *Academic success. Satisfaction. Medical students. Augustine NetoUniversity.*

I.   Introduction

The investigation of academic success and satisfaction emerges as an important element in the evaluation of institutional effectiveness and educational contexts. In higher education, it is a complex and multifactorial concept measured with quantifiable indicators such as academic performance or completion of the course, or experiential indicators such as behavioral, cognitive (reasoning, knowledge, skills), emotional/affective (beliefs, attitudes, values, self-concept, motivation, satisfaction) and social (interpersonal relationships)[1].

Academic achievements, performance and learning are the constructs of greatest interest to all educators and researchers in the area of education[2] and the pedagogical skills and scientific quality of teachers are decisive factors for academic success[3].

The student's academic success must be evaluated according to the perception of his own development and the definition and achievement of his objectives. The student must know what he wants and where he is in the learning path, because self-knowledge has an impact on the levels of motivation for success in academic performance[4]. Learning is more influenced by what the student does than what the teacher does. Study methods are particularly relevant to academic success[5].

The first investigations on academic satisfaction were carried out in the 60s and originated from studies on occupational satisfaction[6]. Satisfaction was defined as the experience of fulfilling an expectation. In case the learning experience exceeds expectations, the student is considered highly satisfied; if the experience does not reach expectations, the student will consider himself dissatisfied[7,8].

Student satisfaction involves access to the institution's resources, participation and success in the teaching and learning process, the organization of the course and its curricular structure, or the availability of support services when the student needs them and is related to the quality of the interaction of the teacher in the classroom, the scientific and didactic competence of the teacher, or the perception of the practical application of what is learned in the classroom[9].

Achieving academic success in a curricular unit is the objective of teachers and students. To this end, both groups adapt their performance to achieve this objective, the achievement of which also depends on the contextual and conjunctural conditions in which teaching-learning takes place. This study aims to find out to

what extent medical students with academic success in the Curricular Unit of Pediatrics are really satisfied; verify whether the most successful students are the most satisfied and whether academic success is related to levels of satisfaction, teaching-learning methods, the nature of assessment, the quality of teaching provided, curricular organization and infrastructure.

II.   Methodology

Descriptive, correlational, cross-sectional, observational study carried out at the Pediatrics Department of the Faculty of Medicine of the Agostinho Neto University (FMUAN), based at the David Bernardino Pediatric Hospital in Luanda, with a universe consisting of 127 students in the academic year of 2011 and a initial sample of 116. After dropping out of 3 students, the final sample was 113. The variables used were sociodemographic (age, gender, regional origin, marital status and professional occupation) and test: academic success (final grade and skills acquired = knowledge, skills, attitudes and values), levels of satisfaction, teaching-learning methods, assessment methods, teaching quality, curriculum organization and infrastructure.

III.   Procedures

The collection of information regarding academic success (final grade and acquired skills) was obtained through a questionnaire prepared by the author, and inspired by the works of the authors referenced in [10,11]. The information was confirmed by the registration book of the final exam in pediatrics in the academic year of 2011, with prior obtaining consent, respecting ethical principles and guaranteeing their anonymity. The questionnaire was approved by the Scientific Committee and consisted of two parts: the first with personal information (age, sex, regional origin, professional occupation and final grade). The second part referred to the assessment of levels of satisfaction, which included 5 degrees of satisfaction[10,11] according to a Likert-type scale: 1- completely dissatisfied, 2 - dissatisfied, 3 - indifferent, 4 - satisfied and 5 - very satisfied , regarding 7 dimensions, some of which with their respective indicators in parentheses: final grade, acquired skills (knowledge, skills, attitudes and values), teaching-learning methods, assessment methods, quality of teaching (teacher's scientific mastery , teacher's pedagogical mastery, contents addressed in relation to objectives, coherence and clarification of objectives, promotion, guidance of debates and sharing of ideas, clarification of doubts and response to students' needs), curricular organization (clarity in the definition of curricular objectives, promotion and development of different types of skills, topicality, innovative sense in the study plan), infrastructure (access to learning support services, resources and equipment available at the institution).

Data analysis was performed using the SPSS 16.0 program. To describe quantitative variables such as age, final grade, mean and standard deviation were used. For qualitative variables (evaluation methods, teaching-learning methods, teaching quality, curricular organization, infrastructure) and their correlation with other variables (levels of satisfaction), the test (Chi-square) was used. Statistically, a $P < 0.05$ was considered as proof value.

IV.   Results

The table below shows the descriptive analysis and frequency of data performed using the SPSS 16.0 program. For quantitative variables such as age, final grade, mean and standard deviation were used. For gender, the percentage was used and the remaining qualitative variables (methods of evaluation, teaching-learning methods, quality of teaching, curricular organization, infrastructure) and their correlation with other variables (levels of satisfaction), the test was used (chi-square). Statistically, a $P < 0.05$ was considered as proof value.

The mean age was 29.4 years and a standard deviation of 6.1; 50.4% were female. The variable "levels of satisfaction" was recoded as completely dissatisfied (1), dissatisfied (2), indifferent (3), satisfied (4) and very satisfied (5). The test used was the chi-square association test. Regarding the final grade and the levels of student satisfaction, 69% were dissatisfied with a value of $P < 0.01$; the same was true of acquired skills (knowledge and skills), and assessment methods, which shows a statistically significant difference between the academic success of medical students in the Pediatrics Curricular Unit and levels of satisfaction. Although there was no great dissatisfaction regarding the teaching-learning methods, P was < 0.01, revealing statistical evidence that the teaching-learning methods had no direct influence on the satisfaction of medical students in the Pediatrics Curricular Unit, hence a tendency towards non-elevation of academic success. Regarding the quality of teaching (teachers' scientific mastery, teachers' pedagogical mastery, contents addressed, coherence, clarification of objectives, sharing, promotion, guidance in debating ideas, clarifying doubts) 42% of students expressed indifference and 50% satisfaction ($P > 0.01$). The Curriculum Organization(clarity in the definition of curricular objectives, promotion, development of different types of skills, topicality, innovative sense in the study plan) and infrastructure (support and learning services, resources and equipment available at the institution) also presented a value of $P > 0.05$, with no statistically significant difference between the quality of teaching, curricular organization, infrastructure and student satisfaction, resulting in a tendency towards increased academic success.

Table: Descriptive analysis, data frequency using SPSS(16.0)

Variables	nº (%)	Average (SD)
Age		29,4(6,1)
Sex		
F	57(50,4)	
M	56(49,6)	

Final Grade	nº (%)	1	2	3	4	5	P
		levels of satisfaction					
10-11 values	80(70,8)	23	42	8	7	0	
12-13 values	28(24,8)	3	10	5	10	0	< 0,01
14-15 values	5(4,4)	0	0	0	4	1	

Skills acquired	1	2	3	4	5	P
	levels of satisfaction					
Knowledge	1	3	38(34%)	64(57%)	7	< 0,01
Skills	4	25	46(41%)	34(30%)	4	< 0,01
Attitudes	2	15	58(51%)	31(27%)	7	> 0,05
Values	2	12	58(51%)	34(30%)	7	> 0,05
Teaching-learning methods	1	8	37(33%)	54(48%)	13	< 0,01

	1	2	3	4	5	
	levels of satisfaction					
Assessment methods	31(27%)	38(34%)	11(10%)	28(25%)	5(4,4%)	> 0,01
Teaching quality	1	6	47(42%)	56(50%)	2	> 0,05
Curriculum organization	2	8	54(48%)	48(43%)	1	> 0,05
Infraestructures	1	11	53(47%)	45(40%)	3	> 0,05

Abbreviations: nº, number; SD, standard deviation.

V. Discussion

Our study highlights the levels of satisfaction of students with academic success in the Curricular Unit of Pediatrics in the academic year of 2011.

The main items assessed were: final grade, knowledge, skills, attitudes, values, teaching-learning methods, assessment methods, teaching quality, curricular organization and infrastructure.

Of the 113 students who participated in the study, 50.4% were female and 49.6% were male, with no significant difference regarding gender, which does not corroborate the study by Manzar & Manzar[12], that nowadays more women and fewer men adopt medicine as a profession, perhaps dure to the difference in pay in medical school compared to other high-income fields of study.

Gender, age, occupation (socio-demographic factors) may influence academic success[13]. It should be noted that these variables were not study variables in our research, but socio-demographic, although they have particular relevance in any study.

Regarding the final grade, more than half of the students (70.8%) obtained between 10-11 values, dissatisfaction was notorious in 46% of the students and complete dissatisfaction in 23% of the students. Forty percent of the students commented on the frightening or threatening approach during the evaluation by some professors, which left them in a high state of stress. Thirty percent argued the excessive syllabus content, even suggesting evaluation by modules. Three percent claimed miniature pediatric notes, despite having the perception that they did a good exam. The remaining thirteen percent made no observations. Some students reported that the teaching methodologies used by teachers and the learning conditions in the classrooms, teacher training, teaching quality, have a significant and positive effect on student satisfaction[7,14].Pediatrics professors seem to be more rigorous, presenting a particular way of assessing students in terms of expected performance[15,] a fact that may explain the attribution of final grades in our study.

The items teaching-learning methods, quality of teaching, curricular organization and infrastructures, were the ones that showed the highest level of satisfaction / indifference, when evaluated in general by the

students. When students are indifferent or satisfied, it is assumed that there are specific aspects that need to be maintained, reinforced or improved, in order to improve the initiative under study[11].

In their observations, some students felt the need to highlight, in the form of a suggestion, the guarantee of timely feedback by the professors, others even referred to the feeling of absence or excessive accommodation of some professors, at specific moments of the course development, such as for example, practical classes in amphitheaters and not in front of the patient. The flipped class method was suggested for medical students as it provides greater interaction, collaboration and better results[16].

The item most strongly correlated with the final result in the sense of dissatisfaction was the "evaluation method", which corroborates the study of some authors[15] and the paragraph that mentions the final grade, where students commented on the approach of some professors and excessive programmatic content. This point reinforces the need to improve assessment strategies, to guarantee higher levels of satisfaction and better academic results.

Students must be submitted to several moments of evaluation, multiplying their learning opportunities and diversifying the methods used, applying the knowledge they acquire and that they can exercise and control the learning and skills to be developed, receiving frequent information about difficulties and progress. achieved[17], considering that they occupy the center of the pedagogical space[18]. The grade should result from a logical, consistent, clear integration of evaluative information on academic, socio-emotional, socio-affective and behavioral learning. It may result from what was found about what students know and are able to do with regard to the learning objectives of contents and competences provided for in the curricular documents[18,19].

Based on this principle, different evaluation methods were proposed: Three-leap test: a set of topics on which students would be evaluated; each student would choose a subtopic from the themes to be evaluated (interaction between students was allowed, with the purpose of creating group dynamics); evaluate students on the chosen topics (30-minute test with short-answer questions and true-false questions); critical thinking essay (the incorporation of questions and case studies); integrated practical exam (assessment of skills in the presence of the examiner); Multiple choice questions. At the end, students fill out a questionnaire with 3 parts: whether they liked the type of assessment or not (if not, suggestions); explain the reason for your answer; classify the different evaluation methods; whether it provides motivation; whether it provides stress; if it provokes more comprehension than memorization; if they manage to apply the knowledge acquired in practice[17, 20]. Rigor, feasibility, suitability, ethics and usefulness should be associated with the clear definition of objectives, careful selection of tasks for students, diversification of means of collecting information and to the evaluators[18].

VI.   Conclusions

Medical students in the Curricular Unit of Pediatrics with academic success did not show high levels of satisfaction. The academic success of these students was unrelated to their levels of satisfaction with the final grade, knowledge and skills. Teaching-learning methods and assessment methods did not have a direct influence on student satisfaction, resulting in a tendency for academic success not to rise. The quality of teaching, the curricular organization and the infrastructure had a direct influence on the satisfaction of medical students in the Pediatrics Curricular Unit, resulting in a tendency towards increased academic success.

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