Introduction

Today with the more open sexual freedom in societies, the demand on physicians to support their patients has also increased, not only in terms of choice but also in terms of sexual function and dysfunction. However, as Coleman et al. state, these new demands are not reflected in the curricula of medical schools (1). In fact, possibly due to the increasing amount of medical knowledge essential to the graduation of medical students, the teaching time allocated to sexual medicine is diminishing rather than increasing (1).

One of the tasks of physicians is to improve the quality of life of patients through good sexual health. Little is known about the factors that influence the graduation of medical students in relation to the preparation of their approach to sexual health care.
It has been reported that some sexual health topics are inadequately covered in graduate medical programs such as areas related to the youth and the elderly, including sexual dysfunction (1). Hence, teaching hours for sexual education in undergraduate medical courses are frequently insufficient to prepare physicians for their roles to treat sexual health issues, which results in substantial dissatisfaction among medical students (2).

This lack of preparation may be reflected in consultations, as patients are often unwilling to discuss concerns related to sexuality with physicians. As many as 75% of patients feel that their physician would either ignore their concerns related to this subject or become embarrassed (2). Many patients do not think that physicians have the necessary skills to help them with sexual issues and think that their doctors would not provide effective treatment (1). More than two-thirds of patients feel uncomfortable about discussing sexual concerns with physicians and almost all (about 90%) will not spontaneously speak about their worries with their physician (3). This study also states that over 90% of patients think that the physician should initiate any discussion on sexual health concerns (3).

Thus, the US National Institute of Health recommends that physicians should be taught how to effectively investigate their patients’ sexual history for correct diagnosis of sexual dysfunction and to use an interdisciplinary approach to evaluate and manage dysfunction (4). In Brazil, 207 professors completed a semi-structured questionnaire about topics related to sexuality in 110 Brazilian medical schools (5). The majority of the professors gave 6 hours of lectures related to sexuality in the third and fourth years. Gynecology (51.5%), urology (18%) and psychiatry (15%) were the disciplines that most often taught sexuality-related topics and themes related to sexuality were mainly discussed in respect to sexually transmitted diseases such as HIV (62.4%), or anatomy and physiology (55.4%). About one quarter said they taught courses with titles related to sexuality. Sexual habits and the impact of diseases (87.9%) and sexual dysfunction (75.9%) were the most important topics (5).

Thus, in Brazil, programs on sexual education are diverse in respect to content and quality and the effect of courses on sexual medicine is difficult to assess. Indeed, the curricula of most universities includes few or no sex education classes in teaching, family planning, public health, gynecology, urology or general medicine courses. The initial training of these professionals varies widely and the content of the message given to students is difficult to assess. Furthermore, the transmission of the subject matter is varied and has not been formally assessed (6).

The aim of this research was to evaluate the delivery of sexual education to medical students by assessing the knowledge, attitudes, and self-confidence of medical students to provide patients with sexual health care and to set the foundations for improved courses within Brazilian medical schools.

**Methods**

A short 1-day course was planned and administered to students in the last 2 years of the medical course to increase their knowledge on sexual education and improve their attitudes in their treatment of patients.

Initially students received information about the nature of this course and the challenging aspects of the topics. Subsequently, they received a series of lectures on different issues given by key medical school professors with extensive experience in sexual medicine. At the end of each presentation, they had a chance to participate in discussions. This way the specialists created opportunities to share their experiences about sexual medicine. The students completed a questionnaire on their opinions about all aspects of the course and their impression on the improvement in their baseline knowledge of sexual health.

The course comprised six 35-minute lectures supported by audiovisual resources and an extra 25 minutes after each talk for discussion between the professors and students. The objective of the lectures was to improve knowledge on issues such as erectile dysfunction, anatomy, psychosexual dysfunction in children and the elderly, the management of premature ejaculation, hypogonadism and priapism. Specific aims of this series of lectures were to enable the students to:

(I) Adequately recognize the anatomy, physiology, epidemiology, risk factors and psychosocial impact of male and female sexual dysfunction;

(II) Interpret relationships between sexual dysfunction and different chronic, degenerative diseases and drug interactions;

(III) Identify the relationship between erectile dysfunction and coronary artery disease and stratify family risk factors;

(IV) Identify the main points related to metabolic syndrome and androgen deficiency and thus understand the signs of hypogonadism in adults and the elderly;

(V) Describe the psychological mechanisms of
sexual dysfunction as well as the effectiveness of psychotherapeutic treatment in children, adults and the elderly;
(VI) Know the psychological and physiological aspects of male and female sexual responses.

Results

Seventy-four medical students participated in the first 1-day course. This group comprised 48 female and 26 male students with a total of 43 students from the last year and 31 from the penultimate year of the medical degree course.

A clear demonstration was given on the notions that medical students have regarding sexual function in general. It was explained that sex education remains a subject shrouded in myths, taboos, bias and misunderstanding. During the lunch break, professors remained at the table answering questions and expounding the students’ concepts about sexual health for an hour and a half.

All students completed the evaluation and gave their opinions about the course and the improvement in their degree of confidence and attitudes (Appendix 1).

Moreover, the students were asked how they would feel about working in this area. The results show that almost all students felt more comfortable about dealing with the sexual health concerns of their patients with only 4% stating that they still felt uneasy about this subject.

Discussion

Seventy-four medical students were invited to participate in this pilot study and answered a self-reporting questionnaire. The results demonstrated a necessity to improve and stimulate a positive correlation between knowledge of and attitude toward sexual health care.

The vision of the US National Prevention Strategy has moved from a disease-based focus to prevention and wellness. This means that the medical students of tomorrow should be better prepared to answer their patients’ concerns (1).

This pilot project was developed to help the next generation of medical students have a better understanding of the subject of sexual health. Although not ideal, extracurricular courses are becoming more necessary to ‘top up’ the knowledge of students of healthcare and education courses specifically on questions that are essential to the well-being of society such as sexual education. There is little consensus about the content and skills students should master (7).

Sexual function is present from the beginning of human life. Critical and reflective views on this issue should serve to stimulate the academic world to promote respect for oneself and others, improve one’s understanding of the influence of social roles in interpersonal relationships and social organization as well as recognize affectivity as an integral part of sexual health.

To provide a good understanding of the complete human being, an event on sexual medicine should include knowledge from different fields, such as simple anatomic concepts and psychopathological perceptions. Annual 2-week educational programs have been organized in Oxford by the European Society for Sexual Medicine since 2007. These courses are available to healthcare professionals from different countries, and are thus important to improve the teaching and clinical research into sexual medicine (8).

The International Society for Sexual Medicine (ISSM) and its affiliates believe that it is essential to increase the awareness of member practitioners and sexual specialists alike regarding sexual medicine with an agile, complete program at meetings and conferences around the world that is capable of promoting the acquisition of knowledge needed to solidify education on this subject.

The teaching of sexuality is not standardized in Brazil and is fragmented across several disciplines. The subject of sexuality was added to the course with little emphasis on social aspects and the differences in human sexuality but stressing organic and pathological aspects. The results of this study highlight a need of change how sexuality education is taught in Brazilian schools (5).

The Latin American Society for Sexual Medicine (SLAMS) believes that improvements in comprehension will contribute to minimizing improper attitudes when dealing with sex education and allow the detection of necessary changes and the prevention of problems in the medical school training. For this, educational institutions should understand their commitment to students’ skills with respect to dealing with sexual problems.

Sexual medicine should be included as part of the teaching plan of medical schools because of the obvious link between sexuality and health that is underlined by the commonness of sexual dysfunction and is important in the quality of life regarding interpersonal relationships. Furthermore, there are high expectations in respect to teaching sexual health to physicians, due to the necessity of providing assistance to groups such as homosexuals and transgender individuals (9,10).

Despite current demands and expectations, varying
obstacles exist that impede the providing of adequate assistance in sexual health. For a long time these obstacles have been debated; they seem to be related to the uneasiness of professionals in respect to sexual issues of patients as well as beliefs about heterosexuality. Other factors that are also highlighted include the physician’s inability to communicate during the sexual medical history taking and their lack of understanding of the connection between health and sexuality. Thus, recommendations support the need for improvements in teaching sexuality in medical schools (11).

There is a consensus that knowledge related to sexuality should be delivered in the curriculum focused on the student and reinforced by attitudes and skills (12).

Recently, members of the SLAMS decided to create a pilot project on sexual education and SLAMS contributed with financial support and mentorship for 1 day course. Upon completion of this educational activity at a medical school in Brazil, students from the last 2 years of the medical course were better able to review and discuss the current state of sexual education and reported greater confidence to answer the concerns of their future patients. In fact, most students reported that they were more comfortable about dealing with their patient’s sexual concerns.

According to Davis et al., educational interventions that promote interactions between participants, such as case discussions, role playing or hands-on practice sessions, are more effective at improving the skills of medical students (13). We believe that future projects are likely to have a more active, participatory character with discussion groups. Although, there is little evidence supporting the role of pure teaching lectures in changing behavior (13), this pilot project can be used as a stepping stone to create a modern curriculum in medical schools and other universities. Lectures are efficient in transmitting standard information to a large group of students (14). However, smaller groups are planned for the next project, with the discussion of cases and the extension of the project for a longer period. With this measure, the hope is to raise the awareness of the administrators of medical schools with the aim of restructuring the curriculum to include sexual medicine.

Conclusions
The results of this pilot study demonstrate the importance of improving the training of medical students with regard to sexual health problems. There is a need to improve and stimulate a positive correlation between knowledge of and attitude toward sexual health care. Therefore, professors of sexual medicine should both teach the necessary knowledge and skills to students and coach them on positive attitudes related to sexuality to help them deal with the sexuality issues of patients.

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Footnote
Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The study was approved by institutional committee of São José do Rio Preto Medical School in compliance with the Declaration of Helsinki.

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Student evaluation

1. Overall evaluation of this pilot project
   a. Excellent
   b. Very good
   c. Good
   d. Fair
   e. Poor

2. Was this activity responsive to your needs in the medical school?
   Yes
   No

3. Was this activity relevant to your practice?
   Yes
   No

4. Did this activity increase your knowledge and/or skills in offering patient care?
   Yes
   No

5. What degree of confidence do you have that you can apply your new learning to your practice?
   Very Comfortable
   Moderately comfortable