

Medical education in pediatrics: attitude assessment in health promotion and preventive care

Educação médica na residência de pediatria: avaliação de atitudes em promoção e prevenção de saúde

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Abstract

Objectives: to evaluate attitudes in childcare and primary care in pediatrics, as well as aspects of training and medical education for residents in pediatrics consistent with the current medical paradigm.

Methods: the subjects were 133 residents of six pediatrics residency services in the city of Porto Alegre, RS. A cross-sectional, descriptive study was performed consisting of a questionnaire and an attitude measurement scale (Likert scale). Thirty propositions related to the issues of child care and primary care in pediatrics were simultaneously submitted to small groups of residents at their residency settings.

Results: women outnumbered men in a ratio of three to one in the residency programs. The majority aimed at a specialty in pediatrics, principally the ones involving high-tech procedures. Choices were influenced by prior training and by professors or tutors, although they stated they would like to work in prevention in the future. As for the scale, 87% had the right attitudes, both positive and negative, according to the Golden standard applied.

Conclusions: the result obtained in this study related to attitude was very satisfactory but future professional choices are a concern to the medical educational system. The authors suggest that studies on attitude be further developed and improved to become a source of input for new strategies in the area of pediatrics education.

Key words Internship and residency, Education, medical, Pediatrics

Resumo

Objetivos: avaliar atitudes sobre puericultura e cuidados primários em pediatria, bem como aspectos de treinamento e educação médica em residentes de pediatria, em consonância com o paradigma médico atual.

Métodos: os sujeitos foram 133 residentes de seis serviços de residência em pediatria da cidade de Porto Alegre. É um estudo transversal, descritivo, no qual os residentes responderam a um questionário e uma escala de mensuração de atitudes (escala de Likert) com 30 proposições acerca dos temas acima, aplicados simultaneamente, em pequenos grupos, nos locais de estágio.

Resultados: quanto ao sexo, nos estágios predominaram mulheres, na proporção de três para um. A maioria deles pretende especializar-se numa área da pediatria, principalmente aquelas que envolvem tecnologia avançada, sendo as escolhas influenciadas pelos estágios prévios e pelos professores ou tutores, embora informem desejar trabalhar em prevenção no futuro. Quanto à escala, 87% apresentaram atitudes adequadas, tanto positivas como negativas, conforme o padrão ouro utilizado.

Conclusões: o resultado obtido neste estudo, quanto às atitudes, foi bastante satisfatório, porém, as escolhas profissionais futuras preocupam o sistema de educação médica. As autoras sugerem desenvolver e aprimorar estudos de atitudes, os quais poderão tornar-se fonte de subsídios para novas estratégias de educação pediátrica formativa.

Palavras-chave Internato e residência, Educação médica, Pediatria

Introduction

Since the I and II World Conferences on Medical Education held in Edinburgh in 1988 and 1993, medical education is being challenged in most countries to find ways of improving quality and effectiveness. This strive for changes has been influenced by a new paradigm focusing on social values and include proposals of the World Health Organization for primary healthcare, concerned with the high costs of technology, with the excessive specialization of medicine and by the harmful fragmented view of the human being. Based on these considerations, we decided to investigate attitude in the area of the medical education, an issue still insufficiently addressed.¹⁻⁴

It is usually agreed that medicine comprises three areas, namely: knowledge, skills and attitude. We believe that cognition and skills have been widely discussed and assessed. Attitude, however, has been less analyzed, in spite of being a key element of global medical knowledge. Therefore, measuring attitude for health promotion and prevention in the context of advanced training in pediatrics is essential in terms of medical education and society interests. A cross-sectional descriptive approach and the attitude scale were used as measurement tools. The contents of the scale on children's wellbeing and primary healthcare in pediatrics was developed by our team based on medical education applied to local practice and relevant literature.⁵⁻⁸

Methods

This cross-sectional descriptive study consisted of a questionnaire for personal identification and professional aspects on pediatrics residency and a scale with 30 attitudes statements applied to small groups of graduates at their training settings.

The population of the study comprised 133 pediatrics residents in six pediatrics residency locations in the city of Porto Alegre, RS, South Brazil. Abstention was 13%, and the actual population tested was of 116 graduates.

The independent variable was medical education received at the undergraduate and/or graduate levels since respondents were residents in the course of the three years requirement of their residency program.

The dependent variable was the attitude of residents related to children's wellbeing and primary care in pediatrics. The classic Likert scale was used comprising five choices: agree, partially agree, indifferent, partially disagree and disagree, for each statement created.

One hundred and fifty statements on fifteen preventive, promotional and educational topics in healthcare were designed, of which half were affirmative and half negative. This format had the purpose of reducing bias. For scale's validation, sets of statements or propositions were submitted to five experts for selection of two statements from each topic found to be more relevant to the objectives of the study. The experts then selected one positive and one negative statement according to their perception of best content and phrasing, totaling 30 questions comprising the scale. The author compiled the chosen propositions, considered the suggestions made and organized the final scale (Annex 1).⁹⁻¹¹

The reliability process was accomplished by a pilot study with a small group of graduates, through which the scale's understanding and applicability was tested and determined. Statistical tests were performed through the use of the Pearson's and α -Cronbach's coefficient.

Ethical aspects of confidentiality and anonymity of subjects and institutions were ensured and respected. Data obtained were reported, analyzed and compared. Variables of age, gender, residency conditions and expectations on the future practice in Pediatrics, as professionals and as citizens were described.

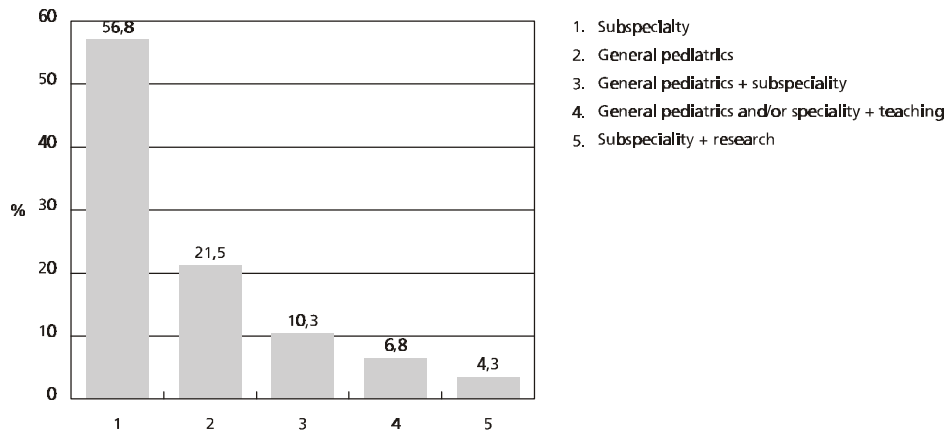
For the scale, each response was compared to a Golden standard, consisting of a list of correct responses for each statement. Responses were rated correct when matching the Golden standard.

Results

Residents' age ranged from 22 to 33 years old, with a mean of 26 and standard deviation of 2,0. Concerning gender, 29 were males (25%) and 87 females (75%), thus the a ratio was one to three. Residents were asked what subspecialty within pediatrics they intended to pursue following residency. Answers are summarized in Figure 1.

Figure 1

Residents distribution concerning choice of pediatrics subfield.



As predicted, most residents wished to specialize in some subfield of pediatrics. The subfields of choice were neonatology, pediatrics intensive care and infantile pneumology all requiring work in a hospital environment and specific technology.

When asked whether they had been influenced in choosing their future field of work, half of group replied affirmatively. Figure 2 shows the type of influence cited by the residents and their distribution. Note that the main factors influencing graduates' career choices were prior training and professors and tutors who had mostly captivated and encouraged them.

Residents were inquired on professional and social attitudes in their future medical practice. Virtually the whole sample (94%) sample replied to the question: "How do you expect to collaborate with society and local community in your future work as a pediatrician"? Their responses were: 54% of residents were willing to collaborate with prevention, education and counseling of patients and families, 21% with primary care and public health, 20% with qualified and ethical care and 5% with study, research and advancement. We asked residents to consider their experiences and make suggestions to improve pediatrics residency. Ninety-three residents replied (80% of population) and nearly all cited various changes or activities, depicted in Figure 3.

Figure 2

Perceived influences in residents' choice of field of work.

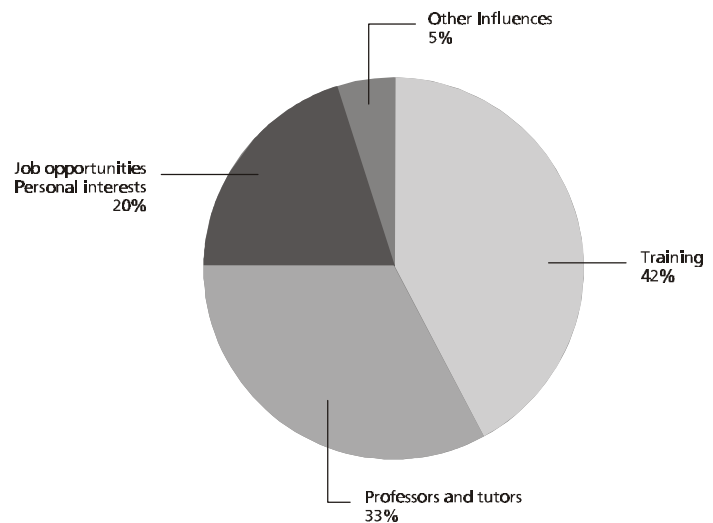
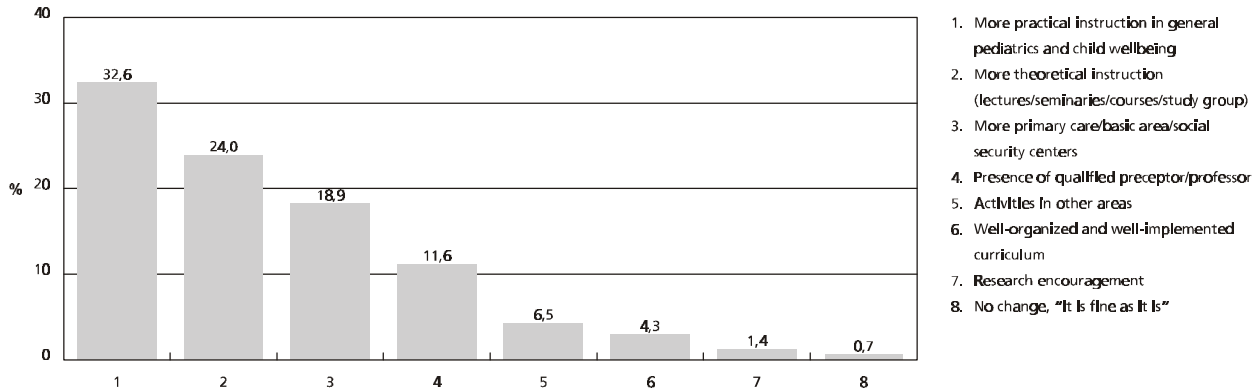


Figure 3

Distribution of residents according to their suggestions to improve residency.



Note that almost one third of residents suggested that more practical instruction be offered, a fourth of them asked for more theoretical instruction and a fifth requested more primary care in basic health areas, as in outpatient clinics.

Discussion of the results of the attitude scale is presented below.

The "indifferent" reply was not chosen for any of the statements. For the "partially agree" or "disagree" statements, 13% of correct responses were obtained according to the Golden standard. For the statements "agree" or "disagree", a percentage mean of 87% of correct answers was determined with a standard deviation of 8,20 and confidence interval of 95% between 71% and 103,1% considering the final result of study.

Analysis included the amount of correct answers as a percentage, of each positive (how many "I agree") or negative (how many "I disagree"), answers for the whole population. These were expressed as levels of quality related to attitude: high, moderate, low and very low. In the 30 answers, 11 had a high quality level of attitude, five moderate, eight low and six very low. Overall, a slight predominance of the moderate and high levels was determined.

Discussion

Residents' mean age was 26 years old indicating a

trend of graduates going into residency immediately after completion of undergraduate studies. As for gender, there were 29 men (25%) and 87 women (75%), which is consistent with the general trend of women matching or even outnumbering men in Brazilian medicine this last decade. A 1999/2000 survey has determined that the current gender ratio in Brazilian pediatrics is of 40,20 men for 59,80 women. A previous survey involving all Brazilian physicians (1996) indicated that 67,3% were male, although pediatrics is a predominant specialty. Another similar survey (1997-2000) has shown also a progressive growth of feminine physicians.¹²⁻¹⁴

It was further determined that over one half the residents (56,80%) intended to specialize in some subfield of pediatrics. Less than a fourth of the residents (21,5%) said they wished to pursue general pediatrics. The wish or intention of becoming a subspecialist is a somewhat universal trend of replicating in pediatrics what occurred in general medicine a few decades ago, that is, to abandon the much too wide and perhaps saturated field for a smaller and more specific share in that field. We think this is likely to be happening because of two main factors: the significant expansion of medical-scientific knowledge and the desire to increase the market of well paid jobs. A few residents wish to work in general pediatrics and/or a subspecialty, teaching and research. Our data are similar to those obtained in the 1999/2000 survey to determine pediatricians

profile in Brazil.¹²⁻¹⁴

Another attribute found related to the type of subspecialty. Residents prefer fields privileging technology in hospital settings and offering job security to clinical practices involving patients' families and community. As for the factors affecting residents' career choices, we found that training courses offered during undergraduate years and early in specialization training were the major influences, followed by professor models. This demonstrates the huge responsibility of undergraduate schools and professors' "way of being" as factors encouraging or determining professional choices made by new physicians. In questioning residents whether their plans included some type of work that could benefit society, more than half (54,1%) reported they intended to practice pediatrics focusing on preventive-care, education and counseling for children and their families on primary care in pediatrics. This intention, however, contradicts the choice for subspecialties involving intensive use of technology.¹²⁻¹⁶

When asked of any suggestions to improve pediatrics residency, (80%) replied with more than one suggestion for activity or action. The most common suggestion, appearing 45 times (32,6%), was to increase the number of hours of practical instruction including direct contact with children and their families. The second suggestion (24%), was to increase the number of hours devoted to lectures, courses, clinical discussions, study groups and bibliographical reviews. The prevailing request (18,9%), was for more hours devoted to the practice of primary care

in pediatrics. This was followed by better qualification and the continuous presence of supervising professors.¹⁷⁻¹⁸

The overall evaluation of the scale showed a percentage result of 87% of hits in responding to the propositions, that is, there was 87% of the right attitude, in positive and negative responses. It can be inferred that the group had a fairly good medical education related to the medical issues probed by the scale. The analysis of each question, however, indicated some differences concerning statements' content. For example, questions on breast-feeding, acute diarrhea, vaccination and acute respiratory infection had very positive results because they are often debated in our community. The lowest percentages of hits occurred with topics such as nutrition, undernourishment, health indicators, family/social abandonment, physical harm and others.^{18,19}

Finally, the study points to a key issue in education, which is the fact that evaluation provides data for the teaching content, particularly, concerning the education process. Attitude building adequate to the practice of the medical profession is still an aspect of education to be faced, discussed and developed. More studies should be performed on this topic so that more data become available to help the advancement of this field, such as cohort studies or the scale application three or five years later to observe changes over time. The chances of improving medical performance through the advancement of the teaching-learning process, is still a great challenge.

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Annex 1

Topics used for the construction of attitude scale

- Encouragement of breast-feeding
- Immunizations
- Follow-up of growth particularly up to five years of age
- Monitoring of neuropsychomotor development
- Acute respiratory infection (ARI)
- Acute diarrhea
- Children and adolescent security promotion
- Most frequent feeding disorders: undernourishment and obesity
- Most frequent feeding disorders: anemia for lack of iron and rickets
- Medical records in pediatrics
- Risk factors for the overall health of child
- Risk factors for the overall health of adolescent
- Counseling concerning physical environment
- Mouth health promotion
- Feeding during childhood and adolescence

Example of affirmative proposition:

The early days of life are crucial for onset and continuation of breast-feeding (correct: agree)

Example of negative proposition:

Mild undernourishment can be a reason not to vaccinate a child. (correct: disagree)

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