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Artículos

Cognitive differences between experts and novices in a pediatric hospital

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Introduction. ***During their residency training, medical students must acquire clinical reasoning abilities in order for them to reach adequate diagnosis. Teachers must have solid theoretical bases to help students in this process and constitute a good example for them. The objective of this study was to identify differences between theoretical knowledge between medical residents (novices) and a group of experts.***

Material and methods. ***The study was done in 2 stages: in the first one a multiple choice examination was elaborated and validated with a group of 37 doctors. Eighty five percent of the questions included essential themes and 15% were convenient or optional themes, This examination was applied to a group of students at the end of a residency program and a group of experts. Statistical analysis included U de Mann Whitney.***

Results. ***The examination was solved by a total of 92 doctors. There was a significant difference between the group of novices and the group of experts.***

Conclusions. ***Daily clinical experience increases medical problem-solving skills after graduation.***
Evaluation; theorical knowledge medical residents; novices; experts.

Introduction

The quality and level of information that a physician possesses has been considered as fundamental to reach correct diagnosis.[1] It has been considered for a long time that "expert" physicians have greater facility in problem-solving than those in their formative years because of greater information, better mental networks and more clinical experience.[2,3] Nevertheless, recent studies have found that medical students solve problems with a similar approach than expert practitioners, but both groups differ in what they considered important and how they organize their ideas.[4,5]

Medical diagnosis is a complex process that has been described as a hypothesis generation and evaluation method,[6] and relies to a great extent in memory. Initial diagnosis are made with only a few clinical data and the physician must match them with his theoretical knowledge and his experience.[3,4,6]

Some of the problems that have been identified among clinicians with problem-solving difficulties are: poor knowledge about the illness, insisting on a diagnosis in spite of contradictory information, inability to eliminate alternative hypothesis, and guessing on a diagnosis with only a few data.[3,7]

The objective of medical specialization is to prepare professionals with more and deeper knowledge, skills and attitudes to attend the population needs. Students habits and preferences initiate during residency training, considering it as an ideal time to create clinical reasoning abilities. Students must learn to solve problematic situations by observing and mimetically assimilating their teacherr' approach to the problem, but are never taught the strategies to solve clinical problems.[8]

Expert physicians must supervise and evaluate the novices daily performance in order to identify

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