

# Original Article

## A questionnaire -based study on the use of medical simulation models by Greek General Practice and General Surgery residents; testing hand-made models as low-cost alternatives

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### ABSTRACT

#### Aim of the study

*The aim of this study is to investigate the usefulness of professional and hand-made simulation models for hospital and home educational use, by Greek residents, in a sample of residents in General Surgery and General Practice (GP), running the first year of their residency in teaching Hospitals. Secondary goal is to detect special educational needs according to the medical specialty examined.*

#### Material and Methods

*The questionnaire used was distributed 2-7 days after educational courses held for young surgical residents and for GP residents. The educational courses were about a) skills in Emergency Medicine b) skills in General Surgery, c) Basic skills in Colorectal Surgery, d) Basic skills in Thyroid Surgery and Trachea Surgery by non experienced residents. e) simulation of upper gastrointestinal bleeding. In total, 500 questionnaires were distributed, and 434 completed questionnaires were properly completed. The questionnaire included a general part for the usefulness of simulation models, in medical practice. The sections for specialties and their special needs were separately assessed. The respondents were mostly men in the surgical group (181 men, 17 women), and in the GP group the respondents (236) presented a ratio almost 1:1 between the two sexes.*

#### Results

*At the general questionnaire questions (1-10) there was a common attitude among the respondents. All accepted the usefulness of simulation models for medical education in general and for the first steps in learning new examination approaches and techniques. A 25,29% however, answered that simulation models are not necessary for the needs of medical education. The 93,31% found that simulation models are not useful only for new doctors, but may be used for the introduction of new techniques. All respondents agreed that practicing with simulation models at home might help them to improve their performance in Hospitals, that they would use simulation models if were offered for free, and that simulation models should not be used in congresses only. However, all disagreed with the suggestion that during the first year only simulation models teaching might be adequate for medical education. The 88% answered that simulation models are expensive for a resident in Greece (to buy them for home practice) and only 17,51% found that education with the hand-made simulation models offered in courses, were useful for learning. All GP residents found education with simulation models very important for their education in GP needs (100%). Most surgical residents, on the other hand, found that hernia repair could be adequate-*

*ly taught in the operation theatre only (66,16%), while all agreed that colorectal surgery, trachea and thyroid surgery should use simulation models before the experience in the operation theatre (100%). In the part for the residents' perceptions on the future of medical education, with or without simulation models, the total of respondents answered that would desire more efforts to be done by the instructors and the Clinics' Directors, as finding their education incomplete for a successful future.*

#### Conclusions

*According to the results of this study, simulation models seem to be useful and highly assessed by residents of surgical and GP departments, for hospital and home education. However, they are very expensive for training doctors in Greece. Hand-made simulation models are cheap but they are generally not preferred for education by residents. There is a general problematic culture and perception relatively to medical education among Greek residents. However, even by the use of cheap substitutes, detailed education can be provided, especially for the specialties with the less chances for good education, like GP residents who are trained in large tertiary Hospitals.*

**Keywords:** simulation models, education, medical, graduate, culture, attitude, Greece

#### Introduction

The introduction of simulation models in medical education had a long history, before it comes into industrial interests. With peculiar hand-made models many surgeons used to struggle to educate their team, for essentials in surgery, in many countries worldwide. To use the patient for visualizing things in teaching, is not conformed with human rights when the patient is not in good physical condition, does not feel well, does not agree to participate to the "lesson", and students are not yet able to handle the patient's complaints. So, sometimes, instructors used to invent simulation "creatures" with very short life on earth (each one was used for one time only); and this was the only way to show to many residents or students something that you could not show on the patient. Even if the patient agrees to help, there are some techniques that cannot be shown repeatedly on the patient, as for example the digital rectal examination. In such cases, the patient would tolerate one or two examiners, but would not stand it for more [although the opposite has somewhere on earth happened (!) and this is of course a violation of human rights]. For such occasions, but mainly for the needs of teaching resuscitation courses, professionally designed "toys and dolls"

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