Who should do it?

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ABSTRACT

Background: *One common investigative tool for the gastrointestinal tract diseases is endoscopy, and gastroenterologists provide this service. However, in recent years some internists provide this service, which has raised concerns in gastroenterologist society.*
Purpose: *To assess the viewpoints of Iranian physicians on whether internist can do endoscopic procedures*
Methods: *The study performed in Tehran and Isfahan with a convenience sampling of practitioners who participated in CME courses. The sample consisted of different groups of general practitioners, internists, internal medicine residents and gastroenterologists. A self-administered questionnaire with Likert type answers was used to determine the attitudes of the practitioners toward this item.*
Results: *For elective diagnostic endoscopy the median of what expressed by internists and residents was complete agreement (+2) whereas for gastroenterologists it was agreement (1) and for gastroenterology fellowships, it was disagreement(-1); the difference was significant ($p<0.001$).*
Adding the lack of gastroenterologists' services to the question, the median opinion expressed by gastroenterologists and fellows changed to complete agreement (2) with inclusion of the item in the task list of general internist ($p<0.05$). This difference was not seen for more complex therapeutic procedures (sclerotherapy, ERCP) in fellows' and gastroenterologists' choices, but internists and residents still agreed that an internist should be allowed to perform these tasks.
Conclusion: *Reaching an agreement on borders of neighboring specialties or disciplines may be very difficult due to methodological pitfalls that face the planners, as well as professional sensitivities common in specialist societies*
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Introduction

Role definition is now widely accepted as the first step in process of curriculum planning for health care personnel education programs (1). This has shifted the educational strategies in medical education toward task–based learning and community orientation which in return mandates a more rigorous role definition and task analysis (2). At present the borders and boundaries of medical professions' tasks overlap to a great extent in many instances and further development of medical sciences and their translation into new diagnostic and therapeutic modalities will increase these overlaps; as a consequence the essential training that must be provided to prepare the students for their future assigned tasks as medical professionals needs frequent revision.
On the other hand some newly formed tasks may fall within several established disciplines which give rise to a conflict of interests between different professions and disciplines especially when it comes to financial terms.
Most gastroenterologic consultations for hospitalized patients are for endoscopic procedures (3). In primary care setting, there are also many cases requiring endoscopic evaluation. In places where access to gastroenterologist is limited, provision of appropriate endoscopic services remains a challenge for healthcare system. To solve this problem different health systems offered different solutions. British Society of Gastroenterology Working Party introduced 'nurse endoscopist'(4). Moreover Primary care physicians are performing an increasing number of gastrointestinal endoscopies in the USA and Canada (5,6,7). They received

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their training in setting of CME program specially designed for the purpose on a one–to-one basis(8). The complication rates were no different of that reported for gastroenterologist (5,7). The benefit to the individual patient depends on the interpretation of the endoscopic findings and the subsequent management (9).

In our country ,Iran, patients requiring endoscopy and other gastrointestinal procedures are conventionally referred to gastroenterology clinics by general practitioners but general internists perform this procedure too; recently their competency to do endoscopic procedure have raised a number of questions. This study tries to assess the viewpoints of Iranian physicians on whether internist can do endoscopic procedures.

Material and Methods

We perform a questionnaire-based survey to investigate viewpoints of Iranian physicians on whether internists can do endoscopic procedures.

The questionnaire was designed to include gastrointestinal endoscopy indications (diagnostic and therapeutic, emergency and elective) that are now routine in medical practice. The list of procedures was prepared by the research executive team and reviewed by two other gastroenterologists. The questionnaire was designed in a table with procedures in the rows of the first column and seven questions forming the other columns headings. The physicians were asked to give a mark from a total of 20 in response to a question regarding the competency of the professionals who do the endoscopic procedure. The total mark of 20 was selected as the Iranian students are more familiar with this scale. The first three questions regarding the respondent's viewpoints on who should perform endoscopic procedures had a 5-point Likert scale answers ranging from complete agreement to complete disagreement. The rest of questions were practically forming a checklist that measured the presence of enough equipment and authorization for procedures, and also practice record of the physician. An introduction paragraph was added to brief the respondent of the objective of the study. A section was included for respondent to fill their demographic data. Table 1 shows the questions.

The questionnaire was distributed among the study sample by members of executive team. They were asked to read the questionnaire introduction first. They could ask any question before starting to fill the questionnaire and the members of executive team were also available during the time the respondents were filling the questionnaire . The questionnaire was distributed among the study subjects after a CME session (for internists and general practitioners), case report session (fellows and gastroenterologists) and hospital conferences (interns and residents).The study subjects were selected through a non-random convenience method: in each group 20 subjects were included.

For the first three questions the items were recoded as follows: "Completely agree" , +2 ; "Completely disagree" ,–2; "Agree to some extent" , +1; and "Disagree somehow" , –1.

For questions reflecting the respondent viewpoints median values considered to be the central indicator because of low volume of samples in each category, and skewed distribution of variables. Difference of viewpoints between different groups was examined with Kruskall-Wallis tests (Mann-Whithney U test was used if just two groups difference was in focus).In this study $p<0.05$ considered as significant in all situations. To estimate internal reliability, Cronbach coefficient was calculated ($\alpha=0.78$). SPSS V.11 was used for data analysis.

Results

Out of 100 questionnaires that had been distributed among respondents, 64(13GPs, 11 residents, 15 internists, 15 fellows, and 10 gastroenterologists) were filled which were all included in the analysis.

The mean and median score of viewpoints on whether the internist should perform the endoscopic procedure and their competence in the field of gastrointestinal procedures are presented in table1. For elective diagnostic endoscopy, the median for internists' and residents' choices was 2 (=completely agree) comparing with 1(=agree) for gastroenterologists' rating median and –1(=disagree) for gastroenterology fellow; the difference was significant ($p<0.001$). (table 1)

Taking the lack of gastroenterologist into consideration, the median of gastroenterologists' and fellows' choices was 2(=completely agreement) for including the item in the task list of general internists ($p<0.05$). This difference was not seen for more complex therapeutic procedures (sclerotherapy, ERCP) in fellows' and gastroenterologists' choices, but internists and residents still agreed that an internist should be allowed to perform these tasks. The choices of the respondents followed the same pattern for

rectosigmoidoscopy when lack of gastroenterologist was taken into consideration ($p<0.05$).

For all endoscopic procedures the median choices of internists and internal medicine residents were higher than those of gastroenterologists and fellows ($p<0.001$). This difference was also observed when the respondents rated the current quality of care in a 20-mark scale ($p<0.001$). The mean difference between residents' rating and fellows' rating was 6 marks for upper endoscopy whereas it was 4, when comparing internists' rating with gastroenterologists'. For liver biopsy, gastroenterologists gave a mean of 6.8 to internist performing the procedure, while the internists gave a mean of 18.6 to the quality of their performing the procedure ($p<0.001$).

Due to high rate of missing data in questions regarding actual practice of the respondents as general internists during their working period, we decided not to analyze data related to internists but results of analysis for gastroenterology fellows and gastroenterologists are listed in table2. The results were similar between those two groups. Liver biopsy, upper endoscopy and rectosigmoidoscopy with relative frequency of 80,67 and 60 percent respectively, were the most performed procedures by gastroenterologists and fellows when they had been working as an internist. On the other hand, ERCP, buginage and dilatation, and sclerotherapy were performed infrequently by these groups when working as general internist. (table 2)

Table1 shows that all respondents' opinions grew closer in therapeutic complex procedures and in diagnostic simple procedures. The general practitioners idea agreed to all items when considering gastroenterologist availability factor.

Discussion

Mahajan et al (4,10) studies showed that the primary care physicians are as good as gastroenterologists in referring patients for esophagogastroduodenoscopic and colonoscopic examination in terms of appropriate indications.

On the other hand evidence suggesting that non-gastroenterologist endoscopist are providing a good service is growing(5,6,7,8). Moreover, the study by Gunneson et al (9) reported a major cohort of ultrasound assisted percutaneous liver biopsy performed by a physician assistant. Their results were impressive, because apparently in 99.8% of 1084 biopsies adequate tissue was obtained.

In our study, in line with earlier presumptions , specialists and generalists differed greatly on their opinion about performance of upper GI endoscopy by internists. The internists and residents of internal medicine agreed completely (+2)to adding diagnostic endoscopy, colonoscopy and the elective therapeutic upper endoscopy to their list of authorized procedures, whereas the majority of fellows' were against such authorizations. It is interesting that the opinion of the gastroenterologists was similar to that of general practitioners (except for invasive or complex procedures).

Brill and Baumgardner (11) showed the family practice residents' maximal unassisted depth of insertion reached to a plateu in learning curve after fifteen times performing short rectosigmoidoscopy. Similar report about the quality of care provided by family physicians was published by Pierzchajlo that showed they intubated D2 portion of duodenum in 99 percent of occasions (7); but the American Gastroenterology Association recommendation should be remembered which says that accepted competency may not be achieved until 100 repetition of a procedure like gastroduodenoscopy or 25 of sigmoidoscopy(12).

The objection showed by fellows and specialists may be explained by conflict of interest in financial terms as the introduction of other providers in a field previously exclusive to gastroenterologists might mean harder competence but further study is needed to support this assumption.

Generally, this study showed that, reaching an agreement on determining borders of neighboring specialties or disciplines may be very difficult due to methodological pitfalls that face the planners , as well as professional sensitivities common in specialty societies. Further studies that include and examine the role of factors imposed by health needs of society on health care delivery will be of great help.

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TABLE 1- The median score of the responses in each group

	If the gastroentrologist is not reachable, the genral internist should do it					I believe this procedure is one of the duties of general internists				
	Gastroentrologist	Gastroenterology fellowship	Internist	Internal medicine resident	General practitioner	Gastroentrologist	Gastroenterology fellowship	Internist	Internal medicine resident	General practitioner
Diagnostic ERCP	2	2	2	2	1	1	-1	2	2	0.5
Therapeutic ERCP	1.5	2	2	2	1	1	-1	2	2	1
PTC	1	1	2	2	1	-0.5	-1	1	2	1
Liver Biospy	-1	-2	2	2	1	0	-2	2	2	0
Ascitis Tap	1	2	2	2	1	1	0	2	2	0
Colonoscopic Polypectomy	-2	-2	1	1.5	1	-2	-2	0	1	0
Buginage & Dilation	-2	-2	2	2	1	-2	-2	1	1	0
Diagnostic ERCP	-2	-2	0	1	1	-2	-2	-1	1	0
Therapeutic ERCP	-2	-2	0	1	1	-2	-2	-1	-0.5	0
PTC	-2	-2	0	1	1	-2	-2	-1	0	0
Liver Biospy	-0.5	1	2	2	1	0	2	2	2	1
Ascitis Tap	1	1	1	1	1	2	2	2	2	2
Colonoscopic Polypectomy	-2	-2	1	1	1	-2	-2	1	0	0.5
Buginage & Dilation	-2	-2	1	0.5	1	-2	-2	1	0	0.5

	General internists do have professional competency to do this procedure					If we consider the score of 20 for quality of performance of this procedure by gastroenterologist, what will be the score for general internist?				
	General practitioner	Internal medicine resident	Internist	Gastroenterology fellowship	Gastroentrologist	General practitioner	Internal medicine resident	Internist	Gastroenterology fellowship	Gastroentrologist
Diagnostic ERCP	-0.5	2	2	1	1	14.2	17	16.25	11	12.2
Therapeutic ERCP	1	2	2	-1	-1	16	16.2	15.7	8.1	11.1
PTC	1	1.5	1	-2	-2	14.6	15.8	14.2	6.8	4.4
Liver Biospy	-1	2	1	-2	-1	14.4	16.2	14.7	3.4	8.3
Ascitis Tap	-1	2	2	-2	1	14.1	14.8	16.7	11.2	9.9
Colonoscopic Polypectomy	-1	1	-0.5	1.5	-2	13.4	15.6	14	2.3	2.8
Buginage & Dilation	-1	1.5	1	-2	-2	13.1	16.6	14.1	4.3	3.5
Diagnostic ERCP	-0.5	1	-1	-2	-2	13.4	9.6	12.5	0.3	2
Therapeutic ERCP	-0.5	0	-1	-2	-2	13.1	12.8	13.4	0.3	3.7
PTC	0	0	-0.5	-2	-2	13.2	12.8	14.4	3.8	5.4
Liver Biospy	0	2	2	-2	-1	14	19	18.6	13.1	6.8
Ascitis Tap	2	2	2	1	2	16.8	19.6	19.5	17.3	13
Colonoscopic Polypectomy	0.5	0	1	-2	-2	14.3	12.8	14.6	2.2	3.4
Buginage & Dilation	0.5	0	1	-2	-2	14.1	13	14.1	2.2	2.4

TABLE2-Relative frequency of practitioners who never did the procedures.

	Ratio of the practitioners who never did the procedure(%).	
	Gastroentrologist	**Gastroenterology fellowship**
Diagnostic ERCP		33
Therapeutic ERCP	30	33
PTC	60	66
Liver Biospy	77	60
Ascitis Tap	30	40
Colonoscopic Polypectomy	50	60
Buginage & Dilation	87	88
Diagnostic ERCP	87	10
Therapeutic ERCP	66	77
PTC	66	77
Liver Biospy	50	20
Ascitis Tap	30	20
Colonoscopic Polypectomy	84	77
Buginage & Dilation	90	86%

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