Article

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Keep/refer decision making abilities and screening for serious pathologies as integral components of the physiotherapy education and profession: The perspective of Austrian physicians.

Sollen Physiotherapeuten Patienten auf das Vorhandensein schwerwiegender Pathologien untersuchen und eigenständig beurteilen, ob Physiotherapie indiziert ist? Die Ansicht von Ärzten in Österreich.

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Zusammenfassung

Hintergrund: In den letzten Jahren wurden mehrere Umfragen unter Physiotherapeuten zum Thema Direktzugang, Notwendigkeit des Erkennens schwerwiegender Pathologien und erhöhter beruflicher Autonomie durchgeführt.

Ziel: Ziel des Fragebogens war es herauszufinden, wie Mediziner in Österreich dazu stehen, dass Physiotherapeuten mehr Eigenständigkeit bei klinischen Entscheidungen übernehmen.

Methode: Im Herbst 2017 wurde eine Online-Umfrage per E-Mail an 1000 Hausärzte und 395 Orthopäden mit Privatordination in Österreich verschickt.

Ergebnisse: 76 Hausärzte (7,6%) und 40 Orthopäden (10%) nahmen an der Studie teil. 90% der teilnehmenden Hausärzte und 68% der Orthopäden sind der Meinung, dass Physiotherapeuten eigenständig in der Lage sein sollten zu beurteilen, ob Physiotherapie indiziert ist, oder nicht.

Schlussfolgerung: Die Teilnehmer der Studie sehen es mehrheitlich positiv, dass Physiotherapeuten in Österreich mehr Verantwortung übernehmen und eigenständig beurteilen ob eine Indikation zur Physiotherapie besteht.

Schlüsselwörter: Klinische Entscheidungen, Umfrage, Physiotherapie, Ärzte.

Abstract

Background: Over the last few years, several surveys examined the attitude of physiotherapists towards direct access, increased practice autonomy and the necessity to detect the presence of serious pathologies.

Objective: To gain insight into the attitude of Austrian physicians towards Austrian physiotherapists taking more responsibility when making clinical decisions.

Method: In autumn 2017, an online survey was distributed by e-mail among 1000 general practitioners and 395 orthopaedic surgeons working in private practice in Austria.

Results: 76 general practitioners (7.6%) and 40 orthopaedic surgeons (10%) completed the survey. 90% of responding general practitioners and 68% of participating orthopaedic surgeons believe that Austrian physiotherapists should make autonomous keep/refer decisions.

Conclusion: Study participants are overwhelmingly positive towards Austrian physiotherapists taking an advanced level of practice autonomy and make independent keep/refer decisions.

Keywords: Clinical decisions, survey, physiotherapy, physicians.

Introduction

There are two distinct ways how a patient can access physiotherapy: Direct and indirect. In a health care system, where physiotherapists act as first contact practitioners (e.g. Australia, Canada, the Netherlands, United Kingdom), patients can refer themselves directly to a physiotherapist without being referred by another health care professional (e.g. a physician). In other countries (e.g. Austria, Germany, Belgium), patients require a medical referral before they can consult a physiotherapist [1]. Proponents of direct access to physiotherapy argue with the benefits of lower costs for the patient and the health care system [1-4] reduced overall waiting times for physiotherapy service [1,3] and decreased work load for physicians [3]. Opponents of direct access to physiotherapy services primarily express concerns that physiotherapists might fail to recognize the presence of serious medical conditions, which require medical evaluation and/or treatment [5].

Physiotherapists in a direct access system are certainly expected to have the appropriate knowledge to be able to independently determine if a patient is suitable for physiotherapy intervention or requires additional medical evaluation and/or management. However, there are several reasons why physiotherapists, even those whose patients need prior medical evaluation and referral, are also well advised to autonomously assess their patients for the possibility of an underlying sinister medical condition which is not suitable for physiotherapy intervention: In 2005, a retrospective analysis of physicians' referrals to physiotherapists in the United States revealed that the majority of referral diagnoses (e.g. low back pain, back sprain) were not particularly helpful for the physiotherapist's decision making process

regarding treatment options and/or appropriateness of physiotherapy intervention in general [6]. While the authors of this review acknowledge that it is not always possible to describe a distinct pathological process or identify a specific structural pathology and therefore provide a specific diagnosis for all pain problems of the neuro-musculoskeletal system, a benign cause should never, solely based on the physician's referral, be automatically taken for granted [6]. As a direct consequence, the authors suggest that physiotherapists should continuously challenge the appropriateness of the physicians' referrals and whether a patient's condition seems suitable for physiotherapy management [6].

Liu and Flechter [7] reported similar results when they evaluated 544 physicians' referrals to physiotherapy in the United States. One third of the medical prescriptions (177 out of 544) either contained pure descriptions of the patients' symptoms (e.g. weakness, dizziness) or gave rather vague, nonspecific descriptions of the patients' symptoms location(s) (e.g. knee, hip or back pain) which, again, are not particularly informative of underlying mechanisms and causes of the ailment(s). The authors warn physiotherapists to solely rely on the physician's referral. The authors conclude that physiotherapists are required to independently examine their patients in order to find the reason(s) for their health problem(s) [7].

In line with this, a review by Boissonnault and Ross [8] of 78 published case reports and case series demonstrated that screening strategies performed by physiotherapists and subsequent referral to a physician led to the diagnosis of a wide range of conditions (e.g. spinal malignancy, spinal infection, spinal osteoporotic fracture, visceral pathologies) as underlying causes of the patients' pain disorders. While only a small number of patients consulted a physiotherapist without being referred by a medical practitioner, the majority (74.4 %) had undergone prior medical examination [8].

Whilst it is not the physiotherapist's traditional role to diagnose a specific pathological process (e.g. lung cancer, prostate cancer) as underlying reason of patients' health issues [9,10], all physiotherapists, as part of their clinical reasoning process, must be independently capable of determining whether a patient seems suitable for physiotherapy (keep), or not (refer) [11]. Moreover, once the presence of a pathological process/condition, which is not suitable for physiotherapy, is suspected, the physiotherapist must refer the patient (back)

for more thorough, medical investigation(s) [12] so that, if verified, a specific diagnosis can be established and appropriate treatment will not be delayed.

Donato et al. [10] and Clark [13] assessed the importance of physiotherapists being capable to make independent keep/refer decisions and to screen patients for the presence of serious pathological processes from the perspective of qualified physiotherapists (working in different practice and varying health care settings) in the United States. The results clearly showed that the respondents were generally positive about their responsibility to independently discern situations which were not amendable to physiotherapy but instead require (concurrent) medical attention [10,13]. Respondents in the study by Clark [13] also stated that physiotherapists themselves (and not only medical professionals) were responsible for conducting screening procedures which either rule in or out the presence of more severe medical conditions [13].

In 2008, Knipp conducted a survey amongst more than 4000 qualified physiotherapists in Austria. 712 physiotherapists (17.6%) completed the survey. Results demonstrated mixed responses towards Austrian physiotherapists' self-perceived confidence of being capable to recognize the presence of serious pathologies within their patients' clinical presentation [14].

In 2011, Scheermesser and colleagues conducted a survey among 7874 qualified physiotherapists in Switzerland. The background of this survey was to assess the attitude of Swiss physiotherapists towards the implementation of a direct access system to physiotherapy in Switzerland. 2137 physiotherapists completed the survey. The majority of respondents (86%) approved the efforts to implement a direct access system to physiotherapy. The results also demonstrated the importance (from the perspective of qualified physiotherapists) of having the appropriate knowledge to screen patients for the presence of serious pathologies in the case of advanced practice autonomy [15].

In 2014, the Austrian physiotherapy association released a document, which defines the future role of physiotherapists in a primary health care setting [16]. This has resulted in amendments to the mandatory learning outcomes for undergraduate studies across Austria [17]. Within this document, it is clearly stated that, in the case of enhanced practice autonomy (direct access), Austrian physiotherapy students are required to learn how to

recognize the presence of serious pathologies and make autonomous keep/refer decisions during their undergraduate degree programme [17].

In 2017, a survey was distributed among 6219 physiotherapists in Austria [18]. 2065 physiotherapists completed the survey. 94.8% voted in favour of more practice autonomy. More than 90% also stated that the Austrian physiotherapy association should continue its political effort to promote more practice autonomy for physiotherapists in Austria [18]. Similar to the results by Scheermesser and colleagues [15], respondents highlighted the need for additional qualifications in order to be able to recognize the presence of a serious pathology which requires medical attention [18].

However, little is known about the significance of physiotherapists being able to make autonomous keep/refer decisions and to screen patients for the presence of serious medical conditions from the perspective of medical doctors. In addition, no study so far has evaluated which examination procedures from the perspective of medical doctors should every qualified physiotherapist be capable of and need therefore be included in the undergraduate curriculum.

In order to answer these questions, the current study used a descriptive survey (questionnaires in a web-based, electronic format) among orthopaedic surgeons and general practitioners working in private practice in Austria. The methodology, results and discussion sections adhere to the Survey Reporting Guideline (SURGE) [19].

Methods

Development of the research tool

Due to the lack of availability of identical survey instruments, the questionnaire was developed as a bespoke instrument for the purposes of a doctoral thesis with iterative feedback from the supervisory team. The initial ideas of which topics should be covered and which questions needed to be included were taken from Donato et al. [10] and Clark [13]. The first draft of the questionnaire was then sent to the supervisory team for feedback. After two feedback rounds, the final version of the questionnaire consisted of 11 questions and was divided into three main categories:

- General questions/demographic characteristics (n=2).

- Questions concerning the physiotherapy under-and postgraduate education in Austria (n=5).
- Questions regarding (the doctors') everyday work (n=4).

The first section was included to observe various practice patterns of responding physicians (e.g. number of referrals to physiotherapy).

The purpose of the second section was to get insight into the opinion and attitude of medical doctors towards Austrian physiotherapists making independent keep/refer decisions and to screen patients for the presences of serious pathologies. In addition, medical doctors were given the opportunity to suggest different examination procedures which they deemed relevant for the physiotherapy education and profession.

The last section aimed at getting insight into the current level of collaboration between physicians and physiotherapists in Austria. Moreover, responding physicians could give examples of incidences where serious medical conditions were missed.

Pilot testing

It is recommended that a survey should undergo pilot testing on a manageable number of individuals (which are representative of the target population) before being used for research purposes [20]. The rational for this is to assess the comprehensibility of individual questions and to measure the time required to complete the survey [20]. The original questionnaire was developed in English and subsequently translated by the lead author into German. A German translation was sent (via e-mail) to a panel of medical doctors (n=3) in Salzburg/Austria.

The pilot testing for the current survey was done on two different occasions: During the first round, a panel of volunteering medical doctors commented on their general understanding of the questionnaire and the appropriateness as well as proper sequencing of individual questions. One physician suggested changing the sequence of the first four questions of the second category so that the questions would better reflect the order of the acquisition of knowledge. Another volunteering medical doctor recommended adding the measurement of

vital parameters (pulse, blood pressure, temperature, oxygen saturation) to those proposed examination procedures which every qualified physiotherapists should be capable of.

The final version of the questionnaire was then resent to the three volunteering medical doctors to give feedback about the time required to complete the survey instrument. The three volunteering medical doctors agreed independently from each other that the survey could be completed within two minutes.

Sample selection

The majority of Austrian physiotherapists treat patients with complaints arising from the musculoskeletal system [14] and most referrals to physiotherapy come from general practitioners and orthopaedic surgeons [21] Hence, the population from which the samples were drawn consisted of general practitioners (n=6544) and orthopaedic surgeons (n=856) working in private practice in Austria. Through an extensive search for valid e-mail addresses on the official webpages of the Austrian Medical Council, an accessible population of 1886 general practitioners and 395 orthopaedic surgeons working in a private setting in Austria could be obtained. The final sampling frames consisted of a random sample (obtained through simple random sampling) of 1000 general practitioners and all 395 orthopaedic surgeons working in private practice in Austria.

Survey administration

The complete survey was online and password protected using the online survey tool Bristol Online Survey Tool (BOS). Survey distribution and data collection took place between October and November 2017. No financial incentives or other forms of compensations were offered. On October the 9th, an invitation e-mail containing full study description and a link to the actual survey was distributed. Four additional reminder e-mails to those who had not yet completed the survey were sent between two and four weeks after the initial invitation. The rationale behind this was that, even though, the bulk of responses can be expected within the first two weeks after the initial survey distribution, additional reminders are powerful tools to maximise the return rate [20,22]

Analysis

The return rates and the results of the responses of general practitioners and orthopaedic surgeons were summarized using descriptive statistics. Frequencies of responses were presented in percentages in relation to the total sample sizes [20].

All questions (except for two, which were pure follow-up questions in case the previous question was affirmed) were mandatory. This ensured that only completed surveys were returned to the Bristol Online Survey Tool. Handling item missing data was therefore not an issue.

Physicians are a relatively homogenous group (in contrast to the general population) [23] and therefore less prone to non-response bias [23, 24]. It was not an objective of the current study to investigate the effect of various demographic characteristics (e.g. age, gender, rural versus urban region) on the respondents' attitudes towards physiotherapists making independent keep/refer decisions. Consequently, an analysis of non-response error was not performed.

While acknowledging the fact that a wide range of different definitions on how to calculate the response rate exists [25], the return rates for the current study were calculated using the following formula:

$$\frac{\text{Number of responses to the survey (study sample)}}{\text{Number of potential participants (sampling frame)}} \times 100$$

Results

Of the 1000 general practitioners, 7.6% (n=76) took part in the study and completed the survey. Of the 395 orthopaedic surgeons, 10% (n=40) returned a completed questionnaire.

Demographic characteristics

As seen in Figure 1 general practitioners within the current study sample had a wide range of years of working experience and more than 60% of the respondents (n=49) made more than 50 referrals to physiotherapy each year. Almost 50% of responding orthopaedic surgeons had more than 20 years of expertise and almost 90% made more than 100 referrals to physiotherapeutic service each year (Figure 1).

Keep/refer decisions and screening for serious pathologies as part of the physiotherapy under-and postgraduate education

As presented in Figure 2 the vast majority of general practitioners within the current study sample responded that making precise and independent keep/refer judgements are highly relevant for the Austrian physiotherapeutic profession (90.8%) and should be a core component of the undergraduate (92.1%) and postgraduate education (86.8%). In addition, more than half of responding general practitioners (53.9%) find it highly relevant that physiotherapists screen patients for the presence of serious medical conditions, which require (additional) medical attention. Although the bulk of responding orthopaedic surgeons (67.5%) responded that qualified physiotherapists in Austria need to make autonomous keep/refer decisions and that this should part of an undergraduate and postgraduate curriculum (70% and 62.5%, respectively), these numbers were smaller than for general practitioners within the current study sample. Moreover, only one third (32.5%) of orthopaedic surgeons found it very important that physiotherapists perform screening procedures to identify/exclude severe pathological processes (Figure 2).

Interdisciplinary cooperation between physiotherapists and responding physicians

As shown in Figure 3, the minority of responders reported an incidence where physiotherapists have missed sinister pathologies. More than 80% of responding general practitioners and orthopaedic surgeons, however, deemed the feedback by physiotherapists (due to worrying or even alarming peculiarities/changes in their patients‘ health status) to be highly relevant for their further clinical decision making processes.

Discussion

This is the first study to give a unique insight into the significance of physiotherapists being capable of making independent keep/refer judgements from the perspective of medical doctors in Austria. The results of the current study show that general practitioners and orthopaedic surgeons working in private practice in Austria predominantly believe that Austrian physiotherapists need to be capable of making autonomous decisions if movement-based, physiotherapy management is indicated, or not. In addition, the bulk of responding physicians share the opinion that the ability to make autonomous keep/refer judgements should be taught as part of the physiotherapy undergraduate curriculum, and during

mandatory postgraduate courses. The results from the current study concur with proposed amendments within the learning outcomes for undergraduate studies across Austria [17] and recent efforts from the Austrian physiotherapy association towards more practice autonomy for physiotherapists in Austria [18].

The overwhelmingly positive attitude of responders towards physiotherapists making autonomous keep/refer judgements is also in line with results from previous studies which focused on the perspective of qualified physiotherapists in the United States [10,13].

Slightly more than half of general practitioners within the current study sample (54%) found it very important that physiotherapists utilize screening procedures to exclude/detect more serious medical diseases as underlying reason(s) for the patients' pain disorders. Only 33% of responding orthopaedic surgeons regarded screening for sinister underlying conditions to be highly relevant for the physiotherapeutic assessment. 30% of participating orthopaedic surgeons concluded that screening procedures used by physiotherapists (to exclude/detect severe pathologies) were completely unnecessary. One orthopaedic surgeon within the current study even explicitly stated that the recognition/exclusion of dangerous pathologies is not the task of a physiotherapist at all.

The slightly divergent attitudes between general practitioners and orthopaedic surgeons regarding the significance of physiotherapists being able to conduct screening procedures which help to exclude/detect serious pathologies might be explained by the highly specialized training and advanced education of orthopaedic surgeons when handling and diagnosing conditions of the neuro-musculoskeletal system (and severe pathologies affecting it). Hence, orthopaedic surgeons are probably more confident not to miss sinister conditions which should not be referred to movement-based, physiotherapy management in the first place. General practitioners, on the other hand, need to have a broader area of knowledge (of other medical specialities) but lack this in-depth expertise acquired by orthopaedic surgeons during their extensive training and daily routine with patients who suffer from ailments of the neuro-musculoskeletal system.

Although by far not all responders found screening for severe pathologies to be a central element of the physiotherapy assessment, responding general practitioners and orthopaedic surgeons reported a few instances where physiotherapists had overlooked the presence of serious medical conditions (even though the patients had been referred by a

physician in the first place) (Figure 3). In spite of the fact that serious pathologies affecting the neuro-musculoskeletal system are reported to be extremely rare [26-28] the results of this survey demonstrate again that physiotherapists, even in a non-direct access system that incorporates prior medical evaluation, might encounter conditions which are not appropriate for physiotherapy.

While the majority of responding orthopaedic surgeons (68%) deemed the (physiotherapists') ability to make independent keep/refer decisions to be highly relevant, only a minority (33%) regarded screening for sinister medical diseases to be a very important facet of the physiotherapeutic assessment. Interesting, but at the same time slightly unexpected because making autonomous keep/refer judgements and screening for serious conditions are fundamentally interrelated with each other. How should a physiotherapist recognize that there might be something completely wrong within a patient's clinical presentation (and therefore needs additional medical check-up) without using screening procedures? On the other hand, current guidelines for physiotherapy profession and education in Austria do not contain any passages that categorically demand from physiotherapists to recognize the presence of serious conditions [21,29]. Only one official document, which describes the (possible) future role of the physiotherapy profession in a primary health care system [16] mentions the necessity of physiotherapists (in Austria) to be able to decide whether movement based interventions are indicated. As a direct consequence, the one orthopaedic surgeon was right that, from a political and official point of view, recognizing the presence of underlying dangerous pathologies is (currently) not the task or duty of a qualified physiotherapist in Austria. While this is true from the current political point of view, official guidelines by the WCPT [12] clearly demand from all physiotherapists that they know exactly when a patient's presentation requires referral to a physician. As previously reported, Boissonnault and Ross [8] have already highlighted why every physiotherapist should be capable of making accurate keep/refer decisions.

While not all respondents in the current study found screening for the presence of serious medical conditions to be highly relevant for physiotherapists, none of the suggested examination procedures which every qualified physiotherapist should be capable of (Figure 2) were found to be completely irrelevant. These results emphasize that medical doctors want physiotherapists to be capable of carrying out various examination procedures which,

if positive, can be then communicated with a physician. This ensures good and professional interdisciplinary communication. In addition, the ongoing political efforts from the Austrian physiotherapy association towards more practice autonomy [18] seem to be confirmed and supported. The majority of responding medical practitioners are positive about Austrian physiotherapists taking an advanced level of responsibility when it comes to making independent keep/refer judgements and assessing different organ systems and the general health status of patients.

Strengths of the study

A major strength of the current study was that the questionnaire underwent pilot testing on two separate occasions by a panel of medical doctors before being distributed among the physicians. This was done for the matter of clarification and proper order of individual questions [20], but also to guarantee that this survey could be completed in a reasonable amount of time (2 minutes). In addition, multiple follow-up reminder notifications were sent to the non-responders after the first two weeks had elapsed [20,24,30]. This helped to upgrade the final response rate(s).

Limitations

The central limitation of the current project concerns to the modest return rate(s). 10% of orthopaedic surgeons (n=40 out of 395) and 7.6% of general practitioners (n=76 out of 1000) completed the survey. A generalizability of the current results is therefore problematic. One reason for the low return rate might be that all questions were mandatory. This might have prevented some physicians from completing the questionnaire. Yet, the survey was kept intentionally short and could be completed within 2 minutes. The response rates of the current study (10% and 7.6%, respectively) are still in line with the return rate by Yusuf and Baron [31] (8.7%), who conducted a web-based survey among 3054 endoscopists. It has already been stressed that response rates for physicians are generally low [23] and response rates below 20% are not unusual [32].

Although there is conflicting evidence which favours closed ended over open ended questions [23], almost all items (except for one follow up question) were presented in a closed ended format. Due to a lack of funding, no additional personnel and time constraints, neither monetary incentives [33] nor multi-mode strategies for the survey distribution

(postal, fax, telephone) [24] were possible for the current project. Moreover, no preliminary notification about the upcoming survey was sent to the prospective participants (as this was not feasible with the Bristol online survey tool) [32]. Instead of using numerous survey distribution strategies and multi-modal follow up techniques, the current project focused on obtaining a relatively large sampling frame (1400 physicians) in the first place. Berk [34] has already highlighted the possible advantage of initially casting a wider net (and accept a small response rate) over complex and often expensive multi modal procedures to reach unwilling non-responders, whose answers would have little or no effect on the overall study results [34].

Although non-response bias does not seem to play a dominant role in survey related research among physicians [23, 34,35] some form of bias within the current study cannot be completely ruled out. The majority of responding orthopaedic surgeons (87.5%) reported to make more than 100 referrals to physiotherapy per year. Conversely, no orthopaedic surgeon indicated to make less than 20 referrals each year. Consequently, it is impossible to say if orthopaedic surgeons in Austria, who tend to make less than 20 referrals to physiotherapy each year, would have given different answers.

The last limitations concerns the question how many physicians actually read/received the survey. Most physicians (working in a private setting) have office personnel/receptionists which handle the paper work and monitor incoming e-mails [24]. It is possible that, in some instance, these so called gatekeepers simply regarded the e-mail containing the link for the survey as spam and subsequently deleted it (without telling the physician about its existence) [24].

Conclusion

The results indicate that the physiotherapists' feedback is relevant for orthopaedic surgeons and even more for general practitioners working in a private setting in Austria. It was not the purpose of this study to explore the opinion of Austrian physicians towards the implementation of a direct access system to physiotherapy in Austria. Yet, the majority of responding physicians believe that physiotherapists must be able to independently assess if patients are suitable for physiotherapy intervention, or not. More than half of responding general practitioners and one third of participating orthopaedic surgeons also find it very important that physiotherapists screen patients for the presence of serious medical

conditions. The outcome data also gives clear guidance as to which examination procedures from the perspective of responding physicians are expected to be part of the Austrian physiotherapy undergraduate curriculum. The results of the current study are a clear signal that there needs to be a heightened focus on teaching Austrian physiotherapy students how to make precise and independent keep/refer decisions and how to screen patients for the presence of serious pathologies within a patient's clinical presentation. Especially in the case of desired increased practice autonomy, fundamental amendments to the undergraduate curriculum and subsequent learning outcomes are inevitable. As mentioned above, opponents of a direct access system to physiotherapy mainly express concerns that physiotherapists are not equipped with enough knowledge to detect serious medical pathologies. Within this whole political discussion, it is crucial that the feedback and opinion of all relevant stakeholders are taken into consideration. A broad debate might result in clear and exact instructions as to which lecturing and learning contents need to be mandatorily addressed/included within the undergraduate physiotherapy curriculum so that the objections of the opponents to more practice autonomy for physiotherapists can be invalidated.

Ethics

Ethical approval (Ethics Application 1390) was obtained from the Manchester Metropolitan University Ethics Committee (Faculty of Health, Psychology and Social Care).

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Conflict of interest

The authors report no conflict of interest.

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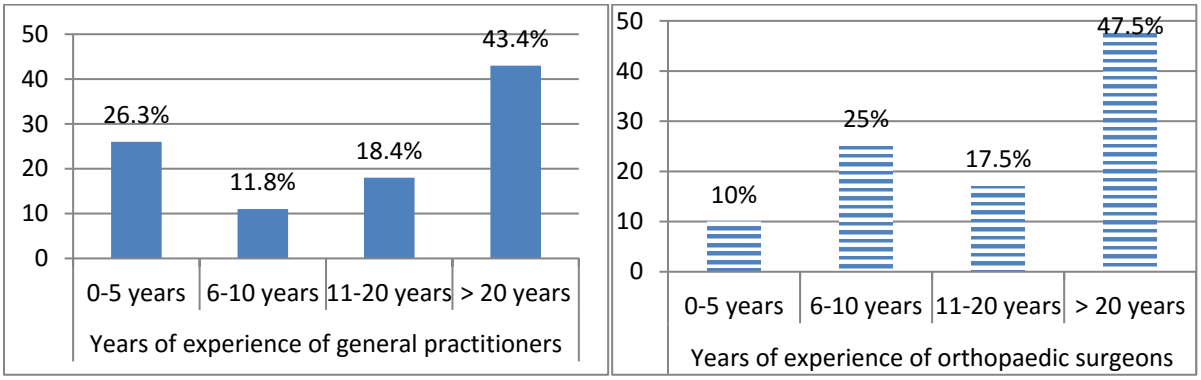
How long have you been working as a physician (general practitioner or orthopaedic surgeon)?



How many referrals to physiotherapy do you roughly make each year?

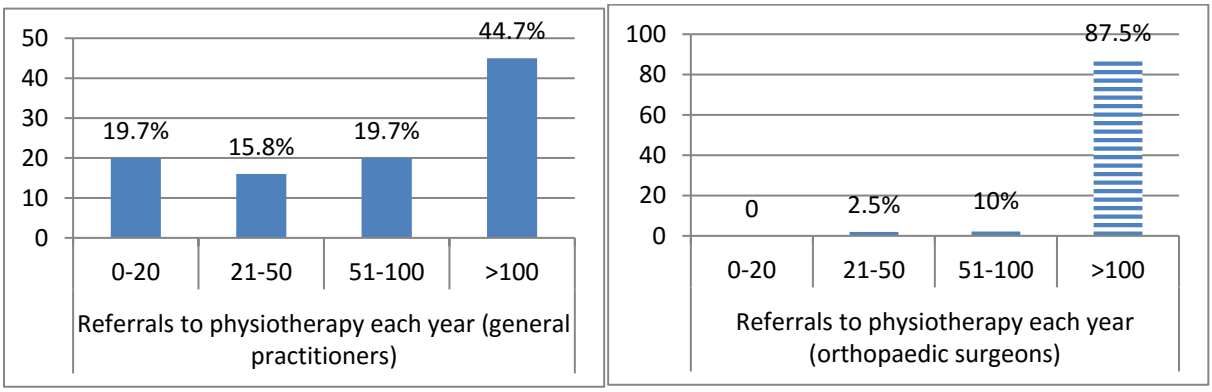
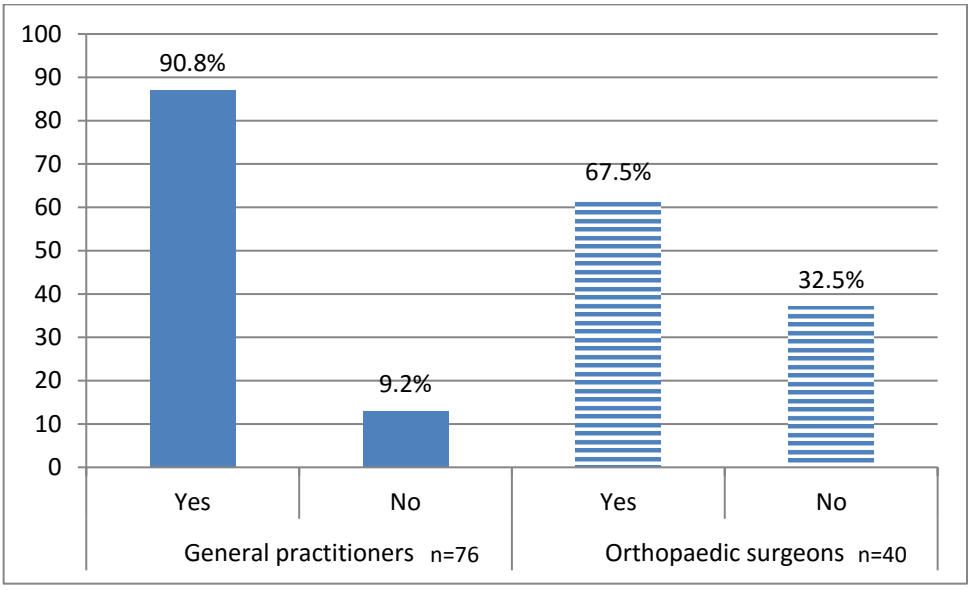
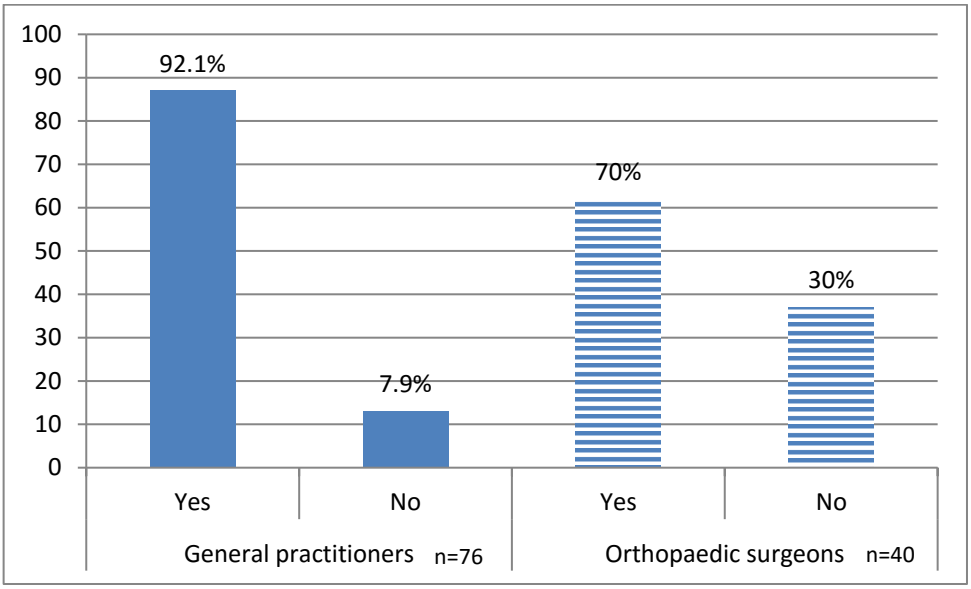


Figure 1: Demographic characteristics of participating general practitioners (n=76) and orthopaedic surgeons (n=40).

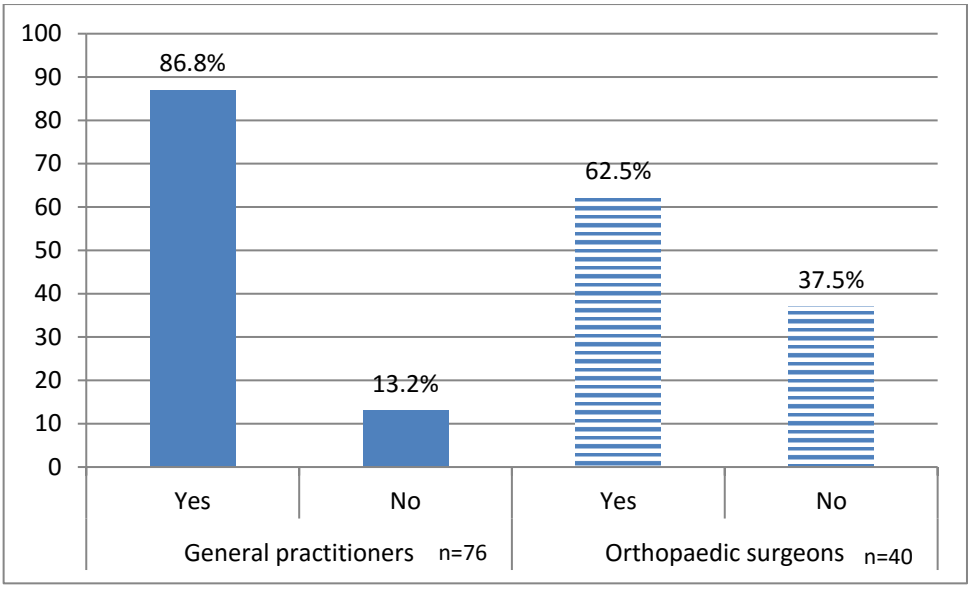
Do you personally believe that every qualified physiotherapist should be capable of making independent keep/refer decisions?



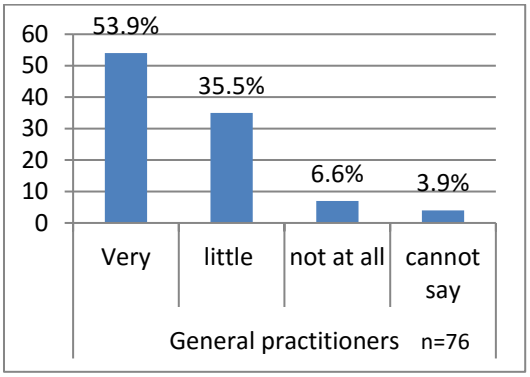
Do you personally believe that keep/refer decision making abilities should be an integral part of the physiotherapeutic undergraduate education in Austria?

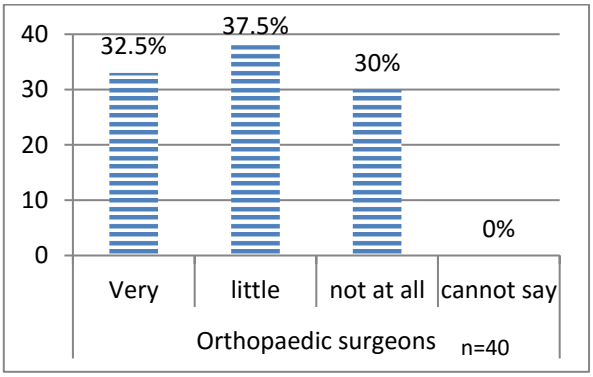


Do you personally believe that keep/refer decision making abilities should taught during mandatory postgraduate courses?

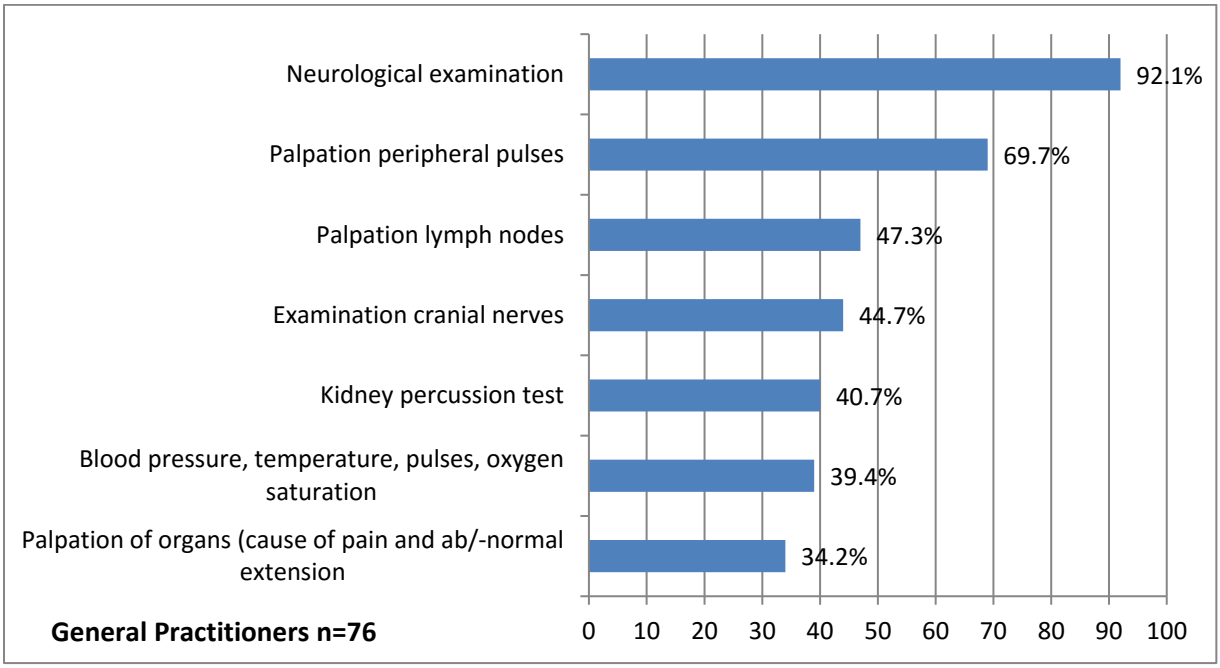


How important do you think is that physiotherapists screen patients (in conjunction with the doctor‘s examination) for signs and symptoms of possible serious medical pathologies as part of their routine physical assessment?





Which of the following examination techniques should every qualified physiotherapist be capable of? (Multiple answers possible)



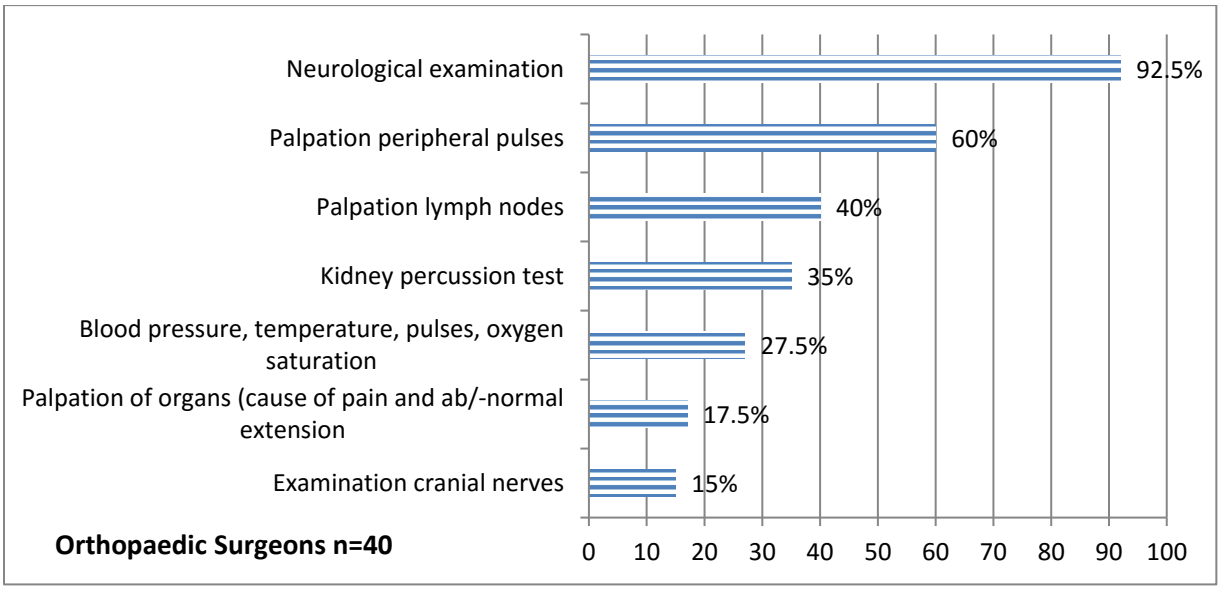
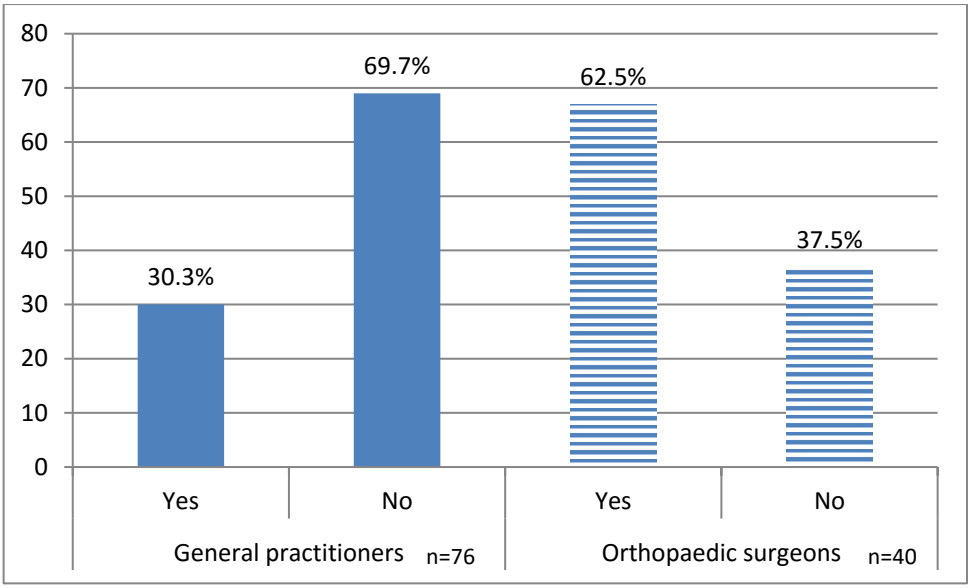
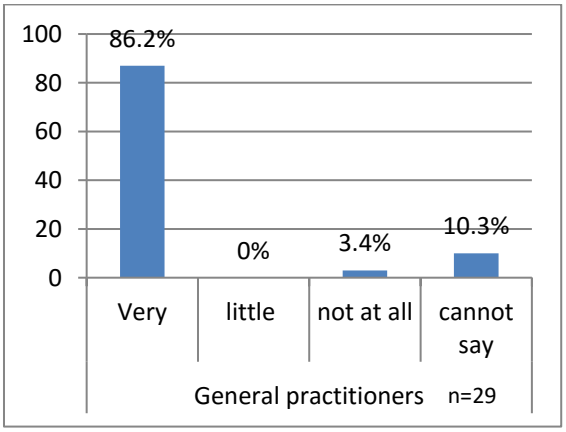


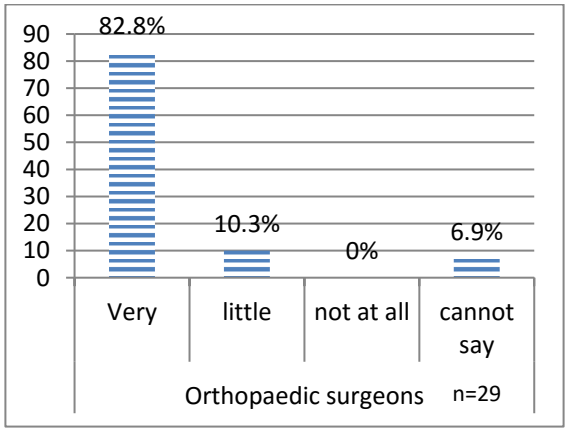
Figure 2: Questions concerning the physiotherapy under-and postgraduate education in Austria from the perspective of participating general practitioners (n=76) and orthopaedic surgeons (n=40).

Do physiotherapists (on a regular basis) contact you because of worrying or even alarming peculiarities/changes in their patients' health status?

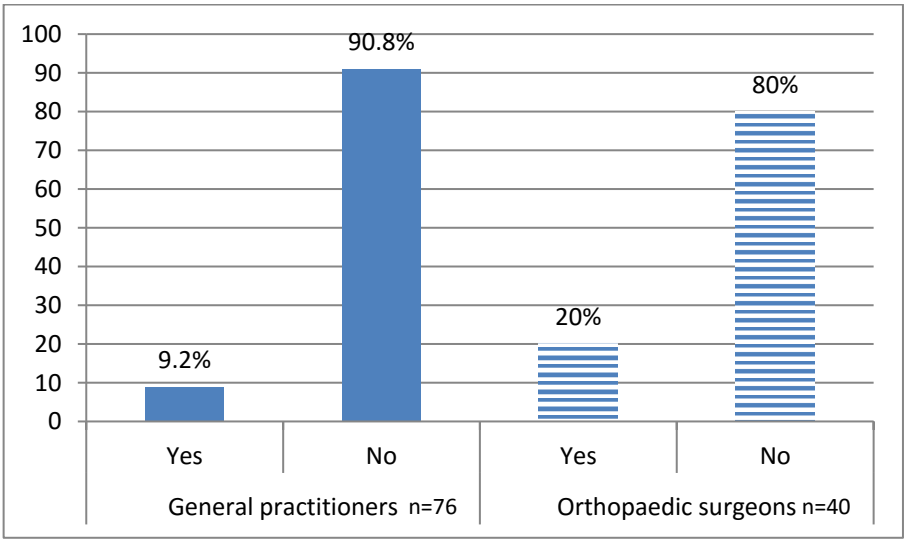


If the answer is **YES**, how important is this sort of feedback for your own clinical decision making process?





Have physiotherapists (you are working with) ever missed a serious medical diagnosis?



If the answer is YES, please state which one:

General practitioners (n=4):
- Lymphadenitis.
- Hemiparesis.
- Hypermobility syndrome.
- Disc prolapse, Paraplegia.

Orthopaedic surgeons (n=3):
- Malignancy, Paralysis after disc prolapse, Infection of a joint.
- Disc prolapse, Pus filled knee.
- Infection.

Figure 3: Questions regarding the general practitioners' and orthopaedic surgeons' everyday work.