

## Research and Reporting Highlighted needs in Medical VET for orthopedic and rehabilitation professionals

Project title	Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery
Project acronym	COR-skills
Title of the document	Romanian National Report - highlighted needs in medical VET for orthopedic and rehabilitation professionals
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Output 1	Reports and research studies
Dissemination level	PU
Date of the document Version 1	15.05.2016
Date of the document Version 2	10.06. 2016

**Project financed by European Commission under the Erasmus + programme, KA2  
This document reflects only the author's view and that the NA and the Commission are  
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## ABSTRACT

This report aims to develop common references for VET in orthopedy and rehabilitation.

The Document introduces a brief picture of learning needs in Orthopedics and Rehabilitation Profession and e-learning training approaches, by a transnational research, study and analyses on labour market demands based on surveys and questionnaires addressed to the target group and potential users in Romania, Bulgaria, Turkey and Denmark.

A further analysis of training expectations and lacks is available as well.

## Executive Summary

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## 1. PURPOSE OF THE REPORT

Even if the COR-skills project includes an ex-ante analysis of the needs on EU context, this was based on EU literature, reports and researchers for medical education in general and previous needs assesment in other EU projects.

It was necessary to carry on a needs' assesment report focused on our target group and on specific issues (orthopedy, rehabilitation, gait assesment). This was the first step in order to develop high class training material aiming to enhance basics skills for medical specialists in orthopedics and rehabilitation (theoretical and practical skills for assesment, decision, treatment in different pathologies) and also to develop new skills as requested by the labour market.

The second step was to identify the best ways to integrate further outcomes of COR-skills project into national and/or sectoral training systems.

Adaptation of procedures according to national needs represents a major factor, and for this reason the present report collects informations not only on needs, but also on specific sectorial impact, country, differences in all participant countries in the COR-skillsproject, recte Romania, Bulgaria, Turkey and Denmark.

The need for harmonisation development of an unitary system in medical education across Europe with common standard procedures is a well known fact. All EU medical graduates should have equal chances to practice all over EU. Our project focuses on the project partners identification of common needs that EU educational and training systems are facing and that can be met only by a common effort.

In order to attain this goal, analysis of learners' actual knowledge and of knowledge needs for identifying the current performances and gaps was carried on in Romania, Bulgaria, Turkey and Denmark, as well as analysis of the VET in orthopedics and rehabilitation, correlated with the use of orthopedic and rehabilitation procedures in practice. The result of this survey was included into national reports. The last part of each report tries to identify the best ways for introducing orthopedic surgical procedures and rehabilitation protocols after surgery into the work environment by presenting the state of art of medical

lifelong learning and the national rules in accreditation/certification of new competencies.

## 2. TARGET GROUP

According to project work plan and indicators, our direct target group (primary target group) includes organizations and individuals that will be direct users of the project results represented by: medical doctors in orthopedics and rehabilitation, kinesitherapists, physiotherapists. The medical professionals can be on different levels of training and different working places (specialists, residents in course of gaining competence in echography, in continuous medical training, public or private health institutions).

In terms of organisations the target includes:

- Vocational training organizations and other training providers
- Universities, colleges and other providers of medical education
- Public and private Health Institutions
- Professional associations

The indirect Target Group (secondary target group) includes individuals and organizations related to the direct target group of the project, as follows:

- Staff in the medical educational system in participant countries, including individuals with local responsibility for educational programs at all levels of the continuum—for example, deans and their staff, department chairs, and responsible for resident training programmes in orthopedy and rehabilitation from organisations with whom project partners are networking.

- Institutional officials at clinical orthopedic and rehabilitation departments, as directly interested in CME of their employees
- Accreditors, certifying and licensing bodies. Organizations that accredit educational programs/providers at continuing level of medical education
- Medical education and related associations in the field of orthopedics and rehabilitation; national organizations

This group will function as key stakeholders and will be involved in dissemination activities, evaluation of outcomes, in reaching the target group. Reaching this group will be done by the networks of each partner organisation.

Long-term beneficiaries are certain interest groups that will benefit from the project outcomes on a long term basis like medical doctors that will benefit of the training programme after the project ends, due to inclusion of courses into CME. The dissemination plan indicates scanning activities to identify broader target groups with a potential interest in the results, so they will be targeted by our dissemination as potential trainees after the end of the project.

Comments.

In selecting and approaching this group we used connections with professional organisations and universities, already established at this time of the project (see mailing lists).

Motivation in selecting the structure of the target group was based on the fact that doctors and rehabilitation Professionals represent the first beneficiary of the training courses developed by COR-skills partnership. A deep overview of their training needs, learning career expectations, restrictions related to digital approaches, lack of time and job commitments, is essential in this first project phase in order to better tailor the training offer and cope with target group needs.

Medical Professionals have been interviewed as direct beneficiaries of the e-learning materials in terms of trainees, in order to detect their training expectations and an update overview of the basic Medical training offer. A deep picture of the actual first training medical offer will allow the partnership to cope with the future medical professionals training needs, avoid redundant existing modules and focus on precise future career prospective. The guidelines of standard protocols in orthopedy and rehabilitation and the case studies included into the e-learning platform will be developed according to field work and documentary research thus they will be effective and innovative for the next years.

Professionals in the medical educational system are the direct beneficiaries of the e-learning materials in terms of trainers, so their opinion is crucial. More, an overview of their skills in ICT is of most importance in developing the materials.

Stakeholders. This category led to several discussions, so the best approach is in defining the term.

The most comprehensive definition for stakeholders is \*a person, group, or organization that has direct or indirect stake in an organization because it can affect or be affected by the organization's actions, objectives, and policies\*. Key stakeholders in a business organization include creditors, customers, directors, employees, government (and its agencies), owners (shareholders), suppliers, unions, and the community from which the business draws its resources.

([www.businessdictionary.com/definition/stakeholder.html](http://www.businessdictionary.com/definition/stakeholder.html))

Rachel Thompson states that "Stakeholder management is critical to the success of the project. By engaging the right people in the right way in your project, you can make a big difference to its success... and to your career."

([http://www.mindtools.com/pages/article/newPPM\\_07.htm](http://www.mindtools.com/pages/article/newPPM_07.htm))

So, the partnership appreciated that the importance of stakeholder management to support the project in achieving its strategic objectives is crucial. In order to attain this goal, we first identified and assessed the key people, groups of people, or institutions that may significantly influence the success of our project, interpreting and influencing both the external and internal environments and try to involve them from an early stage of the project, so their views can be considered in the development of outcomes.

The benefits of using a stakeholder-based approach are that:

- we can use the opinions of the most powerful stakeholders to shape our project at an early stage. Not only does this make it more likely that they will support us, but their input can also improve the quality of our project
- By communicating with stakeholders early and frequently, we can ensure that they fully understand what we are doing and understand the benefits of our project – this means they can support us actively when necessary and help for a future continuation of the project.

For this reason we draw a list of all potential stakeholders, reviewed the list and identified the key stakeholders and the specific interests these have in our project, considering issues like: the project's benefit(s) to the stakeholder; the



changes that the project might require the stakeholder to make; and the project activities that might cause damage or conflict for the stakeholder

The table below shows potential stakeholders in our project :

Educational program leadership
Institutional officials at clinical sites
Government – key staff of department Medical Continuous Education, Accreditors.
Professional associations
Interest groups

Educational program leadership include individuals with local responsibility for educational programs at all levels of the continuum—for example, deans and their staff, department chairs, and residency program directors.

These individuals have high credibility as well as detailed knowledge of their own organizations.

Institutional officials at clinical sites. Clinical site administrators (hospital directors) and faculty/physician practice administrators are critical to ensure that proposed changes can be implemented in teaching institutions and that appropriate faculty are available to participate. They also may provide financial and other resources.

Institutional leaders at the medical staff level also set requirements for credentialing and privileging.

Managers responsible of Medical Training Services have also been interviewed in order to assess economic and political assumptions for the enhancement of the e-learning methodology, the rationale behind managers' decisions, costs/benefits ratio, legal constraints and training requirements for medical professional profiles.

Accreditors. Organizations that accredit educational programs/providers at continuing level of medical education in participant countries—along with accreditors of health care organizations (European Union of Medical

Specialists/European Accreditation Council for Continuing Medical Education (UEMS/EACCME), are important in that they set expectations at the level of the medical education system.

Certifying and licensing bodies. Physicians-in-training and physicians demonstrate their knowledge and skills through the examinations and other assessments used for licensure and certification. These assessments define, at a national level, the requirements for entry into and continuation in practice. Therefore, it is critical to include the organizations responsible for setting these standards.

Medical education and related associations. National organizations serve as forums to bring individuals together and to serve as the voice of the profession and the medical education community to external groups.

These include associations representing the medical profession at the national and state levels, professional medical societies and associations, institutions of medical higher education, medical research institutes medical departments/public health authorities and other CME providers

The total number of respondents for all participants<sup>1</sup> countries was 234. The structure of the respondent group on category and country was as follows:

Country	Total	OT specialist s	OT residents	PRM Rehab specialists	PRM Rehab residents	Phy-ther Kine_ther <sup>1</sup>	Stak ehol ders
Romania	92	8	42	6	18	7	11
Bulgaria	83	19	3	23	6	22	10
Turkey	51	22	29	-	-	-	-
Denmark	8	-	-	-	-	-	8
	234	49	74	29	24	29	8

For Denmark the partnership decided that, even if this partner is not involved in educational activities, due to its role in dissemination and quality management, to interview key stakeholders, in order to appreciate the possibilities to extend

<sup>1</sup>Phy-ther is used for physical therapists and Kine-ther – for kinetotherapists



the project outcomes to this country at the end of the project. For that reason the following figures and diagrams are dedicated to medical respondents, at the stakeholders section will be presented at the end of the present chapter.

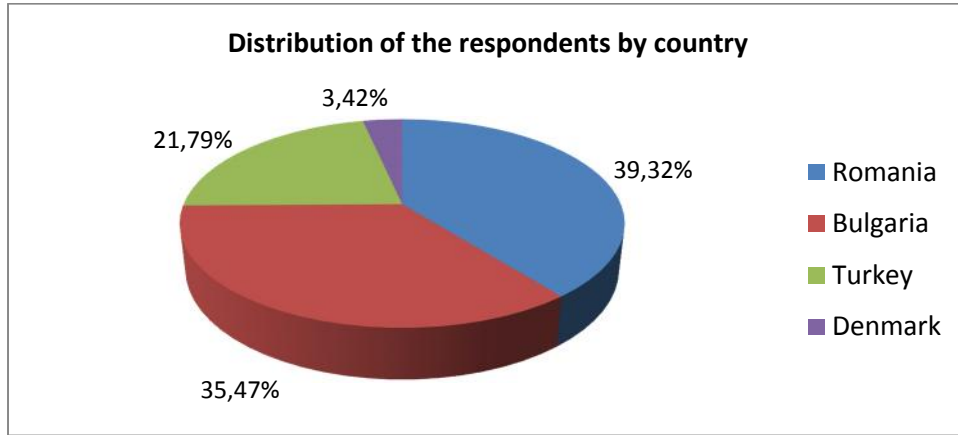


Figure 1 Distribution of the medical respondents by countries

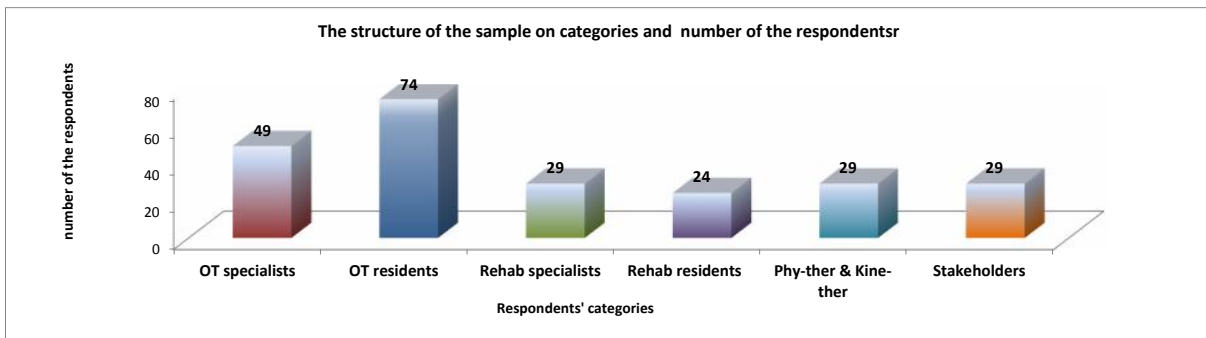


Figure 2 The structure of the sample on categories and number of the respondents

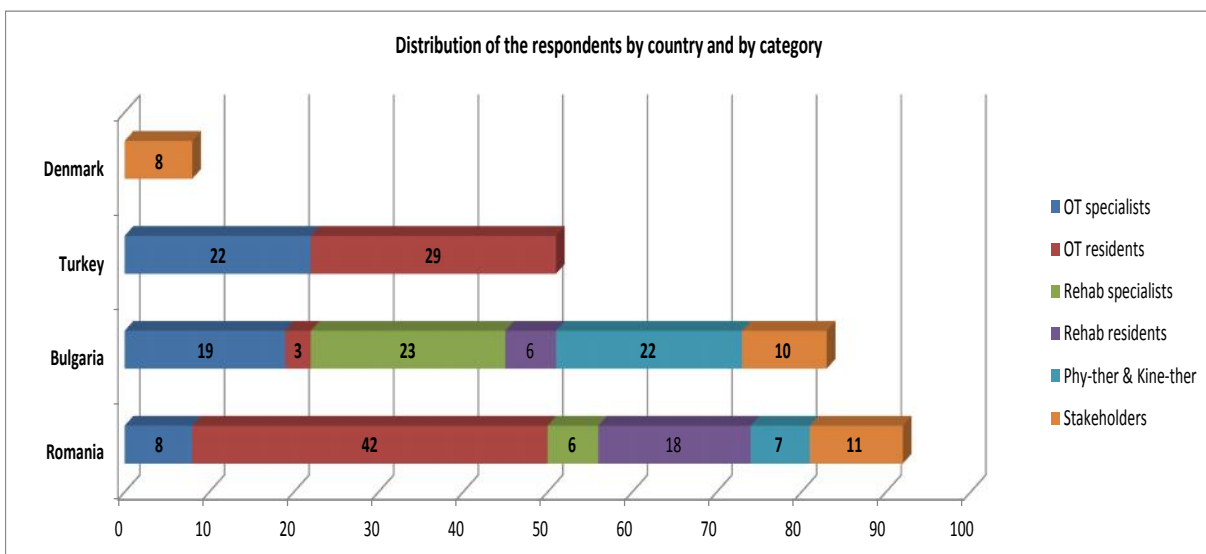


Figure 3 Distribution of the respondents by country and by category

In Romania the stakeholders group included 4 managers and 7 professionals in the medical educational system.

The rehabilitation target group included medical doctors – specialists in Physical and Rehabilitation Medicine (PRM), residents in PRM, physiotherapists and kinesiologists. From this target group, 3 respondents were members of national professional organisations, 15 were members of international professional organisations and 3 were not included in any professional organisation. For

For the orthopaedic target group all the respondents were members of Romanian Society of Orthopaedics and Trauma SOROT.

In Bulgaria all the respondents are representatives of the OT Departments of the University hospitals of Sofia, Bulgaria. All specialists and residents in OT who took part in the COR project survey are members of the Bulgarian Medical Union.

All the respondents for the rehab target group are medical doctors – specialists in Physical and Rehabilitation Medicine (PRM), residents in PRM and physiotherapists rehabilitators at the Departments and Clinics of Physical & Rehabilitation Medicine of the University Hospitals of Sofia and Pleven; or participants in CME courses for 2016 . 29 of the people involved in this survey are members of the Bulgarian Medical Union. The rest 22 respondents are members of the Bulgarian Association of Physiotherapists.

For the stakeholders target group 4 respondents were heads of PMR clinics, 3 respondents were heads of OT clinics and 3 were academic medical staff or directors of hospitals.

For Turkey the target group included medical doctors in orthopedics (specialists) and residents in orthopedics.

Regarding the age of respondents there were important differences between countries, as shown in the table and diagram below:

Country	Age 20-35	36-50	Over 50	Over 60
RO	42	18	5	0
BG	6	17	26	33
TK	29	18	3	0
DK		5	3	

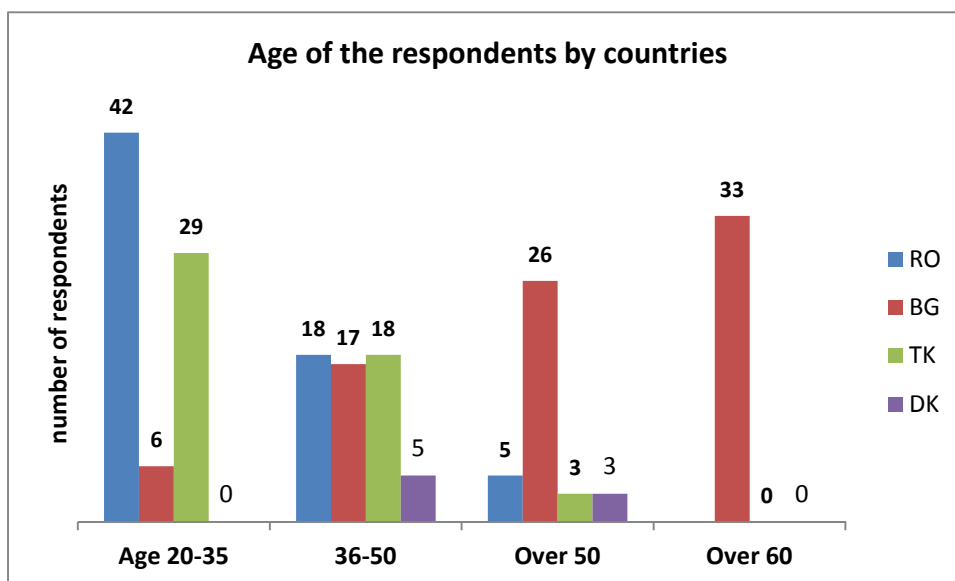


Figure 4 Age of the respondents by countries

### 3. EVALUATION METHODOLOGY

All National Reports were conducted gathering results come from a fieldwork survey and documentary research.

#### 3.1. Field work

A specific type of questionnaire has been designed for each specific category of target group. Questionnaires were developed, taking into consideration the structure of the target group. In this way we have developed 3 types of questionnaires administered to representatives of target group (Medical doctors in orthopaedics, Rehabilitation Professionals, Managers and Academic Medical Staff)- annex 1-3

The aim of these questionnaires was to evaluate the perceived level of IT ability and accessibility, the experiences and attitudes of the target groups towards e-learning and clinical skills training.

Questionnaires were distributed via various means: by direct contact (during meetings, courses, team building, etc), by email or, in few cases, as a basis for phone interviews. E-mails to invite to contribute to the survey and fill the questionnaire have been sent to the main contacts representatives of target group.

The respondents were contacted from February 15<sup>th</sup> to March 15<sup>th</sup>. Afterwards, responses provided have been collected, processed and summarized.

### 3.2. Documentary research

The research summarized all the information gathered from Universities institutional websites, Ministry of Education, Research, Youth and Sport, private and public training agencies, professional networks and associations, professional organization active in medical field in all participants' countries.

### 3.3. Evaluation results

#### 3.3.1. For Rehabilitation and Orthopedic Professionals

- For Rehabilitation Professionals the number of respondents was 82, of which 29 medical doctors (specialists in PRM), 24 medical residents and 29 physiotherapists and kinesiologists.

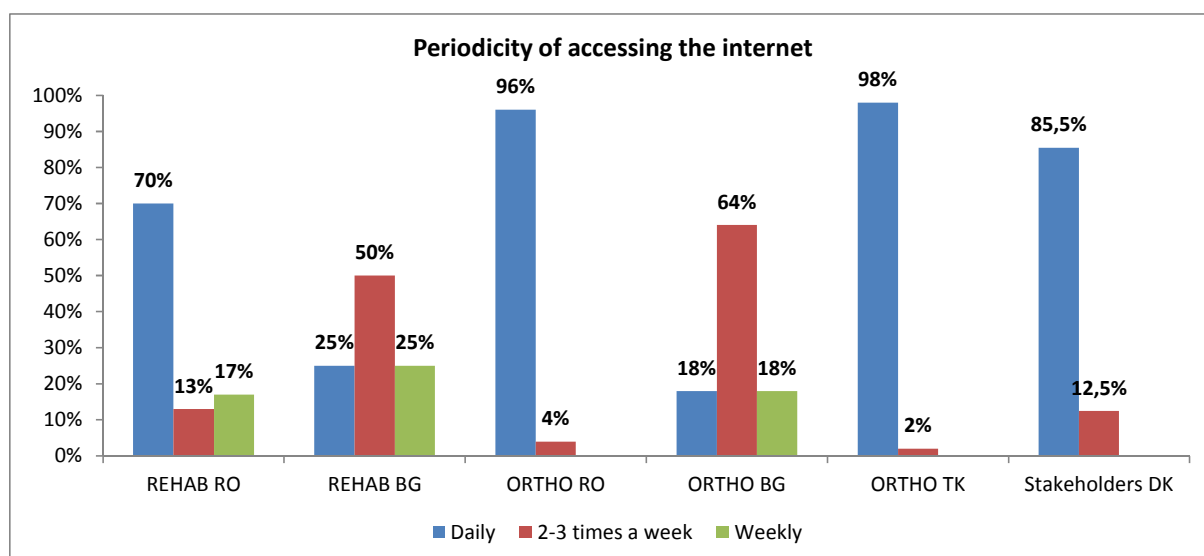
- For Orthopedic Professionals the number of respondents was 123, of which 49 medical doctors (specialists) and 74 medical residents

Quest. 1. referred to the periodicity of accessing the internet and the answers were as follows:

PRM %	RO	BG
Daily	70	25
2-3 times a week	13	50
Weekly	17	25

OT %	RO	BG	TK
Daily	96	18	98
2-3 times a week	4	64	2
Weekly	-	18	-

Stakeholders %	DK
Daily	87,5
Weekly	12,5
Monthly	0



**Figure 5 Periodicity of accessing the internet**

We can see that most of the respondents access daily or 2-3 a week the internet, which is a good point for the level of using basic ICT tools.

Taking into account these results, we can conclude that for the majority of the respondents internet usage is becoming a regular activity, which outlines really promising prospects for the COR project aims and objectives achievement.

Quest. 2. refers to the use the internet for improving the professional career.

The given answers were as follows:

PRM %	RO	BG
Daily	36,6	2
Weekly	46,6	27
Monthly	16,8	71

OT %	RO	BG	TK
Daily	84	5	75
Weekly	16	23	23
Monthly	-	72	2

Stakeholders %	DK
Daily	25
Weekly	62,5
Monthly	12,5

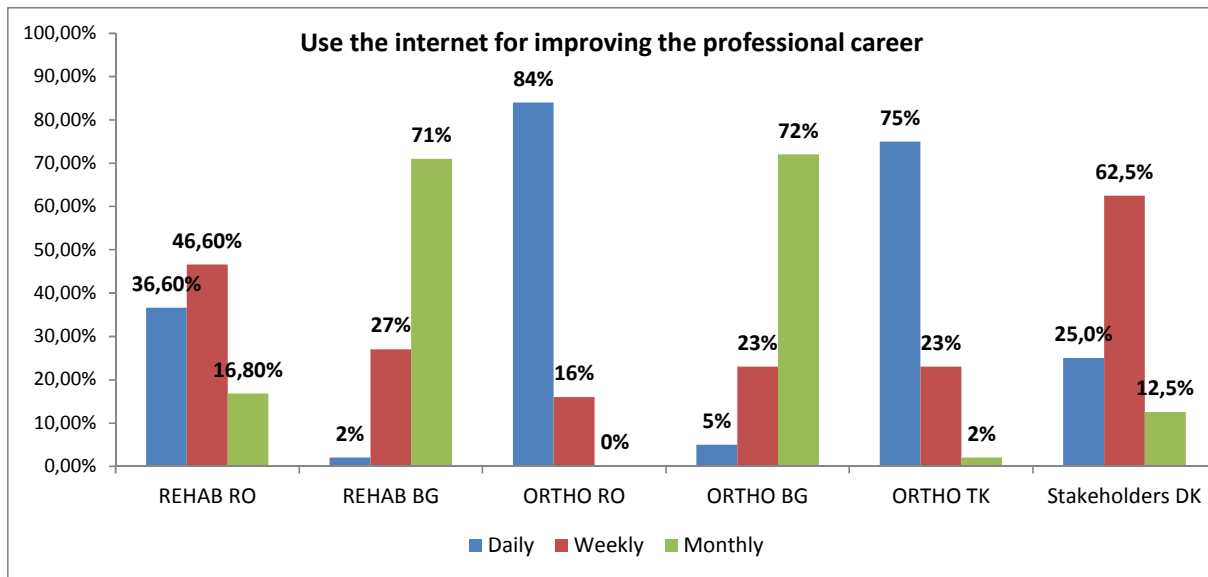


Figure 6 Use the internet for improving the professional career

The respondents gave different answers, enlisting most of the respondents as using daily/weekly the Internet for Romania and Turkey and monthly for Bulgaria.

This can be interpreted as directly linked to the age of respondents in Bulgaria – over 70% are over 50 years old, and more than half of those are over 60 years old. This must lead to a different strategy for Bulgaria in reaching the target group and raising the interest for e-learning, but also to improve technical skills.

Quest 3. is focused on the familiarity and the confidence of the respondents in the use of some of the most popular e-tools and services. According to the professional levels of the respondents, the answers covered the whole range.

The answers showed that Wiki, e-mail groups, Chat applications and forum are used by most of the respondents, but differences between rehabilitation and orthopedic professionals, as well as between countries were found.

The answers are summarized below:

PRM %	Never heard		Have heard but never used		Can manage with help		Can use it	
	RO	BG	RO	BG	RO	BG	RO	BG
Chat	0	31	43,3	43	26,7	12	30	31
Wiki	6,6	0	13,3	0	0	0	80	0





Audio-conference	0	27	63,3	73	0	0	36,7	27
Video-conference	0	31	43,3	69	0	0	57,7	31
Forum	0	76	30	24	0	0	70	76
Email groups	0	0	13,3	0	0	4	87,7	0
Internet/Mobile learning	0	0	0	8	0	25	100	0

OT %	Never heard			Have heard but never used			Can manage with help			Can use it		
	RO	BG	TK	RO	BG	TK	RO	BG	TK	RO	BG	TK
Chat	0	9	11	68	36	16	0	5	0	32	50	73
Wiki	0	0	26	0	9	16	0	5	6	100	86	52
Audio-conference	4	0	8	28	68	20	32	0	39	36	32	33
Video-conference	4	0	4	28	77	22	40	0	31	28	23	43
Forum	0	0	2	4	59	10	4	0	25	92	41	63
Email groups	0	0	0	8	0	4	0	0	8	92	100	88
Internet/Mobile learning	0	0	2	0	82	6	32	0	12	68	14	80

Stakeholders DK %	Never heard	Have heard but never used	Can manage with help	Can use it
Chat	12,5	12,5	25,0	50,0
Wiki	25,0	25,0	25,0	25,0
Audio-conference	0,0	37,0	25,0	37,5
Video-conference	0,0	12,5	37,5	50,0
Forum	12,5	12,5	37,5	37,5
Email groups	0,0	0,0	25,0	75,0
Internet/Mobile learning	0,0	0,0	33,3	66,7

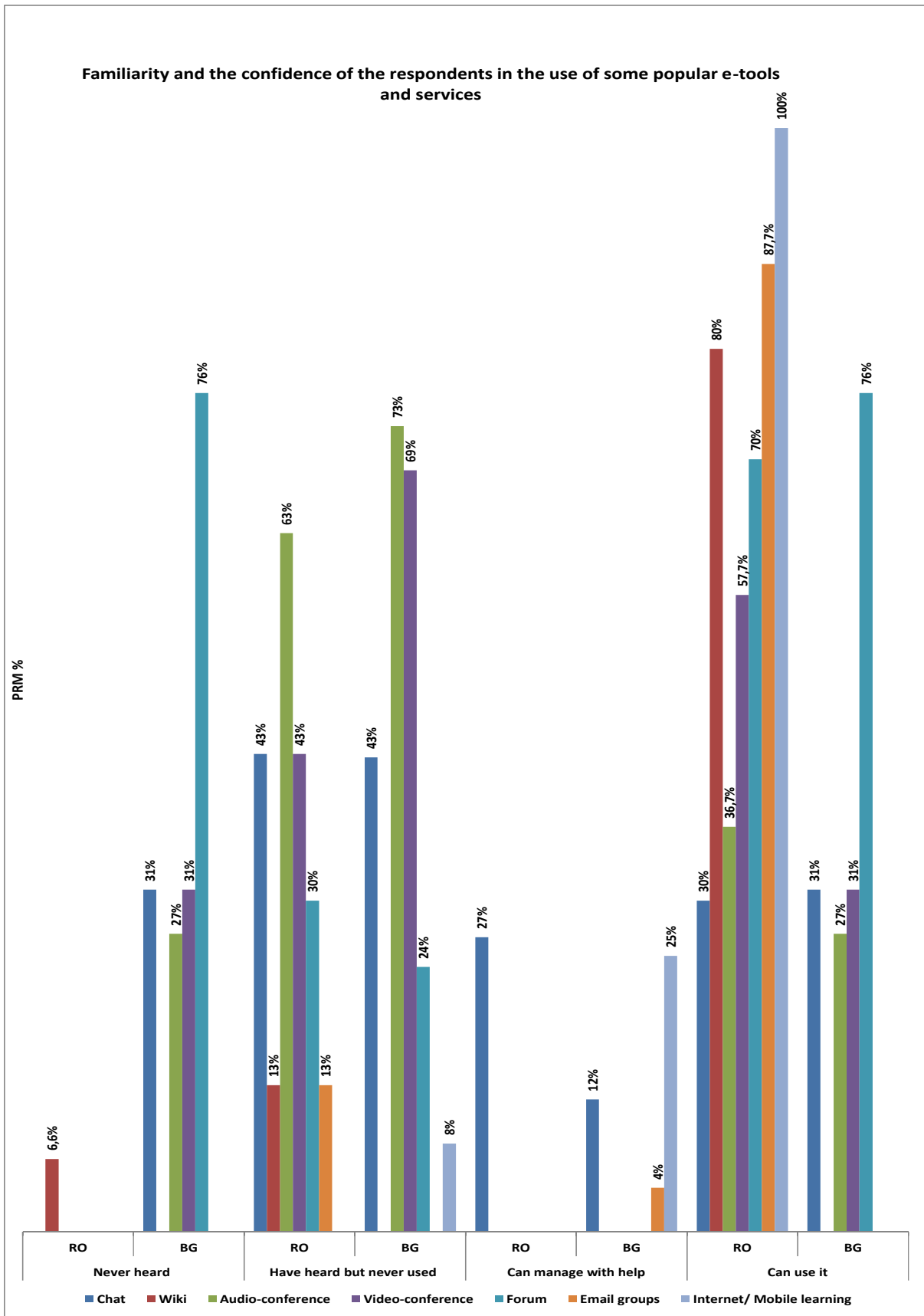


Figure 7 Familiarity and the confidence of the respondents in the use of some popular e-tools and services - PRM

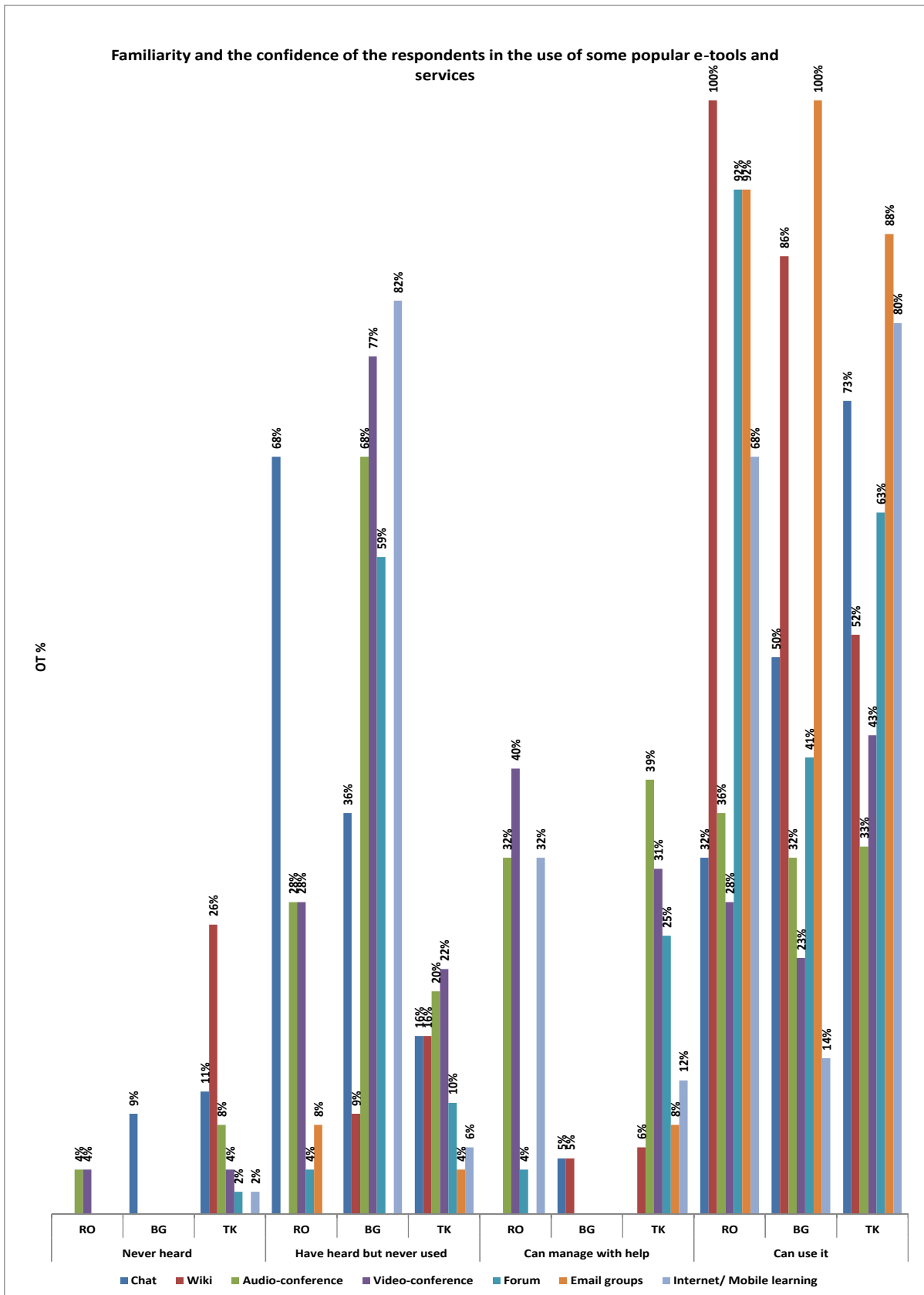
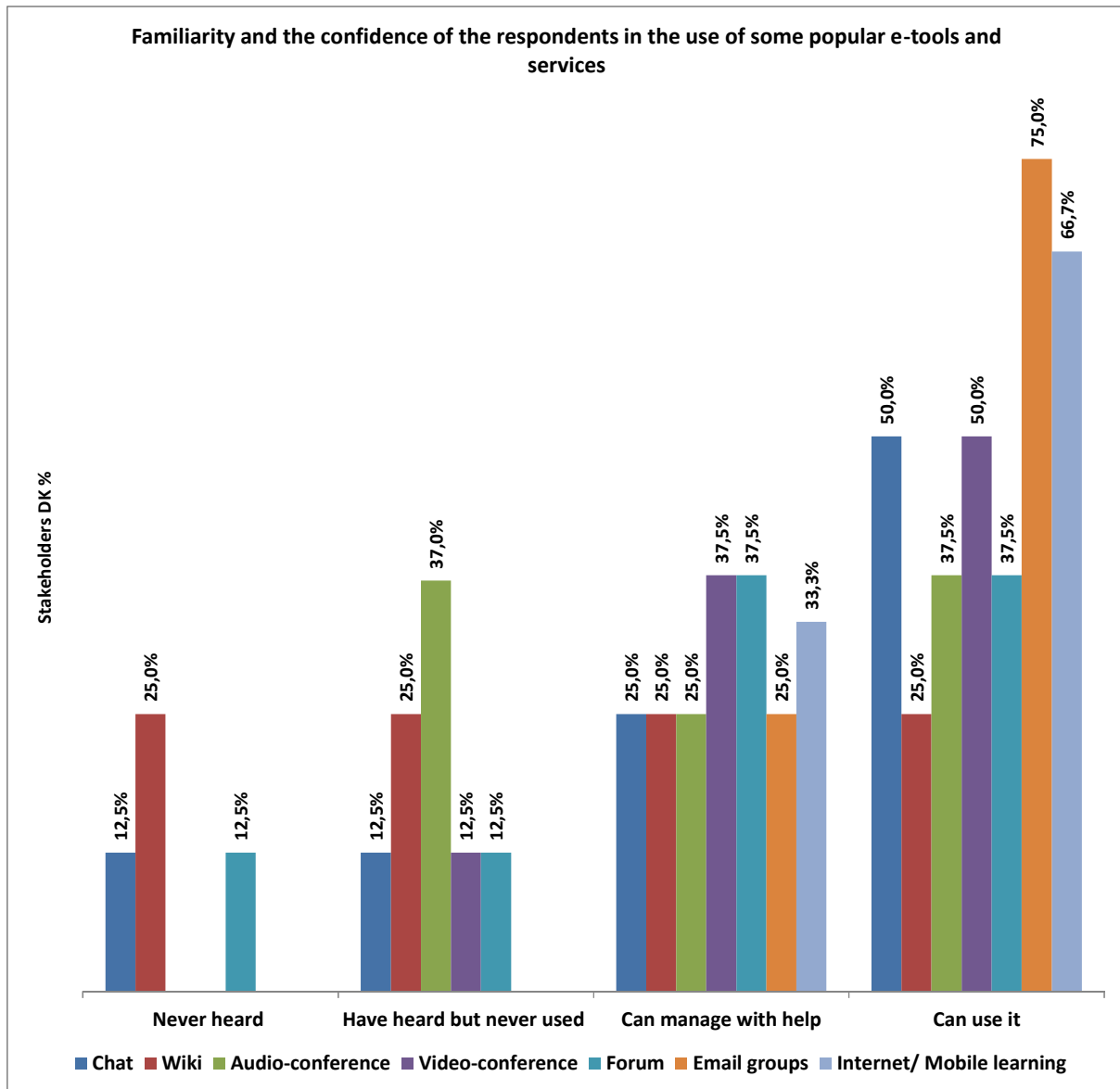


Figure 8 Familiarity and the confidence of the respondents in the use of some popular e-tools and services – OT



**Figure 9 Familiarity and the confidence of the respondents in the use of some popular e-tools and services - Stakeholders DK**

Chat is not used so much in RO for both target groups and in BG for rehabilitation professionals. Wiki is unknown in BG for rehabilitation group but very well used by the orthopedic group. The same situation was found for e-mail groups.

Surprisingly, Internet Mobile/Mobile is popular between respondents, with the exception of the Bulgarian target group.

The internet mobile/mobile learning platforms as well as audio and video conferencing facilities are not so popular.

Regarding the age of the respondents, we found that residents are the most confident with digital tools. Medical Doctors, even with a strong and long work experience are not very familiar or they do not call themselves users of "new" electronical tools. All of them are not familiar or never heard of WIKI and Internet Mobile/Mobile learning, while some of them heard about these issues but never used. At the other side, all of respondents can use Chat, Forum and e-mail groups.

**This must lead to different strategies in motivation of the target group.**

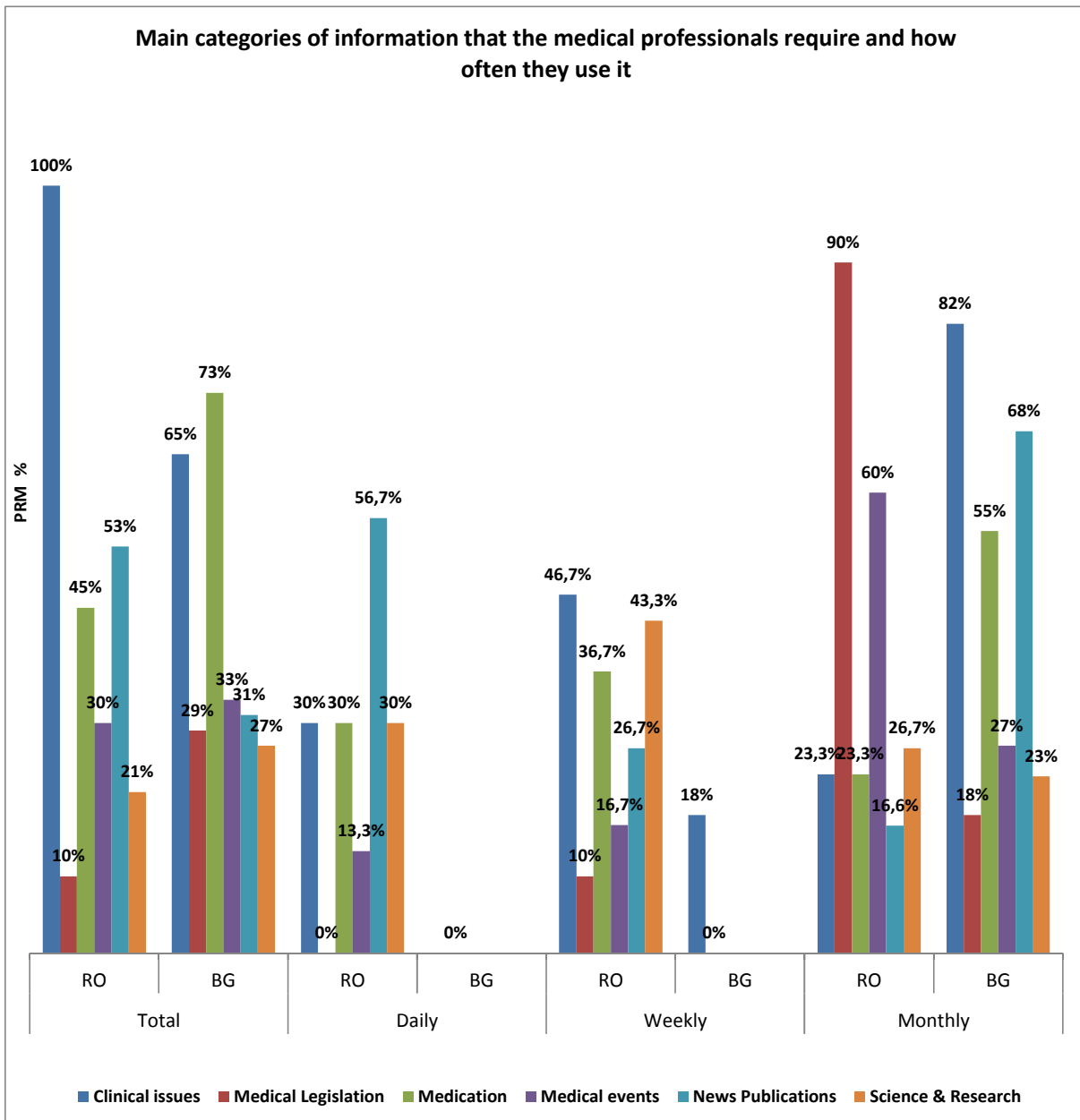
Quest.4 reffers to the main categories of information that the medical professionals require and how often they use it.

The given answers showed that, according to professional levels, most of responses refer daily and weekly to all the information sources. Also, the information which weekly and monthly stirs attention and interest is linked to Clinical issues (which is a theme of great importance for the project), Medication, Medical Events, Science and Research and News. Medical legislation was the least required knowledge type. For Turkey, all medical issues were found interesting by the respondents.

The answers showed that most of the respondents are interested to receive weekly and monthly information and knowledge about different issues.

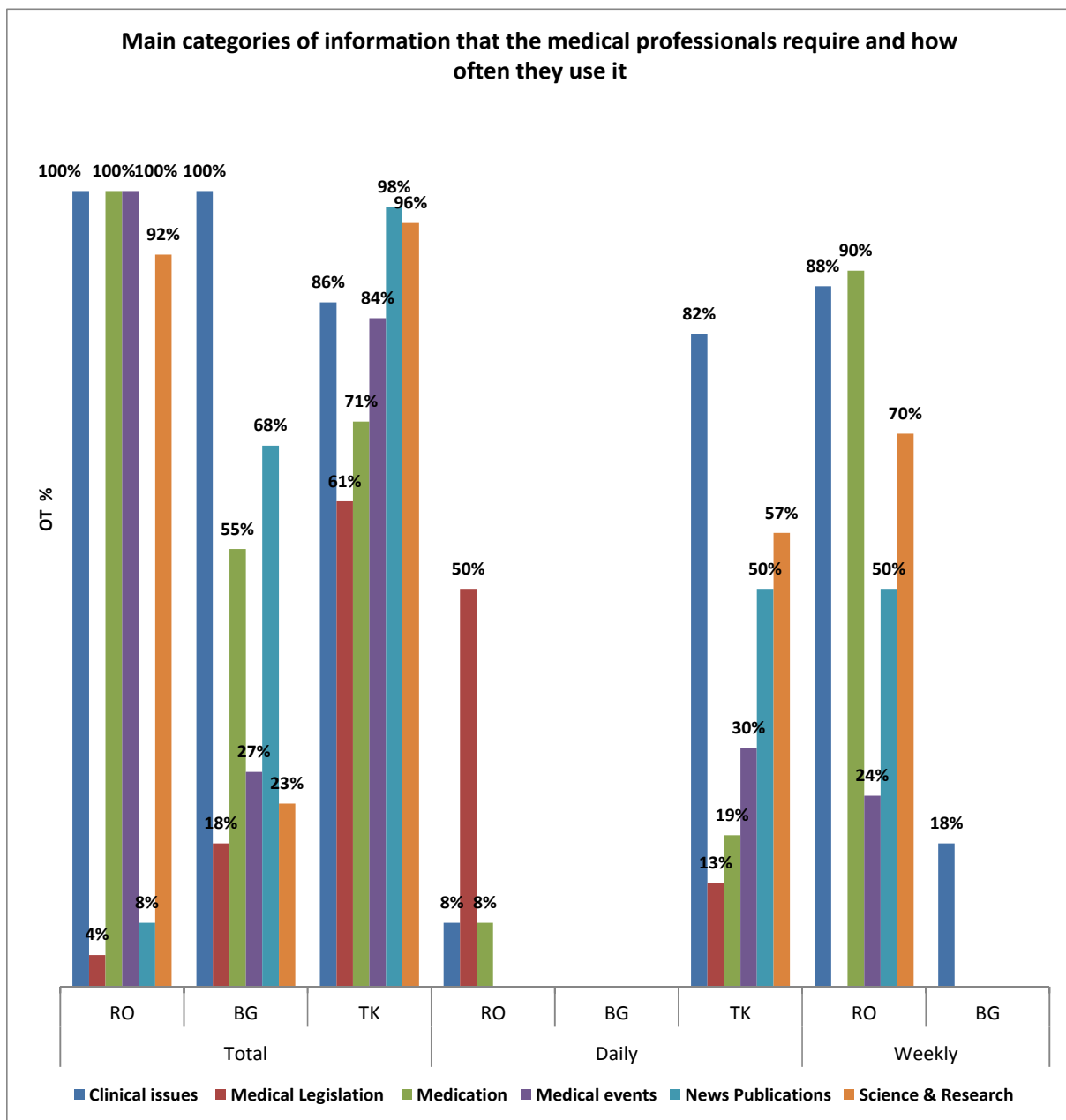
The answers showed that participants generally required information about the daily or weekly news.

PRM %	TOfal		Daily		Weekly		Monthly	
	RO	BG	RO	BG	RO	BG	RO	BG
Clinical issues	100	65	30	-	46,7	18	23,3	82
Medical Legislation	10	29	-	-	10	-	90	18
Medication	45	73	30	-	36,7	-	23,3	55
Medical events	30	33	13,3	-	16,7	-	60	27
News Publications	53	31	56,7	-	26,7	-	16,6	68
Science & Research	21	27	30	-	43,3	-	26,7	23



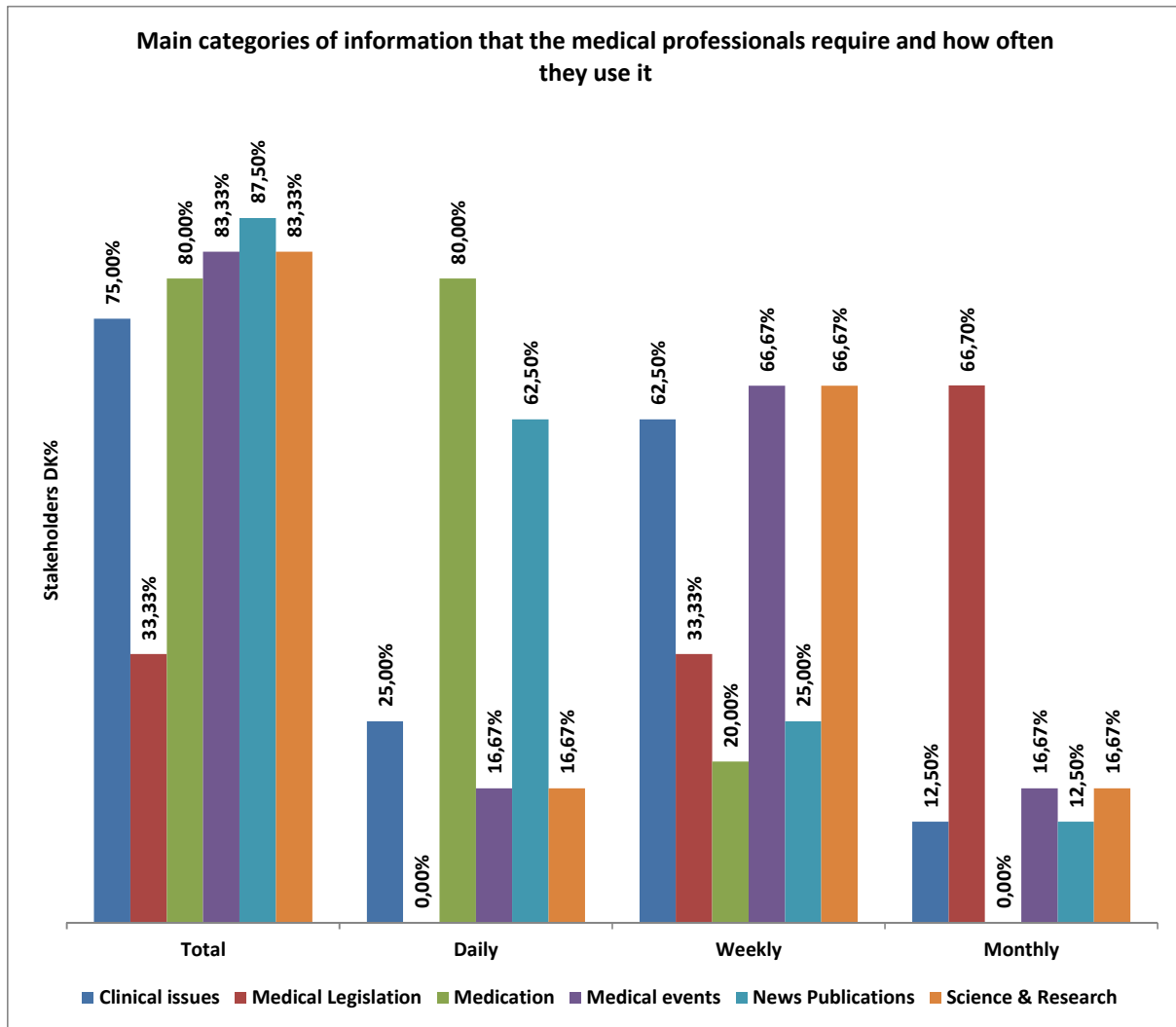
**Figure 10 Main categories of information that the medical professionals require and how often they use it**

OT%	Total			Daily			Weekly			Monthly		
	RO	BG	TK	RO	BG	TK	RO	BG	TK	RO	BG	TK
Clinical issues	100	100	86	8	-	82	88	18	18	4	82	
Medical Legislation	4	18	61	50	-	13	-	-	13	50	18	74
Medication	100	55	71	8	-	19	90	-	44	2	55	34
Medical events	100	27	84	-	-	30	24	-	37	76	27	33
News Publications	8	68	98	-	-	50	50	-	36	50	68	14
Science & Research	92	23	96	-	-	57	69,5	-	35	29,5	23	8



**Figure 11 Main categories of information that the medical professionals require and how often they use it**

Stakeholders DK%	Total	Daily	Weekly	Monthly
Clinical issues	75,00%	25,00%	62,50%	12,50%
Medical Legislation	33,33%	0,00%	33,33%	66,70%
Medication	80,00%	80,00%	20,00%	0,00%
Medical events	83,33%	16,67%	66,67%	16,67%
News Publications	87,50%	62,50%	25,00%	12,50%
Science & Research	83,33%	16,67%	66,67%	16,67%



**Figure 12 Main categories of information that the medical professionals require and how often they use it**

Quest. 5 tries to make an overview regarding the means that the target group would prefer to improve their professional career. In Romanian all types of proposed methods were found suitable by the respondents; for the rehab group 76,7% enlisted e-learning in order to update and improve skills and knowledge and 48% for the ortho group. In Bulgaria most of respondents prefer classical courses and workshops for both target groups.

In Turkey the survey shows that the e-learning (methodologies and tools) is not so popular among the OT domain professionals who have participated in the survey and by this reason active promotion and fostering is needed. This shows that e-learning has to be popularized in all participants countries.

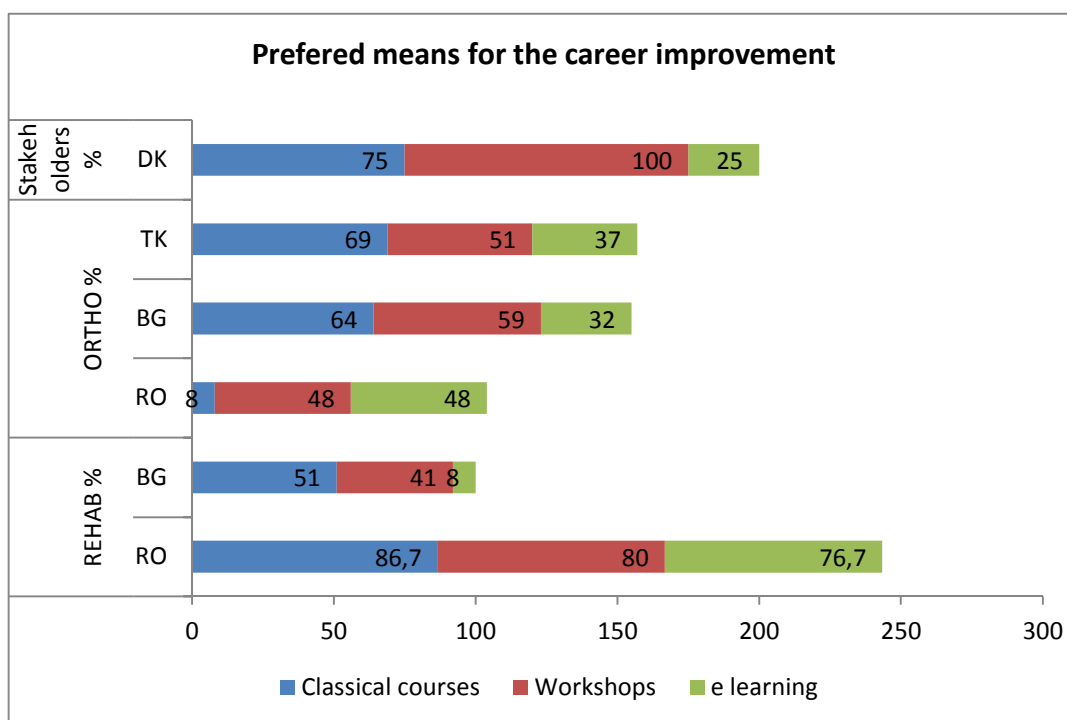


PRM %	RO	BG
Classical courses	86,7	51
Workshops	80	41
e learning	76,7	8

OT %	RO	BG	TK
Classical courses	8	64	69
Workshops	48	59	51
e learning	48	32	37

Stakeholders %	DK
Classical courses	75
Workshops	100
e learning	25

Stakeholders %	DK
Classical courses	75
Workshops	100
e learning	25



**Figure 13 Preferred means for the career improvement**

Quest. 6 evaluates the interest of respondents in e-learning. Hopefully in Romania 93 /100% of respondents for this question are interested in e-learning and its features and capacities. In Bulgaria 51/64% of the respondents declare their interest. In Turkey 75% of the participants were interested.

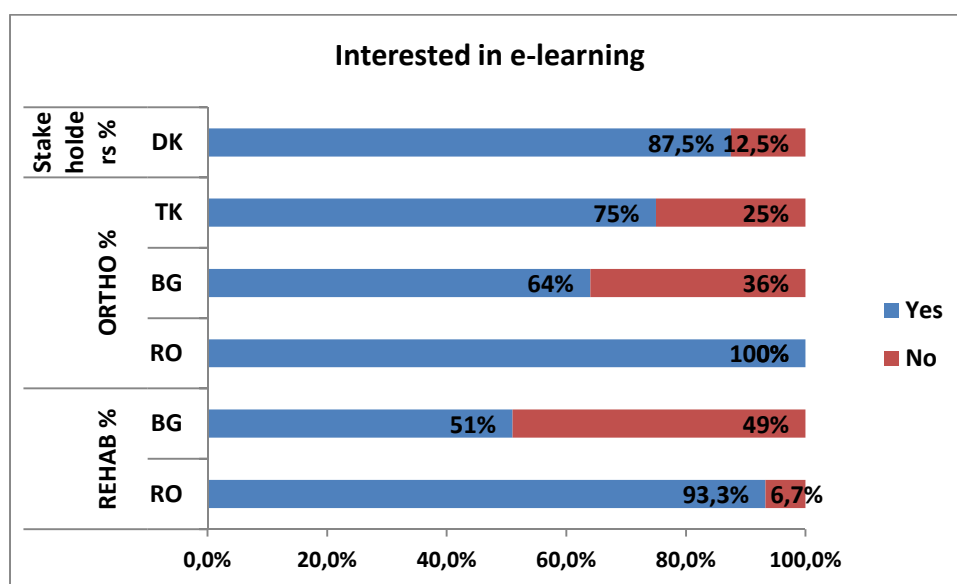
These results outline the need for improvement the awareness, interest, and motivation of this target group through the development of well and professionally designed, friendly, easy understandable and in the same time very attractive e-learning solutions and contents.

Attractive and valuable platforms would increase this rate.

PRM %	RO	BG
Yes	93,3	51
No	6,7	49

OT %	RO	BG	TK
Yes	100	64	75
No	-	36	25

Stakeholders %	DK
Yes	87,5
No	12,5



**Figure 14 Interested in e-learning**



Quest. 7 explore the the interest of respondents in mobile learning. Surprisingly, in Romania almost all respondents are interested in it as a mean and tool for learning. In Turkey the rate of interest was also high (75%) meanwhile in BG Only 22/33% were interested in mobile learning. This rate is very low perhaps because of the lack of native language sources.

PRM %	RO	BG
Yes	96,7	33
No	2,3	67

OT%	RO	BG	TK
Yes	100	23	75
No	-	67	25

Stakeholders %	DK
Yes	75
No	25

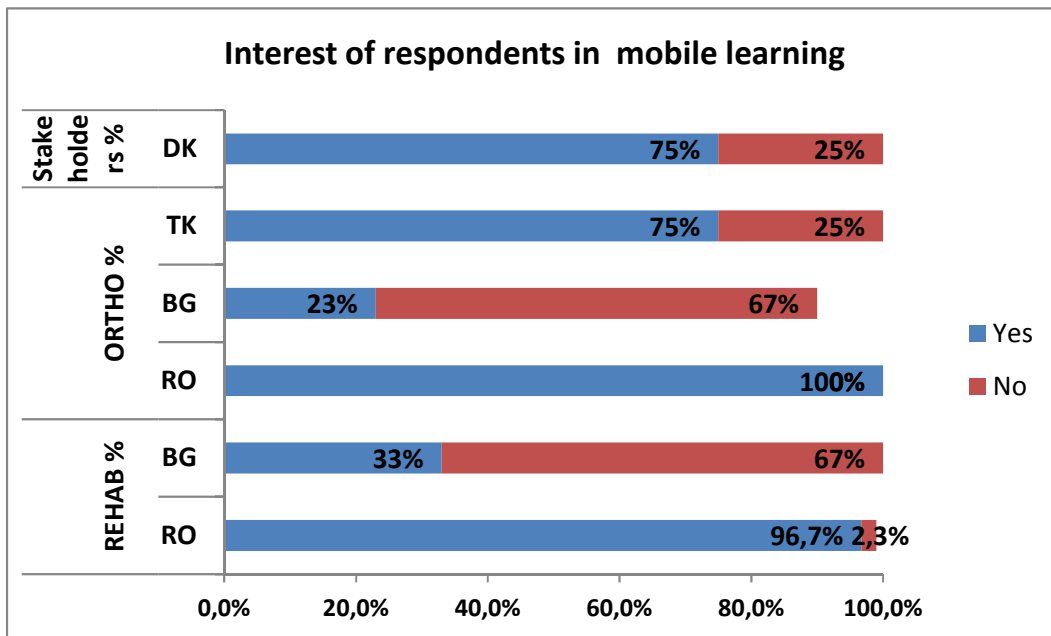


Figure 15 Interest of respondents in mobile learning

Quest. 8. refers to the target group interest regarding e-learning and the domains of interest and the answers showed that in Romania 90/94% of respondents looked for e-learning courses in Internet until the moment. In



Turkey 47% of respondents looked for this type of learning, meanwhile in Bulgaria the answers showed that currently less than one third of the representatives of rehab target group participated in the survey have looked for e-learning courses in Internet and only 9% from the ortho target group. The traditional courses and workshops are still preferred formats in Bulgaria. Regarding the medical areas of interest, responses were various and covering a whole spectrum, nevertheless, most of respondents enlisted rehabilitation medicine together with orthopaedics, traumatology, rheumatology and neurology.

As mostly used domains are specified the following: Hip endoprosthesis; Sport trauma; Gerontologic trauma.

Mostly used domains included surgical videos and comprehensive textbook information formatted for quick reference which are also designed for ease of finding and reading the required information.

PRM %	RO	BG
Yes	90	27
No	10	73

OT %	RO	BG	TK
Yes	94	9	47
No	6	82	53

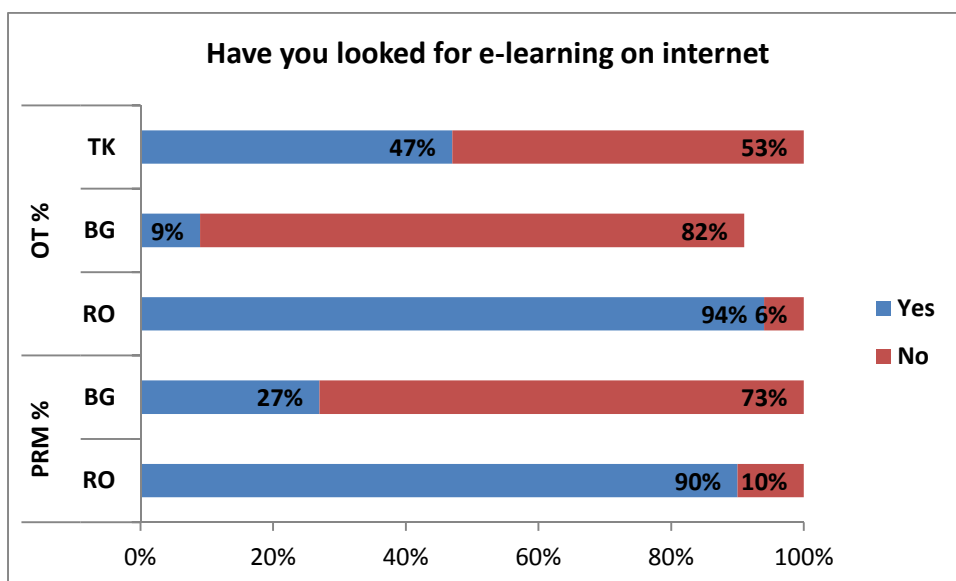


Figure 16 Have you looked for e-learning on internet

Quest. 9 explores the amount of time that our target group think are necessary to refresh their knowledge and improve skills and competencies. The great range of responses went for 200-300 hours followed by 300-400 hours for all countries and target groups.

Quest. 10-11 evaluate the disponibility of the respondents in using an e-learning platform for continuous education on payment basis. In Romania all of the respondents turned to free online platform, while some of them agreed with paid type but contribution from employees was mentioned. In Bulgaria 69% of the respondents turn to free online platform, while 35% are ready to pay for such a service if it was worth. In Turkey 98% of the respondents turned to free online platform, while 59% were willing to pay for such a service if it was worth.

Quest 12. regards the language for the course information.

Most of the respondents prefer both English and national language for course information and content, except the BG ortho group.

PRM%	RO	BG
National language	23,3	31
English	20	-
National language and English	56,7	69

OT %	RO	BG	TK
National language	44	82	34
English	56	-	22
National language and English	96	18	44

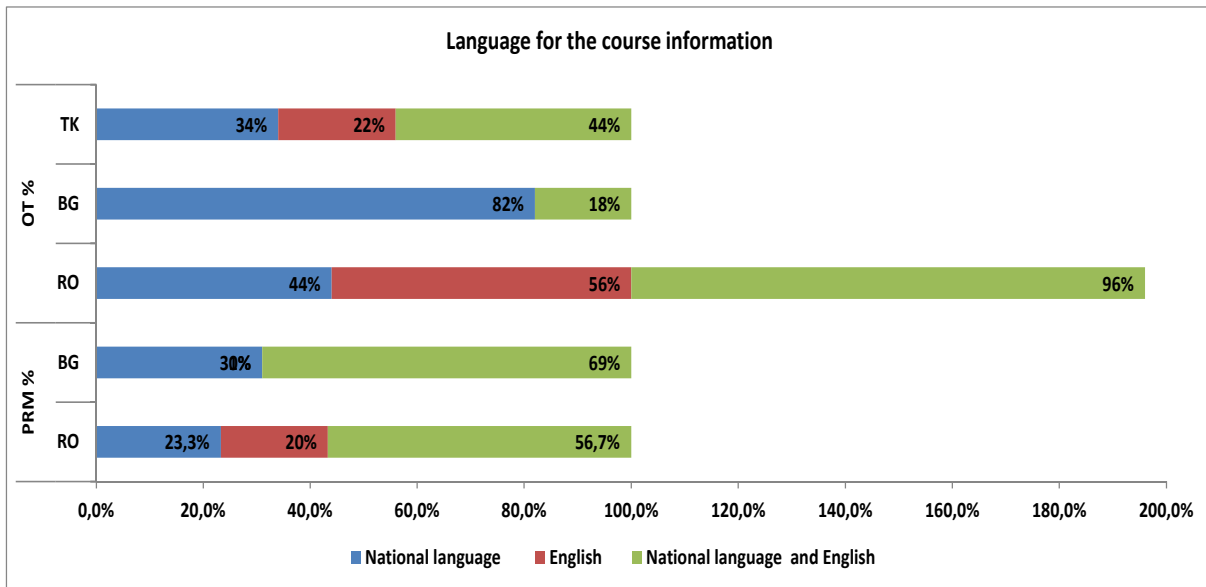


Figure 17 Language for the course information

Quest. 13. wishes to identify the lower limb pathology that would interest mostly the target group.

For Romanian rehab target group the repondents showed interest in all topics meanwhile in Bulgaria most of respondents are intrested in degenerative, postraumatic, inflamatory diseases. In the orto target group most of the respondents for all participant countries are interested in post-traumatic and degerative pathologies. The lower interest is demonstrated regarding Congenital and Inflammatory.

PRM	RO		BG	
	Yes	No	Yes	No
%				
Congenital	86,7	13,3	24	76
Post-traumatic	100	-	94	6
Inflammatory	96,7	3,3	86	14
Degenerative	100		100	-
Tumoral	96,7	3,3	14	86

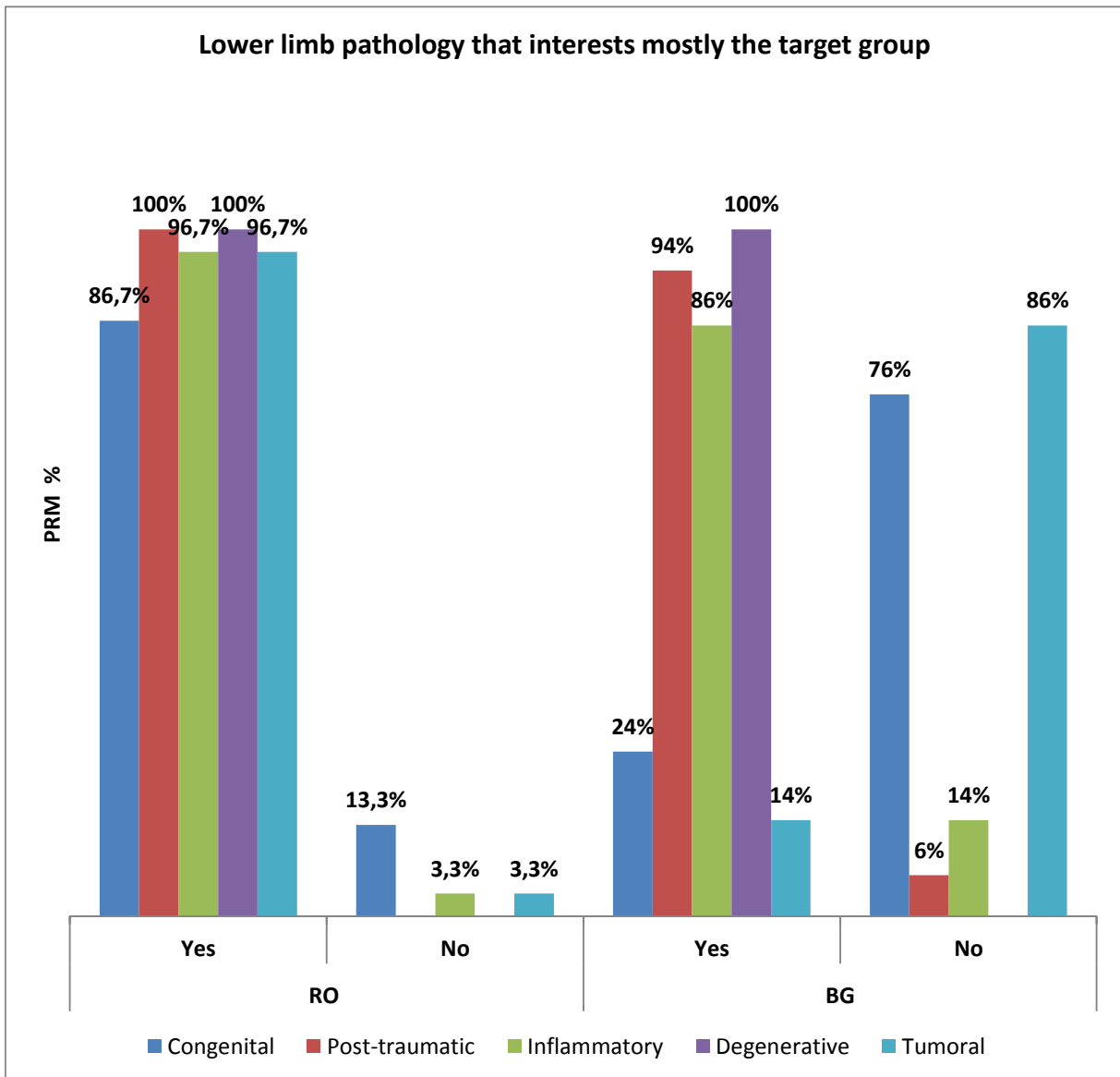
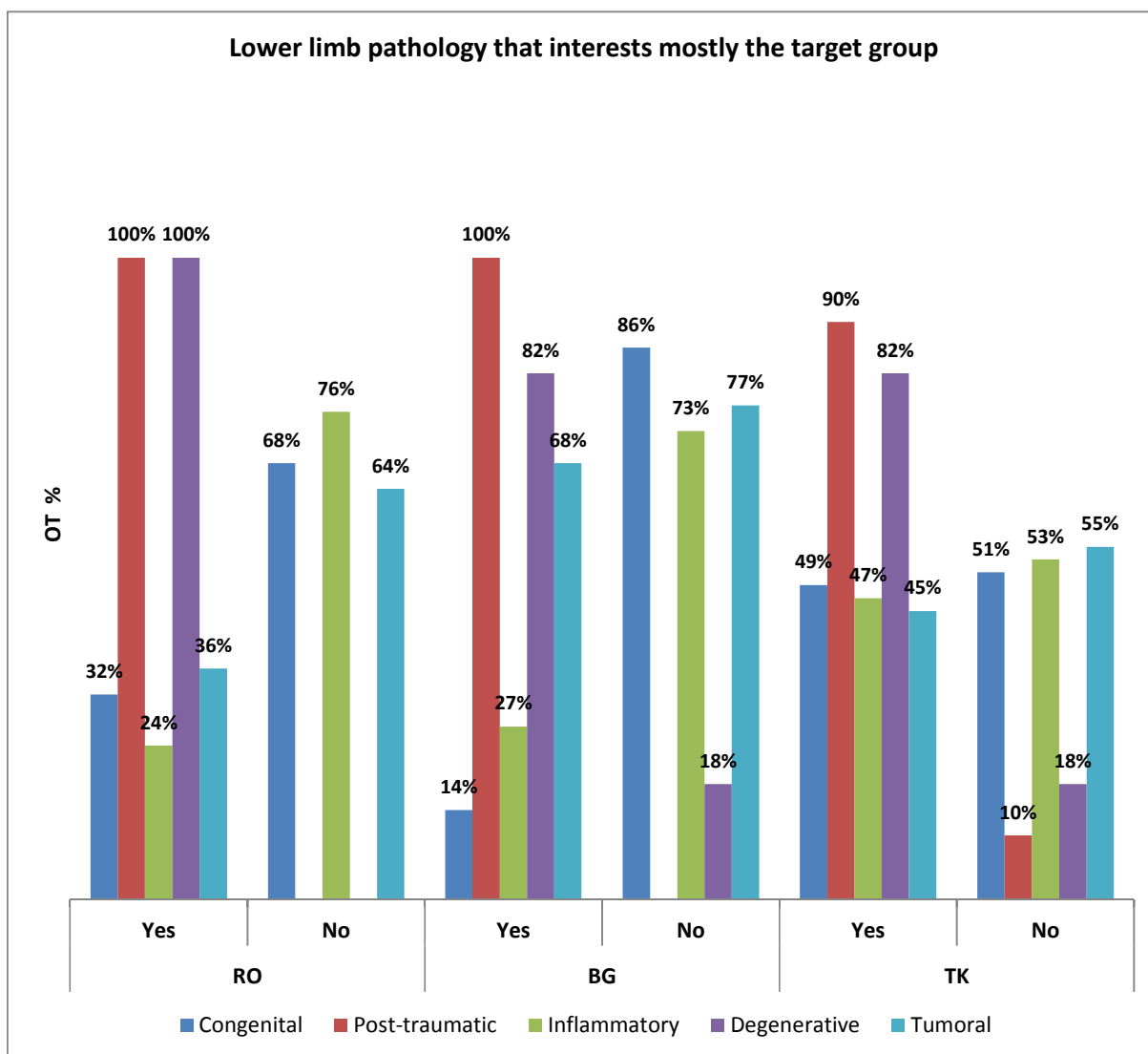


Figure 18 Lower limb pathology that interests mostly the target group

OT	RO		BG		TK	
	Yes	No	Yes	No	Yes	No
%						
Congenital	32	68	14	86	49	51
Post-traumatic	100	0	100	-	90	10
Inflammatory	24	76	27	73	47	53
Degenerative	100	0	82	18	82	18
Tumoral	36	64	68	77	45	55



**Figure 19 Lower limb pathology that interests mostly the target group**

Evaluation of the use of human gait analysis in practice and the interest of the target groups for learning about gait analysis on a e-learning platform was investigated with the use of questions 20-21-22 in ortho questionnaire and 16-17-18 in the rehab questionnaire.

For the rehab group in RO even if 100% of respondents are familiar with the concept, all of them use gait analysis by clinical observation and only 2 (6,7%) use also computerized methods in their practice. 100% of respondents are interested in in learning about application of gait analysis in rehabilitation.

In Bulgaria more than 73% of the respondents are not familiar with gait analysis. 94% use human gait analysis in their practice by clinical observation but no one has used computerized gait analysis. 96% are interested in human gait



analysis technique and want to learn more about its application in rehabilitation.

For the ortho group in Romania only 36% of the respondents were familiar with gait analysis but they used it only by clinical observation. 100% were eager to find out more about the technique.

In BG more than 70% of the respondents are familiar with gait analysis. 82% use human gait analysis in their practice by by clinical observation but no one has used computerized gait analysis. 86% are interested in this technique and want to learn more about application of gait analysis.

In Turkey although 47% fo the respondents were familiar with gait analysis 69% did not use it in practice, and only 8% used computerized gait analysis. But 75% were eager to find out more about the technique.

Questions 19-20 (For the rehab group ) and 23-24 for the ortho group explore the interest of the target group in sharing their knowledge by a Forum on medical topics and sharing experiences for second opinion.

For the Rehab group in Romania 80% of respondents showed a great interest in using a forum on medical topics, meanwhile all of them are interested in getting a second opinion on on-line basis. In Bulgaria 96% of the respondents declare interest in using a forum on medical topics, and more than a half of them (55%) are interested in sharing experiences for second opinion on on-line basis.

For the Ortho group in RO 100% of respondents showed a great interest in using a forum on medical topics, and also all of them are interested in getting a second opinion on on-line basis. In Bulgaria nearly 60% of the respondents declare interest in using a forum on medical topics, but only 36% are interested in sharing experiences for second opinion on on-line basis.

In Turkey 94% of respondents showed a great interest in using a forum on medical topics, meanwhile 94% of them are interested in gattng a second opinion on on-line basis.

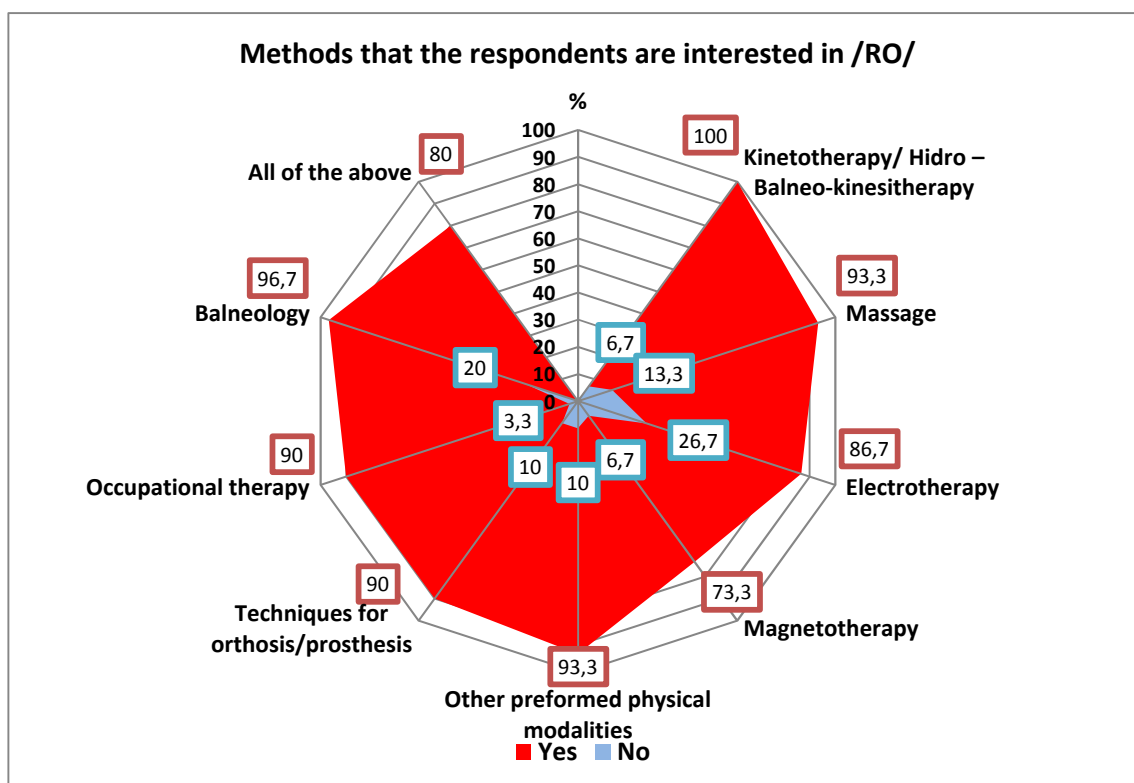
The rest of the questions are specific for the type of specialisation of the target groups

PRM

Quest. 14-15. refers to the specificity of methods that the respondents would be interested in, on on line basis.

According to the professional levels, all learning topics were checked with comparative results. Comparing the results for the 2 countries, topics such as hip trauma and knee trauma are the most interesting topics for this target group.

	RO		BG	
	Yes	No	Yes	No
%				
Kinetotherapy/ Hidro – Balneo-kinesitherapy	100	-	94	6
Massage	93,3	6,7	31	69
Electrotherapy	86,7	13,3	57	43
Magnetotherapy	73,3	26,7	31	69
Other preformed physical modalities	93,3	6,7	27	73
Techniques for orthosis/prosthesis	90	10	55	45
Occupational therapy	90	10	35	65
Balneology	96,7	3,3	29	71
All of the above	80	20	75	25



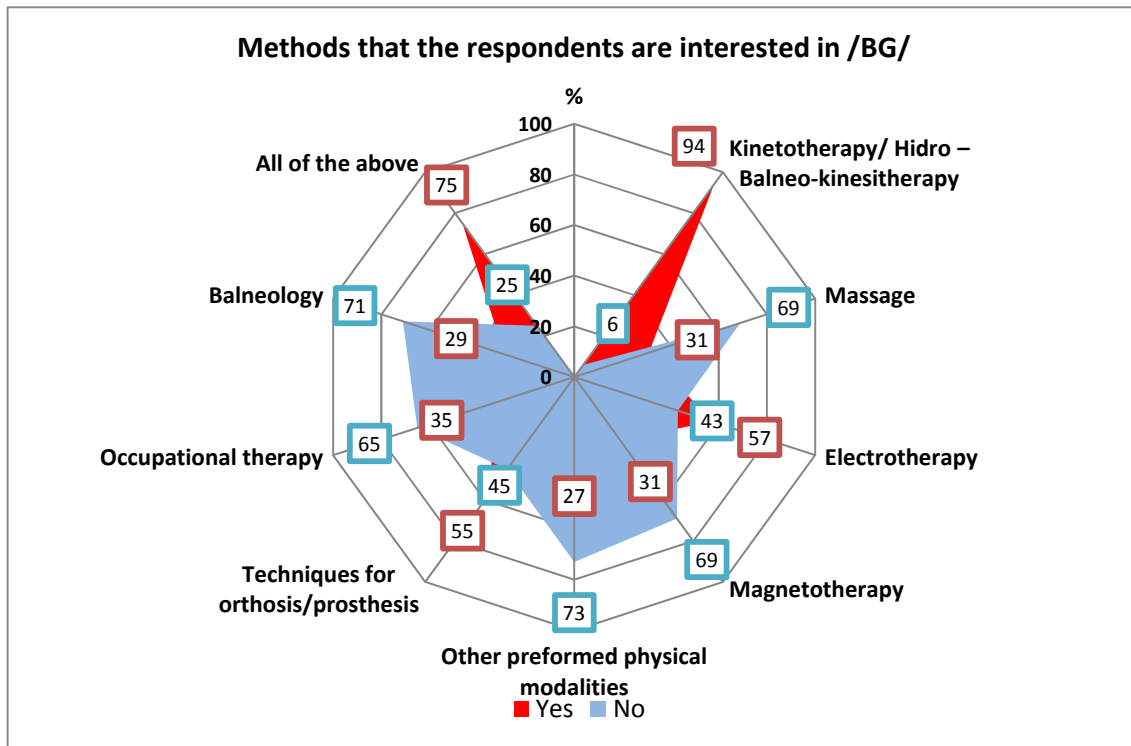


Figure 20 Methods that the respondents are interested in

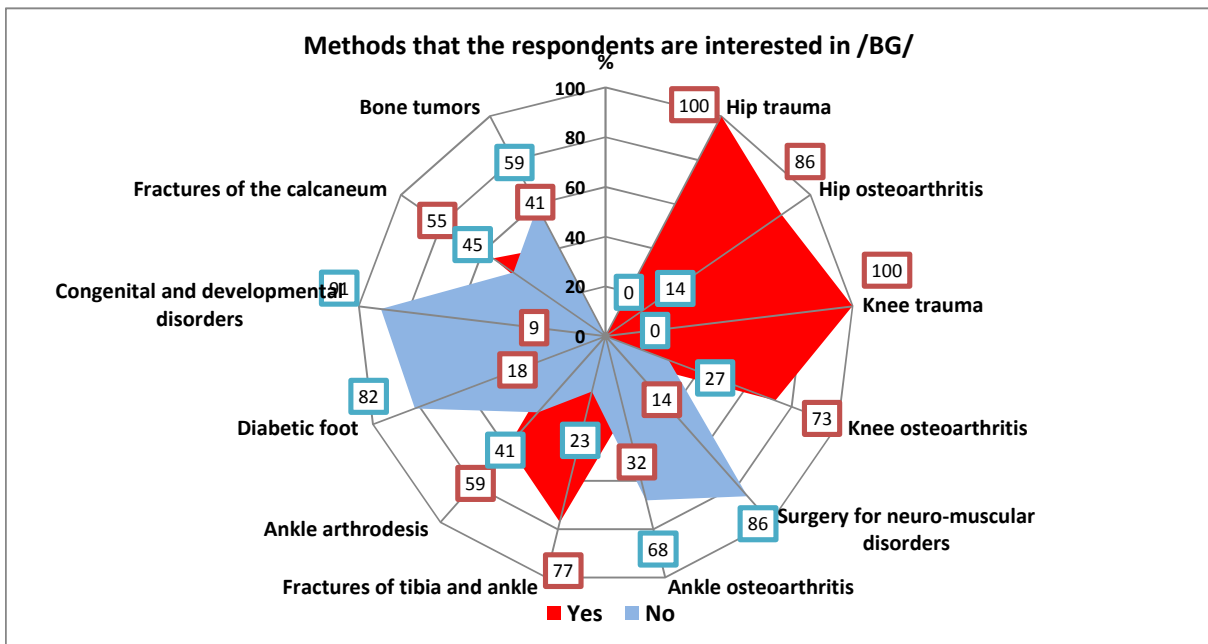
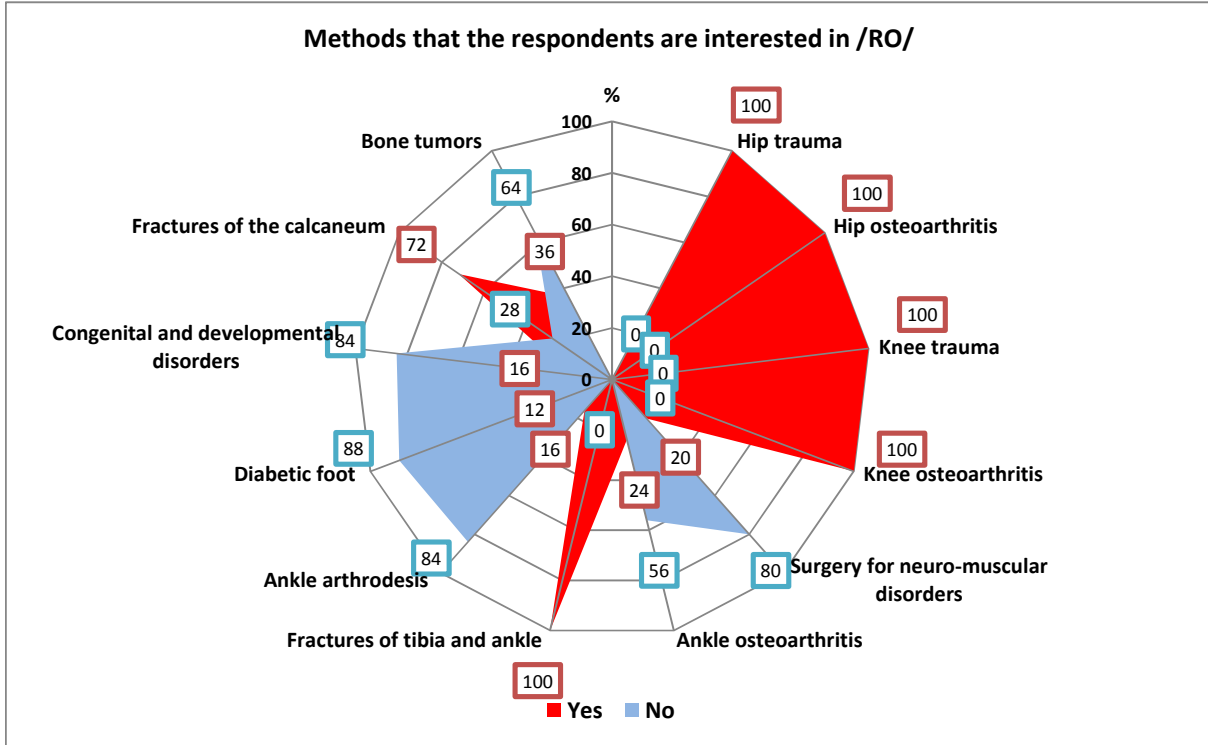
OT

Question 15. refers to the specificity of methods that the respondents would be interested in. Knee and hip disorders frankly attracted more interest in all participant countries.

	RO		BG		TK	
	Yes	No	Yes	No	Yes	No
Hip trauma	100	-	100	-	88	12
Hip osteoarthritis	100	-	86	14	86	14
Knee trauma	100	-	100	0	90	10
Knee osteoarthritis	100	-	73	27	88	12
Surgery for neuro-muscular disorders	20	80	14	86	33	67
Ankle osteoarthritis	24	56	32	68	49	51
Fractures of tibia and ankle	100		77	23	75	25
Ankle arthrodesis	16	84	59	41	49	51
Diabetic foot	12	88	18	82	43	57
Congenital and developmental disorders	16	84	9	91	47	53



Fractures of the calcaneum	72	28	55	45	67	33
Bone tumors	36	64	41	59	43	57



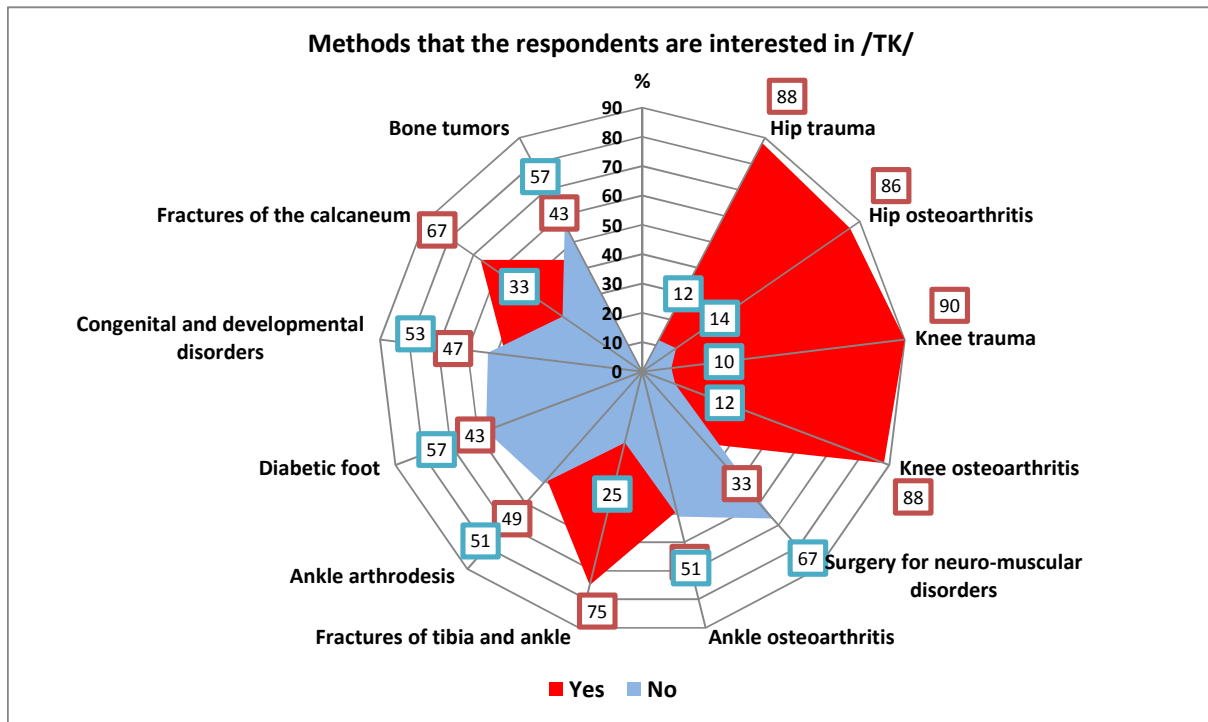
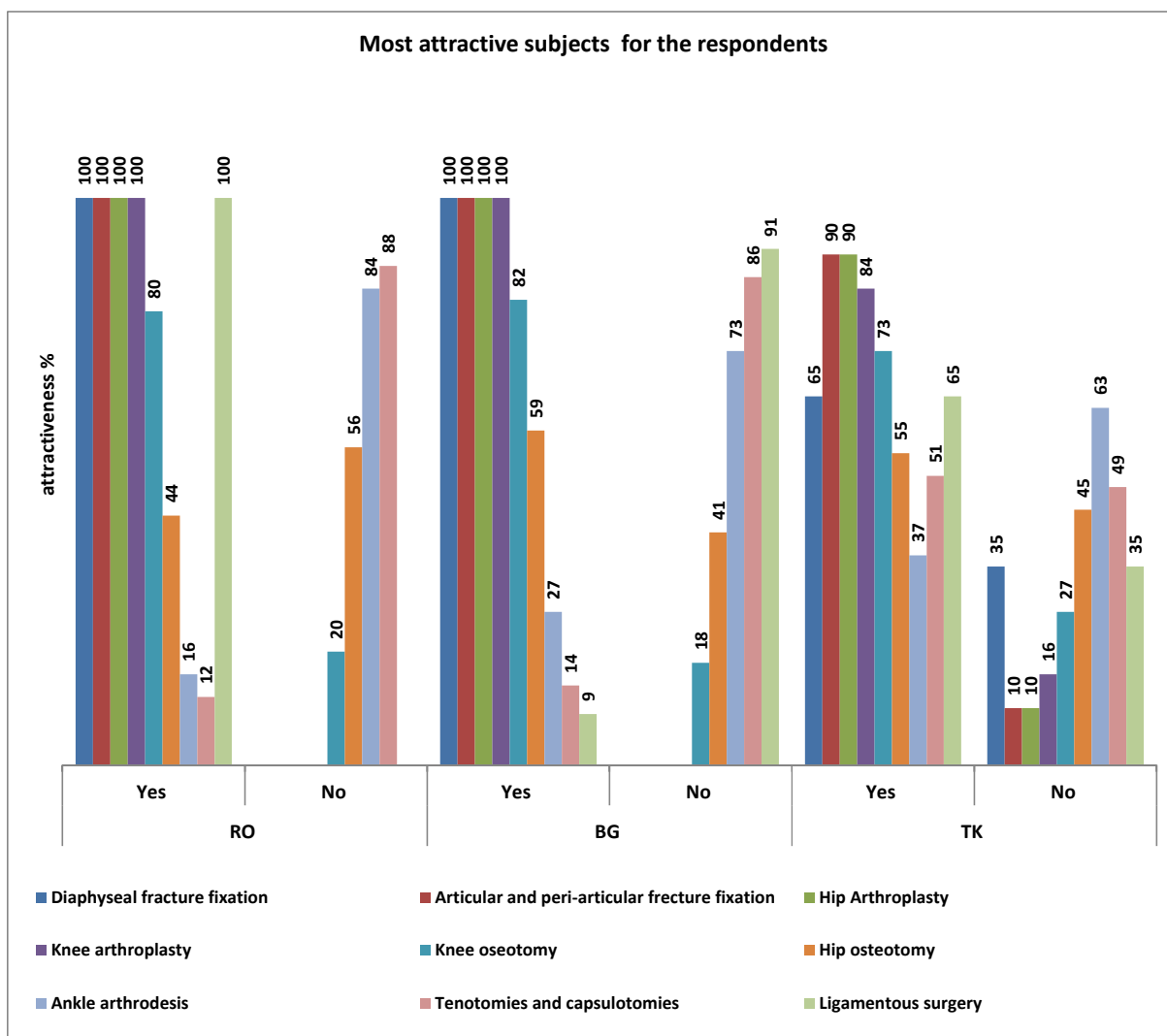


Figure 21 Methods that the respondents are interested in

Question 16. Asked about the most probable subjects that would interest the participants in e-learning. Most attractive subjects were again hip and knee surgeries in all participant countries.

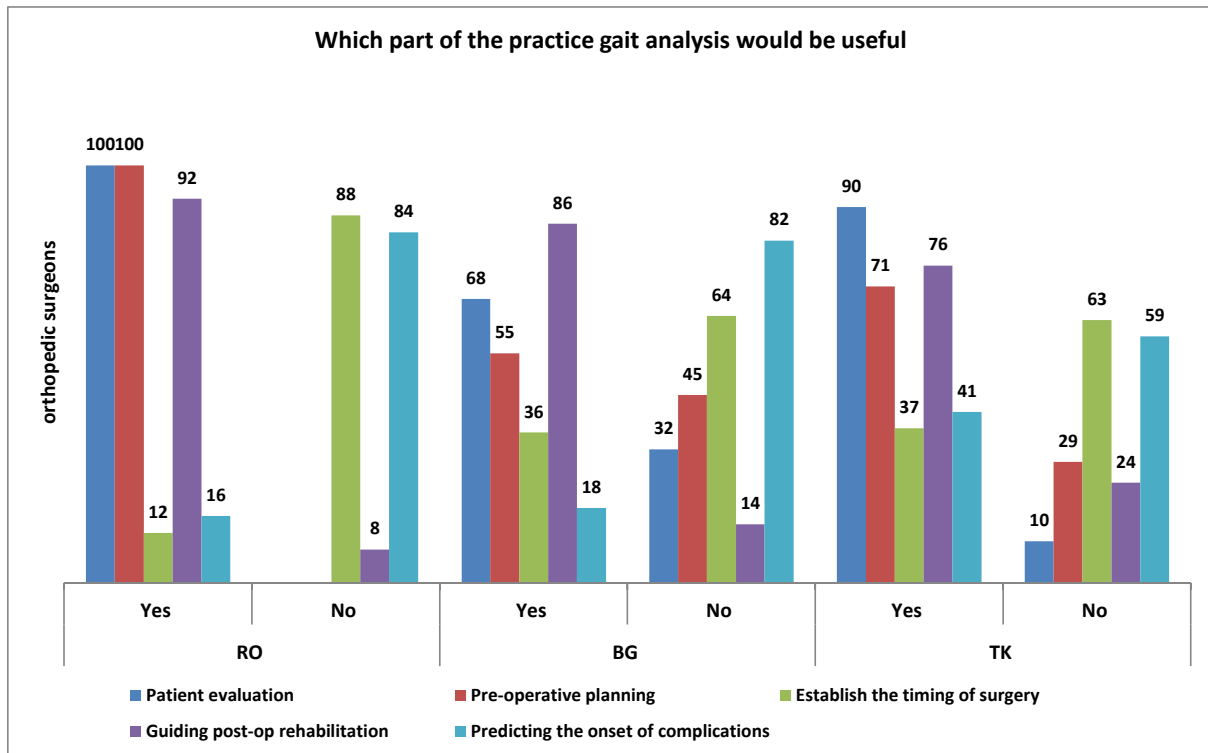
%	RO		BG		TK	
	Yes	No	Yes	No	Yes	No
Diaphyseal fracture fixation	100	-	100	-	65	35
Articular and peri-articular fracture fixation	100	-	100	-	90	10
Hip Arthroplasty	100	-	100	-	90	10
Knee arthroplasty	100	-	100	-	84	16
Knee osteotomy	80	20	82	18	73	27
Hip osteotomy	44	56	59	41	55	45
Ankle arthrodesis	16	84	27	73	37	63
Tenotomies and capsulotomies	12	88	14	86	51	49
Ligamentous surgery	100	-	9	91	65	35



**Figure 22 Most attractive subjects for the respondents**

Question 17. Asked opinion to orthopedic surgeons about which part of their practice gait analysis would be useful. Most thought that it would be useful in evaluation of the patient, pre-operative planning and guiding post-op rehabilitation, rather than the surgical procedure itself.

%	RO		BG		TK	
	Yes	No	Yes	No	Yes	No
Patient evaluation	100	-	68	32	90	10
Pre-operative planning	100	-	55	45	71	29
Establish the timing of surgery	12	88	36	64	37	63
Guiding post-op rehabilitation	92	8	86	14	76	24
Predicting the onset of complications	16	84	18	82	41	59



**Figure 23 Which part of the orthopedic surgeons' practice gait analysis would be useful**

Question 18. Evaluated success perception of the surgeons. Good functional results and re-integration of the patient to previous life, followed by no complications was accepted by nearly all.

%	RO		BG		TK	
	Yes	No	Yes	No	Yes	No
Good functional result	100	-	73	27	98	2
No complications	96	4	100	0	88	12
Social and professional reintegration of the patient	100	-	36	64	98	2
Radiological healing, nomatter the functionla result	4	96	9	91	35	65

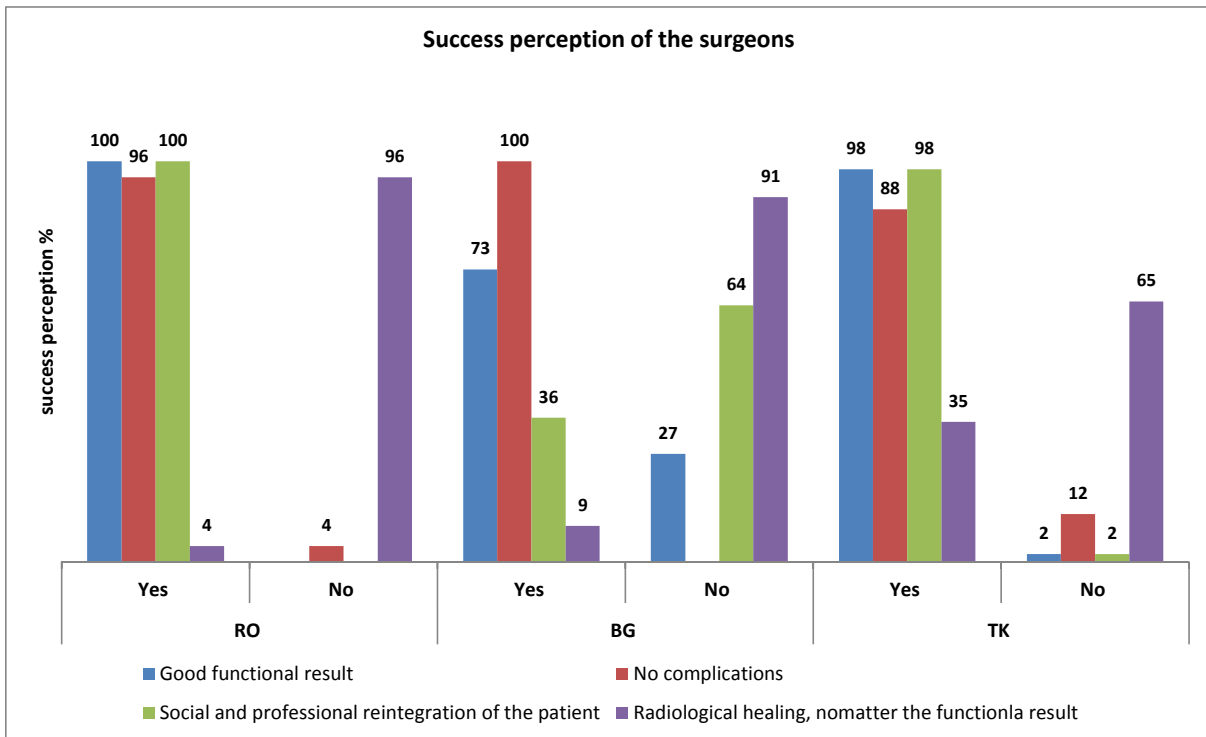


Figure 24 Success perception of the surgeons

Question 19. Determined the demographics of interest distribution among the participants. In general most surgeons were interested in all aspects of the surgical procedures.

%	RO		BG		TK	
	Yes	No	Yes	No	Yes	No
Indications for each procedure	100	-	82	18	92	8
Surgical approach	100	-	100	-	88	12
Necessary instruments	72	28	95	5	63	37
Bone preparation	56	44	73	27	57	43
Implant positioning	100	-	95	5	82	18
Tips and tricks	100	-	77	23	88	12
Possible failures and complications	100	-	82	18	92	8



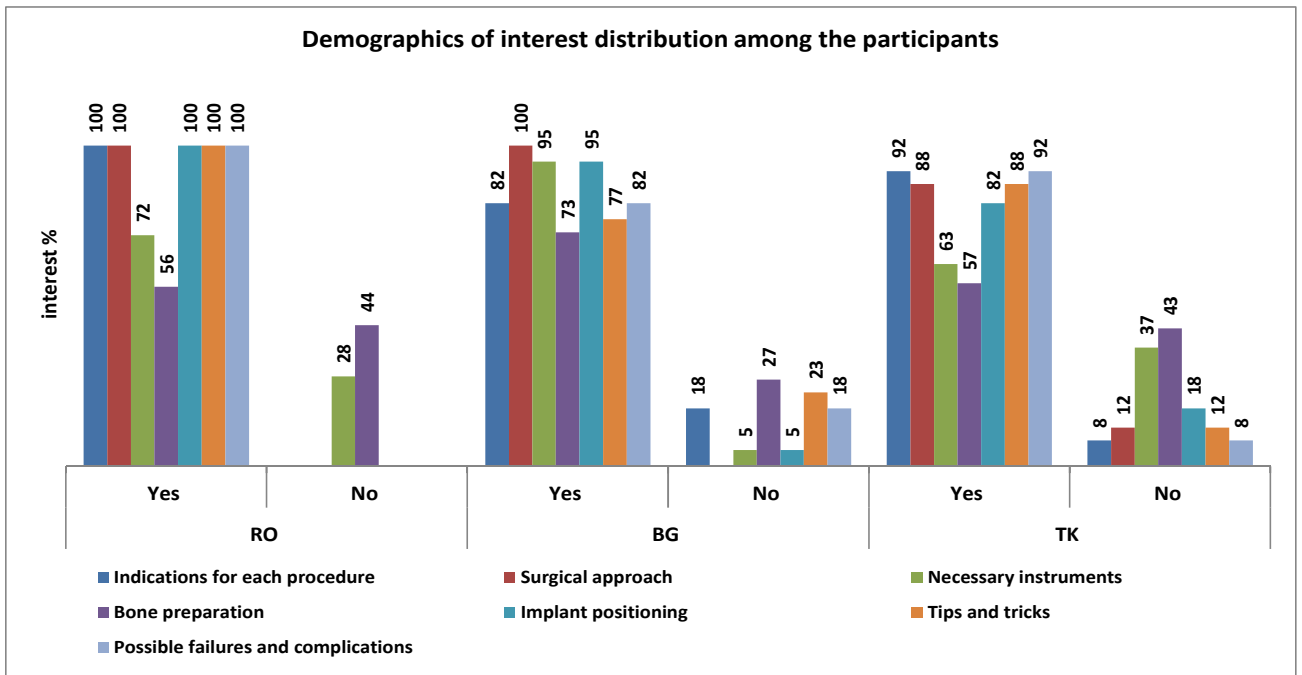


Figure 25 Demographics of interest distribution among the participants

### 3.3.2. For Managers and Academic Medical Staff

Quest. 1.

In Ro 100% of respondents enlist the importance of continuous education for them, their employees and, more, to the patients health and life.

In BG all the respondents state that the continuous medical education is very important for them, their institutions and for their employees.

#### In Denmark

Quest. 2 . The question aims at gathering information about how many hours and respectively ECTS credits do the employees need yearly for continuous medical education, according to national health legislation.

Continuous medical education it is compulsory as stated by the Romanian health legislation. It states that each medical doctor (or nursing professional) has to cover 40 hours.

In accordance with the Bulgarian health legislation the employees need yearly 40 – 60 hours per year and respectively 3-5 ECTS credits

#### In Denmark

Quest. 3 – 4.

In RO and BG all managers are interested in both e-learning and mobile learning.

#### In Denmark

These results reveal the promising prospects and existence of the understanding and support by side of the managers, medical educational policy makers and academic medical staff to the development of the e-learning medical educational policy and inclusion of the professionals engaged in the medicine domain in the digital education.

Quest. 5. The question is in regard to the target group interest towards e-learning courses. An open sub-question aims to detect the most frequently used and searched domains.

In RO 67% of the managers looked for e-learning courses on internet

In BG all of the respondents involved in this survey declare that they have looked for e-learning courses on internet.

#### In Denmark

Quest. 6. This question refers to the familiarity of the employees of the respondents' institutions and organisations with the usage of e-learning platforms.

In RO 97% of the managers assumed that employees in their institution are not familiar /use an e-learning platform.

In BG 60% of the respondents declare that their employees are familiar with the e-platforms and their usage, but the rest of the sample (quite big number - 40%) declare that their employees are not enough familiar with e-platforms. This imposes the need of initiatives and activities for improvement of the awareness, knowledge and skills of the medical staff regarding the use of the e-platforms and their tools, functionality and instruments.

Regarding the medical domains for which e-learning would be useful for professional formation of employees, responses were various and covering a whole spectrum.

### In Denmark

Quest. 7. Refers to the readiness of the respondents (if they have access to an e-learning medical platform) to promote it within their organisations.

In Ro and BG 100% of the respondents participating in this survey declare that they will promote the use of an e-learning medical platform among their colleagues and employees.

### In Denmark

Quest.8. Evaluate the willingness of the respondents in using an e-learning platform for continuous education on payment basis. Managers will promote e-learning and e-learning platforms inside their institutions. 100% of the respondents turn to free online platform, while 40% are ready to pay (depending on the price) for such a service if it was worth.

### In Denmark

Quest. 9 – 10. If the platform will be free of charge, 100% of responses enlisted a large acceptance of e-learning platform for continuous education in all mentioned areas. As for paid services, under 50% of responses turned to accepting the e-learning platforms but enlisted as conditions partially employees contribution or the replacement of the 40 compulsory hours with implementing the paid e-learning platform.

### In Denmark



Quest. 11. This question refers to the preferences of the respondents concerning the courses presentation language. 100% of managers prefer Romanian language for the course information. But for most of them, English it is accepted.

In BG 70% of the respondents declare that they prefer the courses' contents to be presented in English and Bulgarian languages and the rest part of the sample would like the courses' contents to be in Bulgarian language.

In Denmark

## 4. CONCLUSIONS AND LESSONS LEARNED

### 4.1. General conclusions

These conclusions were based on all reports delivered within this output.

✚ The general needs of the hospitals in terms of training in orthopedics and rehabilitation as well as e-learning specific approaches must be identified. The partnership works together for collection and analysis of such data, resulting in a feasibility study on 4 main directions:

✚ A. RESEARCH ON EU POLICIES IN VET. The Recommendation of the EU Parliament and of the Council of the Establishment of ECVET are taking place in a framework in which there is a serious need of complementarity between vocational training and higher education. Due to countries' differential starting points, the convergence hypothesis is of main interest, according to shifting complementary relationship between the 2 organizational fields; universities as provider of education and assessor of competence and hospitals as work environment for medical professionals. ([http://www.eua.be/fileadmin/user\\_upload/files/EUA1\\_documents/EUA\\_policy\\_position\\_eqf\\_ecvet.pdf](http://www.eua.be/fileadmin/user_upload/files/EUA1_documents/EUA_policy_position_eqf_ecvet.pdf)). )

✚ B. RESEARCH ON THE LOCAL, REGIONAL AND NATIONAL APPROACHES IN VOCATIONAL TRAINING OF MEDICAL PROFESSIONALS (RESIDENTS, SPECIALISTS) IN ORTHOPEDY AND REHABILITATION. Each year, the orthopaedic surgeon spends many hours studying and attending continuing medical education courses to maintain current orthopaedics knowledge and skills. A growing number of reports draw attention to the need of adjustment of the offer in medical education to labor market needs and the knowledge-based society. There are no on-line available guidelines on surgical procedures free of charge and most on-line courses offer no recognised accreditation. Gait analysis is performed within a great range of methods: in Romania at least, none of the hospitals have trained personal for gait analysis and the analyse is based on visual observation.

✚ C. RESEARCH ON e- HEALTH APPROACHES. A recent literature review of eHealth applications shown that e-learning enhance learning, efficiency, to

improve clinical decision making and practice, reduce health services utilization and lower health costs among certain study groups. in the area of behavior change found that most studies were descriptive.

✚ D. RESEARCH ON PROFESSIONALS' INDIVIDUAL MOTIVATION and training needs showed that technology is a flexible and powerful tool able to make the difference. 3D images, videos and virtual mobility will support medical professionals in training without having the presumption to be exhaustive, but propaedeutical to practice. (Embedding E-Learning in Further Education The EU Health Policy Forum, Strategic Priorities)

✚ Positive aspects in e-learning

Thanks to the growth of educational technologies and the Internet, the number of e-Learning resources available to educators has dramatically increased.

A great number of educational institutions provide a form of web-based learning starting from as early as comprehensive schools and getting as far as university programmes for undergraduate and postgraduate students.

The number of participating countries is increasing, more aspects of higher education are included and the number of activities and projects is growing.

✚ Negative aspects in e-learning

Medical education has so far been neglected in the process and awareness of the development at medical schools has been limited.

Repositories or digital libraries have been established to manage access to e-Learning materials, but they are few at this time .

The e-Learning Initiative created a dynamic around e-Learning in Europe, but the geographical origin of the partners stems from France, UK, Italy, Germany, Spain and Belgium, so the eLearning Initiative did not manage to equally reach all of EU countries, like Romania, Bulgaria and Hungary.

✚ Medical e-education

Medical education is considered by many as one of the most conservative education providers in terms of methods used. Although in other specialties, especially technical education, computer assisted education has long been integrated into educational curriculum, in medical education this happens sporadically.

A growing number of reports draw attention to the need of adjustment of the offer in medical education to labor market needs and the knowledge-based society.

- ✚ A flexible training offer by developing an online learning community to provide the resources and digital materials to those interested in medicine and to support the development of e learning courses is a real necessity.

#### 4.2. Specific conclusions.

These conclusions were drawn based on present research and surveys.

- ✚ The conclusions of the report showed that for some issues there were significant differences between countries specially regarding the state of art of e-learning and familiarity with e-learning tools, specially for Bulgaria. The need to increase the perceived level of IT ability and accessibility for medical and academic staff is obvious.

- ✚ Regarding familiarity with e-tools, answers were strongly different between professional profiles. The majority of residents reported good access to computers and the internet, both on and off campus and appear confident using IT. Medical Doctors and Nursing Professionals with a high work experience suffer from a low confidence with digital tools.

- ✚ Despite the fact that a great number of respondents prefer classical courses and workshops, hopefully over 50% in all participants countries were interested in e-learning.

In this context there is an obvious need to increase the experiences and attitudes towards e-Learning and clinical skills training. These results outline the need for improvement the awareness, interest, and motivation of this target group through the development of well and professionally designed, friendly, easy understandable and in the same time very attractive e-learning solutions and contents. Attractive and valuable platforms would increase this rate.

- ✚ The target group was also interested in e-learning by the use of mobile e-learning.

✚ Regarding the language for the course information, most of the respondents prefer both English and national language for course information and content.

✚ Regarding the domains of interest most of the respondents are interested in post-traumatic and degenerative pathologies. Regarding to the specificity of methods that the respondents would be interested in, knee and hip disorders attracted more interest, followed by fractures of tibia, ankle and calcaneum. Mostly used domains included surgical videos and comprehensive textbook information formatted for quick reference which are also designed for ease of finding and reading the required information.

✚ Regarding the use of human gait analysis in practice, for all participants countries the respondents were not very familiar with this concept and almost all of them use gait analysis by clinical observation. More than 75% declare high level of interest to this topic.

✚ Asked opinion of the target group about which part of their practice gait analysis would be useful showed that most of the respondents thought that it would be useful in evaluation of the patient and pre-operative planning, as well as in guiding post-op rehabilitation, rather than the surgical procedure itself.

✚ A great % of respondents showed a great interest in using a forum on medical topics, and are interested in getting a second opinion on on-line basis.

#### 4.3. Final conclusions

✚ Our final conclusion is that integration of e-Learning into Medical Education is a process at its very beginning and requires a lot of work to be done.

✚ In our view, to overcome the above problems, a regulatory system has to be approved to stimulate, develop and use e-Learning content at all educational levels; good practices need to be disseminated; open-source software and e-Learning environments with English and national language interfaces should be popularised; joint research concerning the technological and didactical issues of e-Learning have to be conducted on a larger scale; and more universities should offer Master's programmes in e-Learning education.

✚ Providing information about e-Learning and its benefits, encouraging and initiating the Training of the Trainers (medical and academic staff); encouraging



the training of the learners; increased dissemination on all levels (hospitals, universities, professional organisations, decision makers) could make a difference.

✚ The integration of e-Learning into existing medical curricula should be the result of a well-devised plan that begins with a needs assessment and concludes with the decision to use e-Learning. Although some institutions have tried to use e-Learning as a stand-alone solution to updating or expanding their curricula, we believe it is best to begin with an integrated strategy that considers the benefits and burdens of blended learning before revising the curriculum.

✚ A study to research the effectiveness of developing and using a generic introductory session to introduce the concept and use of online learning would be useful. This could be related to providing a bridging step between traditional and online delivery for staff development. It could equally be related to the introduction of online elements within courses, which are going to become more evident over the next few years, and be used to ensure learners have the skills they need.

✚ Until now it is recognised that Distance course for medical education is more suitable for theoretical concepts (guideline, procedures, protocols, legal frameworks, or cross issues such as security, patient approach, preclinical disciplines). Indeed, online education can have a real value for theoretical module (Teaching and assessment) by providing recent and systematized, specific information, in a didactic approach, a real opportunity for online evaluation of theoretical knowledge and possibility of simulation of examination. The e-platform also can be valuable in preparing for practical test examinations and video examination, but also to support video on line examinations. Other advantages consist in the possibility of accessing material at any time and from any location, the sharing of information between students on the forum, opportunity of brainstorming, access to trainer s opinion and Second Opinion, noting the added value by the quality and systematization, prompt access of materials from anywhere.

✚ E-Learning doesn't have to substitute the practice but should aim at strongly enhancing the skills and knowledge of medical professionals to be better prepared to practice. More, it can be used for case studies, high quality of content, group discussions and practical information. As information technology



is a flexible and powerful tool able to make the difference, 3D images, videos and virtual classrooms can support medical and nursing professionals in training without having the presumption to be exhaustive, but propaedeutical to practice. Developers of clinical skills curricula need to ensure e-Learning environments utilize media that encourage deeper approaches to learning.

✚ In continuous professional training and obtaining CME credits, on line training is a reliable and superior alternative to classic courses that require accommodation, time, etc.. and can be used fully in the development of courses EMC credited, offering a perfect option for continuing professional development and formal education in the possibilities offered for review and updating knowledge, sharing information and brainstorming.

✚ The COR-skills e-learning environment must be easy to navigate, can be also used on mobile devices, the language will be English and national language, the pathology of the lower limb will include posttraumatic and degenerative diseases for hip, knee, fractures of tibia, ankle and calcaneum. Because of low knowledge on gait analysis but of high interest of target group, some of the case studies will include gait analysis and it could be useful to include also some theoretical courses that were developed in a previous project, recte OT e-man. Some of the present partners were also in that project so we have copyrights.

✚ Each partner must identify the best ways to integrate further outcomes of COR-skills project into national and/or sectoral training systems and include this into the report.

## ANNEX 1 Needs Assessment Questionnaire in Orthopedics

### PERSONAL DETAILS

(These details are required for communication purposes only and will not be disclosed)

NAME: \* optional

Position:

Resident  in.....

Medical doctor  specialization.....

Member of professional organization  name of organization.....

Manager

Institution.....

Department.....

Position.....

EMAIL: \* optional

\*Tick the box that suits best your situation.

1. . How often do you access the internet?

Daily  2-3 times a week  weekly

2. How much do you use the internet for improving your professional career?

Daily  Weekly  Monthly

3. Which of the following e-tools are you familiar with and to which extent? Tick the box that suits best your situation.

	Never heard of it	I have heard but never used it	I can manage with help	I can use it
Chat				
Wiki				
Audio conferencing				
Video conferencing				
Forum				
e-mail groups				
Internet Mobile/ mobile learning				

4. What are the main categories of information that you require? How often do you use them?

Clinical issues	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medical Legislation	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medication	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medical events	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
News Publications	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Science & Research	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>

5. How do you prefer to improve your professional career?



Classical courses  Workshops  e learning

6. Are you interested in e-learning?

Yes No

7. Are you interested in mobile learning?

Yes No

8. Have you looked for e-learning on internet?

Yes No

In what domains.....

9. How many hours/per year do you think are necessary to refresh your knowledge and improve skills and competencies?

.....

10. If you would have on your disposal an e-learning platform for continuous education would you apply to it if it is on free basis?

Yes No

11. If you would have on your disposal an e-learning platform for continuous education would you apply to it if it is on payment basis?

Yes No

12. What language would you prefer for the course information?

.....

13. What is the pathology, localized to the lower limb joints, that would interest you?

Congenital	<b>Yes</b>	<b>No</b>
Post-traumatic	<b>Yes</b>	<b>No</b>
Inflammatory	<b>Yes</b>	<b>No</b>
Degenerative	<b>Yes</b>	<b>No</b>
Tumoral	<b>Yes</b>	<b>No</b>

14. Would you be interested in learning about application of gait analysis in orthopedic surgery?

**Yes No**

15. If you would apply to an e-learning platform dedicated to lower limb orthopedic pathology ( including complications), would you be interested in:

Hip trauma	Yes	No
Hip osteoarthritis	Yes	No
Knee trauma	Yes	No
Knee osteoarthritis	Yes	No
Surgery for neuro-muscular disorders	Yes	No

Ankle osteoarthritis	Yes	No
Fractures of tibia and ankle	Yes	No
Ankle arthrodesis	Yes	No
Diabetic foot	Yes	No
Congenital and developmental disorders	Yes	No
Fractures of the calcaneum	Yes	No
Bone tumors	Yes	No

16. What kind of surgical procedures for lower limb pathology would you be interested in being detailed on an e-learning platform:

Diaphyseal fracture fixation	Yes	No
Articular and peri-articular fracture fixation	Yes	No
Hip arthroplasty	Yes	No
Knee arthroplasty	Yes	No
Knee osteotomy	Yes	No
Hip osteotomy	Yes	No
Ankle arthrodesis	Yes	No
Tenotomies and capsulotomies	Yes	No
Ligamentous surgery	Yes	No

17. Do you think that gait analysis can be useful for certain aspects of orthopedic practice

Patient evaluation	Yes	No
Pre-operative planning	Yes	No
Establish the timing of surgery	Yes	No
Guiding post-op rehabilitation	Yes	No
Predicting the onset of complications	Yes	No

18. If you had to describe a successful orthopedic treatment, this would include

Good functional result	Yes	No
No complications	Yes	No
Social and professional re-integration of the patient	Yes	No
Radiological healing, no matter the functional result	Yes	No

19. When referring to orthopedic procedures, your major points of interest(s) are:

Indications for each procedure	Yes	No
Surgical approach	Yes	No
Necessary instruments	Yes	No
Bone preparation	Yes	No
Implant positioning	Yes	No
Tips and tricks	Yes	No
Possible failures and complications	Yes	No

20. Are you familiar with human gait analysis?

**Yes No**

21. Do you use human gait analysis in your practice?

**Yes by clinical observation**



**Yes** by computerized  
methods  
**No**

22. Would you be interested in learning about application of gait analysis in rehabilitation?

**Yes No**

23. Would you be interested in a Forum on medical topics?

Yes No

24. Would you be interested in sharing your own experience for second opinion?

Yes No

## ANNEX 2 Needs Assessment Questionnaire in Rehabilitation

### PERSONAL DETAILS

(These details are required for communication purposes only and will not be disclosed)

NAME: \* optional

Position:

Resident  in.....

Medical doctor  specialization.....

Physiotherapist  specialization.....

Member of professional organization  name of organization.....

Manager

Institution.....

Department.....

Position.....

EMAIL: \* optional

\*Tick the box that suits best your situation.

1. . How often do you access the internet?

Daily  2-3 times a week  weekly

2. How much do you use the internet for improving your professional career?

Daily  Weekly  Monthly

3. Which of the following e-tools are you familiar with and to which extent? Tick the box that suits best your situation.

	Never heard of it	I have heard but never used it	I can manage with help	I can use it
Chat				
Wiki				
Audio conferencing				
Video conferencing				
Forum				
e-mail groups				
Internet Mobile/ mobile learning				

4. What are the main categories of information that you require? How often do you use them?

Clinical issues	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medical Legislation	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medication	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Medical events	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
News Publications	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>
Science & Research	<input type="checkbox"/>	Daily <input type="checkbox"/>	Weekly <input type="checkbox"/>	Monthly <input type="checkbox"/>

1. How do you prefer to improve your professional career?

Classical courses  Workshops  e learning

2. Are you interested in e-learning?

Yes No

3. Are you interested in mobile learning?

Yes No

4. Have you looked for e-learning on internet?

Yes No

In what domains.....

9. How many hours/per year do you think are necessary to refresh your knowledge and improve skills and competencies?

.....

10. If you would have on your disposal an e-learning platform for continuous education would you apply to it if it is on free basis?

Yes No

11. If you would have on your disposal an e-learning platform for continuous education would you apply to it if it is on payment basis?

Yes No

12. What language would you prefer for the course information?

.....

13. What is the pathology, localized to the lower limb joints, that would interest you?

Congenital	<b>Yes</b>	<b>No</b>
Post-traumatic	<b>Yes</b>	<b>No</b>
Inflammatory	<b>Yes</b>	<b>No</b>
Degenerative	<b>Yes</b>	<b>No</b>
Tumoral	<b>Yes</b>	<b>No</b>

14. If you would apply to an e-learning platform dedicated to the joints of the lower limb pathology, requiring surgery, would you be interested in:

Kinetotherapy/ Hidro – Balneo-kinesitherapy	Yes	No
Massage	Yes	No
Electrotherapy	Yes	No
Magnetotherapy	Yes	No
Other preformed physical modalities	Yes	No
Techniques for orthosis/prosthesis	Yes	No
Occupational therapy	Yes	No
Balneology	Yes	No
All of the above	Yes	No



15. Which of the following methods of rehabilitation, for this kind of patient, would you be most interested in?

Kinetotherapy/ Hidrokinetotherpay	<b>Yes</b>	<b>No</b>
Masage	<b>Yes</b>	<b>No</b>
Electrotherapy	<b>Yes</b>	<b>No</b>
Techniques for orthosis/prosthesis	<b>Yes</b>	<b>No</b>
Ocupational therapy	<b>Yes</b>	<b>No</b>
Balneology	<b>Yes</b>	<b>No</b>
All of the above	<b>Yes</b>	<b>No</b>

16. Are you familiar with human gait analysis?

**Yes** **No**

17. Do you use human gait analysis in your practice?

**Yes by clinical observation**  
**Yes by computerized**  
methods  
**No**

18. Would you be interested in learning about application of gait analysis in rehabilitation?

**Yes** **No**

19. Would you be interested in a Forum on medical topics?

Yes No

20. Would you be interested in sharing your own experience for second opinion?

Yes No



### ANNEX 3 Needs Assessment Questionnaire for Managers

(MANAGERS- Staff in the medical educational system, Institutional officials at clinical orthopedic and rehabilitation departments, Medical education and related associations in the field of orthopedics and rehabilitation; national organizations)

#### PERSONAL DETAILS

(These details are required for communication purposes only and will not be disclosed)

NAME: \* optional

Institution  
Department  
Position:

EMAIL: \* optional

\*Tick the box that suits best your situation.

1. How important is continuous medical education for you and your employees?

.....  
.....  
.....

2. How many hours and /or ECTS credits do your employees need yearly for continuous medical education, according to your national health legislation?

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3. Are you interested in e-learning?

Yes No

4. Are you interested in mobile learning?

Yes No

5. Have you looked for e-learning courses on internet?

Yes No

In what domains-----  
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6. Employees in your institution are familiar /use an e-learning platform?

Yes No

7. In what medical domains do you think that e-learning would be useful for professional formation of your employees?



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8. If you would have access to an e-learning medical platform would you promote it within your institution?

Yes No

9. If you would have on your disposal an e-learning platform for continuous education would you apply to it for your employees if it is on free basis?

Yes No

10. If you would have on your disposal an e-learning platform for continuous education would you apply to it for your employees if it is on payment basis?

Yes No

Comments-----

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11. What language would you prefer for the course information?

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