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## RESEARCH ARTICLE

# Is There a Need for an Independent Fellowship Advisor for Postgraduate Training? Analysis of 906 Surveys from 85 Countries.

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## ABSTRACT

**Background:** Many physicians seek a fellowship after completing their residency to gain expertise, learn different techniques and philosophies, and grow their network. One obstacle for fellows is finding reliable feedback from previous fellows regarding a specific fellowship and contacting that person for further advice. In addition, for both doctors and institutions alike, obtaining (government) working permits and financing the fellowship is challenging. The purpose of this study was to survey doctors and researchers from different medical fields to identify the need for an online fellowship advisor.

**Methods:** A website and an online survey were created. The survey was sent personally to the first author's contacts worldwide by email.

**Results:** Five months after the project initiation, there were 8'918 visits (7'435 different users) to the landing website from 129 countries, mainly USA (27%), Switzerland (21%), Egypt (5%), and India (5%). Nine hundred six surveys from participants from 85 countries were completed: Among them Switzerland (20%), Egypt (8%), India (8%) as well as United Kingdom (6%). The main specialties were orthopedics & traumatology (60%), surgery (10%), and internal medicine (5%). The participants stated, they were potential (36%) or previous (32%) fellows or individuals/institutions who would like to offer a fellowship (17%). There was an interest in having a fellowship database (69%), connecting to other fellows (65%), giving/receiving feedback about a fellowship (50%), and receiving financial support (36%).

**Conclusions:** The results of the first survey suggest that there is great interest in an online fellowship advisor for international fellowships, including a database, a platform for fellows to connect to each other with the ability to give and receive feedback about a fellowship. Receiving financial support is of interest to one-third of the participants.

**Keywords:** Mentoring; Education; Coaching; Fellowships; Career; Practice.

**Level of Evidence:** 4

## Background

In the Anglo-American region, enhanced training beyond residency via fellowships is an integral part of the career path of medical/surgical individuals to enhance skills, to gain confidence in independent practice, and, last but not least, to become known as experts in their particular field of (sub-) specialization.<sup>1-3</sup> On the contrary, many other countries around the world do not offer institutionalized formal special training after residency at all. Furthermore, the tradition of fellowship training depends on the professional specialty. Whereas undertaking a fellowship in the surgical field is relatively common, it's much more uncommon for other non-surgical/medical fields.<sup>4-7</sup> This fact might be due to the historical idea of a fellowship "being based on an apprenticeship model with hospital-based training",<sup>1</sup> thus being applicable for enhanced surgical training in the first place.

The great variety of types and numbers of fellowships makes it even more difficult to find the most suitable when starting the search and the concrete application process. Moreover, fellowships typically are offered via professional organizations/scientific societies and require being an active member of that organization/society. Besides classical clinical or research fellowships, which are typically long-term fellowships (1 to 2 years), there are observerships available, which are usually offered as short-term fellowships (2 to 52 weeks). Often, only limited information about the educational goals and characteristics or requirements and selection criteria of fellowships are accessible. Applicants and

institutions may have different expectations regarding fellowships, leading to frustration and wasted resources on both sides.<sup>6-10</sup>

One obstacle for doctors is finding reliable, independent feedback from previous/current fellows regarding a specific and suitable fellowship and being able to contact that person for further advice to facilitate and optimize the searching and application process and to minimize costs. Financing a fellowship can prove a challenge, especially when organized individually outside a particular professional organization/scientific society. Costs associated with organizing and absolving a fellowship are often sponsored by industry or scientific societies (i.e., SECEC, AGA, ESSKA, SICOT, etc.), but only accessible for a limited number of fellows each year.<sup>5-7</sup> An independent fellowship advisor could fill this gap of number of applicants versus number of selected fellows.

The purpose of this study was to survey doctors and researchers from different medical fields across the globe to identify the need for an online fellowship advisor, including a database for fellowships worldwide and offering a platform for fellows to connect to each other with the ability to give and receive feedback about a fellowship.

## Methods

A website ([www.myfellowship.com](http://www.myfellowship.com)) and an online survey using an electronic data capture were developed. The survey was sent to every personal contact of the principal investigator (TME) worldwide via email. In parallel, a landing page (one-page website) explaining

the idea of the project and including the link to the online survey was launched and posted frequently on different social media such as LinkedIn®, Facebook®, Instagram® or Twitter®. Between December 2018 and May 2019, the landing page and the survey were available online. Since this study did not rely on patient data but solely on doctors' answers to an online survey, an a priori approval by an ethical committee or written informed consents were not required. However, the participants (doctors) agreed by answering to the survey on the use of their answers for research purposes.

The numbers of website visits of all users and completed surveys were documented. Participation was voluntary, and responses were recorded anonymously. Email reminders were sent to invited individuals. An email address was required for each response to prevent multiple responses from the same individual; this email was unlinked from the response to de-identify study data.

The survey included questions intended to assess general interest in a fellowship advisor amongst medical personnel and which special needs and expectations were associated with the idea of a fellowship advisor (supplementary file 1). Responders' profiles include country of origin, professional specialty, and subspecialty. In addition, status with regard to previous or future fellowships was collected. Additional questions focused on concrete interest about the services that should be offered and how respondents could contribute (financial support, marketing, donating, becoming a business partner, etc.).

Survey responses were exported into Intercooled STATA Version 14.2 (StataCorp LLC, College Station, TX) for descriptive analyses of the study groups, sub-groups, and distribution.

### Results

During the five-month data collection period, 8'918 visits to the landing page were recorded.

In parallel, the survey was sent to 1'749 doctors worldwide via email who were personal contacts of TME. After clearing for duplicates, a total of 7'435 different users could be identified. Overall, 906 online surveys were completed.

The 7'435 website visitors originated from 129 countries, mainly USA (27%), Switzerland (21%), Egypt (5%), and India (5%). Nine hundred six participants who completed the survey originated from 85 countries with a slightly different distribution: Switzerland (20%), Egypt (8%), India (8%), and UK (6%) (Figure 1A & 1B).

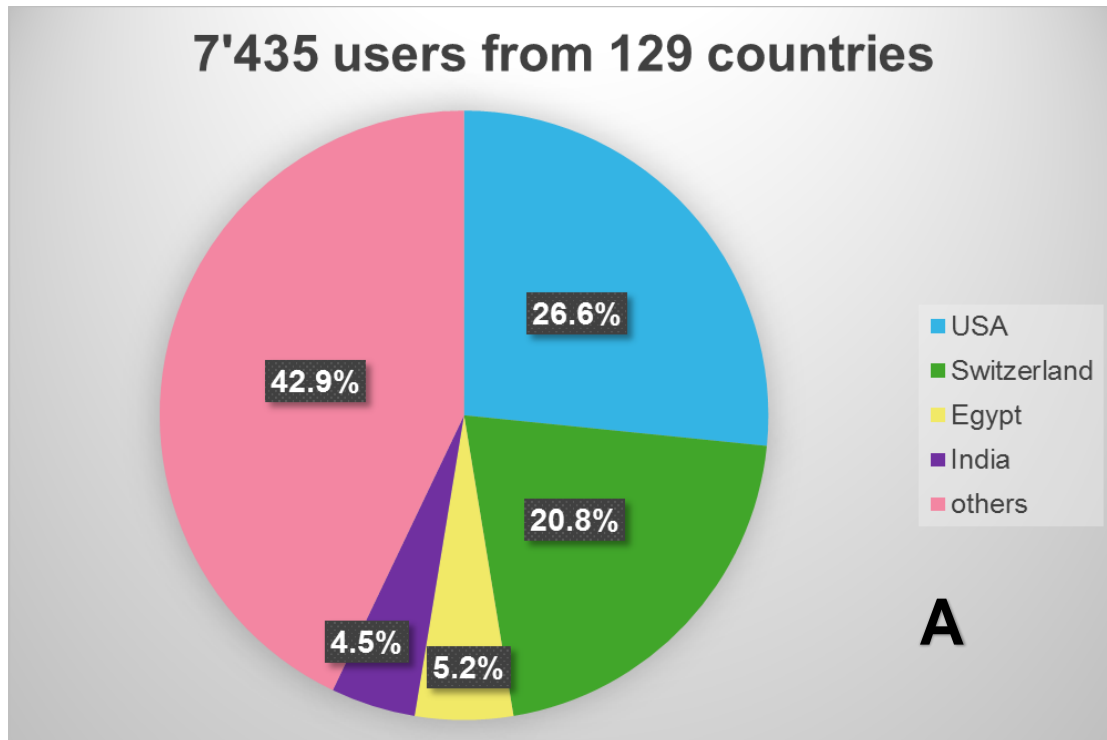


Figure 1A Distribution per country of the registered website visitors

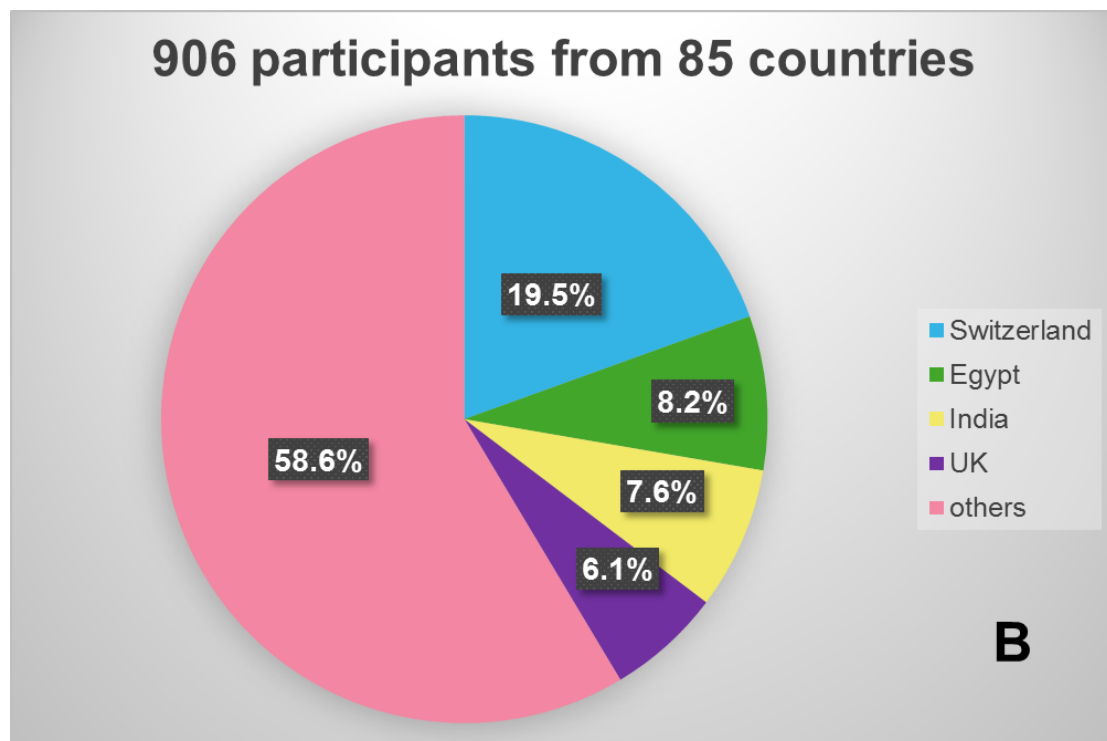


Figure 1B Distribution per country of the participants who completed the survey

Physicians and researchers were mainly working in the fields of orthopedics & traumatology (60%), surgery (10%), and internal medicine (5%). As subspecialty within orthopedics & traumatology, shoulder and elbow surgery (45%), sports medicine (14%), and adult reconstructive (8%) were the most frequently documented. Amongst

the surgeons, general surgery (25%), vascular surgery (18%), and plastic surgery (12%) were the most frequently registered fields. With regard to internal medicine, cardiology (26%), gastroenterology (19%), endocrinology (10%) and oncology (10%) were the most frequently documented sub-specialties (Figures 2A & 2B & 2C & 2D).

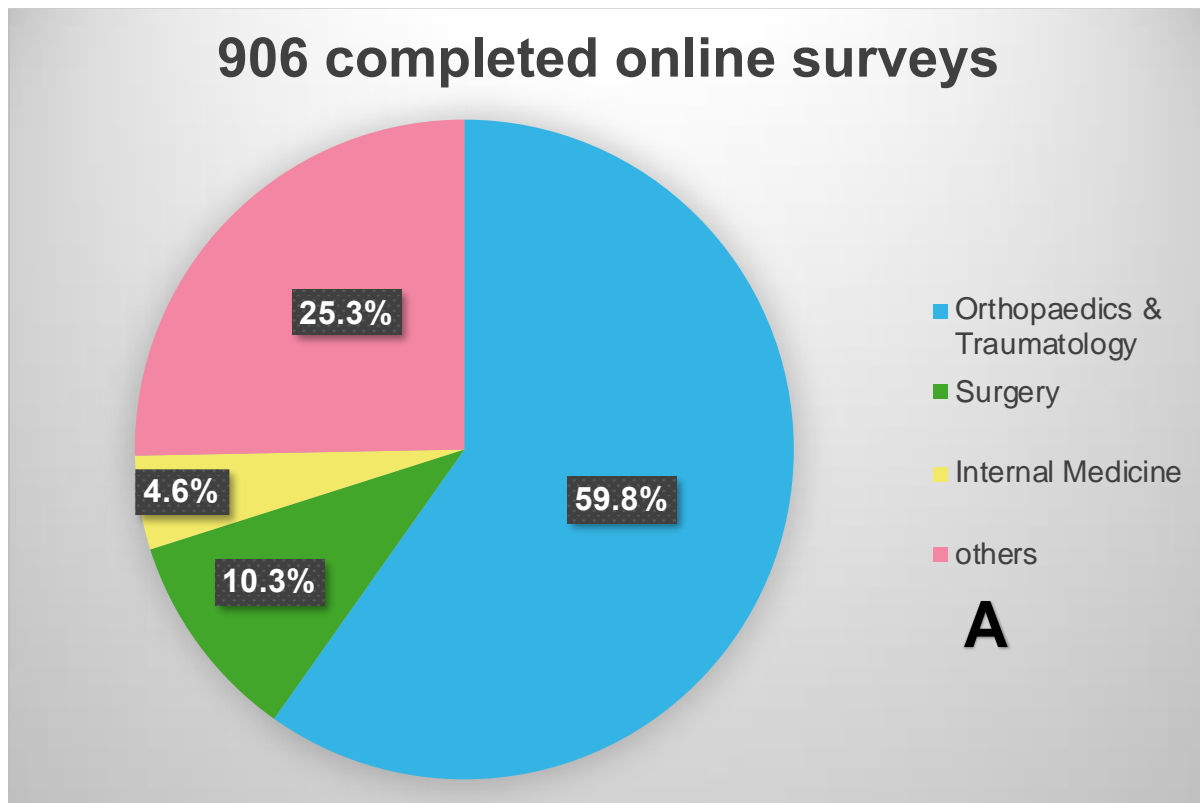


Figure 2A Distribution of specialties amongst all participants who completed the survey

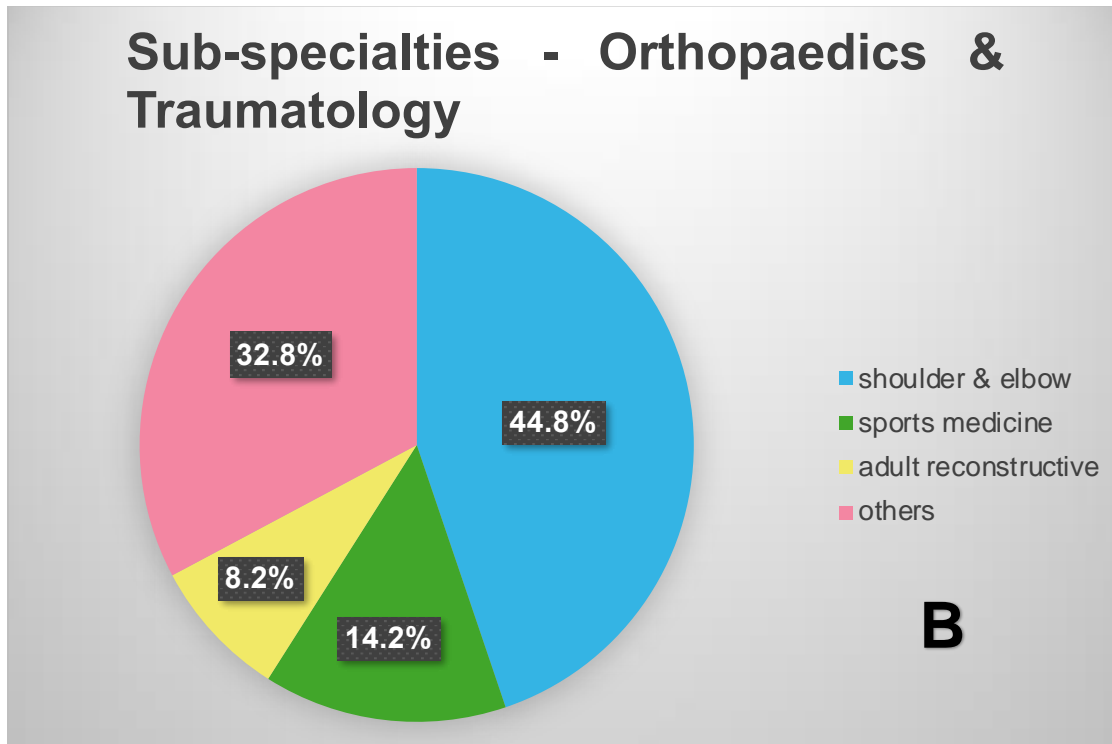


Figure 2B Distribution of sub-specialties within Orthopedics & Traumatology

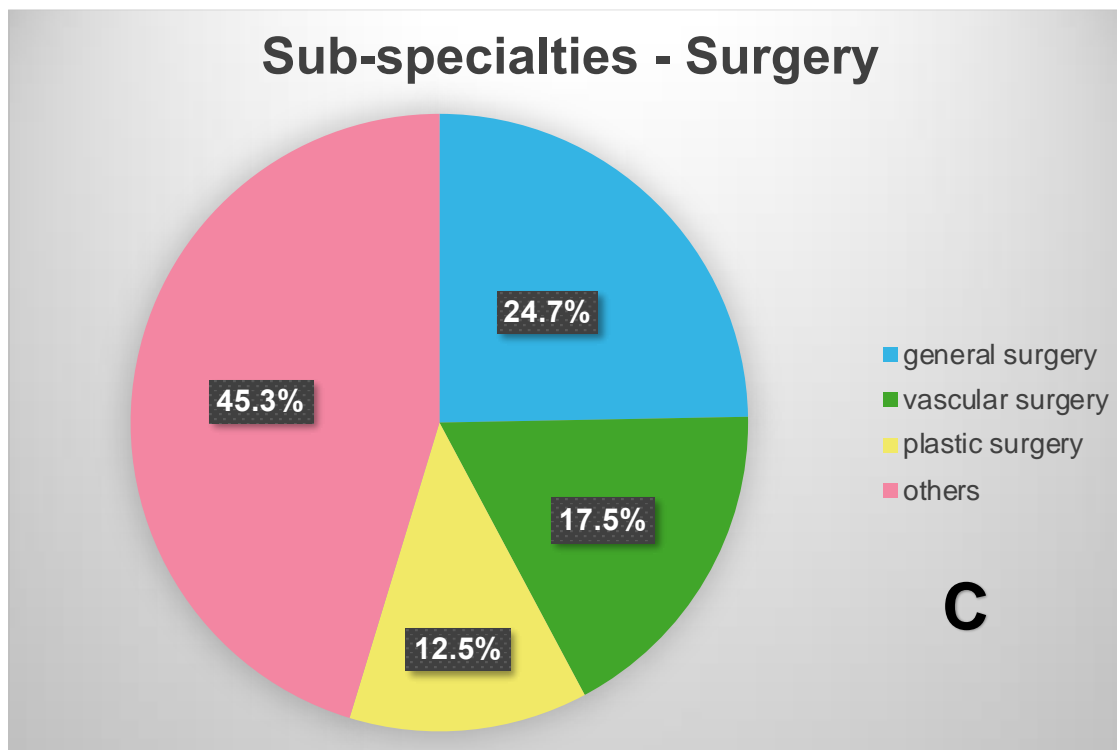


Figure 2C Distribution of sub-specialties within Surgery

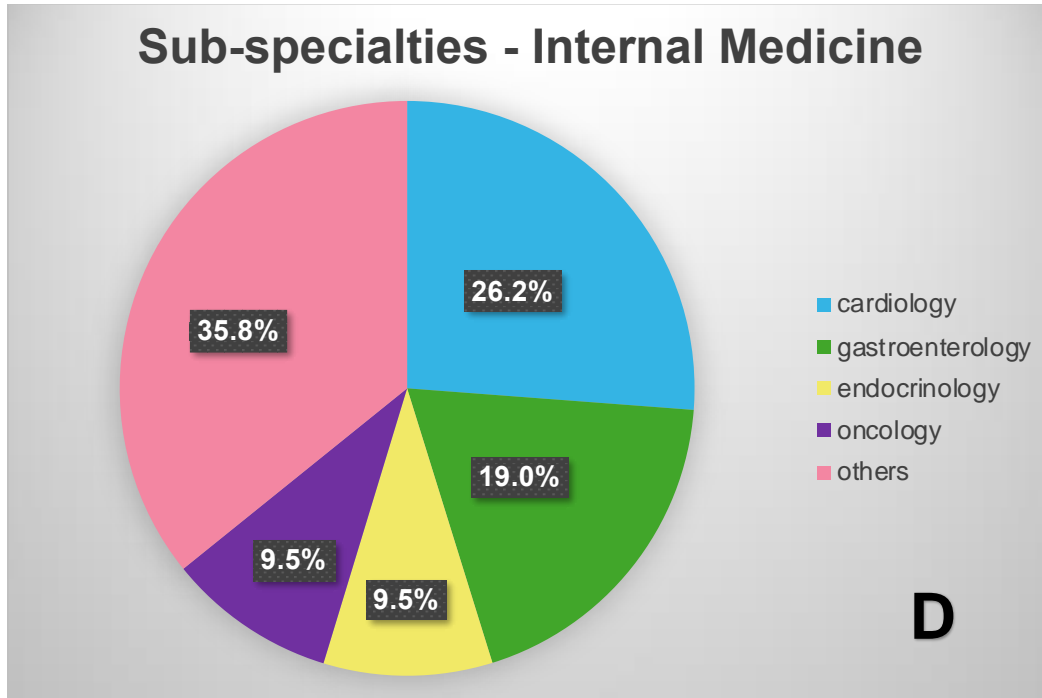


Figure 2D Distribution of sub-specialties within Internal Medicine

Of the respondents, 36% planned to pursue a fellowship, and 32% had previously absolved a fellowship. Furthermore, 17% stated to be individuals and/or institutions

who would like to offer a fellowship (Figure 3). Out of the future fellows, 15% were students.

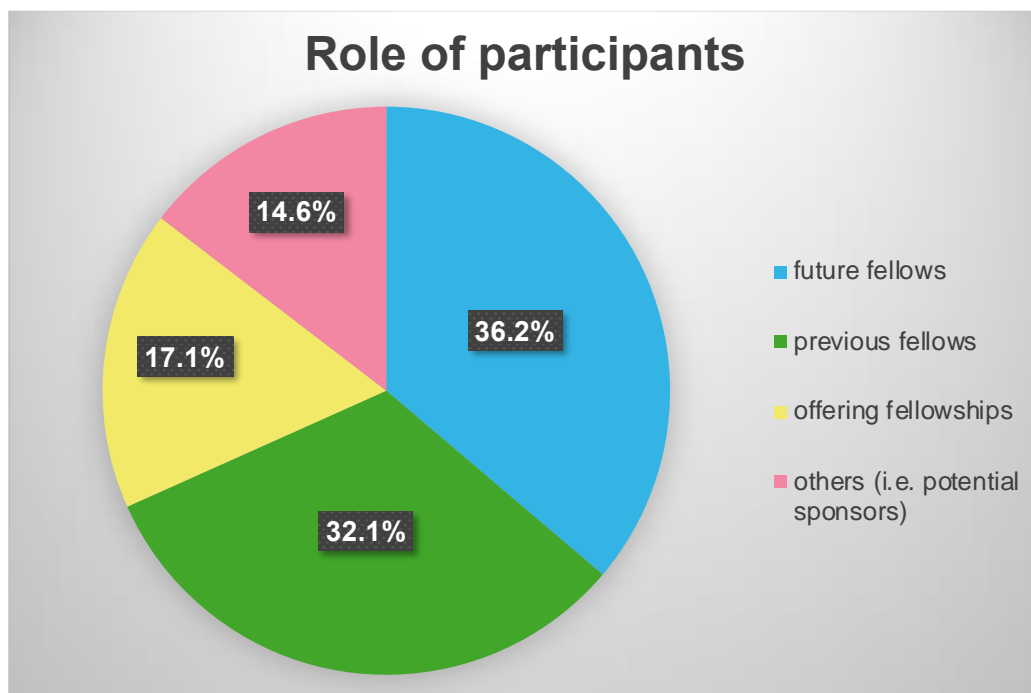


Figure 3 Role of participants

The participants were mainly interested in a fellowship database (69%), connecting to other fellows (65%) and giving/receiving feedback about a fellowship (49%).

Furthermore, 36% of the respondents noted that they would be interested in gaining information about receiving financial support (Table 1).

**Table 1: Which services are you interested in?**

	N	(%)
Worldwide database for fellowships	629	(69.0%)
Networking/connecting to other doctors	585	(65.0%)
Giving/receiving feedback about fellowships	443	(49.0%)
Information about how to receive financial support	330	(36.0%)
Offering fellowships via online platform	239	(26.0%)

## Discussion

This study presents the findings of a worldwide online survey addressing the question of whether there is a need for an international fellowship advisor for medical personnel in general, and for orthopedic surgeons in particular. The results suggest a great interest in an independent online fellowship advisor, including a database for fellowships worldwide, a platform for fellows to connect with the ability to give and receive feedback about a fellowship.

The registered visitors to the website and the participants who completed the online survey mainly originated from Switzerland and Egypt, which simply reflects the social background and the personal contacts of the initiator of this project (TME).<sup>7</sup> The fact that one-quarter of all website visitors came from the US may be explained by the sensitivity of

the US physicians to the importance of fellowship programs. However, these visitors did not complete the survey very frequently. This could be because fellowship training is an established part of the specialty training in the USA, and a matching system already exists. Moreover, residents benefit from residents' advisors and the staff within their academic program who help them finding the right program. The obtained data for this study derives mainly from the European and Asian continent and shows that extending fellowship advisors outside of the USA could be an added value to the training programs worldwide. Out of the future fellows, 15% were students meaning that career planning starts as early as during medical studies.

In accordance with current literature,<sup>5-7</sup> we have found that the topic "fellowship" is of interest mainly for surgical specialties, with



shoulder and elbow surgery again reflecting the personal professional background of TME and sports medicine and arthroplasty representing the most common fields of sub-specialization within the field of orthopedic and trauma surgery in general. Also, vascular and plastic surgery are sub-specialties within the field of general surgery, which require a high level of technical skills and training. Regarding internal medicine, it is the fields that are partly interventional like, i.e., gastroenterology, meaning they also require a certain amount of manual and technical skills.

One-third of our participants stated that they were previous fellows, around one-third said they were potential fellows searching for fellowship opportunities. Their interest in getting the chance to connect to previous and current fellows and to give and receive objective feedback to fellowships seems to be high, and this need is not properly addressed to date. This seems to reflect the known problem that no or little feedback on fellowships is available since there are only few single fellowship reports available. When starting to plan a fellowship, it seems to be difficult for potential applicants to access previous or current fellows.

Furthermore, one-third of the participants declared that they were individuals or institutions who would like to have the opportunity to offer fellowships via a global online platform. This finding is in accordance with current practice in other business fields like gastronomy or tourism (i.e.,

tripadvisor.ch, booking.com, holidaycheck.ch, etc.). However, the global trend to have an independent platform for feedback has not yet reached the field of postgraduate medical training.

Finally, about one-third of the participants were interested in receiving financial support, which matches the current literature regarding the enormous financial burden when applying for and undertaking fellowships.<sup>3, 5-7</sup> Financing a fellowship remains a challenge for many participants. Usually, costs associated with the application and administration process (i.e., visa, work permit) as well as costs for accommodation, living and compensation during the fellowship are covered by the sponsoring scientific society. However, if an applicant is not selected for the desired fellowship or is not a member of that particular society and wishes to organize the fellowship on his own, they have to cover these costs on their own. Again, an independent online fellowship advisor could be of added value with regard to this financial and organizational burden.

The findings of this project built the basis to configurate and launch the online platform [www.myfellowship.com](http://www.myfellowship.com) which connects the fellowship providers with the past fellows and future candidates, in addition to and independently from scientific societies and professional organizations. Since the launch of the website, the platform has been active and constantly growing surpassing 9'500 members in September 2022. (Figure 4). Under guidance of an advisory board and

the support from current fellows, previous fellows as well as fellowship providers, it is updated on a regular basis.

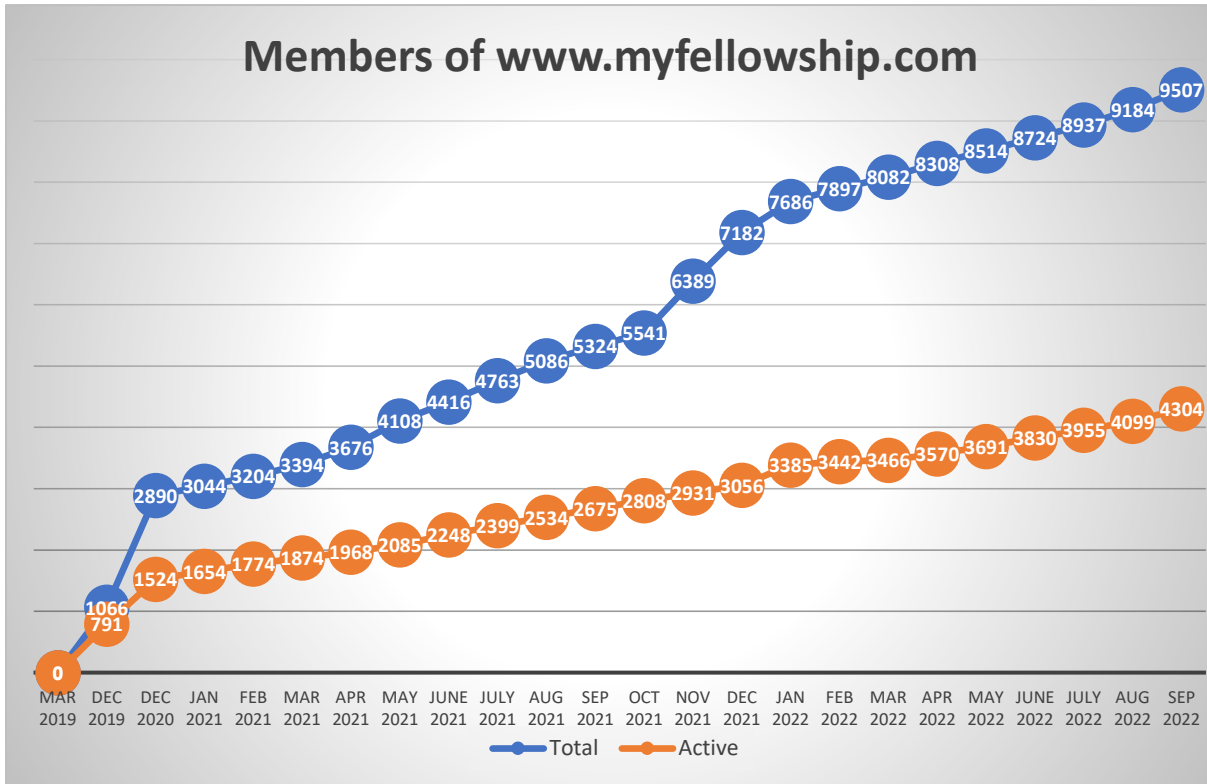


Figure 4 Members' numbers development from March 2019 until September 2022

### Limitations

This study has several limitations. First, we cannot provide accurate information on the response rate due to the nature of the data collection process. To have a worldwide response, emails and social media platforms were used to inform about the initiative. We do not know how many of the 7'435 users visited the website on purpose (i.e., contacts of contacts of the study initiator) or randomly (i.e., visiting the webpage while performing an internet search on other topics). The response rate was low (12%, 906 out of 7'435) but comparable to other voluntary surveys.<sup>11</sup> Secondly, we did not collect basic

demographic data like age, gender, year in practice/residency, number of fellowships already undertaken, etc. However, we obtained 906 respondents over five months with a global distribution. Furthermore, the goal of this first survey was simply to ask for the general interest in a fellowship advisor to set up the corresponding website, and we aimed to keep the survey short to maximize responsiveness to the surveys and avoid incomplete forms. To optimize the offered services on the platform [www.myfellowship.com](http://www.myfellowship.com), further online surveys amongst the currently registered users are necessary.

## Conclusions

The results of the first survey suggest that there is great interest in an online fellowship advisor for international fellowships, including a database, a platform for fellows to connect with the ability to give and receive feedback about a fellowship. Receiving financial support is of interest to one-third of the participants.

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**Conflict of Interests:**

The author declares that no conflicts of  
interests exist.

**Declarations**

**Ethics approval and consent to participate:**

Not applicable

**List of Abbreviations:**

Not applicable

**Availability of Data and Material**

All data relevant to the study are included in  
the article. Details regarding where data  
supporting reported results can be asked at  
the following e-mail address:

[mohy.taha@gmail.com](mailto:mohy.taha@gmail.com)

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**Authors' Contributions**

MET, KS, SAM, NFF participated in the  
acquisition of data, study design and  
manuscript writing. MOG and GC  
participated in the reviewing and editing of  
the manuscript. MS participated in the study  
design. AMM and MS participated in the  
statistical analyses, and AL participated in  
the reviewing, editing and submission of the  
manuscript.

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