The Podcast "Digitization of Medicine" as a Form of Science Communication

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Abstract. The aim of the podcast *Digitization of Medicine* is to interest a broader audience and, in particular, young women, in research and work in the field of medical informatics. This article presents the usage figures and discusses their significance for further research on the success of science communication. By 24/02/2022, a total of 24,351 downloads had been made. There were slightly more female than male listeners, and they tended to be younger. Despite the importance podcast are gaining for science communication, little is known about the respective user group and further research is needed. In this context, this paper aims to help make the effectiveness of podcasts comparable.

Keywords. Podcast, Medicine, Medical Informatics, Science Communication

1. Introduction

As part of the activities of the HiGHmed working group for teaching and training, the podcast *Digitization of Medicine* was launched in 2019. The project HiGHmed [1] is one of the consortia funded by the German Federal Ministry of Education and Research (BMBF) as part of the Medical Informatics Initiative (MI-I). In addition to developing digital learning opportunities, the HiGHmed working group for teaching and training aims to make topics in medical informatics and the goals of the MI-I accessible to a broader public and, in particular, to strengthen young women's interest in areas of research and work in this field. With the increasing digitization of medicine, the shortage of specialists is also becoming more and more apparent. At the same time, the share of women in the field is still in need of improvement, and so the podcast *Digitization of Medicine* intended to appeal to a young female target group. The podcast is based on interviews in which various women primarily from the fields of medicine or medical informatics report on their specific research and work. In this way, potential career paths

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for women are to be outlined and their interest in research into the digitization of medicine is to be awakened.

By the end of 2021, sixteen episodes of the podcast *Digitization of Medicine* had been published in over two and a half years and further episodes are planned. This article presents the usage figures of the published sixteen episodes and discusses their significance for further research on the success of science communication with podcasts.

2. Methods

Each episode of the podcast is conducted as a conversation of a journalist with changing two women working in the field of medicine or medical informatics. The selection of the interviewees and the elaboration of the content of the podcast is done by an editorial team consisting of the authors of this article. The recording, post-production and publication of the podcast are carried out by a professional podcast producer.

The podcast hosting service provides various statistics on the number of downloads of the podcast. In order to examine usage over time, the accesses numbers of the first week after publication are considered, as well as the overall download numbers since publication. Furthermore, the development of the different podcasts is compared at three points in time. Since the figures about the hosting platform do not contain any information about the profile of the users, the statistics about the provider Spotify™ are also evaluated. Here, a distinction can be made according to gender and age.

3. Results

Between 2019 and December 2021, sixteen episodes featuring thirty female scientists and entrepreneurs were produced and published. The first podcast was published in April 2019, the last in December 2021. The interviews were conducted by three different female journalists, with the switch taking place on a yearly basis.

By 24/02/2022, a total of 24,351 downloads had been made via the podcast host. The average download number per podcast for the overall timespan is 1,522 downloads with a standard deviation of 419.8. The podcast with the longest duration attracted the largest number of downloads (Table 1). The podcast with the lowest volume of downloads addressed a very technical topic (Table 1).

Table 1. Overview of download numbers per podcast

No.	Topic related to digitization	Published on	Downloads first day	Downloads in the first week	Total downloads on 2022/02/24
1	medical informatics	30/04/2019	72	364	2866
2	gender equality	29/05/2019	290	441	1518
3	data stewards	26/06/2019	256	400	1415
4	research in a hospital	28/08/2019	284	411	1679
5	healthcare start-ups	25/09/2019	272	431	2046
6	cardiology	27/05/2020	275	436	1320
7	corona pandemic	24/06/2020	264	432	1371
8	medical ethics	26/08/2020	182	343	1310
9	openEHR	04/11/2020	197	403	1063
10	patient involvement	27/11/2020	200	394	1281
11	competencies	27/01/2021	259	471	1544
12	health care	28/04/2021	279	561	1427
13	infection control	30/06/2021	297	558	1363

14	health apps	08/09/2021	350	690	1501
15	patient records	27/10/2021	338	694	1456
16	data collections	29/12/2021	310	584	1191

On average, each podcast episode was downloaded 270 times (standard deviation 48) on the first day of release, – not including the first podcast. In the first week, the average download was 476, with a standard deviation of 108. The analysis of the downloads over time shows that the various podcast episodes are still being listened to in the following years after release. The first podcast was downloaded 2,183 times in the first year, 481 times in the second year and 202 times in the eight months up to latest usage data included in this publication (Figure 1).

The statistics from Spotify™ show that, at 54%, slightly more women than men listen to the podcast. Over half of the listeners are under 28 years old (Figure 2).
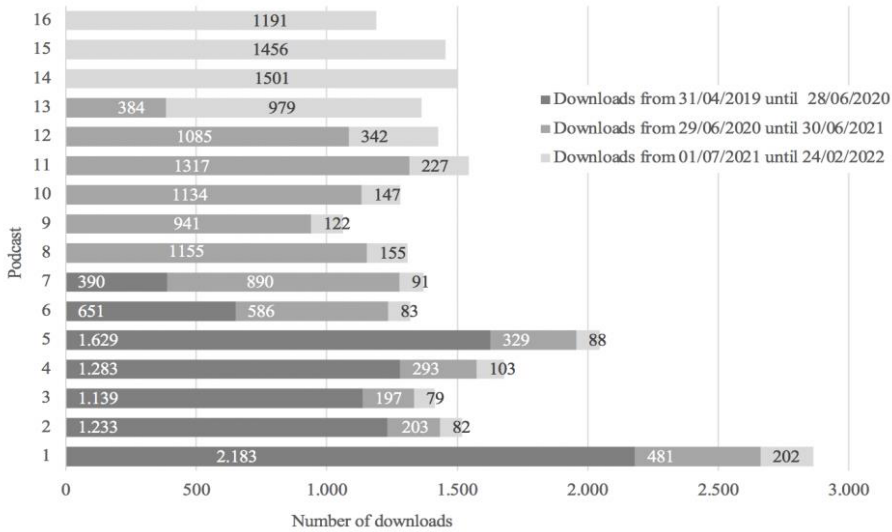

Figure 1. Number of downloads via podcast host since publication of the first podcast until the beginning of 2022 (without listener of Spotify™)
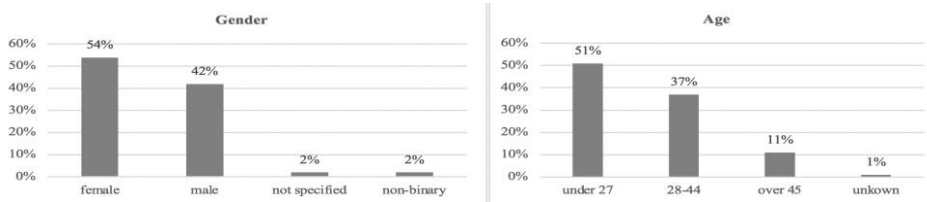

Figure 2. Spotify™ statistic of the podcast *Digitization of Medicine*

4. Discussion

Despite changing topics and interview partners, the podcast shows continuity in terms of download numbers. However, due to accompanying announcements on various social media channels, downloads are highest in the first few days after release. Spotify™'s statistics also suggest that the podcast can promote the interest of young women in medical informatics. However, these figures only refer to listeners who access the

podcast via Spotify™. Also, the under-30 age group is the largest user group of podcasts in Germany [2]. Therefore, the figures must be interpreted with caution.

In the context of science communication, podcasts are gaining in importance [3], as they offer the possibility of reaching a broad public at a low threshold. On the other hand, due to their public availability, little is known about the respective user group. This also distinguishes publicly available podcasts for science communication from podcasts for learning and further education. These are often incorporated into an educational context with a defined target group, so that studies on user behavior and learning success are possible [4]. In contrast, the interpretation of the download figures of a freely available science podcast is more difficult, and there is a lack of numbers that can be used for comparisons to confirm the success of a podcast [5]. In this sense, by presenting the download figures, this article would like to contribute to make the effectiveness of podcasts as a form of science communication more comprehensible and comparable.

5. Conclusions

Podcasts are suitable for reaching a larger audience, but ultimately they are a one-way channel. Even if the listeners take an active role and always make a conscious decision to listen to a podcast, the podcast producer doesn`t know what are their individual interests and motivations. The low-threshold access to podcasts, which distinguishes the medium and thus makes it particularly interesting for broad science communication, also represents a hurdle for scientific evaluation. For the topic of the digitization of medicine, it also seems important to the authors to provide the public with valid information in comprehensible and personalised manner, and thus, in the sense of Contera [6], to contribute to strengthening trust in science as a fundamental pillar of the democratic system. However, there is a need for further research, especially on the identification of user profiles.

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