



## PODCAST ON OPHTHALMOLOGY: A HIGH IMPACT, SUCCESSFUL, LOW BUDGET PRODUCTION

<b>Dr Harikrishnan Vannadil</b>	MBBS is Resident (Ophthalmology), Dept of Ophthalmology, AFMC, Pune, India - 411040.
<b>Dr Sandeep Gupta*</b>	MS is Associate Professor (Ophthalmology & Anterior Segment microsurgery), Dept of Ophthalmology, AFMC, Pune, India - 411040. *Corresponding Author
<b>Dr Vangal K Sashindran</b>	Md is Professor (Internal Medicine & Infectious Diseases), AFMC, Pune, India - 411040
<b>Ar Divya Pillai</b>	B.Arch, Mse is a Freelance voice artist and education enthusiast
<b>Dr Sunandan Bhatta</b>	MBBS is Resident (Ophthalmology), Dept of Ophthalmology, AFMC, Pune, India - 411040

**ABSTRACT** Podcasts have been used by many artists around the world to disseminate their voice to audiences. The content comprises of music, talk shows and lectures. In many countries, there exist a shortfall of medical educators and resource. Podcasts can reach far flung areas with lower bandwidth than videos.

**OBJECTIVE:** To utilise the capabilities of podcasting to disseminate knowledge and help medical students understand ophthalmology topics in a lucid manner.

**MATERIAL AND METHODS:** Starting Dec 2015, thirteen episodes were written by an ophthalmology resident. Script was formalised after thorough study and research. Text was read by the voice artist in a home recording system. Each episode lasted 20 minutes. Recording and editing of each episode took 60 to 90min. The file was uploaded to hosting server with ID3 tags. The podcast featured in iTunes. This process was repeated for all the thirteen episodes.

**RESULTS:** Over a period of 06months, a total of 13 podcast episodes were published which generated 4165 plays till Jul 2017. Highest played episode was 10th episode with 510 plays. Maximum listeners were from USA with 2462 plays (59.11%), followed by India with 428 plays. 52% of listeners were returning listeners. The listeners increased with every new episode. The total downloads were at 101.

**CONCLUSION:** Podcasts on ophthalmology is a successful and well received project. Usage showed a good reception across the globe. The highest listeners being from a first world English speaking country is a proof that the quality in terms of production and content was adequate.

## KEYWORDS :

### INTRODUCTION:

The art of learning in the field of medicine is ever evolving. However, the learners in this highly evolving field are bound by the duty hours and easy accessibility of reliable content crafted for the target audiences(1). Notwithstanding, the requirement to update and revise the knowledge is paramount for effective and fruitful medical practice. Studies have demonstrated a rapid increase in free open access blogs and podcasts pertaining to e-learning in medical science in past few decade(1-3). The increase is commensurate the increased penetration of technology in all spheres of life.

Podcasts have been used by many artists around the world to disseminate their voice to countless audiences. The content thus disseminated comprises of music, talk shows, opinions and lectures. The power of podcast needs to be harnessed for medical education. In many developing countries, there exist a shortfall of quality medical educators as well as resource material. Podcasts have the capability to conduct classes and lectures at far flung areas with a lower bandwidth compared to videos. The acceptance of podcasts among the medical fraternity is on the rise(1).

### OBJECTIVE:

The primary objective of this project was to utilise the capabilities of podcasting to disseminate knowledge and help medical students as well as speciality residents understand ophthalmology topics well, in a lucid manner.

The secondary objective was to attain reasonable quality in terms of production and content with minimal resources and training.

### MATERIAL AND METHODS:

The project started in Dec 2015 in a developing country. The podcasts were written and produced by an ophthalmology resident. So far ten episodes of podcasts have been produced. The script of the content was formalised after thorough study and research of basic ophthalmology

topics from standard textbooks and related literature. Each episode was kept for a duration of 20 minutes to address the attention span of an average medical student. Each script spanned 2000 to 2500 words in descriptive text. The text was refined by a voice artist with experience in delivering audience captivating talks in terms of simplicity in both subject and language. The script was rechecked for its correctness. The text was read by the voice artist in a home recording system. The preparation of each script was completed in less than 07 days.

The content was prepared with the aim of including few sections of important history as well as interesting facts relevant to the topic. Further, attempts have been made to draw analogies to day to day observations and describe easy to conduct experiments.

The home recording system used for these recordings comprised of a simple headset and microphone set (make: Microsoft) connected to a general use office laptop computer (Figure 01). The recording was done using an open source software (Audacity) (Figure 02). The same software was used for audio editing. The recorded raw audio was cleaned of the noises and corrected for pitch. Open source sound files were used to provide light background music. The volume levels were normalised and the final output generated in MPEG version 3 format (mp3). The task of recording and editing was completed in a time frame of 60 to 90 minutes for each episode.

The finished file was uploaded to commercial sound hosting server (soundcloud) with updated ID3 tags. An associated domain name was registered in the name of the podcast channel for directory services. Feedburner service by google was used to generate RSS links for podcast applications. The link was submitted to various podcast directory websites. The technical requirements for listing in iTunes directory was satisfactorily complied with and the podcast featured in Apple iTunes podcast section.

A logo being mandatory for the publishing of the podcast, a full resolution, simple to recreate, logo was designed and added to the files.

The logo was incorporated in all forms of the media namely podcast file, soundcloud, social media, iTunes etc.

This process was repeated for all the ten episodes.

The directory website as well as the sound hosting server was monitored for the usage statistics. The link was also shared with experts in the field of ophthalmology as well as podcasting for the content and quality of production respectively. The link was placed in social media and also circulated by word of mouth.

The participants of this project were not native English speakers nor have they received any professional training in this direction.

**RESULTS:**

A total of 13 podcast episodes were published in duration of 13 months and their performance noted. The 13 episodes of podcasts generated 2990 plays in total till Feb 2017 (Figure 03). The highest played episode was the tenth episode spanning 433 plays (Figure 05). The channel saw the maximum listeners from the USA giving a total of 1667 listeners (55.75% of total) (Figure 04). This was followed by India with 357 listeners. 52% of listeners were returning listeners who came back for additional episodes after listening to at least one episode. Repeat plays were highest with one of the listeners playing ten episodes 17 times in total. With each published episode, the listeners count increased in spikes. Although full downloads were enabled where listeners could download the audio file to be shared among peers, the total downloads were at 89 till Feb 2017.

**DISCUSSION:**

Hosting a podcast although looks complex, it can be achieved with relative ease once the content is developed(1). James Ahn et al has described the methodology in fair detail and simplicity(1). Randomised controlled trials have been implemented with the outcome favouring the use of podcasts for medical education(4). The use of podcasts have been shown beneficial effect in medical education in various specialities and fields(4-9).

**CONCLUSION:**

The current system of medical education which comprises didactic teaching is insufficient to cover the vast syllabus. A vast e-resourcing has been added to the knowledge bank in the field of medicine in the past few decades (10-13).

Audio podcast has been found to be superior to text based resources in the field of Orthopaedics by DA Back et al(4). His study showed a significantly higher gain of knowledge with better satisfaction level on learning from podcasts compared to texts among students (4). A similar result has been demonstrated in a similar study involving nursing students (5). This study among nursing students showed that the students freely accessed the content from multiple locations like car, home & school(5). A study among Canadian Anaesthesia students demonstrated a preference for podcast over other content delivery methods for their ease and flexibility of use(14). However, no specific choice could be delineated between audio, video or slidecast content(14).

The deep penetration of podcasting among medical students and practitioners around the globe is very much evident by the development of various guidelines, scoring systems and recommendations by various authors previously(1,3,15-18). However, these content being highly personalised, implementation of a uniform code is beyond scope.

The podcasts published on the basic topics in ophthalmology is a successful and well received project. Analysis of usage statistics revealed a good reception of the content across the globe. Although produced in a non-English speaking country by students and amateurs in the field, the podcast had a good listener base. The highest listeners being from a first world English speaking country is a proof that the quality in terms of production and content was adequate.



Fig 01: Microsoft Lifechat LX3000

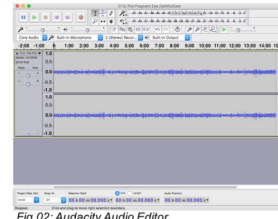


Fig 02: Audacity Audio Editor

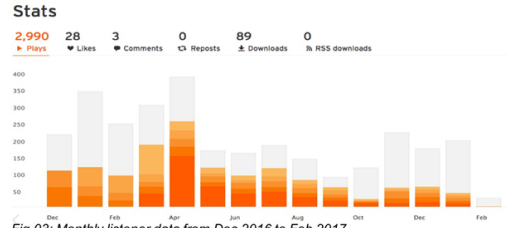


Fig 03: Monthly listener data from Dec 2016 to Feb 2017



Fig 04: Country wise breakup of listeners

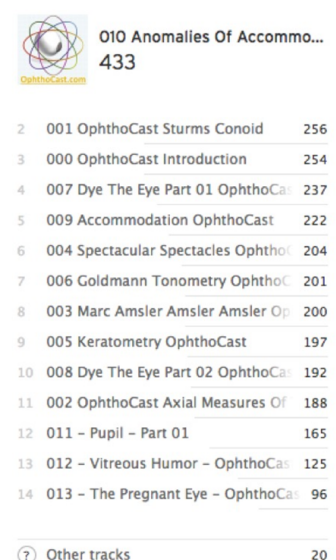


Fig 04: Episode wise breakup of listeners

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