



# Guiding Residents for Literature Searches and Reference Management for their Theses: Showcasing the Urgent Need for Training, in a Developing Country

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### Background:

The author who is the Founder of QMed Knowledge Foundation, gained some insights over several years of interacting with Medical Postgraduate (PG) Faculty, and students, about their discomfort in the domains of literature searching and managing references. This was further strengthened from feedback solicited in QMed's workshops, where the most common input was "I wish I had learned this when I did my PG thesis."

### Problem Statement:

In a developing country like India Medical Postgraduate (PG) Students are required to write a research protocol, conduct and submit a thesis towards a PG degree. However, very few of them are exposed to systematic learning of literature searching and reference management techniques.

### Objectives:

To assess if a standardized training module in literature searching and reference management, supplemented by individualized guidance can help PG students in gaining these skills to write a better theses.

### Methodology:

This is a training intervention study called "The 100 PGs Project" conducted by QMed Knowledge Foundation, Mumbai, India.

The target sample size is 100 PG students. This is an interim analysis of 31 PG students who have been trained across five workshops. They were recruited by inviting applications through personal contacts, social media and by contacting the heads of medical institutions with residency programs. Every participant would go through a one day hands on workshop on "PubMed" for Literature Searching and "Mendeley" for Reference Management. A semi-structured, pre-post questionnaire was used for the training intervention assessment.

Each participant would have further access to additional help from the trained program instructors for his/her thesis topic, either personally, over the phone, email or short Skype sessions.

Funds for this project were first raised through crowd sourcing in October 2016. The 100 PGs Project started in Jan 2017 and is likely to be completed in 2018. At the end, participating PG students and their PG guides will be invited to fill a short survey indicating their satisfaction with the resident's literature searching and referencing skill development.



### Study Areas So Far:

- A- Grant Medical College
- B- Topiwala Nair Medical College
- C- Seth G.S. Medical College
- D- Tata Memorial Hospital
- E- Lokmanya Tilak Medical College
- F- MGM Medical College

Most students were from the above institutions, but the program is open to all PG students from Mumbai

### Unique Funding Model:

India has a unique festival - "Daan Utsav" meaning "Festival for Donating". This is observed between Oct 2 and Oct 8 every year. It is for encouraging giving, and charities use this week for active fundraising.

QMed mobilized funds for this project in Oct. 2017, through "ImpactGuru" - a crowd-sourcing platform in India, which had a tie up with "GlobalGiving" - a US based platform.

QMed asked donors to give in multiples of Rs. 500/- and set a target of Rs. 250000 (Rs. 500 \* 500 people). In the seven days of Daan Utsav, QMed raised Rs. 2,39,000 from 110 separate donors. (We raised some more post Daan Utsav, having got a special privilege time extension). We also got a bonus of \$650 from GlobalGiving. The minimum individual donation was Rs. 500 and the highest was Rs. 50,000.



"These are a must for anyone entering a PG curriculum as we are expected to decide our thesis topics within six months, without even knowing anything about literature search or referencing. It gives us a direction on how to take the first step"

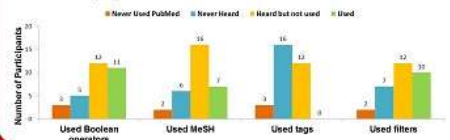
- A Training Participant

"This is unique and very essential workshop that every Resident should undergo. Vasumathi has been conducting these workshops with passion and dedication. I wish her and all participants the very best."

- Dr. Avinash Supe,  
(Director Medical Education and Research)

### Results: Baseline Assessment

In this ongoing project, we have so far trained 31 PG students through five workshops held between January and March 2017. The interim results are presented here. Around 10% of participants had never heard of PubMed or Mendeley and another 40% had never heard of terms like Boolean operators, MeSH terms, tags or filters. When given simple exercise topics for literature searching, more than 70% participants ended up writing the phrase as it is, as their search terms, without using the technical search options in PubMed [Fig 1]. Similarly, only around 12% participants reported using some reference management software for compiling literature. 50% of them said that they would manually copy paste article metadata for the purpose of compilation. The rest had never tried compiling results.

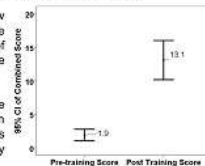


### Results: Post Training Assessment

Participants were given three exercise questions as follows:  
#1: Search articles for Vitamin D deficiency in the aged (scored out of 15)  
#2: Search articles written by Dr. Barry Marshal (scored out of 5)  
#3: Search articles published in the journal "CHEST" (scored out of 5)

The baseline combined score was very low at  $1.9 \pm 2.4$ . This however increased by more than 10 times to a combined score of  $13.1 \pm 8.0$  thus showing considerable improvement [Fig 2].

Knowledge regarding reference management also increased by more than 10 times, with more than 50% participants correctly identifying various Mendeley features.



### Discussion:

This study indicates that a standardized training intervention module has the potential to improve literature searching and reference management skills, thereby helping postgraduate students in improving the quality of their theses work and research output. The post training support can reinforce their learning, thus providing strengthened skills that would help them long term. There are many challenges the program encounters; difficulty for PGs in getting a day off for a workshop, non-availability of facilities / internet support during weekends, and more.

### Conclusion:

There is an urgent need to train medical postgraduate students in literature searching and reference management. A focused standardized training methodology can help in bridging this knowledge gap and help to improve the quality of research output. Very importantly, residents will save precious time, in a country where the doctor-patient ratio is very poor.

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-Dr. AKH Goel, Senior Resident/AIMS, Delhi, for his regular advice for the program and full support for this poster

To follow the progress of this workshop – do check out  
[www.qmed.ngo/100pgs](http://www.qmed.ngo/100pgs)

