

AN ANALYSIS OF RESEARCH PROPOSALS AND CHALLENGES FACED BY POSTGRADUATE TRAINEES IN INTERNAL MEDICINE AND ALLIED DISCIPLINES DURING FELLOWSHIP TRAINING PROGRAM: A QUALITATIVE STUDY

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ABSTRACT

OBJECTIVE: To analyze the research proposals and challenges faced by postgraduate fellowship trainees in internal medicine and allied disciplines when writing a proposal.

METHODS: The study was undertaken at the Department of Medicine, Lady Reading Hospital, Peshawar, Pakistan, from October 2013 to December 2014. This qualitative, grounded theory approach analyzed research proposals for dissertation of 32 postgraduate fellowship trainees of College of Physicians and Surgeons Pakistan (CPSP) in internal medicine and allied disciplines. Later, we triangulated our results with a focus group discussion amongst 10 postgraduate students who had completed their synopses.

RESULTS: The number of attempts needed for correction of various components of 32 research proposals ranged from 2-11. The challenges found were related to; research methodology, formulating research questions/hypotheses, setting the background/introduction section, proforma making for data collection, objectives and references writing. About one third of the students found difficulties when writing an appropriate proposal title for their dissertation. From the focus group discussion, a total of six codes emerged after thematic analyses, which were later grouped under four categories. Three themes were deducted from these categories and were related to supervisors, CPSP and students.

CONCLUSION: Most of postgraduate fellowship students, had issues in preparing research proposals for dissertations, mainly due to lack of support from supervisors and CPSP. Therefore, CPSP needs to organize more research methodology and medical writing workshops for supervisors and students and to establish well equipped research facilitation centers and research mentorship in each hospital to help the students complete their synopses and dissertations.

KEY WORDS: Analysis (MeSH), Synopsis (Non-MeSH), Postgraduate trainees, Medicine (Non-MeSH), Fellowship (MeSH), Training (Non-MeSH), Mentor (MeSH), Grounded theory (MeSH), Documentary analysis (Non-MeSH), (Focus Group (MeSH)).

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INTRODUCTION

Researchers face many challenges during a research process in medical sciences. The most important is choosing the right topic, choosing the right methodology, assembling a research team, finding study participants, staying motivated, working a plan, and dealing with the data.¹ The most significant but underused component of a research endeavor is to find an appropriate mentor who can help the researcher in most of the aforementioned steps.^{2,3} Starting a whole new project will need a design or sketch, which in scientific terms is called a research proposal.⁴

The College of Physicians and Surgeons Pakistan (CPSP) is one of the major institutions that promote postgraduate medical education programs and award fellowships in more than 60 disciplines. CPSP is striving to promote a culture of research in postgraduate medical students, and for this purpose, has incorporated a mandatory proposal submission followed by dissertation in clinical subjects related to each discipline. The process of proposal evaluation consists of approval of research topic by the regional center staff, proposal writing by the students, its evaluation at the regional center by a committee & epidemiologist, and finally, evaluation at the CPSP central office for final acceptance or rejection of the proposal. CPSP is also arranging mandatory workshops related to research methodology and dissertation writing for both students and supervisors.⁵ CPSP has made it mandatory for students to start the process of proposal writing only after they attend a mandatory workshop in academic writing and dissertation

preparation. Recently, CPSP announced committees of supervisors in all the regional centers to facilitate the students locally during their proposal writing. One of the authors was selected as a member of the committee for students of internal medicine and allied disciplines and thus became aware of the challenges faced by the students during all these processes.

There is a need to conduct a detailed documentary analysis of all the electronic data of these proposals to establish the challenges faced by the students when writing these. This will inform on the arrangements required to enable the students to be efficient and effective. This might include arranging more workshops for students and supervisors, so as to improve the process and skills of students in proposal writing.

Writing a proposal is considered to be a taxing job for the students and in some instances even for their supervisors. This research has identified the answer for the research question, "what are the challenges faced by the postgraduate students in internal medicine and allied disciplines while writing a proposal for dissertation?" The objective is to analyze the research proposals and challenges faced by postgraduate fellowship trainees in internal medicine during synopsis writing.

METHODS

The study was conducted at the Department of Medicine, Lady Reading Hospital, Peshawar, from October 2013 to December 2014.

Type of research: A qualitative grounded theory approach was used for the documentary analysis of data of 32 students for preparation of synopsis writing. A triangulation strategy was used to validate the data by having a focus group discussion with trainees. Ethical approval was granted from the institutional ethics board.

Inclusion criteria: The data was collected from emails and focus group

discussion (FGD) facilitated by the researchers. We included the e-mails data shared between students and the members of the review committee who were preparing their proposals during the last year. For the FGD, only those ten students, from the discipline of Internal Medicine and allied, were selected whose proposals had been approved by CPSP. We facilitated an FGD in the department of Medicine in Lady Reading Hospital, Peshawar.

Data collection instruments: During the process of checking, students sent prepared proposals for checking to the researcher (who was also working as a mentor for the students) via email and received a reply after thorough checking. A total of 32 synopses were evaluated before sending them to the CPSP for approval.

Data collection and analysis: Evaluation was done according to the CPSP guidelines. The evaluated components of the synopsis were; title of the research, introduction, reference quoting methods and reference writing style, research question, research hypothesis, objectives, research methodology, operational definitions, variables of interest, inclusion and exclusion criteria, data collection and analysis, application of statistical tests and data collection proforma. Each component of the proposal was evaluated for the number of times taken for the individual component to be corrected by the students after given guidance and detailed description of weaknesses and flaws during preparation of proposal.

Triangulation: The documentary analysis was triangulated using an FGD amongst the participants who were asked an open-ended question, "What are the hurdles faced by you in preparing a research proposal?" This question was pilot tested with postgraduate trainees of the department of Medicine before being used in this research.

The FGD lasted for almost one hour. The whole session was audio recorded

and transcribed later. The transcribed data was color coded during thematic analysis.

RESULTS

Thirty-two documents belonging to different participants were analyzed. The folders, the number of attempts made by each student to correct the proposal and the details of corrections required by each student regarding different components of their proposals are shown in the Table I. The number of attempts made by the students in correcting their proposals ranged from 2-11. The last row of the table shows the number of students who sent their individual components of proposals and was found "not up to the mark" in the first attempt (which was later on corrected in different attempts). The weaknesses which were found (in descending order of frequency) were: in research methodology, research question, research hypothesis, introduction writing, proforma making for data collection, objectives and references writing. About one third of the students could not write the appropriate title for dissertation proposal.

Ten postgraduate students of internal medicine participated in a focus group discussion for triangulation of study findings. A total of six codes were identified that were colored during the coding process. The codes were then analyzed and four categories were identified. These were related to the supervisors, students, CPSP, and basic prerequisites for research like computers, Internet facilities and libraries. The categories were collated under three themes. These themes were issues related to supervisors, CPSP and students. The representative statements for the three themes are given below, and the details are shown in Figure 1.

Supervisors' Issues

"First of all the main issue is topic selection, and second, lacks of support from our supervisors. I would

TABLE I: THE NUMBER OF ATTEMPTS MADE BY STUDENTS FOR CORRECTING DIFFERENT COMPONENTS OF A RESEARCH PROPOSAL

No. of participants	Title	Introduction	References	Research question	Research hypothesis	Objectives	Research methodology	Proforma	Number of times research checked
1	✓	✓	✓	N	N	✓	✓	✓	2
2	✓	✓	•	N	N	✓	✓	✓	3
3	✓	✓	✓	N	N	✓	✓	✓	11
4	✓	✓	✓	N	N	✓	✓	✓	5
5	•	•	•	N	N	•	✓	✓	3
6	•	✓	•	N	N	•	✓	•	2
7	•	✓	•	N	N	•	✓	✓	5
8	•	•	•	Y	Y	•	✓	•	2
9	•	•	✓	—	—	•	•	•	2
10	•	✓	✓	—	—	•	✓	✓	5
11	✓	✓	✓	N	N	✓	✓	✓	7
12	✓	✓	✓	N	N	✓	✓	✓	4
13	•	✓	•	N	Y	•	•	✓	2
14	•	✓	✓	N	N	✓	✓	✓	2
15	•	•	•	N	N	•	✓	•	6
16	✓	✓	•	N	N	✓	✓	•	4
17	•	✓	•	N	N	•	✓	✓	2
18	•	•	•	N	N	•	✓	•	2
19	✓	✓	✓	N	N	✓	✓	✓	4
20	✓	✓	✓	N	N	✓	✓	✓	4
21	•	✓	•	N	N	•	•	✓	2
22	•	•	✓	N	N	✓	✓	✓	9
23	•	✓	✓	N	N	✓	✓	•	4
24	•	✓	✓	—	—	✓	✓	✓	4
25	•	•	•	N	N	✓	✓	✓	2
26	•	•	•	N	N	✓	✓	•	2
27	•	✓	•	N	N	•	✓	•	7
28	✓	✓	✓	N	N	✓	✓	•	3
29	✓	✓	✓	N	N	✓	✓	✓	3
30	•	•	•	—	—	•	✓	•	2
31	✓	✓	✓	—	—	✓	✓	✓	3
32	•	•	•	N	N	•	✓	•	2
Total	12/32	22/32	16/32	27/32	25/32	18/32	29/32	20/32	Av: 3.72

✓ : Corrections needed

• : Corrections not needed

— : Not applicable

N : Not done (mentioned)

Y : Done (mentioned)

Range of attempts: Minimum: 2, Maximum: 11

Mean: 3.7

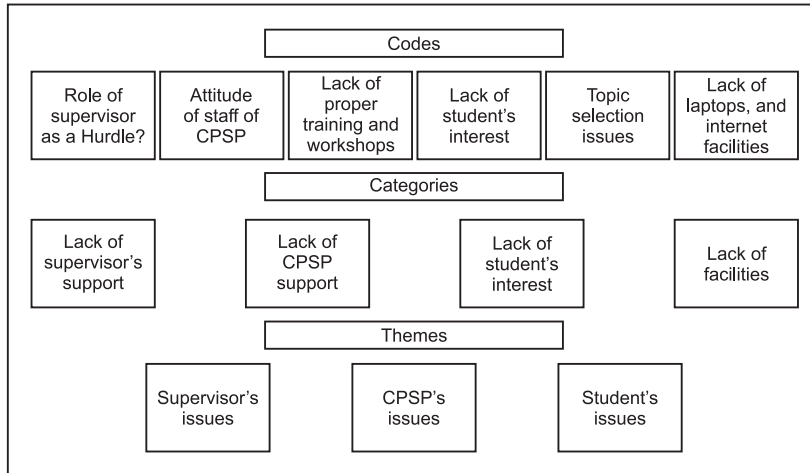


Figure 1: Thematic analysis of qualitative data of focus group interview

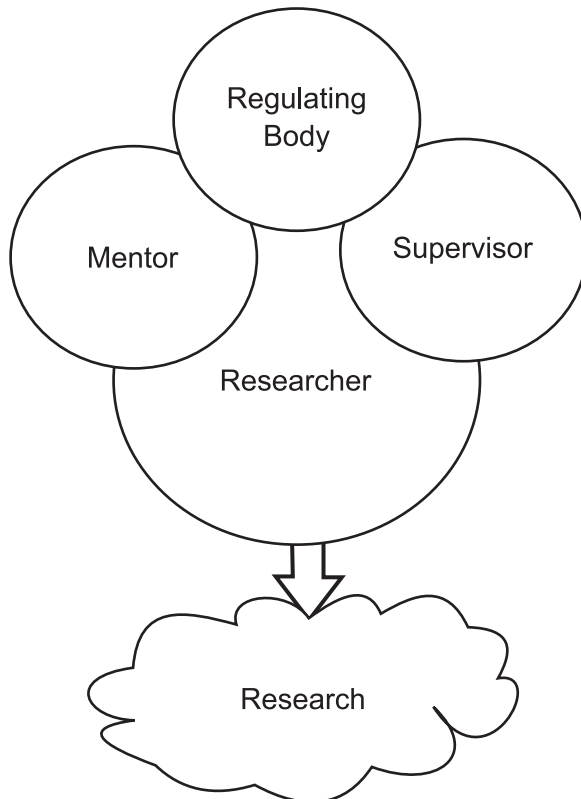


Figure 2: Emerging theory highlighting the impact of three themes influencing the researcher during a research process

like to add, that mentors should be allotted in each hospital to help the students at the earliest” (PG student Medicine).

CPSP Issues

“I attended a 3-day workshop on dissertation writing by CPSP, which happened 3 years ago, and it’s now looking useless, as I have forgotten.

I was not interested in research at that time, as I had to start my research after joining my subspecialty. So this workshop should be held for subspecialty trainees after they join their specialty, not at that time. And 70-80% of synopsis writing should be done during that workshop. There is no need to just give the theoretical knowledge.

That workshop should be utilized for topic selection, and preparing our synopses. Secondly, there should be a Research Facilitation Center in every hospital; every trainee should be given free access to that place. Thirdly, when we go the CPSP, the staff’s attitude is not appropriate, and we have to wait for months just for a single issue there. So the staff of CPSP should be supportive” (PG student Neurology).

Students’ Issues

“Main hurdle in writing my synopsis was selecting the right topic. There was lack of interest on my behalf and on my supervisor’s behalf. Moreover, there are some softwares and instruments, which we are not able to afford during a research” (PG student Cardiology).

“There are many deficiencies on part of the students, as we don’t take interest in research. The reason for this is probably neither the supervisors nor students are aware of the basics and significance of research. And we take our dissertation as just fill in the blanks type of issue” (PG student Medicine).

DISCUSSION

This qualitative research aims to highlight the issues related to writing a proposal for dissertation during postgraduate training. The CPSP is striving to train the students for good quality research and for this purpose has made completing the dissertations mandatory. Similarly, the CPSP has started the program of mandatory research training workshops for students as well as the supervisors. But despite this, the students are finding it difficult to conduct good quality research and then writing it in the form of a dissertation. From topic selection, to writing dissertation, they face challenges within themselves, from the supervisors, and even from CPSP. This research has highlighted these challenges.

A study conducted in Tanzania reported similar result as ours.⁶ It revealed un-clarity in 71% of titles (about 30% in our study), unsatisfactory introduction in 33% of cases (66% in our study), unclear objectives in 70% (similar to our research), and inappropriate research methods in 33% of proposals (unclear in 90% in our study).⁶ A similar qualitative study as ours reported student's mistakes in writing the proposal. For instance, broad and unclear topics, failure to state the problem, failure to identify the gap in the literature, use of wrong methodology, misunderstanding research terminology, wrong referencing style and plagiarism.⁷ The challenges which students faced included: unavailability of lecturers for consultations, negative comments from supervisors and limited time to write the proposal, lack of materials and lack of co-ordination between students, supervisors and regulating organizations. Our study revealed almost the same issues and problems faced by the students.

The role of mentor has been highlighted in the process of proposal writing. The mentor can help the student to select a topic, write the proposal and ultimately conduct the research. The mentor can be the supervisor, peer, or some other person trained in the research. The expectations of students from a mentor are to be caring, giving, non-exploitative, interested, supportive, organized and accessible.^{8,9} Another study highlighted the importance of group of mentors, mentor networks and peer mentors and not just a single mentor during a research process.¹⁰ Some institutions have started training mentors for their research programs.^{11,12}

After analyzing the electronic data of these students and the results of FGD, it can be deduced that the postgraduate students in internal medicine face many problems when writing a proposal. There is lack of facilitation from their supervisors either due to their busy schedule and duties, lack of interest, or due to lack of training on part of the supervisors. The

performance of the staff of the regional center of CPSP does not meet the satisfaction of the students and they are finding it difficult to cope with the issues of their proposals and dissertation writing. The research related workshop, which is conducted by the CPSP, is providing little help to the students. Many students are also not taking the research seriously and consider it as irrelevant or not important. At the end of postgraduate training, they find it difficult to complete it, and sometimes they face the problem of delay in appearing in fellowship part-2 examination.

Many students face the problems of lack of internet, laptops and library facilities, which becomes a reason for their delay of completion of research. Students also need a research facilitation unit in each hospital, and proper mentors to help them in issues related to conducting research and writing synopses and dissertations.

The role of a mentor has been highlighted during this study. Some of roles that a mentor can play in this regard are to provide technical, moral and social support to the researchers. Examples include idea creation for selecting a topic, correcting proposals, proforma creation, data collection and literature search etc. This can be depicted as shown in the Figure 2. The emerging theory shows a thematic flower having roots in the form of research as a product, a stem showing the link between the researcher and the research, a big petal showing the researcher, and three small petals showing the supervisor, mentor and regulating body. Note that the regulating body has much less role as compared to the other two. However, the researchers, supervisors and mentors need to work under the influence of the regulating body, as this will define the rules and guidelines for the research. Due to the contextual nature of the qualitative research, we cannot claim that the findings of this study are transferable to other settings. However,

the study provides a general insight into the issues and challenges faced during proposal writing by the postgraduate students.

CONCLUSION

Most of postgraduate fellowship students, had issues in preparing research proposals for dissertations, mainly due to lack of support from supervisors and CPSP. Therefore; CPSP needs to organize more research methodology and medical writing workshops for supervisors and students and to establish well equipped research facilitation centers and research mentorship in each hospital to help the students complete their synopses and dissertations.

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CONFLICT OF INTEREST

Authors declared no conflict of interest

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FA: Concept & study design, acquisition analysis and interpretation of data, drafting the manuscript, final approval of the version to be published

UM: Drafting the manuscript, critical revision, final approval of the version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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