Study 2: Qualitative study

Study 2: Qualitative study: An investigation into the integration of EBP and its steps in Physiotherapy education.

5.1 Objectives:

1. To know the opinions and views of senior Physiotherapy faculty about research component of EBP/ or its steps.

5.2 Study design: Qualitative study with Grounded Theory approach using in-depth semi-structured interviews.

This section describes qualitative research design and Straussian grounded-theory research design in particular and presents a rationale for using this design.

5.2.1 Rationale of Qualitative study design:

Qualitative research using Grounded Theory methods as described by Strauss and Corbin were used to fulfill the aims and objectives of this study. Qualitative Research is primarily exploratory in nature. It helps to achieve an in-depth understanding of peoples’ opinions, behavior, and the underlying reasons for their actions. It provides insights into the real problem or helps to dive deeper into the problem to understand the meaning. Qualitative methods are best for answering many of the why and how questions. Qualitative data collection methods include focus groups (group discussions), individual interviews (structured/ unstructured), and observations.\(^{70,71}\)

In this study we have used qualitative methods as integration of training of EBP is a poorly understood phenomenon in Indian Physiotherapy programs. There is absence of any literature on this and hence a qualitative design will help in gaining in-depth understanding of the same.

**Grounded theory (GT)** is a qualitative methodology which involves gradual building of theory through systematic data collection and analysis of
data. Grounded theory is an inductive process. A study using grounded theory is likely to begin with a question, or even just with the collection of qualitative data. Collection of data and its analysis happens simultaneously. The collected data is reviewed again and again, and repeated ideas, concepts or thoughts become evident, and they are then tagged with codes, which have been extracted from the data. Further as more data is collected, and re-reviewed, codes can be grouped into concepts, and then into categories. These categories may become the basis for new theory. Unlike other research methods a grounded theory approach begins with no previous understanding of the phenomenon which is under study. So there is no hypothesis or theory applicable to the problem which is being studied. 73-78

Straussian Vs Glaser GT:
Grounded Theory was introduced in 1967 and it has developed as a method which helps in getting solutions by understanding the problem from the perspective of human nature. The method has led to the formation of two schools of thought, the Glaserian School and the Straussian School. 80

As per the Glaser school of thought the research question in a Grounded Theory study is not in the form of a statement that identifies the phenomenon to be studied. Also it does not agree with doing a literature search prior to the beginning of the study. It rather advices to conduct a literature search after completing the study and to derive more theories by comparison. In contrast, the Straussian School of thought permits a prior literature search depending on the research question and allows emergence of theory from the data. 72, 80

In the context of this study; Grounded Theory was used as the aim was to discover and not test any hypothesis or concept. It was necessary to understand why evidence based practice was not systematically utilized in Indian physiotherapy programs, thus, a qualitative study to understand the phenomenon behind this using
grounded theory approach was the best study design. It was led by well defined research questions and we also conducted a literature search to find out the details about our problem. Hence, the Straussian concept was considered to be more appropriate to our study.

Semi-structured interviews are a method of data collection which is closely associated with Grounded Theory. They involve one on one interviews which are guided by an interview guide. Open ended questions are asked and the interviewer can ask follow up questions to know details or explore new avenues which emerge during the interviews. Interview guides are altered according to the results of the previous interview.

In semi-structured interview, depending on the direction of the interview the order of the questions can be changed. Though an interview guide is used, additional questions can be asked. Corbetta (2003) explains semi-structured interviews as follows:

1. There is a freedom to change the order of the questions and the wordings of the questions.

2. The interviewer is free to conduct the conversation as he thinks suits the situation, in his own words, giving explanation and asking for detailed clarifications.

3. It is the strength of semi-structured interviews that the interviewer or researcher can prompt and probe deeper into the question. In addition, the researcher can give explanations or rephrase the questions if respondents are unable to understand the questions.

We used semi-structured interviews in our study to get a deeper understanding of the subject by asking probing questions to gain in-depth understanding.

**5.3 Method**
Preparation for semi-structured interviews included drawing up a “theme guide” which is a list of themes that need to be discussed. This guided the direction of conversation.

Interview (Theme) Guide: Discussion was based on the following themes

- Opinions and views about EBP in Indian set-up
- Physiotherapy Research development
- Integration of the research component of EBP & its 5 steps in physiotherapy education/ clinical training
- Implementation of research component of EBP in clinical practice
- Workforce creation for implementation of EBP
- Faculty development and research engagement

Participants:

Purposive theoretical sampling technique was used. Purposeful sampling is the process of recruiting participants who appear to be valuable sources of information, as opposed to a random sample.

Participants were purposively selected on the basis of:

1. they being in lead roles in their Institutes/ University like Directors/ Principals/ Heads;
2. being a member of Board of Studies and involved in Physiotherapy curriculum planning;
3. participants ready to share their views and contribute richly to the subject.
Informed consent was obtained from all participants. All interviews were recorded using a Sony camcorder (Sony HD, HDR-CX200) and later transcribed. Transcription involves careful and detailed listening or observing of the interviews. Converting audible talk into written words which are readable and meaningful requires reduction, interpretation and representation. Recorded talks are transcribed into written documents so that they can be further studied in detail, and coded.

A software called ‘Audacity’ version 2.1.0 was used to alter the tempo (slow it down) of the conversation. This helped in writing notes. Data collection and analysis process was simultaneous. Semi-structured audio recorded interviews allow going back repeatedly to the data to check emerging themes. Sample
adequacy was determined by theoretical saturation.\textsuperscript{86} Theoretical saturation for this study was after 14 semi-structured interviews.

The codes, concepts and emerging themes were analyzed to help in developing a theory. Data from individual interviews was collected and analyzed simultaneously to constantly look for new information generated. Later these codes and concepts were used as basis to design a module on EBP.

\textbf{5.4 Results:}

Data was analyzed using thematic analysis of the semi-structured interviews conducted.

The members interviewed had a mean age of 54.64 (± 7.2) years. The professional experience of teaching of 11 members was more than 25 years and of 3 members was less than 25 years with the range of experience being 14 years to 43 years.

The focus of the interviews was opinions and views of senior Physiotherapy faculty about training of EBP/ or its steps. These members were from different States and Union territories of India, Delhi (7%), Gujarat 7%), Karnataka (14%), Maharashtra (50%), Odisha (7%), Punjab (7%), and West Bengal (7%). (refer fig)

50% interviews were conducted face-to-face and the other half were conducted telephonically. Each interview lasted for about an hour. The 1st three interviews lasted for 1.5 hours. Notes were taken simultaneously during the interview.
All interviews were recorded and later transcribed. A software ‘Audacity’ version 2.1.0 was used to modulate the voice and alter the tempo of the conversation. As the conversation slowed down it was easy to write notes. Detailed notes were taken and read several times (for data immersion); to understand the overall impression of the problem discussed. Keeping the main phenomenon in focus, and referring to the memos written coding process was initiated. For initial open coding the text was read paragraph by paragraph. Codes generated were highlighted. Further using a categorization chart for these 14 interview transcripts, in order to evaluate the frequency of these codes, number of codes generated were reduced. Further axial and selective coding was used to group several codes from one family into a concept. Themes were developed by getting categories from one family together. Data collection and analysis process was simultaneous. Analysis was conducted as specified by Glaser and Strauss.  

86
Table 5.1: Stages of analysis (adapted from Glaser and Strauss)

<table>
<thead>
<tr>
<th>Stages</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Identifying anchors that allow the key points of the data to be gathered</td>
</tr>
<tr>
<td>Concepts</td>
<td>Collections of codes of similar content that allows the data to be grouped</td>
</tr>
<tr>
<td>Categories</td>
<td>Broad groups of similar concepts that are used to generate a theory</td>
</tr>
<tr>
<td>Theory</td>
<td>A collection of categories that detail the subject of the research</td>
</tr>
</tbody>
</table>

A range of themes relating to this topic were generated in the analysis. The identified integrative themes: “Need of EBP”, “Facilitators of EBP”, “Barriers of EBP”, “Integration of the research component of EBP”, and “Faculty development and research engagement” were studied in detail. These themes address the aim of the study in a more holistic way, as they were identified across all codes in all interviews. Table 4.5 shows all the integrative themes.

Table 5.2: The themes generated were as follows:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Theme</th>
<th>Categories</th>
<th>Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Need of EBP training in curriculum</td>
<td>Building our own evidence</td>
<td>1.EBP is the need of the hour&lt;br&gt;2.Stepwise integration in curriculum&lt;br&gt;3.Building a scientific temperament&lt;br&gt;4.Early intervention&lt;br&gt;5.Useful to both the clinicians &amp; academic staff&lt;br&gt;6.PG registration 25% students&lt;br&gt;7.For linking evidence to practice&lt;br&gt;8.Not reading research articles&lt;br&gt;9.Tools are suited to Western population&lt;br&gt;10.We need our own tools</td>
</tr>
</tbody>
</table>
|   | Facilitators of EBP | Inclusion of research skills in UG curriculum | 1. Increase in awareness: research and evidence based practice  
2. Improved infrastructure  
3. Daily clinical postings  
4. Faculty qualification & sensitization |
|---|---|---|---|
| 1 | Barriers of EBP | Lack of training of EBP skills | 1. Attitude towards research and EBP  
2. Professional body not active  
3. Lack of interest  
4. Not reading published research  
5. No mandate on research and publication  
6. Time constraint;  
7. Patient overload  
8. Unavailability of enough computers, internet basically infrastructure  
9. Students burdened with lot of other subjects  
10. Lack of emphasis on EBP from teaching faculty  
11. Unavailability of full texts of research articles  
12. Funds not devoted for evidence generation  
13. Lack of vision of administrators and BOS members  
14. Language barrier |
| 2 | Training of EBP | Steps of EBP should be vertically integrated in the curriculum | 1. Orientation/ Fundamentals/Need of EBP -1st yr,  
2. Search engines, literature search: 2nd yr,  
3. Inferential Statistics: 3rd yr  
4. 4th yr: Validity, Reliability, CAT tools,  
5. What to teach: Different outcome measures; their reliability and validity, Inculcation of critical inquiry, Documentation, Progression of case study to case series, |
| 5 | Faculty awareness and training | Faculty trainable | First possess, then profess  
2. Faculty multiple responsibilities, multitasking. Academics, Clinical, research and admin  
3. Faculty self appraisal and self interest  
4. The faculty has emerged from yesterday’s students |
|---|---|---|---|
| 6 | Organizational support | Infrastructure availability in terms of computers, internet, full text | 1. Faculty Appraisal  
2. Support from Peers and Seniors  
3. Bias in salary: (P2) 4. Physiotherapists not paid well (P1)  
5. Support from authorities, campus, peers (P2)  
6. Appraisal should be done |
7. Infrastructure has to be provided. Computers, internet, Advanced Equipment for research (P3)
8. Seniors should mentor juniors, peer support is essential (P4)

EBP Practice related

Being responsible and accountable

1. Evaluation of practice will help them in collecting evidence
2. Each person’s value/goal will determine what treatment should be given
3. We have to document
4. Autonomy in Physiotherapy practice

Figure 5.3: Compilation of themes
Need of EBP training:

The opening question of all the interviews was the percentage of students registering for post graduation in physiotherapy. Majority responded saying around 20-30% register, which emphasises the need of including training of EBP in UG course. Participants identified that there is a need for creating a scientific environment.

“The awareness and concepts are there. But, it needs to be integrated with proper teaching and learning”

Beginning to deliver the concepts in entry level (UG) by integrating step-wise in the training will inculcate the values and attitudes in the students and create beliefs which will help them as future clinicians or academicians. It was highlighted that we need to

‘Build our own evidence’ and ‘Learn to link evidence to practice’.

Facilitators of EBP:

The facilitators identified were improved infrastructure as compared to what was available when these senior teachers trained in terms of computers, journals, internet facilities etc. In most of the universities postgraduate qualification is mandatory to be employed as teaching faculty.

“The profession is evolving to a much higher level compared to what it was 10 yrs ago”.

Those faculties who are sensitized to research during their postgraduate training are themselves trainable and are able to train the students in research related skills better. A huge facilitator is the fact that undergraduate training involves clinical postings on daily basis.
Barriers of EBP:

It was highlighted by majority policy makers that there is lack of interest in research and evidence generation. The biggest barrier is, “Our attitude towards EBP”. There is a laid back attitude with lack of self motivation. Time constraints, clinical load and overloading of syllabus were pointed out by some. Reading scientific journals and published articles is not a regular practice. Publishing a certain number of articles is not mandatory from the professional body.

Training the teachers is the 1st step towards overcoming barriers, because knowledge can be gained but attitudes and beliefs are to be inculcated by the faculty and clinical in-charges. Faculty are multitasking with academic, clinical and administrative duties and hence the barrier was cited by few. Faculty appraisals are not in place.

There are no stringent entry criteria to admission in the physiotherapy course in all universities, whereby those not interested, having less academic grades, poor language skills enter the profession. Such candidates dilute the entire system as they just want the degree but don’t have the zeal for it.

“We are not getting the brightest students for physiotherapy. Physiotherapy is a 2nd or 3rd choice for the students.”

Another barrier is unavailability of full text articles and access to indexed journals. Lack of research funding is another barrier.

“Lack of dedicated organization of research funding. Research is an organized effort, it cannot take place without funding, like see you are doing this video recording, and all.”

“Another barrier is that education requirement for any grant, any biomedical grant, there are basic conditions for medical graduates, MS MD, for other disciplines, it is PhD. So now in India if a person is not PhD it is a difficult task to operate a
granton individual level.”

The professional Council for Physiotherapy does not exist in India. So, curricula differ, thus every institute follows their own way of delivering knowledge and fulfil course objectives.

“There is no check that every college is doing the same thing for EBP part of it. We are doing it in our college. I have no idea what our neighboring colleges are doing”

“Some of the colleges give quality education some of them don’t”

Integration of the research component of EBP:

“People know what it is, but they don't know that it is called as PICO format.

It is not systematically delivered”

Participants agreed with the need to include skills required for EBP in entry level. It also has to be mentioned in the curriculum. Curriculum is a written document that is followed and so detailed mention of how to integrate, in which year, how to teach and assess has to be mentioned. Some were of the opinion that it should be introduced in 2\textsuperscript{nd} year and then add components to it each year. So, complex things to understand can be taught in higher classes but basics of EBP can be inculcated right from the 1\textsuperscript{st} or 2\textsuperscript{nd} year.

The importance of outcome measures and the need should be explained. There is lot of information available on the internet and student should be taught how to analyse what is important. Critically evaluating the available research will aid in clinical decision making. Documentation has to be inculcated and students have to be involved in doing so in the clinical areas. Clinical in-charges play a huge role in mentoring the students in such aspects which will cultivate the thinking process and hence attitude.

“Our attitude must change we have to put EBP early on and secondly the
inquisitive nature to raise questions, your curiousness will lead to questioning, that will lead to asking more questions. Research is also searching and researching.”

It was suggested that our teachers should be involved in teaching, as we can include lot of our specialty examples in improving the understanding.

“EBP should not be subject for university examination or it should not be given a threatening emphasis that is what I think.”

It was suggested to eliminate this from the University level assessment.

“In most of the UG syllabus it is observed that there is an inclusion of a research project at 4th year not only in MUHS but most of the other courses, so we are expecting the UG’s to be aware of the scientific studies.”

There should be emphasis on publication and PG students should have one mandatory publication from part of their project.

Faculty development and research engagement:

“First possess, then profess”.

Participants were of the opinion that our faculty is trainable. They join with a PG qualification and hence would be aware of research and evidence. With some training they will be able to enhance their approach to the systematic way of incorporating research. Senior teachers play a role here in mentoring the junior faculty. They should be motivated to be updated in their skills, practice etc. The junior faculty could help the seniors with technological advancements like software for data analysis etc.

If faculty themselves are engaged in research, they will be creating an environment which is scientific and systematic and hence help students.

Organizational support:

“Organizational support is very essential. Senior faculties should be mentoring the
Participants emphasized the need for computers, internet and investment in reliable and valid measurement tools to take physiotherapy research to next level. Research endeavors should get support from peers, campus and authorities.

Physiotherapists’ contribution in the multidisciplinary team should be acknowledged with equal recognition, rights and salaries. Seniors in an organization should mentor juniors. Encouragement and moral support should be provided.

**EBP Practice related:**

Autonomy in practice should be emphasized. They should realize that as a member of a multidisciplinary team they are involved in patient care holistically. Physiotherapists need to take responsibility and be accountable to the treatment prescribed. They need to be aware of current practices and its implications. They should document their assessment and prescribe treatment confidently.

![Grounded Theory Evolved](image)

**Figure 5.4: Grounded Theory Evolved**
The theory that emerged is shown in figure above. It summarizes and highlights the main concerns and solutions evident from our study. It says that the obstacles to the implementation of EBP can be minimized by incorporating EBP in entry-level curricula which will pave a way ahead along with key support from faculty who are the flag-bearers. These faculty along with the organizational support will inculcate ‘learning by doing’ and teach students even in clinical areas about EBP. They will integrate this knowledge of EBP in the theory classes and vice versa, thus creating an environment of EBP. This will match the global standards and pave a way ahead for Physiotherapy in India.

Thus we can say that training students with skills of EBP is the need of the hour.

The codes, concepts and themes generated were sent for Investigator Triangulation and expert advice to one International faculty with an expertise in evidence-based practice and whose profile involved teaching physiotherapy students along with being the Co-Director of Centre of Evidence-based Physiotherapy and Scientific editor of Journal of Australia. The other National expert was a senior academician with a keen interest in professionalism and a FAIMER (Foundation for Advancement of International Medical Education and Research) fellow.

A rich data thus accumulated from this qualitative study, the themes and concepts generated were grouped together and used for designing a module on EBP for teaching undergraduate students.