

# **Application and Utilization of Evidence-Based Practice for the B.S. Physical Therapy Interns of Emilio Aguinaldo College – Manila**

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## **ABSTRACT**

The objective of this study was to describe how the B. S. Physical Therapy (PT) interns of EAC apply and utilize evidence-based practice (EBP) throughout their internship. The data were collected through survey using the Evidence-Based Practice Profile Questionnaire that contained five domains (practice, terminology, sympathy, confidence and relevance). The respondents were 5th year regular and irregular PT interns who were selected through total population sampling. Data analysis was done through descriptive statistics. Results of the study indicated that PT interns scored higher in the domains of relevance and terminology, but lower in the domains of practice, sympathy, and confidence. This showed that the interns were equipped with the knowledge of the importance and the process of application of EBP, but lacked practice of said application. This study emphasized interns' need for more practice to improve their skills through case reports in the classroom setting and direct patient contact incorporating EBP in patient evaluation and management in the clinical setting. Aside from additional opportunities to practice, interns need to have instructors in both settings who serve as role models in using EBP during teaching-learning and patient care activities.

*Keywords: evidence-based practice, physical therapy, education*

## INTRODUCTION

Evidence-based practice (EBP) is defined as “integrating best evidence from systematic research with one’s clinical expertise and patients’ values” (Gorgon, 2013). It aims to provide the most current and safe treatment options available for patients. However, the process itself has been noted to be less structured as seen in multiple research varied steps involved. The three important components of the process are the main factors that provide the success of implementing EBP and improving the clinical-decision making skills of the practitioners (Alshehri, 2017).

Most medical professions have been incorporating EBP into their respective practices, however there has been a slower development of its integration in the field of physical therapy (PT) (Patel, 2017). In the Philippine setting, different challenges are faced in the teaching of EBP and the most commonly expressed hindrances are lack of inclusion in the curriculum and lack of knowledge in statistics (Gorgon 2013). The lack of local studies has also hindered the increase of awareness and practice of EBP, thus hindering the implementation into the field of practice (Gorgon, 2013).

The researchers would like to show the impact that EBP has and its importance in the practice to PT. According to Gorgon (2013), it is a means for therapist to utilize the resources to provide safe, current, and effective treatment to patients. It a process that should not be feared by many, as there are several high-quality research that have been done in the past that greatly contribute to the modernization of practice. Another benefit of doing EBP is that it promotes the development of PT (Alshehri, 2017).

This study wants to describe how the experiences of the interns, throughout their internship, on the applying and utilizing the use of EBP in the practice of physical therapy. According to McEvoy et. al. (2011), “in evidence-based practice (EBP) there is a growing body of research concerning educational practices, barriers and facilitators, but few studies have tracked longitudinal change in EBP skills, knowledge, or attitudes.” Through a descriptive study, the researchers will describe the experiences of the PT Interns enrolled in Emilio Aguinaldo College – Manila (EAC) toward the application of utilization of EBP in their practice throughout their internship. The researchers aim to describe how the internship experiences of PT students of the EAC School of Physical, Occupational, and Respiratory Therapy (PTOTRT) allow application and utilization of EBP. This study will highlight the interns’ perceptions of EBP’s relevance, their personal sympathy, knowledge of terminology, ability to apply EBP into practice, their personal confidence, and other factors that may affect the process of EBP. To describe if the interns have experienced barriers to knowledge and encountered barriers to accessing resources to use EBP will be part of what the researchers will be able to describe at the end of the study. This study also wants to describe if there are sufficient available resources in centers that interns can use. The researchers also wish to describe the level of confidence of the interns in applying EBP and if they were able to apply it during the span of their internship.

The findings of this study will contribute greatly to the interns of physical therapy of a college in Manila by giving them insights and information about the application and

utilization and application towards EBP which may serve to further advocate its utilization in the promotion of the use of EBP in the profession. This study will be beneficial to educators, clinical instructors, professors, internship coordinators and interns by providing them an idea on how they can be able to identify certain areas of concern in order improve the promotion of EBP utilization throughout the profession. Lastly, this study can contribute to both present and future researchers by using the findings of this study as a basis and reference data in conducting new research.

## **MATERIALS AND METHODS**

This cross-sectional study was done in EAC School of PTOTRT, PT Department. This institution was chosen to be the site of the study because of the inclusion of EBP within its educational program and the overall promotion of the utilization of EBP in the school. The subjects of this study are 5th year regular and irregular PT interns. Selection of participants was done through total population sampling. No inclusion and exclusion criteria were needed except that the interns who are part of the research team were excluded from the study.

The data on the experiences of participants of the study throughout their internship were attained through the means of a survey, the Evidence-Based Practice Profile Questionnaire. This questionnaire specifically tries to describe the different aspects of utilization and application of EBP of the interns during their entire internship. The domain of practice, most questions focused on how the participants used EBP in their daily lives as interns and how they used EBP to come up with a clinical decision that pertain to patient care. For the domain of terminology, mainly focused on how the participants understand the basic terms that are needed in order to correctly apply evidence-based practice. These domains were used to describe the experience of the interns in the application of EBP. As for the domains that described the utilization of EBP, those domains included relevance, sympathy and confidence. This is because the domain of relevance focused on the ability of the participant to integrate their chosen clinical decisions and the best available evidence that is available to them. In the domain for sympathy, as well as confidence, these domains relate to how the participants felt about EBP as a whole. How its significance to the profession and how the participants filled in the gap between of what they know and what they actually do when they are in the field and practicing the profession. The questionnaire was tested to check its validity, which was conducted by the authors of the questionnaire. The results showed that the questionnaire is internally consistent as its Cronbach alpha score is 0.96. There were only three domains that had statistically significant p value and these are the terminology, relevance, and confidence. The questions in those domains are highly accurate in testing those domains compared to the other domains.

The study was applied in the school year 2017-2018 for 1 month. This time frame is applicable to the study because of the nature of the collection of data. A pilot testing was done before the actual implantation of the study. Clinical Correlation in PT – II students were chosen to participate in the pilot testing as trial simulation of the study. This is because the students in this class are a close representation of the actual participants of the study. Although they do not have consistent clinical experience like the interns, these students

have already learned about EBP in the classroom through lectures and group activities using hypothetical patient cases. After the pilot testing, adjustments were made to improve the actual implementation. The questionnaire used in the study is in English and may have an effect on the understanding of the participants of the study. The group decided to do a pilot study despite the high validity score of the questionnaire to ensure that the questionnaire is well understood and can be answered with ease. A limitation that the researchers had encountered was that the questionnaire was made to be answered by licensed, and practicing professional physical therapists. This led to many to experience to confusion on how to answer the demographics part of the questionnaire. This was due to the participants being asked to answer the questions pertaining to professional experiences and graduate courses that were taken in order to practice EBP. The researchers made adjustments on how to instruct the participants, ensuring less confusion to answering the demographic portion of the questionnaire.

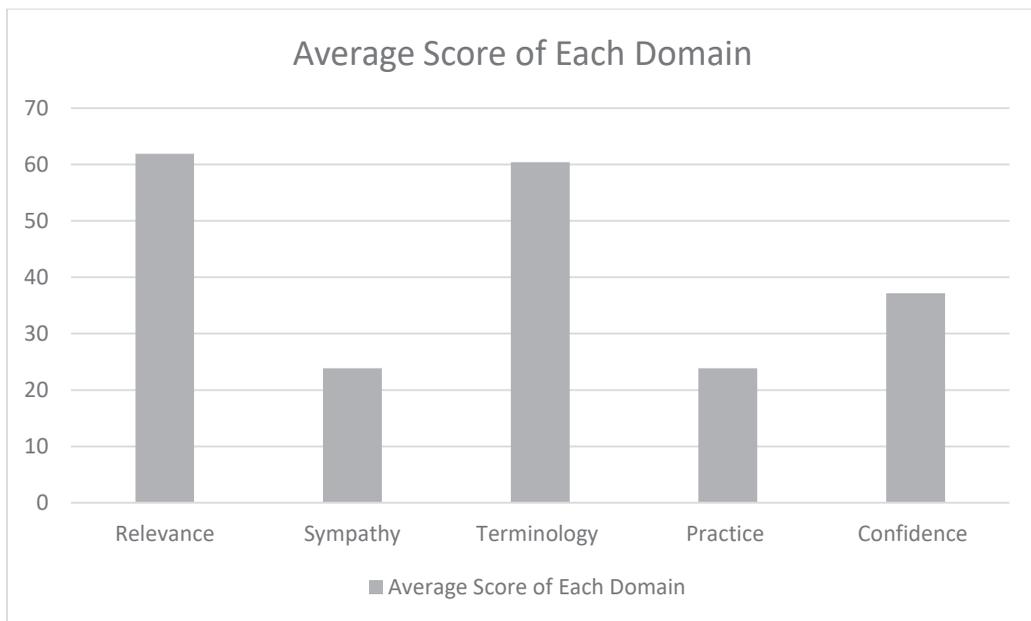
The actual conduct of the study was facilitated by two (2) members of the research team and they collected and stored the questionnaires completed by the participants. Two (2) other members tallied the answers from the questionnaires. They also recorded this information, which was counter checked by two (2) other members. The group interpreted and analyzed the data once all the scores were tallied. Only one (1) member from the group stored the questionnaires in the duration of the study. The questionnaires will be kept in a safe place that has a lock within 5 years. The names of the participants and other personal information asked from them as well will not be used in the study.

Participants of the study were asked to sign an informed consent form before the study was conducted. This was to ensure that the participants of the study are aware of the purpose of the study and that the information that were obtained from the study are for the study and only that. It informed the participants that they may voluntarily choose to withdraw with no repercussions and that if so, they may also request that their data not be presented within the study. It is also ensured that they are well-informed and that their participation in this study was voluntary.

The scores of the questionnaires were averaged to determine the mean scores per domain. Then the frequency distribution of the answers of the interns were determined as well. This will provide the information needed by the group to determine the experiences of the interns in terms of the different domains of the questionnaire.

## **RESULTS AND DISCUSSION**

The demographics (age, gender, sex, final year as undergraduate, formal training in EBP, and use of the English language) yielded that most of the interns are in their mid-twenties with the mean age of the group being 24 years old. There are more female interns in the group and most interns are expected to graduate in the school year 2017-2018. Based on the data collected most of the interns are non-english native speakers but have undergone EBP activities as part of university education type of training of EBP.



**Fig. 1 Average scores of the Interns per Domain**

The scores of each domain were averaged (Figure 1) and it was noted that the interns scored higher in the domains of Relevance and Terminology. The lowest scoring domain was the domain of Practice and they were able to score fairly in the domains of Confidence and Sympathy.

In the domain of relevance, most of the questions would revolve around the awareness of the practice of EBP in the field of physical therapy and the relevance of it in the practice. In most of the questions most of the interns answered “Very True” which reflect that interns aware are informed with the changes in the practice of EBP. This also reflects that they are willing to learn to further develop their skill and knowledge in regards to EBP as they know how important EBP is in the field of physical therapy.

Although the interns are aware of the usefulness of EBP in the practice of physical therapy and have intentions of improving their skills, the interns feel that work place experience is still the most reliable compared to scientific evidence. This can be one of the reasons why the domain of sympathy has a lower score compared to other domains. Other reasons why the interns are not sympathetic to the practice of EBP is that process itself does not consider the limitations of the day-to-day work of the interns. They also feel that seeking relevant evidence and critical appraisal of literature are not practical in the real-world setting.

In the study done by Gorgon, the researchers noted that one of the barriers to teaching EBP in a developing country, such as the Philippines, is the general lack of interest of students in EBP (2013). Same can be the said about the interns, as it reflects that they lack sympathy for the process of EBP based on their answers in the questionnaire. Two (2) cohort studies were done to see if there were changes in the participant’s sympathy towards EBP when

they were transitioning to the workforce. The research noted that there was no change in the low scores of the domain as they theorized that the workplace the graduates entered are not conducive to practice of EBP (McEvoy, 2011).

In the domain of Terminology, the questionnaire enumerated common terms used in EBP. The interns were asked to rate their knowledge on those common terms. Generally, the interns scored high in this domain suggesting that they are knowledgeable on the common terms used in applying EBP. They feel that they are able to understand terms such as “meta-analysis”, “intention to treat”, “clinical importance” and “randomized controlled trial” and could explain it to others. However, most the interns have never heard of the term “dichotomous outcome.”

The domain in which the interns scored the lowest in is in the domain of practice. Based on the answers of the interns, they have practice EBP monthly or less all throughout the duration of their internship. The monthly change of rotation of affiliated centers may have an influence on this outcome. As well as the fact that not all centers may require the interns to apply EBP in the month the intern was assigned in those centers.

A study was done wherein the researchers identified a common theme of barriers of implementing EBP. The three (3) subthemes were namely resources, personnel challenges, and student characteristics. Factors such as time and availability of relevant information are classified under resources. While, factors such as unwillingness of other personnel and lack of support from stakeholders are barriers classified under personnel challenges. As for the student characteristic, the most important barrier identified was the clinical level experience of the student (Hankemeir, 2015). Most of the barriers identified by the study, classified under resources, were a common theme in the answers of the interns in the non-domain questions.

The low average score in the practice domain may also be related to the answers of the interns in the non-domain questions part of the questionnaire that they answered. Although they strongly agree that they are willing to learn new information, most feel neutral towards EBP. This is because they feel the workload, cost of information, and easy access to computers are factors that affect the practice of EBP.

In the last domain, which is confidence. It can be observed that even if the interns scored low in the domain of practice, they are reasonably confident in their skills of applying EBP. They are very confident in their ability to search an electronic database. They feel that they have adequate research skills in critically analyzing evidence and determining the validity and how useful the material is.

In the study of McEvoy, the researchers noted that there was only an increase in the confidence after two (2) years because of the stabilization of routine in the work environment and being more comfortable in that type of environment. However, the increase in the score was more apparent in professional skill rather than EBP-specific skills

(2011). Greater self-confidence in searching and critical appraisal is also noted in participants who have previous experience in literature reviews (Deustch, 2015).

The means scores of each domain show that the interns are aware of the importance of the application of EBP in the field of physical therapy. They have intentions to further develop their knowledge of EBP to further develop their skills as physical therapist. Scoring lower in the domain of practice, may reflect that there is lack of application of the practice of EBP during their internship. They are equipped with the knowledge of the process of application but actual practice was lacking during internship. Although generally the interns are reasonably confident in their research skills, the lack of practice of EBP during internship may have affected their confidence in applying EBP.

However, to further improve the skills of the interns in applying EBP, they need more practice. According to the self-efficacy theory of Bandura, practice is the most important source of self-efficacy. This is because the learning comes from self-experiences giving more impact to the learnings (1986). The interns may also need more “models” or instructors to provide guidance on how to integrate EBP in the practice of physical therapy. Learning EBP in the school-setting can be quite different when learning it from instructors from the work-setting of physical therapy. For self-efficacy to happen, “role-models” are needed to facilitate characteristics one must have to have a change in behavior (Bandura, 1986).

The interns having a general feeling of being “relatively confident” in their skills with regards to EBP may be related to the last two (2) sources of self-efficacy, verbal persuasions and self-evaluation of physiological & emotional states. Instructions, suggestions, and advice are considered to be verbal persuasions. These are the most commonly used source of self-efficacy but also known as the weakest source. Reasons such as it does not provide learning from one’s own experience or is not examples of them. Stress is the most common physiological & emotional state that affects self-efficacy (Bandura, 1986).

During internship, interns experience a great amount of stress that can vary. There can be times where there is an increase or decrease depending on the center they are rotated in, the number of patient load they have, and if there are upcoming exams. This can greatly affect the learning of applying EBP in the duration of internship. Also the fact that not all centers will require them to use EBP during their rotation for one month, this can lessen the instruction and suggestions needed to improve their skills. The lack of instruction and stress limiting their time for applying and utilizing EBP may have affected the confidence of the interns in their skill in EBP.

## **CONCLUSION**

The goals of the study are to describe the perceptions of the interns to evidence-based practice. This was done through the Evidence Based Practice Profile Questionnaire which has domains regarding the analyzation of a student’s relevance, sympathy, confidence, practice and terminology when EBP is being used. The interpretation and analysis of data collected has determined which domains were the interns scored higher compared to the

others. Scores in each domain were used to describe the experiences of the batch of the interns of EAC-Manila by identification of barriers to full utilization and application of evidence-based practice in the clinical and academic setting. The barriers were then correlated to the overall lack of practice of the application and utilization of EBP during internship.

Based on the answers of the participants of the study, it was noted by the researchers that most interns were not able to utilize and apply EBP during internship. This can be attributed to the different barriers that were identified that have hindered the interns to apply and utilize EBP. Three main factors identified, through this study, which have served as barriers to the interns were time, workload, and cost of information / resources. Despite those noted barriers, the interns were relatively confident in their skills of applying and utilizing EBP. According the self-efficacy model by Albert Bandura, practice is the most powerful source of self-efficacy because it promotes self-learning from one's own experiences (1986). Even if the interns were relatively confident with their skills in research there is a lack of practice in applying EBP due to the identified barriers.

## RECOMMENDATIONS

Based on the findings of this study, the following recommendations are drawn out to address the difficulties of the interns throughout their internship on how they apply and utilize EBP.

**For the researchers.** Future researchers may embark on similar study that considers other population or courses or year levels to further confirm or support the findings of this study.

**For the institution of EAC Manila, School of PT/OT/RT.** This study serves as a basis to promote the use of EBP to better facilitate and refine the skills of the interns. Integration of the use of EBP in the classroom through journal articles used as references for the introduction of current trends in the profession is a strategy that can address the three barriers identified in the study. Students would most likely be encouraged to use journals to defend reports presented in class to further utilize the use of EBP.

**For students.** The study suggests that it can contribute to the upcoming interns by using the findings of this study as reference for practice in the centers and for academic purposes. It is important for interns to understand that EBP is part of the set of skills needed in the clinical setting.

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