

## Improving Home-Based Physical Therapy Treatments: Examining the Doctor-Patient Relationship

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### ABSTRACT

While recent advancements have been made regarding physical therapy techniques and effectiveness, patient adherence to prescribed home exercise programs (HEPs)--a critical piece of successful physical therapy outcomes--remains low. There is growing evidence that establishing a good relationship and line of communication with patients is just as important as hard skill medical training when trying to improve patient adherence to treatment regimens. As more focus is given to the "human" elements of physical therapy, a vast array of training methods and programs have emerged as educators attempt to prepare their students for a career heavily contingent on creating healthy relationships between patients and their therapist. Unlike previous research meant to evaluate the efficacy of such programs, this study aims through semi-structured interviews to (a) examine the availability of such training in a particular geographic area, and (b) serve as a baseline for future research to gain a comprehensive understanding of the strengths and weaknesses different regions have in terms of relationship and communication training. Findings indicate that in Southwest Missouri, adherence to HEPs matches previous data and that little explicit educational focus is given to improving the doctor-patient relationship. However, interviewees indicated that there are many implicit elements in their education that effectively improved their relationship skills, and that explicit focus is steadily increasing. This study is successful in taking the first step in evaluating what it will take to standardize relationship and communication education among physical therapists.

### **Introduction**

Following major surgeries, most patients are given physical therapy in the hospital and are prescribed at-home strength exercises which are vital to the recovery process (American Academy of Orthopedic Surgeons, 2020). This type of program is called a home exercise program, or HEP. Often, patients fail to follow their HEPs, with adherence ranging from about 50 – 70 percent, with low adherence causing compromises in treatment, the recovery process, and possible recurrence of past symptoms (Palazzo et al., 2016). This puts further strain on patients as their health steadily declines; doctors as treatment becomes increasingly difficult; and healthcare systems as costs accumulate.

An important part of improving treatment adherence is the doctor-patient relationship. A multitude of evidence connects doctor-patient relationships to treatment adherence, as well as the most effective types of training doctors can receive to improve connections and communication with their patients. While these training programs and strategies have been shown to be effective, not all physical therapists receive the same levels or types of training. Research documenting and analyzing regional training differences for physical therapists has been conducted in other countries, but a data gap exists for much of the United States. This study focuses on one such region, examining the question: To what extent does the amount of relationship and communication training provided to physical therapists in a small hospital system in Southwest Missouri impact patient adherence to prescribed home-based treatments?

## Literature Review

Decades of research have identified several factors which impact a patient's adherence to prescribed treatment. Prominent among these factors is self-efficacy, which is defined as the "individual's belief in his/her own ability to implement a specific behavior or a set of behaviors." Strong self-efficacy is closely related to strong internal health locus of control (HLOC), meaning a patient reinforces their behaviors from within (Náfrádi et al., 2017, para. 4). Most HEPs are patient-centric, giving patients the most control over their own health. If they believe they are well-equipped and supported for the task, they naturally perform better than if they lack confidence in themselves. At its core, efficacy is based on confidence, and confidence is closely tied to how a treatment is explained and supported. It is the doctor's job to make the patient feel this support and confidence. This can be done by giving patients individual attention and providing adequate support structures throughout their treatment.

When working with patients, doctors must switch between alternate thought processes while establishing treatment protocols such as patient involvement in scheduling and administration of treatment and deciding treatment tools such as choice in medication or regimen. A study by Dr. Christopher Lamb found that treatment protocol planning benefits from slower individual analysis, while treatment tool selection benefits from heuristic decisions drawing from experience (2019). Rational decision making is vital to patients' confidence, because it shows the doctor cares about their individual situations and is giving them treatments they think patients can handle. After prescribing a HEP, doctors take various follow-up approaches which often serve to boost confidence in a long-term treatment scenario. Recently, several studies have indicated that groups receiving individualized phone calls or text messages exhibit greater adherence to HEPs compared to groups that received no follow up and were left on their own (Gunnes et al., 2019; Hinman et al., 2016; Newell & MChiro, 2012; Pehlivan et al., 2019). When patients are provided with support like this, they feel like they are achieving something with their treatment, since they receive validation for their work. Without individualized care and consideration, patients may lose sight of their treatment goals. Interpersonal skills are one of the most important tools a doctor can employ to impact future patient adherence. Strong interpersonal communication has been linked to positive changes in the treatment beliefs of patients, and Dr. Song Hee Hong suggests doctors should actively look for areas of mistrust related to a patient's care so the doctor can have more productive conversations (2019). Higher quality doctor-patient relationships have also been associated with increased patient willingness to take part in more rigorous treatments (Orom et al., 2016). If a doctor is unable to convince patients to put their full effort behind a treatment, patient health will continue to suffer. Establishing a good relationship through effective communication makes patients more confident in both their doctors and themselves, leading to more effort toward the treatments they are given. In this way, doctors work to increase their patients' adherence to prescribed HEPs. However, flaws responsible for less-than-optimal adherence remain.

The current medical systems in the United States have several shortcomings that detract from the potential for ideal HEP adherence. One deficiency is the decreasing amount of face-to-face time patients get with their doctors. The average conversation time between a doctor and a patient is ten minutes, most of it taken up by the required health questions and the filling out of forms, leaving little time for personal conversation or analysis of possible treatments. The psychological, more human elements of medicine are also increasingly outsourced, leading to a shallower doctor-patient relationship (Ancane et al., 2015). This has led to small but significant decreases in empathy from North American doctors and ever smaller amounts of time for the most important part of a consultation: questioning and active discussion (Ponnampereuma et al., 2019; Schmidt et al., 2016). The medical system pushes doctors to take on as many patients as possible, which degrades care for the individual. Often, patients come away from an appointment unsatisfied or confused. Dr. Linda Brom and her colleagues found that an average of 60 percent of patients have discrepancies between their preferred and actual involvement in decision making processes with their doctors (2014). Furthermore, many patients, especially the elderly, often feel under-informed after hospital discharge, leading to potential misuse or overuse of medication given to them for their treatment (Knight et al., 2013). Patients do not feel confident in the information they receive, and therefore exhibit low self-efficacy when taking treatment into their own

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hands. These are symptoms of a broken system that is not conducive to close doctor-patient relationships that foster high treatment adherence.

Although research has produced guidelines for effective treatments and systems that promote high adherence, these guidelines are not followed equally across the board. There are several organizations—governmental, professional, and nonprofits—which produce guidelines for medical practice. These groups have reported few to no barriers for determining and incorporating patient preferences into their guidelines (Blackwood et al., 2020). In theory, this is good news for the average patient, and seemingly the medical community. However, many of these guidelines are optional, and universal implementation is rare, even within a single country. A survey of the Australian Physiotherapy Association found that while general consensus exists on the best practices for increasing treatment adherence, there is still room for large improvement (Peek et al., 2016). The system in which the physiotherapists are placed puts a handicap on their ability to perform best practices, as there is varied guideline adherence across systems. The same is true for the United States and its doctors. The lack of health guideline consistency brings certain constraints to doctors prescribing HEPs, but they can still learn ways to use their time most efficiently with patients.

In both formal education and continuing job training, doctors are presented with myriad programs designed to maximize the effects of patient interactions. Many classes aim to improve empathy and emotional intelligence (EI) to establish better connections with patients. Empathy has multiple facets that can be conditioned, and most humanization training is met with high satisfaction from doctors due to better treatment outcomes and the applied nature of the courses (Fasanelli et al., 2017; Smith et al., 2017). Trainings shown to improve EI were often team-based, leading to student confidence gains after the course. This confidence, in turn, translated to more accurate emotional forecasting (Borges et al., 2012; Qian et al., 2020). These programs are effective ways for educators to help combat the downward trend in the quality of doctor-patient relationships. Even in the small window of time doctors meet with their patients, EI training can still enhance the interactions. Additionally, there are many emerging tools that could help doctors improve their connection to patients and their treatment outcomes. Recent research has shown that individuals develop attachment styles in their formative years which impact future relationships, including those with their doctors. While no two patients are exactly alike, some can be grouped according to their attachment styles, and doctors can be trained to best deal with each style. An important aspect of this strategy is the identification of attachment styles and other signs of patient activation, including engagement with care. Tools such as surveys and complex data analysis have given way to specific measurement systems that identify barriers in care, efficacy of patients throughout their HEPs, and their attachment style (Graffigna et al., 2017; Hooper et al., 2011; Picha & Howell et al., 2017). These evaluative strategies have been formed in response to studies pointing to the high impacts these factors have on HEP adherence and the quality of doctor-patient relationships.

Education on these strategies would create better-equipped doctors for their varied patients. Doctors must be given the tools to improve their relationships with their patients, but they must also be taught to work together with their patients and communicate ideas clearly. As previous research shows, different patients prefer varied levels of participation in their own care, but some form of shared decision making is necessary in every case. Factors such as sitting down with a patient and responding to non-verbal emotional cues make doctors seem more collaborative. These behaviors can be taught, and shared decision making programs have been shown to improve confidence in implementing such behaviors (Durand et al., 2018; Patel et al., 2019). Patients want their doctors to be approachable, and these courses can make this happen. However, even approachable, collaborative doctors can struggle with effectively communicating vital information. Doctors must often transfer complex treatment or process information to patients, and doctors often find it hard to balance simplicity and thoroughness for optimal comprehension. To assist with this process, Dr. Nordfalk and his colleagues at the University of Oslo have developed a measurement system that specifically quantifies complex information and correlates it with patient recall (Nordfalk et al., 2019). Such a tool could be applied in educating doctors, especially during simulations and clinical internships where they could gauge their effectiveness at communicating information to patients while working to improve their skills. Courses that improve the doctor-patient relationship and HEP adherence exist, but more widespread, uniform application is needed to achieve consistency across the medical community and improve the experience and health of all patients.

While the literature agrees upon factors identified to impact HEP adherence, there are still issues within the medical system that lower doctors' ability to positively impact it. Patients often leave conferences under-informed and dissatisfied with their experience. Follow-up communication has been shown to increase motivation in patients, but this does not occur in all cases. This can lead to less than optimal treatment adherence and outcomes which further hurt the patients. Educational programs have been developed to help doctors improve their relationships with patients, but these programs are not implemented evenly across the country. It is important to evaluate the types and amounts of training professionals in different areas have received to identify where more types of training should be offered. Southwest Missouri has not yet come under such scrutiny; therefore, this study aims to fill this gap in the available literature.

## Methods

### Qualitative Interview Study

A qualitative semi-structured interview study of physical therapists was performed according to common ethical research practices outlined in the Belmont Report. Each interviewee provided written or electronic informed consent before the interview, and verbal consent at the start of the interview. Reporting follows the Consolidated Criteria for Reporting Qualitative research (COREQ) criteria (Tong et al., 2007). Semi-structured interviews were used to explore the barriers to home-based exercise program adherence; identify current strategies used to improve it through relationship building; and determine the methods used to teach relationship and communication skills to interviewees, as well as how effective they perceive the methods to be. An interview was selected over a survey because previous survey-based studies (including one conducted by Peek et al.) have identified themes in physical therapist perception of treatment adherence barriers, the roots of which require the deeper explanations interviews can provide (2016).

### Sample

A heterogeneous sample of six physical therapists of various specialties was selected, half from one small hospital system and half from another of similar size (850-1050 beds), both of which serve the same mixed urban, suburban, and rural area. The sample selection was based on non-probability judgment sampling, assuring both relevance to the subject and diversity of the members selected. The diversity of the care providers' sample was ensured for gender (2 men, 4 women) and experience level (1-5 years, n = 2; 6-25 years, n = 2; 26-45 years, n = 2), all of whom treated patients from a variety of socioeconomic backgrounds. Interviewees in each system were found using a snowball method. In each hospital system, one participant was contacted through a mutual acquaintance, and they then recruited two other participants in their system. This recruiting process was in the form of a general call to the physical therapy departments, with volunteers responding back. Credentials and professional experience were verified prior to admitting each participant, to ensure they would comprise a diverse and representative group.

### Interviews

Similar to other qualitative interview studies conducted in the physical therapy field, the interview protocol combined a "funnel-shaped" structure and an "itinerary method" (Alami et al., 2011). In the funnel-shaped structure, each topic was opened by a broad question designed to get the thoughts of the interviewee flowing (See Appendix). Each follow-up question was then based upon the subject's answer to the previous question, gradually becoming more specific and eventually leading to fully fleshed-out responses. This structure was used to ensure that the interviews supported "inductive comprehension" of the adherence situation and allowed for the line of questioning to adapt to each situation, thereby yielding the most relevant data possible. The layout of the itinerary was formed to produce

answers on each of the subtopics linked to the primary research question. The thematic structure focused on treatment practices, relationship and communication skills, changes throughout their career (in any therapy-related capacity), and education relating to the doctor-patient relationship. As relationship and communication education, both pre-practice and further training, was the independent variable of the study, the first part of the interview covered the other main themes. This set the context for the discussion of education and how it impacted the relational skills of the interviewees, and, by degree, their patient's adherence to their HEPs. Leading up to the topic of education, the other themes were discussed in different sequences depending on the direction of the conversation.

## Procedure

Upon obtaining informed consent, interviews were conducted from January to February 2021. For each interview, the same main questions were asked (top of funnels), but in differing orders according to conversation flow. All patients were interviewed at either work or home over Zoom. The mean time for these interviews was 30 min (range: 20 min to 45 min). The conversations were recorded using the built-in record features of Zoom. Following each interview, the audio recordings were stripped of any identifying information to ensure confidentiality, and sent to the professional transcription service Rev, which provided verbatim, time-stamped transcripts of each interview. Each transcript was compared to its audio recording to check and correct any inconsistencies.

## Analysis

In line with similar studies by Palazzo et al. and Alami et al., an initial categorizing system was established based on the main interview question topics. Common themes across multiple interviewees, within experience level groups, and within hospital systems, were then derived from the answers to each question, with special attention paid to similarities between experience levels and within hospital systems. As analysis continued, this first group of emergent themes was modified, with categories and subcategories being added regularly.

## Results

Each physical therapist's interview branched into two main topics of conversation relating to relationship and communication skills: the effectiveness of their education and training, and their perception of the most important aspects of their relationships with patients.

### Education and Training

#### *College Education and Clinical Practice*

Reflecting on their experiences, only two therapists could recall specific courses covering the doctor-patient relationship, yet in both cases the courses were still more aimed toward providing general psychology knowledge. In their classes and clinical internships, all therapists said relationship building and communication skills were more implicit elements of their instruction rather than individually addressed:

*"It's probably, kind of, touched on in various classes... but I don't know that there's anything specifically meant to be, like, how to handle patient relationships, no."*

However, three therapists expressed that if an instructor witnessed a bad patient interaction, they would almost always address it. The reported root causes of bad interactions included lack of attention leading to reduced confidence, poor word choice, and unclear instructions. In such situations:

*“A good clinical instructor would sit back and say you know, you didn’t realize you probably offended that patient, or you need to speak up, or you’re not talking in terms of, that are, you’re talking like a student instead of terms of knowledge.”*

Overall, each therapist had a positive view of the implied nature of the relationship and communication aspects of therapy in their college courses and clinical internships. They seemed happy with how their education had been structured, and all said they felt prepared for most patient interactions as they entered licensed practice.

*“I think the clinical experiences that you go through in PT school are in-depth, and there’s wide enough breadth of them...That you get, you get good experience with a lot of different, um, kind of communication means that you have to do or barriers that you have to work through.”*

### *Continuing Education*

Similar to their thoughts on pre-license education, all said relationship and communication training plays a subtle role in the domain of continuing education. In addition, the therapists believed that their continuing education courses are highly specialized and mostly concerned with practical skill-building. However, the more psychological skills of physical therapy are not completely overlooked and are sometimes incorporated through training components concerning word choice:

*“Since sometimes we know something that the patient doesn’t know, and there’s a lot of words, that if we use them technically correct, it could really, you know, scare the patient. They go tell their doctor, and then the doctor gets mad because it just worked up the patient. So, we, um, have some education or just ideas, in terms of how to go about explaining what’s wrong, but without using things that are known to just, um, unnecessarily get the patient really, I guess amped up.”*

One therapist who has been involved in the teaching of continuing education courses noted somewhat of a shift in the focus of the courses in the past several years, due to developing research in the physical therapy field:

*“[There is increasing] recognition being given, and I think time and effort being given, to the psycho-social considerations [of physical therapy].”*

### Aspects of the Doctor-Patient Relationship

Throughout each interview, it was evident that education and clinical experiences, both in and out of the educational setting, impacted providers’ opinions concerning how the doctor-patient relationship should function. Their past experiences formed the basis upon which their attitudes developed toward different elements of treatment. These included but were not limited to appointment structure and their perceived importance of relationship and communication skills.

### *Appointment Structure*

Concerning the optimal length of an average appointment, all therapists agreed that 45 minutes is the best amount of time to convey information and accurately assess how a patient is doing, although some patients may need a bit more

or less time due to their individual health statuses. In conducting their appointments, therapists also reported similar usage of prescribed home therapies. All prescribed a HEP for first sessions, and all but one prescribed it/modified it at each follow-up appointment (the outlier reported 50 percent of the time). All said they let their patients' progress set the pace of treatment. Their main concern was that if they go too fast, the patient may lose motivation:

*"I give 'em to 'em, I-I progress 'em as long as it's appropriate about every other treatment time.... I have them continue with other ones until they, um, are ready to advance to some harder ones."*

Answers were more varied as to the methods each therapist utilized to convey instructions and educate patients on how to properly carry out their HEPs. Despite these differences, all respondents were confident and indicated belief that their particular system worked well for them and their patients. All but one mentioned some technological aspect they have been able to utilize in recent years, and two from the same hospital system discussed employing the same online application paid for by their system. One experienced therapist recognized the value in transitioning to more connected forms of instruction:

*"You know, um traditionally it's been a hard copy, okay? Uh, but more recently, uh, typically just using their iPhone."*

Along with technological methods to help with information retention, all therapists also held strong beliefs that demonstration is one of the best ways to teach patients and ensure they understand what they need to be doing.

### *Relationship and Communication Skills*

When asked directly about their perceived value of relationship and communication skills in patient interactions, all rated it highly. While they all used variations of the phrase, three therapists used the exact words "extremely important." Their reasoning was that it builds connections with patients and helps them clearly explain the how and why of the exercises. This creates trust and "buy-in," which four mentioned specifically:

*"I would say that's extremely important. If I didn't communicate, um, why we were doing exercises, or, um, if I wasn't able to convey or even build that trust, then a lot of people won't even do the exercises, or they don't, they don't buy into it. So, I'd say as high of an importance as it could be."*

All also said those skills were vital in overcoming adherence barriers with more difficult patients. Five said that persistence in trust building can only be built using those skills, which was their go-to strategy:

*"I think just that persistence and education and building that relationship over a longer time, um, has helped with those more difficult patients."*

## **Discussion**

During the literature review and beginning stages of data collection, it seemed there would be myriad types of relationship and communication training in the college, internship, and continuing education settings. Collected data showed this was not the case at all. There was an overwhelming lack of focus on those skills or explicit teaching. Due to the interviewees all having a similar lack of experience with explicit relationship and communication training programs, focus shifted more toward examining how providers would react to getting more explicitly focused training.

This work provides an overview of how physical therapists in the area of Southwest Missouri view relationship and communication skills, as well as their experience being trained in those skills. Physical therapists value these skills highly; however, there is also a recognition across the board of existing barriers to patient adherence that are

related to the doctor-patient relationship. One explanation for this paradox is that many emerging relationship and communication training programs are not offered evenly throughout physical therapist education systems. These skills are taught mainly implicitly rather than explicitly. There is a feeling, especially among the more experienced physical therapists, that people naturally have these skills to a certain degree and there is not much that can be done to improve them. This stance makes sense because they have not had much exposure to emerging explicit training methods. Younger, less experienced physical therapists indicate that a shift has begun toward more explicit focus on what they see as effective teaching relationship and communication skills. Thus, when physical therapy students are exposed to more explicit relationship and communication training, they will be receptive to it because they value those skills highly.

Although there is still a lack of relationship and communication standards, and any changes on this front are coming haltingly, the interviews revealed many standardized aspects of physical therapy practice. These include appointment length, structure, and support given to patients outside the appointment setting. In these areas, physical therapists have collaborated over the years to find the practices that work best. Relationship and communication practice is no different. Physical therapists have the capacity to work together on other issues and could potentially generate improved relationship and communication practices if they are provided more access to explicitly focused training.

## Conclusion

This study was successful in examining physical therapist-patient relationships and communication training in a much more comprehensive manner than previous literature. Although the lack of available explicit training was surprising, the structure of the interviews and analysis revealed new understandings relevant to the field. The implementation of more explicitly focused relationship and communication training could be a major driver of better treatment adherence in the future. Interviewees indicated that the training they did experience was helpful to them and improved their skills. Because they would be receptive to more focused training, it should be made more widely available. Attitudes concerning such training are beginning to shift in the realm of physical therapy education, but the pace of change remains slow.

## Limitations

Findings concern physical therapists in Southwest Missouri. Although they may be transposed to similar areas in the Midwest, they may not be as valid in other settings. The perspectives of physical therapists in different areas of the United States or world could differ. These differences could be especially relevant due to some hospital systems having more or less access to cutting edge relationship and communication training programs, as well as varied proximity to research institutions. Furthermore, this study has a relatively small sample size compared to other qualitative interview studies. With only six participants, this study's results are certainly not as well-founded as studies with 30 or 40 participants, although six is a representative number for the size of the physical therapy departments in the area.

Although this study provides support for an expansion in the availability of physical therapist relationship and communication training, it is based solely on providers' perspectives. Because it does not investigate input from physical therapy instructors, this work only serves as a starting point for future research looking into the importance and feasibility of implementing such training programs on a larger scale.

## Implications and Future Directions

To complement the high value physical therapists already place in their relationship and communication skills with patients, more explicit focus on the training of those skills is needed. Improving these skills is one of the best ways to improve patient adherence to prescribed therapies, because trust is at the core of the doctor-patient relationship and



can resolve many barriers preventing higher adherence. There is a clear lack of standards for how relationship and communication skills are taught. At least from a physical therapist standpoint, standardization is possible, and more explicit focus on those skills would be well received and could potentially improve patient adherence to prescribed treatments. The best way to reach these standards is to conduct research similar to this study in other parts of the country, and potentially throughout the global physical therapy community. This would establish a network which could be used to discover sites offering the most effective training, and in turn facilitate standardization in the programs available to all regions.

It is also recommended that the potential teachers and professors of physical therapy programs be studied to determine their feelings toward the effectiveness of their teaching. In any training scenario, it is important for both the teacher and student to be engaged and interested in achieving positive results. To break down long-standing treatment adherence barriers, changes must be made in how physical therapists are taught to interact with their patients.

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