QUALITATIVE STUDY

Adherence to Physical Therapy: A Qualitative Study

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ABSTRACT

Objectives: To determine the strategies practicing PTs use to increase adherence to prescribed home exercise programs and to compare these theories to the current research. ***Background:*** Physical therapy is a popular treatment for physical disorders and musculoskeletal pain. For physical therapy to be effective, patients need to complete their prescribed treatment. Engström and Öberg (2005) found that only 24% of participants actually completed their exercise programs with full adherence. ***Methods and Measures:*** In-person, semi-structured interviews were performed. By interviewing PTs, this study evaluates how practicing PTs are dealing with non-adherence in their clinics and how they try to increase adherence. PTs used their clinical opinion, based on subjective reports from patients and clinical judgment, to determine adherence rates. ***Results:*** Five PTs were interviewed, and all reported the belief that patient education is the most important strategy for ensuring adherence; however, the literature supports patient self-efficacy and the therapist-patient alliance as important factors in predicting adherence. Although those interviewed engaged in many positive behaviors, PTs and the literature disagree on how to increase adherence. Of those interviewed, patients' actual adherence is unknown, but it is estimated at higher than reported in the literature. ***Conclusion:*** The information given by PTs suggests that the field of physical therapy needs to reevaluate how to increase adherence and examine training programs to include training PTs to prevent or manage non-adherence.

Background

Physical therapy is a popular treatment for multiple disorders and musculoskeletal issues; however, for physical therapy to be productive and effective, patients need to adhere to their treatment programs. Non-adherence to home exercise programs prescribed by physical therapists (PTs) is a significant problem. Engström and Öberg[4] found that only 24% of participants actually completed their physical therapy exercise programs with full adherence - that is completing all home exercises as prescribed and adapting to recommended behavioral modifications - which implies that 76% of participants are not completing their exercise programs, and adherence to treatment is a major predictor of successful response to physical therapy intervention.

Though a fully inclusive theory of patient compliance does not exist, numerous theories offer insight into patient behavior and motivators. Bassett and Prapavessis[2] showed that the Protection Motivation Theory was not predictive of increasing adherence to physical therapy, but the idea of self-efficacy is still widely supported.[4,11,12] Self-efficacy tends to be related to an internal Health Locus of Control which motivates patients to adhere to their physical therapy exercise program. Patients without high self-efficacy do not have a strong belief that he or she will be able to influence the outcome of treatment. Performance accomplishments show patients they have the ability and knowledge to be successful with physical therapy intervention, which is the best way to increase a patient's self-efficacy.

Other factors, such as the therapist-patient alliance,[6] are important in patient adherence. PTs have the power to influence patients, and this influence is greater when the PT and patient develop a positive relationship. Collaborative goal setting is beneficial to the therapist-patient alliance and the patient is more likely to take an active role in his or her rehabilitation. This empowerment increases the patient's self-efficacy by having him or her acknowledge his or her progress towards the treatment goals.

Medina-Mirapex et al.[11] found that characteristics of the home exercise program (HEP) seem to be important in increasing adherence; specifically how many exercises were included in the HEP. Overall, less than three exercises yielded the best adherence rates. Also, the PT should explain the importance of the exercise in terms of how it is going to help the patient return to specific activities. Collaborative goal setting is a critical aspect to explain the exercises functionally.

Most research has focused on the patients' reasons for adherence and non-adherence and theories that explain non-adherence, but limited research has pursued the PTs' perspective on patient adherence to exercise programs. Some research has been done on PTs' role in increasing adherence by asking the PT; however, those studies focused on hope[13] and collaborative goal setting.[8] None of the research reviewed asked the PTs their general ideas on how to increase adherence, though it is assumed all PTs seek strategies that increase patient adherence.

This study is a qualitative investigation of the PTs' perspective of patient adherence to prescribed home exercise programs. The purpose of this study is to determine (1) the beliefs PTs hold about non-adherence, (2) the strategies that are used by PTs to increase adherence, and (3) the PTs' beliefs about the success of those strategies. Previous research focused on the success of implicit strategies such as the Protection Motivation Theory and the Social Cognitive Theory to increase adherence; however, this study focuses on the beliefs guiding PTs and the strategies PTs report using in their practice.

Methods

This study uses a phenomenological approach that has been used in related work in investigating PTs' practice experiences.[8] Data is primarily gathered through PTs interviews.

Participants

A judgment sample was used to find participants for this study.[9] Participants were picked based on their years of experience as a PT; sample representation of a wide range in the years of experience was important to have a difference in PTs' education and time in practice. This variation allows for PTs to evaluate his or her philosophies over time as related to their practice. All participants are certified PTs in Missouri and all were employed at different clinics.

Five PTs participated in this study. Four participants were female PTs and one participant was a male PT. The mean years of experience was 12.2 years (ranging from 4 years to 21 years). Two of the participants have their Doctorate in Physical Therapy. Two other participants have their Master's in Physical Therapy and one participant has a Bachelor's in Physical Therapy. All participants work in an outpatient orthopedic setting; however, each participant sees patients with neurologic conditions as well.

Procedure

Participants were contacted by the principal investigator, via phone or email, to participate in the interviews. Before the

interview began, participants were given an informed consent stating they could stop the interview at any point and stating that they did not have to answer any questions they felt uncomfortable answering. The interviews were between twenty and forty-minute sessions and all were done in person, by the principal investigator. Each participant was asked a similar list of questions about his or her experience with patient non-adherence to exercise programs prescribed as a PT.

Analysis

Interviews were recorded, then transcribed and reviewed. To analyze the data collected during the interviews, all data were subjected to primary coding for categorization of content. Codes were then condensed to distinct categorical themes, including ways PTs try to increase adherence, views on effectiveness, characteristics about HEPs, and opinions about self-efficacy. These themes were evaluated to find the major similarities and differences.

Discussion

All PTs deal with non-adherence; however, the participants' estimates of non-adherence varied in this study. Overall, participants estimated an average full adherence rate — that is the patient does everything the PT asks them to do — at 35% for this study, with a range from 25-50%. However, all participants stated that they had no concrete evidence to back up their rates of non-adherence but were basing the estimate on initial impressions. When asked why PTs thought their patients' adherence rates were so low, all PTs said the patients did not have the time or they were overwhelmed, which is consistent with previous research.[6] All PTs stated that they try not to give their patients too many exercises to take home because adherence decreases as exercises increase.

Previous research using patient self-reporting to measure adherence yielded higher rates of adherence than the PTs reported.[4] Participants reported they could tell when a patient was accurately reporting their level of adherence. Participants stated that when they ask a patient to perform an exercise from the HEP and the patient does not recognize the exercise, it is obvious the patient has not been completing the HEP. When this occurs, the participants stated that he or she needs to try a different tactic to increase adherence. Participants believed that adherence increased by simply asking patients if they were completing their HEP. [5]

Influences on Adherence – PTs' Beliefs and Practices

Each participant had beliefs on what influences adherence in patients. Some of these beliefs are similar to the theories presented in the literature review, such as self-efficacy,[1] the Therapist-patient alliance,[6] outcome expectancies,[10] positive and negative reinforcement,[3] and characteristics of the HEP.[11] Also, participants did state that emotional distress was a factor influencing adherence.

Just as PTs have their own theories and beliefs about what influences adherence, they also have their own approaches to increase adherence. These strategies are not always consistent to the theories offered by research. However, it is necessary to evaluate how PTs are trying to increase adherence so that the field can determine the most effective strategies that can be incorporated into PT practice to better increase adherence. Two of the main strategies the participants stated as ways to increase adherence were patient education and goal setting.

Self-efficacy. Each participant stated that self-efficacy does, in fact, have an effect on adherence to treatment. However, only one of the five participants uses specific strategies to increase self-efficacy. The other four believed that it was the patient's responsibility to gain self-efficacy. The participant that tries to increase self-efficacy uses physical tools.

> *"have [the patient] hold onto something so they feel safer or I help hold them either physically or for balance or help guide their arm through the motion I want to show them. If they believe they can't do it, this shows them that they can."*

By giving the patient a physical cue to let him or her know he or she is safe, this PT boosts the patient's self-efficacy and demonstrates to the patient that he or she can, in fact, do the exercise. This strategy is using performance accomplishments discussed by Bandura.[1] Allowing the patient to do the exercise on his or her own gives the patient a sense of personal mastery which increases self-efficacy.

The fact that only one of the participants has thought about ways to increase a patient's self-efficacy may be worrisome. Although the literature demonstrates that self-efficacy is an important factor in increasing adherence, the practicing physical therapy community is not aware of the significance of self-efficacy, and it is presumed that patient adherence is suffering as a result. Participants acknowledged that self-efficacy played a role in adherence, but they did not view self-efficacy as the most important factor in increasing adherence. To increase adherence, patients need to feel a sense of self-efficacy and the PTs can build this trait.

Therapist-patient alliance. The participants believed that their relationship with the patient makes a difference in adherence. The most common way reported to encourage this relationship with their patient is through common courtesy and conversation. In a physical therapy session, the PT typically has thirty minutes to one hour with a patient. During this time, the PT has to discuss all of the medical information and reasons for the exercises, but there is also time for a casual, personal conversation. Asking how the patient's day or week has been is a beneficial step in improving the therapist-patient alliance.[6] Two other ways participants are working to improve their relationship with patients are to ask them about their other health problems and use appropriate humor.

Participants stated this alliance was important enough to affect recovery in a positive or negative way. Two of the five participants went as far as to say that they have met PTs who have the best knowledge and education, but their patients do not recover to their potential because of problems in this relationship.

> *"There are definitely therapists who didn't have the right attitude and those patients didn't come back very often and they didn't want to be here and they didn't do their exercises properly and didn't really care."*

According to participants, many patients come to physical therapy and are doubtful about the benefits, and it is the PT's responsibility to make patients want to be at physical therapy and explain that it will help the patients. To overcome the skepticism that patients come in with, participants noted that they have to build rapport with the patients and establish a connection as an individual before they can establish a trusting professional PT-patient relationship. This technique is similar to verbal persuasion discussed by Bandura.[1]

Outcome expectancies. Four of the five participants think patients' outcome expectancies play a small role in their adherence and recovery. However, these participants stated that many of their patients have extreme expectancies; either they think they will get better in the first week, leading to discouragement and non-adherence, or they think it will take them a long time to get better, so there is no motivation to adhere.

> *"If they have low expectancies, then they will have low outcomes."*

Overall, participants stated that on the patient's first day, the PT has to educate the patient and change his or her expectancies from unrealistic or negative attitudes to realistic goals and positive attitudes about physical therapy. If the patient trusts the PT, then the outcome expectancies change and usually he or she achieves therapy goals. Tijou et al.[14] found similar results, in that positive outcome expectancies were related to high rates of adherence. The insights of these participants are consistent with research attributing positive expectancy to adherence.

Positive and negative reinforcement. Four out of five participants stated that they use positive and/or negative reinforcement based on the patient's actions and progress. Two participants only use positive reinforcement. An example of this is identifying the patient's progress and encouraging the patient to continue to adhere to their HEP. It can also help improve a patient's self-efficacy by providing them with examples of personal mastery and verbal persuasion[1] and the knowledge that they are able to make a difference and improve their condition. Two other participants use both positive and negative reinforcement. PTs use negative reinforcement to explain to the patient that physical therapy will decrease his or her pain; therefore the patient avoids pain by doing his or her exercises.

> *"Well it (the pain) wouldn't be bad here (in physical therapy) if you did this at home."*

These participants stated that they only use negative reinforcement when the patient absolutely needs to adhere to their exercise program or else they will continue to get worse. One participant admitted that she uses more negative reinforcement than positive as she explains why her patients are in so much pain.

Emotional distress. Each participant said that he or she had seen patients in the past who were emotionally distressed and this affected their recovery and their adherence to the exercises. PTs acknowledge that their patients go through the medical cycle before they ever come to physical therapy. Since there is not direct access in Missouri for physical therapy, patients have to have a prescription, which are typically written by specialists. Patients have usually seen at least two doctors and have had multiple tests and/or images before they see a PT for the first time. Over the course of several visits to the doctors, patients may be in pain, possibly delaying appropriate treatment. Patients are screened for depression when they present to the PT clinic, and participants reported that those patients who are distressed to the point of depression are referred to a specialist.

Participants were questioned on how they deal with those patients who are not distressed to the point of depression. Each participant stated that he or she listened to the patients and offered positive support to those patients. This allows for strengthening of the affective bond between the PT and the patient. The participants acknowledge the role of the PT is to provide emotional support as well as physical interventions.

> "*Half of the time I feel like I am a psychologist more than a therapist. It may be their shoulder hurting but life in general for them is not good at the time and sometimes we might be the only people they see in a day*."

Encouraging patients on a regular basis is part of being a PT. If the patient is not encouraged by the PT, then he or she has no motivation to follow through with his or her treatment. The PT needs to express to the patient that physical therapy will indeed help him or her. Also, non-adherence typically makes the patient's physical symptoms worse, which leads to a greater emotional distress.

> *"You have to have that blunt talk with someone and say if you don't do it, this is what is going to happen."*

Patients must be reminded of consequences and praised for the positive things they have already done. Then PTs have to explain how much better they would be if the patients did their exercises at home. This encouraging helps with the emotional distress some patients have when they come to physical therapy.

Characteristics of the HEP. Literature has shown that the number of exercises given for a home program affects a patient's adherence to do the program.[11] Participants agreed with the research; however, they stated that they begin patients with 4-8 exercises, which is higher than the recommended six or less exercises from the research. [11] Nevertheless, as patients continue to attend physical therapy, the number of home exercises increases. PTs tend to add to the HEP without telling the patient to discontinue previous exercises. Research shows that patients should only be given new exercises to replace previous exercise that became too easy. PTs need to be explicit in telling patients to discontinue previous exercises and begin new exercises to maintain an optimal number of exercises for adherence.

Another factor that participants said was important when discussing characteristics of HEP and adherence was giving the patient exercises to take home on the first day. Giving patients home exercises after the first treatment session encourages collaborative goal setting between the PT and the patient. Patients are able to express their goals early on and PTs can subsequently choose exercises to address some of those goals immediately. In turn, this empowers the patient to have an active role in guiding their rehabilitation.[7]

Patient education. Every participant said that he or she thought the best way to increase adherence was to educate his or her patients. One participant expressed that she has the expectation of her students to provide patient education.

> *"I'm disappointed if they get a new patient and don't go get an anatomy model and tell the patient what is happening."*

PTs are taught to educate their patients as part of their patient intervention. The importance of patient education is a big topic in the medical field. It is reasoned that if patients understand their condition, they will be more likely to adhere to their treatments, although research does not confirm this theory. Bassett and Prapavessis tried to increase patient education by applying the Protection Motivation Theory.[2] In this study, patients were shown a video about the severity of their injury and explained how physical therapy would help their injury and allow them to return to regular functioning. However, this approach was unsuccessful for increasing adherence to physical therapy. This may suggest a need for improvement in patient education to

improve its efficacy or that perhaps it does not play such a critical role in adherence as once thought.

One way that participants try to educate their patients about the importance of physical therapy is by explaining the benefits of adherence.

> *"I try to talk to them about the fact that doing it twice a day, every day, is 14 sessions, where coming here is only twice, maybe three times a week."*

The participant explains that he or she can only do so much to help the patient's condition and the rest of the patient's recovery is dependent on their choice to adhere. Another participant emphasizes the importance of exercise in health maintenance and recovery with a typical mantra.

> *"I tell my patients to only exercise the joints they want to keep."*

Goal setting. Although every PT has to create and evaluate functional goals for reimbursement reasons, not all participants use these goals as a way to link the patient's outcomes to the home program. None of the participants reported asking patients what he or she expects to achieve from physical therapy, which may suggest that participants are not incorporating collaborative goal setting to the fullest. Only three of the participants stated that they use these functional goals as a way to increase adherence in a patient. However, one participant acknowledged that if she explained how she progresses certain exercises, it would be better for her patients. It is assumed that if PTs use collaborative goal setting and explain how the prescribed exercises will help the patient reach his or her goals, then the patient should be more apt to do his or her exercises. Also, this explanation empowers the patient by giving him or her an individual rehabilitation plan.[7]

Conclusion

This study has shown that previous research and the PTs do not agree on ways to increase adherence. Self-efficacy was the main tool previous research supported, but the participants in this study were not consciously increasing self-efficacy in their patients, possibly leading to decreased adherence rates. Participants were using the Therapist-patient alliance and were conscious of characteristics of the HEP, but PTs could improve in these areas as well, according to the importance that previous research puts on these factors.

According to previous research, PTs should promote adherence by encouraging self-efficacy[1] and the therapist-patient alliance,[6] explaining how the exercise will help return the patient to prior level of functioning[7] and by keeping home exercises short and concise.[5] Self-efficacy was shown to be a major predictor of adherence by multiple studies.[1,4,11,12] However, none of the participants were able to articulate a successful strategy to build self-efficacy in their patients, even though they recognized self-efficacy was an important predictor of adherence. The field of physical therapy needs to find ways to increase self-efficacy in patients in order to increase adherence. Bandura provides many ways to help increase a person's self-efficacy, including performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. However, participants were unaware of these strategies.[1] Educating PTs on some of these strategies may improve how they choose to empower and educate their own patients, therefore, positively impacting patient adherence.

One way PTs are currently working on increasing adherence is the Therapist-patient

alliance. Previous research has shown this alliance to be a major predictor of adherence,[6] and PTs appreciate the importance of the caring relationship with the patient. Improving this relationship is necessary to continue to improve adherence. Also, PTs need to encourage the patient to be a part of collaborative goal setting. This discussion adds personal communication, which may strengthen the patient's commitment to adhere to HEP because he or she likes the PT as an individual and feels as though the exercises will help.

Characteristics of the HEP seem to be another major predictor of adherence that PTs need to improve. Participants initially give patients about three exercises but when exercises are added, others need to be removed so that the HEP remains less than three exercises. Prioritizing the exercises given to patients would increase a patient's adherence based on the study by Medina-Mirapex et al.[11]

The final way the PTs could increase adherence based on the findings of this study is to modify how PTs educate their patients. Every participant stated that patient education was the best way to increase adherence; however, the research disagrees.[2] One way to make patient education more effective is to explain how certain exercises will help the patient return to prior level of functioning. Explaining exercises functionally allows the patient to understand the rationale and benefits of the exercise.

Further research should find ways to change how PTs are taught to improve adherence. All of the PTs interviewed stated that they did not remember specifically learning about increasing adherence, and this lack of education is shown in how PTs are dealing with non-adherence. The research has provided multiple ways to increase adherence, such as increasing self-efficacy, the therapist-patient alliance, and collaborative goal setting.

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