



A Qualitative Study on Clinical Decision Making Regarding the Use of Vital Signs in Physical Therapy

Independent Research Project

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ABSTRACT

Purpose: Examine the clinical decision making process involved in measurement of vital signs by physical therapists including body temperature, blood pressure (BP), heart rate (HR), respiratory rate, and pulse oximetry (SpO2).

Research question: What factors most strongly influence the decision of physical therapists to take vital signs?

Methods: Seventeen practicing physical therapists were given a questionnaire by phone, email, or in person. The questionnaire contained three sections including demographic data, clinical decision making questions, and two risk-based scenarios in which participants were asked to indicate whether or not they would assess vital signs.

Results: The primary factors cited in response to source of reference of assessing vital signs included clinical experience, education, and patient presentation. The primary factors included by physical therapists in response to the decision to treat or refer based on abnormal vital signs included patient history, clinical experience, various parameters, and contacting the physician. Several different themes emerged with respect to clinical decision making that included utilizing ACSM guidelines, clinical experience, physician's protocol, education, patient presentation, criteria proposed by the cardiopulmonary section of the APTA, and facility policies and procedures. In addition, there did not appear to be an agreement by participants on the definition of abnormal vital signs seen clinically.

Discussion and Conclusion: The variation of factors that influenced the decision making process by the participants may be reflective of the lack of guidelines and the broad understanding of the need and benefit of objectively assessing vital signs.

BACKGROUND

Physical Therapists (PT) can practice as autonomous practitioners (Domholdt & Durchholz, 1992). Measuring vital signs allows physical therapists to screen for red flags, monitor a patient's cardiovascular response to exercise, incorporate relevant information into the plan of care and use the information gained for making clinical predictions.

Measurement of blood pressure, heart rate, respiratory rate, and pulse oximetry are appropriate to characterize or quantify cardiovascular and pulmonary signs and symptoms as part of an assessment of aerobic capacity and endurance (American Physical Therapy Association's Guide to Practice, 2014).

Physical therapists do not always measure vital signs every visit (Peters, 2014). Whether PTs should be measuring vital signs every visit can be controversial, as patients' status can undergo changes from day to day that are not visible or easily communicated. Evaluation and treatment of many dysfunctions commonly involve physical exertion which can increase stress on the patient's different body systems.

Clinicians have stated that they use clinical decision making in determining which vital signs they measure based on observations or patient information provided through risk assessment. The decision to take vital signs is a component of clinical decision making for PTs, which is multi-factorial in nature.

Evidence on clinical decision making in relation to vital signs is not widely available in the existing literature. It is therefore important to know which factors influence the decision to take vital signs.

DEMOGRAPHIC INFORMATION

N=17 Physical Therapists

Years in Physical Therapy Practice	
Range of Years	Number (%) of Respondents
<5 years	3 (17.6%)
5-10 years	4 (23.5%)
11-20 years	4 (23.5%)
21-30 years	5 (29.4%)
>30 years	1 (5.9%)

Practice Setting	
Setting	Number (%) of Respondents
Outpatient	15 (88.2%)
Pediatrics	1 (5.9%)
Home health	1 (5.9%)

APTA Membership	
Setting	Number (%) of Respondents
Members	9 (60.0%)
Non-members	8 (47.1%)

Highest Level of Education	
Degree in Physical Therapy	Number (%) of Respondents
Doctoral	9 (52.9%)
Masters	6 (35.3%)
Bachelors	2 (11.8%)

PARTICIPANTS

- The study implemented a phenomenological design with snowball sampling to include 10-20 physical therapists.
- Recruitment was achieved through multiple sources including through DPT faculty at FGCU as well as through participants themselves.
- Each participant was given full disclosure of the study including the purpose and nature of the project, and participation was voluntary.
- Results were kept confidential and completion of the survey implied informed consent.
- Each participant was required to be a licensed and currently practicing physical therapist in the State of Florida for at least the past six months, and only participants meeting the eligibility requirements were asked to participate.

METHODS

- Qualitative, non-experimental, cross sectional research study utilizing a questionnaire administered via interview.
- The questionnaire included a consent form and statement of confidentiality.
- Survey was peer reviewed by two FGCU faculty members of the College of Health Professions and Social Work.
 - Part 1 contained questions about demographic information
 - Part 2 consisted of questions regarding clinical decision making
 - Part 3 consisted of a scenario-based risk assessment
- IRB approval was obtained before participant recruitment and data collection.
- Data collection consisted of an interview which was recorded, coded, and transcribed.
- Information from the interview was categorized according to common themes in responses and similar characteristics noted.
- Pearson correlation and Cohen's Kappa were used to associate demographic information regarding APTA membership, years of practice, and highest level of education with response to clinical scenarios and reference for cardiovascular risk.

RESULTS

- No statistically significant correlations were found between level of practice, APTA membership, education, and the use of vital signs
- No statistically significant correlation was found between these variables and reference for cardiovascular risk

“Would you take vital signs on this patient, if so which ones? Why or why not?”

- The following is the first scenario that was given to the participants: “Patient is a 65-year-old female who is referred to you for balance retraining following a fall. She was seen by her primary care physician two days ago. Patient has a history of hypertension and gastroesophageal reflux disease (GERD). Medications include propranolol (Inderal) and omeprazole (Prilosec), patient states that she is compliant with her medications.”
 - 7 participants (41%) stated that they would take blood pressure, 6 participants (35%) stated that they would take heart rate, 3 participants (18%) stated that they would take respiratory rate, 5 participants (29%) stated that they would take pulse oximetry, and 1 participant (6%) that they would take temperature.

“Would you take vital signs on this patient, if so which ones? Why or why not?”

- “Patient is a 16-year-old male who is in the last stages of rehab following an ACL reconstruction. He is seeing you today to prepare for his return to football next week, so you plan to do advanced plyometric training.”
 - 2 participants (11.8%) stated that they would take heart rate and 1 participant (5.9%) stated that they would take respiratory rate

“What is your source of reference when assessing cardiovascular risk?”

- Several themes emerged with regards to source of reference including ACSM guidelines, clinical experience, physician's protocol, education, patient presentation, criteria proposed by the cardiopulmonary section of the APTA, and facility policies and procedures

“With a result of abnormal vital signs, what influences your decision to either treat or refer?”

- A variety of factors seem to influence providers' decision to treat or refer a patient, including patient history and presentation, clinical experience, and parameters set forth by various sources
- Most respondents agreed that there is no definitive protocol in place when determining whether to treat or refer the patient

Discussion

- Physical therapists provided reason why they would or would not take vital signs. In both cases there could be reason to take vital signs that were not considered.
 - For example in the first scenario: did the patient take her medications that day?
 - For example in the second scenario: did the patient start taking performance enhancing drugs as they are ready to return to sports?

- With direct access, patients can see a physical therapist for a specific amount of time depending on state legislation, without a referral for physical therapy.
- With the prevalence of undiagnosed cardiovascular disease and the impact of exercise on the different body system, physical therapists must understand the important implications of taking vital signs for purposes of safety and best practice decision making.

Conclusion

- Many factors were cited by participants regarding clinical decision making as well as the decision to treat or refer patients with abnormal vital signs.
- In addition, there did not appear to be an agreement by participants on the definition of abnormal vital signs seen clinically.
- The variation of factors that influenced the decision making process by the participants may be reflective of the lack of guidelines for physical therapy practice with regard to risk stratification
- It is possible that there is a misunderstanding of the role and responsibility of the physical therapist in the patient's general medical care.