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## Patient and health professions student team perceptions of patient-centeredness in an inter-professional education home-visit program: An exploratory study

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### Abstract

The purpose of this study was to compare patient and health professions student team perceptions of patient-centeredness in an inter-professional clinical education home-visit program. Following an inter-professional clinical education home-visit program, patient and health professions student team perceptions of patient-centeredness were compared using a modified version of the Patient Perception of Patient Centeredness Questionnaire. The results showed both patient and student team participants perceived that student teams focused on how much they cared about the patient as a person and the opportunity to discuss any questions. Patients, however, reported significantly higher levels of patient-centered clinical method used during the visits than did health professions and osteopathic medical/dental student participants. The study reveals more practice and focus on patient feedback and the patient's central role in their healthcare decisions is recommended for this inter-professional clinical education program as well as for any program that includes team-based care. Patient-centeredness also requires instruction to the patient about their role in their own healthcare. Health and medical professions educators need to continue to motivate students through inter-professional education programs and activities to adopt a more patient-centered practice. For future research as a follow-up study, adding independent observations of the home visit interactions may allow for a better understanding of which specific behaviors contribute the most to the experienced patient-centeredness.

### Keywords

Patient-centered care, patient engagement, inter-professional education, measurement

### Introduction

A multi-dimensional concept; patient-centered care involves respect for patient values, empathy, involvement of family and friends, communication of education and information, coordination and integration of care, and provider-patient shared decision making for condition management and care planning.<sup>1, 2, 3, 4</sup> The health policy, medicine and nursing literature consistently describe the following as themes in patient-centered care: patient participation in their care based on individual needs, provider- or team- patient relationship based on open communication, and the context or system in which patient care is delivered. These common themes go beyond health profession disciplines although the different disciplines may prioritize select themes according to their patient care responsibilities.<sup>2</sup> A more patient-centered practice style has been demonstrated to improve care

processes and outcomes as well as decrease specialty care visits, hospitalizations, lab tests, and annual medical care costs.<sup>3</sup> Patient-centered care, where the patient is actively involved in decision-making, and care is guided by the patient's needs and preferences; can be facilitated by effective patient-provider communication.<sup>1</sup>

Empathy in patient care, understanding and communicating the patient perspective, as well as inter-professional teamwork and communication are also important aspects of patient-centered care.<sup>5, 6</sup> Patient-centered care, therefore, requires provider and healthcare team communication skills that address patient needs and values. Attributes of patient-centered care include team-based care and patient-family involvement in decision-making about care.<sup>7</sup> In a national survey, most physicians reported support for and adoption of patient-centered care practice, one of the key domains of quality clinical care.

Team-based care and patient feedback practices, as components of patient-centered care, however, have not been adopted as enthusiastically.<sup>8</sup>

Medical education has also emphasized this need for patient-centered care and effective provider-patient communication skills. When medical students were surveyed, however, it seemed that their attitudes toward patient-centered care and patient-centered communication decreased as they progressed through medical education.<sup>9,10</sup> Medical students' patient-centeredness became more doctor-centered as compared to earlier in their education. Although females were more patient-centered and empathic than males at the completion of their medical education,<sup>5</sup> even their patient-centeredness had decreased over time.<sup>11</sup> Patient-centeredness also seemed to be associated with medical students' gender and practice setting interest. Females, especially if they had previous work experience, and those medical students with more interest in primary care, were more likely to be patient-centered in their attitudes.<sup>12</sup>

Because medical and health professions education is where patient-centered practice can be introduced and to meet a vision of improved patient-centered care in the future, more focus needs to be placed on learning about patients' needs from the patients' perspective,<sup>7</sup> especially during health professions training. Therefore, the purpose of this study was to compare patient and health professions student team perceptions of patient-centeredness in an inter-professional clinical education home-visit program.

## Methods

During January 2015, 150 health professions and osteopathic medical students and 50 senior citizen patients living in a rural Missouri community who participated in an inter-professional clinical education home visit program during spring semester 2015 were asked to participate in the study. All students and just over half (33/50; 66.0%) of patients agreed to participate in the study. Health professions and medical student participants included 36 males and 103 females (11 did not answer) from the health professions of: Athletic Training (6), Health Science (13), Nursing (53), Communication Disorders (9), Osteopathic Medicine/Dentistry (53), and Did Not Specify (16).

Senior patient participants were all White, and their ages ranged between 55 and 100 years of age. The majority of patients (20/33, 60.6%) were in their 80s. Most (21/33, 63.6%) resided in their private homes or apartments, and 36.4% (12/33) resided in assisted living or personal care homes. Senior patient participants were recruited by flier and word of mouth using the assistance of local senior and retiree groups who alerted their membership to the opportunity. The home visit program director chose all volunteers who were 55 years or older, in relatively good

physical and mental health, and willing to participate in physical and psycho-social assessments in their homes conducted by a small group of health professions and medical students.

A modified version of the Patient Perception of Patient Centeredness Questionnaire (PPPC),<sup>13</sup> a tool that was demonstrated as directly-related to patient outcomes (Chronbach's alpha for total score was .71), was used to assess perceptions of level of patient-centered clinical method used during the inter-professional home-visit program from the perspectives of not only the patients but also the health professions and osteopathic medical/dental student teams. The 13-item survey used a 4-point Likert scale with responses ranging from 'Not at all' to 'Completely'. Higher scores were indicative of greater perception of patient-centeredness. (Appendix A)

After Institutional Review Board approval from the local university to protect the rights and welfare of research subjects and before the initial two-hour program orientation in January 2015 for a team-based, inter-professional clinical education home-visit program, student and patient participants completed the consent form indicating that they understood the purpose of the study as well as any potential risks and benefits of participation and freely agreed to participate in the study. In addition, an informed consent document was provided to all individual student and patient participants included in the study. An orientation was later held, and student participants were instructed in inter-professional competencies, team-based communication, and the inter-professional process by an inter-professional group of health professions and medical/dental faculty from the participating university and medical school. Student participants were then placed into teams consisting of three different health professions and assigned a senior citizen volunteer as their 'patient'. Over the course of the semester, teams were to complete three home visits with their patient that included physical and psycho-social health assessments.

The first visit focused on team-based assessment of the patient's medical history, community healthcare resources, health literacy, home safety, nutritional status, and ability to complete activities of daily living. The second visit focused on team-based assessment of the patient's range of motion and mobility, oral health, hearing and vision, and heart attack risk. The third visit focused on team-based assessment of the cognitive and psycho-social status of the patient. In addition, teams assisted their patient with a goal-setting action plan to achieve patient-created wellness objectives based on assessment results. About one week after the completion date for each visit, a one-hour long, full program group 'debriefing' was facilitated by the same inter-professional faculty group who conducted the initial orientation. The visit process and

assessment results were reviewed, additional didactic instruction in patient-centered, team-based care and communication was presented, and the format for the next visit was previewed. During the final full program debriefing session, health professions and osteopathic medical/dental students completed the anonymous, confidential PPPC, placed it in a clasped envelope, sealed it, and placed it in a collection box for the researchers. After the final home visit one week later and during a group meeting for the senior citizen patient participants, they completed the anonymous, confidential PPPC, placed it in a clasped envelope, sealed it, and placed it in a collection box for the researchers.

Survey responses were coded from 1-4, with higher scores reflecting a greater perception of patient-centeredness. Mean scores on each of the 13 questions on the PPPC were calculated for patients and health professions and osteopathic medical/dental student participants. A total PPPC score was computed by summing items. Possible total scores ranged from 13-52. An independent samples t-test was used to compare mean total PPPC scores of the patients to the mean total scores of health professions and

osteopathic medical/dental student participants.

## Results

As seen in Table 1, all but two mean scores on the PPPC were 3.0 or above from the perspective of the health professions and osteopathic medical/dental student participants. The questions with the two highest mean scores on patient-centeredness for health professions and osteopathic medical/dental student participants focused on how much they cared about their patient as a person ( $M=3.88$ ,  $SD=.37$ ) followed by how much opportunity they had to ask their patient a question ( $M=3.76$ ,  $SD=.47$ ). The questions with the two lowest mean scores on patient-centeredness for health professions and osteopathic medical/dental student participants focused on the extent to which the team explained the patient's problem to them ( $M=2.84$ ,  $SD=.68$ ) followed by the extent the team explored how manageable the final wellness plan would be for their patient ( $M=2.91$ ,  $SD=.78$ ).

As seen in Table 2, all mean scores on the PPPC were 3.45 or higher from the perspective of the patient. The

**Table 1. Students' Perception of Patient (Pt) Centeredness**

Question	N	Mean	Std. Deviation
Extent Pt.'s problems were discussed?	150	3.08	0.68
Did team understand importance of Pt.'s problems?	150	3.27	0.64
How well team understood your Pt?	150	3.52	0.63
How satisfied were you with discussion of Pt.'s problems?	150	3.12	0.70
Extent the team explained problem to Pt.?	148	2.84	0.68
Extent you agreed with teams' opinion of problem?	149	3.61	0.52
Amount of opportunity available to ask Pt. questions?	150	3.76	0.47
Extent team asked about Pt.'s wellness goals?	150	3.18	0.74
Extent wellness plan was explained to Pt.?	149	3.07	0.74
Extent team explored manageability of wellness plan?	149	2.91	0.78
Extent you're Pt. and team discussed roles?	149	3.17	0.87
Extent team encouraged Pt.'s role in their health?	150	3.36	0.72
How much team cared about Pt.?	150	3.88	0.37
Total	148	42.87	5.11

**Table 2. Patients' Perceptions of Patient (Pt) Centeredness**

Question	N	Mean	Std. Deviation
Extent your problems were discussed?	33	3.60	0.70
Extent the team understood importance of your problems?	33	3.66	0.64
How well team understood you?	33	3.75	0.50
Your satisfaction of discussion of problems?	32	3.71	0.52
Extent the team explained these problems?	32	3.65	0.65
Extent you agreed with team's opinion about problem?	31	3.70	0.78
How much opportunity you had to ask questions?	30	3.76	0.50
Extent team asked you about wellness goals?	32	3.46	0.71
Extent team explained wellness plan?	32	3.53	0.84
Extent team explored manageability of plan?	31	3.67	0.59
Extent team discussed roles?	31	3.45	0.85
Extent team encouraged you to take a role in your health?	31	3.67	0.79
How much team cared about you as a person?	32	3.93	0.24
Total	27	48.29	4.26

questions with the two highest mean scores on patient-centeredness for patients focused on how much the student teams cared about them as a person ( $M=3.93$ ,  $SD=.24$ ) followed by the amount of opportunity they had to ask questions of their student team ( $M=3.76$ ,  $SD=.50$ ). The questions with the two lowest mean scores on patient-centeredness for patients focused on the extent they and their student team discussed their respective roles in the healthcare team ( $M=3.45$ ,  $SD=.85$ ) followed by the extent the student team asked them about their wellness plan goals ( $M=3.46$ ,  $SD=.71$ ).

An independent samples t-test assessed differences in total PPPC total scores between patients and health professions and osteopathic medical/dental student participants. Patients scored significantly higher ( $M = 48.30$ ,  $SD = 4.27$ ),  $t(173) = -5.19$ ,  $p < .010$  than health professions and osteopathic medical/dental student participants ( $M = 42.87$ ,  $SD = 5.12$ ) on perception of level of patient-centered clinical method used during the visits.

## Discussion

Patient and health professions student team perceptions of patient-centeredness were compared using a modified version of the Patient Perception of Patient Centeredness Questionnaire following an inter-professional clinical education home-visit program. Both patient and student team participants perceived that student teams focused on how much they cared about the patient as a person and the opportunity to discuss any questions. Patients, however, reported a significantly greater level of perceived patient-centered clinical method used during the home-visit program than did student team participants.

The highest mean scores on patient-centeredness for patients as well as their health professions and osteopathic medical student participants were in the areas of caring about the patient as a person and opportunity to ask questions. Compassionate care, a component of empathy, is important to a positive patient-provider relationship.<sup>4</sup> The outcome of caring about the patient as a person, however, may not truly measure patient-centeredness. A provider may demonstrate caring about a patient as a person, however, they may not involve them in decision-

making, information sharing, or care planning. On the other hand, good communication in patient education leads to more patient-centeredness,<sup>1</sup> and the home-visit program seemed to enable this perception. Having instruction in team-based, patient-centered care processes, discussion of diverse and overlapping professional roles, as well as opportunity to apply the instruction almost immediately may have led to such perception by both patients and student participants. Using standardized assessment questionnaires allowed student team members to not only ask and answer questions they were assigned but also ask and answer questions specific to their professional roles. Although patient feedback practices in patient-centered care have not garnered enthusiastic support of providers,<sup>8</sup> this program seemed to encourage question and answer dialogue.

On the other hand, health professions and osteopathic medical/dental student participants rated themselves lowest in the health problem explanation and wellness plan management aspects of patient-centeredness reporting mean scores of below 3.0. This may be associated with patients' relatively low scores of 3.4 on patient role in their healthcare and the extent the student team asked them about their wellness plan goals. Although health professions and osteopathic medical/dental student participants may have perceived themselves as caring providers and good communicators, they may not have been as diligent in involving patients in their own care plans. Patient-centered care focuses on patient involvement in their healthcare decisions,<sup>7</sup> and participants in this program did not seem to take that next step. Possibly because of the brief length of the program, patient and student participants did not get enough time to delve into discussion of their respective roles on the healthcare team leading to patient empowerment in creating their personal wellness plan goals. Lack of time for role discussion and patient goal-setting is commonplace throughout the medical and nursing professions. This study may have had different results had the patient participants been involved in the orientation and debriefings with the health professions and medical/dental student teams.

## Conclusion

Patients perceived significantly higher levels of patient-centered clinical method used during the visits than did health professions and osteopathic medical/dental student participants. Patient-centeredness requires addressing patient problems as well as their values.<sup>3</sup> Patients reported scores of 3.6 or higher on questions relating to discussion of their problems and how well the team understood them. It seemed the student participants, though, reported scores of no more than 3.2 on questions relating to problem discussion and 3.5 on how well they understood their patient. Possibly, because the visits took place in the

comfort of the patient's home instead of a formal medical setting and were planned around the patient's schedule, patients felt more at ease and were more willing to participate in problem discussion. Although all scores were relatively high by both groups, student participants may not have possessed the in-depth health and medical knowledge as well as work experience with senior citizens they thought necessary to truly understand their patients and their patients' problems. There were several disciplines represented on the student participant teams, however, healthcare outcomes and expectations are extremely divergent for this mixture of students. Not all disciplines practiced clinical style, and different disciplines may prioritize different outcome measures according to their patient care responsibilities, thus, affecting the success of patient-centered care practices.<sup>2</sup> In addition, the patients, as volunteers who serve to assist in the health and medical education of the students, may have inflated scores to encourage the student participants instead of discourage them.

There are some limitations to this study. The small sample of student participants with differing clinical health expertise were from only one health professions college and one osteopathic medical/dental school, and patient participants were all from a rural area of Missouri, limiting generalizability of the results. Patient participants, all rural and White, were representative of the local area but not the population as a whole including variable cultural differences inherent in a diverse population. All data collected were self-report on a rating scale, relying on the honesty, interpretation, and introspection ability of the participants. As all were volunteers, participants may have already possessed high patient-centeredness attributes. In addition, not all patient participants volunteered to complete the survey. When four patient participants were asked why they did not complete the survey, three responded they went out of state, and one did not have time.

For future research as a follow-up study, adding independent observations of the home visit interactions may allow for a better understanding of which specific behaviors contribute the most to the experience of patient-centeredness. In addition, building on the exploratory nature of this study; a longitudinal study assessing patient perceptions as students progressed along the training continuum and gained more skills would be interesting. This study suggests, though, that for both patient and student healthcare teams, relatively high perceptions of patient-centeredness were observed during this one-semester, inter-professional home visit program, with patients perceiving significantly more patient-centeredness than student teams. Both groups scored relatively high in their perception of positive patient-team communication, and that can lay the foundation for more active patient participation in their own healthcare.<sup>7</sup>

Specifically, for this program, integrating student healthcare team instruction to the patient about patient role in the healthcare team from the first visit may empower more active patient participation throughout all of the home visits. When the final visit focuses on a personalized wellness plan, the patient would possibly be more pro-active in setting their health goals. Another interesting avenue for future research is to examine changes in patient-centeredness attitudes over time between student teams (by their gender, profession, or practice setting interest) and patients because attitudes of students do seem to change as they progress through their education,<sup>9,10</sup> and patients' may possibly do so, too. While health and medical educators work with future healthcare professionals to improve future patient-centered practice, another direction for research would be to determine the extent of patient-family knowledge and skills for health care decision-making because care is now being guided by the patient's preferences.<sup>1</sup>

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## Appendix A. Patient and Student Team Survey

### Patient Perception of Patient-Centeredness – Patient survey

Please CIRCLE the response that best represents your opinion

1. To what extent was your main problem(s) discussed during the home visits?  
Completely      Mostly      A little      Not at all
2. To what extent did the team understand the importance of your main problem?  
Completely      Mostly      A little      Not at all
3. How well do you think your team understood you during the home visits?  
Very well      Well      Somewhat      Not at all
4. How satisfied were you with the discussion of your problem?  
Very satisfied      Satisfied      Somewhat satisfied      Not satisfied
5. To what extent did the team explain this problem to you?  
Completely      Mostly      A little      Not at all
6. To what extent did you agree with the team's opinion about the problem?  
Completely      Mostly      A little      Not at all
7. How much opportunity did you have to ask your question?  
Very much      A fair amount      A little      Not at all
8. To what extent did the team ask about your goals for your wellness plan?  
Completely      Mostly      A little      Not at all
9. To what extent did the team explain your wellness plan?  
Very well      Well      Somewhat      Not at all
10. To what extent did the team explore how manageable this wellness plan would be for you? They explored this:  
Completely      Mostly      A little      Not at all
11. To what extent did you and the team discuss your respective roles? (Who is responsible for making decisions and who is responsible for what aspects of your care?)  
Completely      Mostly      A little      Not at all
12. To what extent did the team encourage you to take the role you wanted in your own care?  
Completely      Mostly      A little      Not at all
13. How much would you say this team cares about you as a person?  
Very well      Well      Somewhat      Not at all

### Patient Perception of Patient-Centeredness- Student team survey

Please CIRCLE the response that best represents your opinion

1. To what extent was your patient's main problem(s) discussed during the home visits?  
Completely      Mostly      A little      Not at all
2. To what extent did the team understand the importance of your patient's main problem?  
Completely      Mostly      A little      Not at all
3. How well do you think your team understood your patient during the home visits?  
Very well      Well      Somewhat      Not at all
4. How satisfied were you with the discussion of your patient problem?  
Very satisfied      Satisfied      Somewhat satisfied      Not satisfied
5. To what extent did the team explain this problem to your patient?  
Completely      Mostly      A little      Not at all
6. To what extent did you agree with the team's opinion about the problem?  
Completely      Mostly      A little      Not at all
7. How much opportunity did you have to ask your patient a question?  
Very much      A fair amount      A little      Not at all
8. To what extent did the team ask about your patient's goals for their wellness plan?  
Completely      Mostly      A little      Not at all
9. To what extent did the team explain the wellness plan to your patient?  
Very well      Well      Somewhat      Not at all
10. To what extent did the team explore how manageable this wellness plan would be for your patient? They explored this:  
Completely      Mostly      A little      Not at all
11. To what extent did your patient and the team discuss your respective roles? (Who is responsible for making decisions and who is responsible for what aspects of your care?)  
Completely      Mostly      A little      Not at all
12. To what extent did the team encourage your patient to take the role they wanted in their own care?  
Completely      Mostly      A little      Not at all
13. How much would you say this team cares about your patient as a person?  
Very well      Well      Somewhat      Not at all