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Best Practices in Patient Education: Medical Students' Perceptions and Implementations

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Abstract

Effective patient education can help achieve better clinical outcomes, especially when a patient is managing a chronic illness. Despite patient education being an important skill in the professional formation of physicians, little is known about medical students' perceptions and implementations of such strategies. After completing a chronic illness educational module, second-year medical students were asked to rate the importance of specific patient education strategies and to assess their use of said strategies in the module's project assignment. Results indicated students utilized different patient education strategies from those they initially identified as most effective.

1. Background

Patient education is the act of providing patients with credible health information and increasing awareness of best health practices [1]. Research shows that comprehensive patient education can achieve better clinical outcomes and adherence to the treatment of chronic illnesses such as diabetes, coronary heart disease, heart failure, and rheumatoid arthritis [2–4]. A physician can empower patients through empathy, motivation, patient teach-back, and other educational methods [5] for patient education. Despite the importance of effective patient education in the professional development of a physician, there is a lack of knowledge of medical students' perspectives on the most efficacious strategies for patient education.

At Wayne State University School of Medicine (WSUSOM), medical students engage in the Service Learning course to provide outreach, mentoring, and clinical support to patients in the surrounding Detroit community. This course supports the WSUSOM mission of holistically developing future physicians to demonstrate social accountability in support of the priority health needs of the patients they serve [6]. Modeled after an assignment completed by a prior cohort of WSUSOM students to create an educational infographic to debunk medical myths [7], current second-year students engaged in service-learning projects to develop patient education modules on a chronic illness.

The presentation taught students about the adverse global impact of chronic diseases on health outcomes. By creating an educational project directed toward a patient population affected by a specific chronic illness, students were encouraged to develop their patient education skills. The goal of this study was to assess perceptions and implementations of chronic illness patient education strategies in second-year medical students at a large urban medical school.

2. Activity

As part of the Service Learning course, all second-year WSUSOM medical students completed an educational module on managing chronic illness. The first part of the module included a faculty presentation about the adverse global impact of chronic diseases on health outcomes. The second part of the module required groups of 5-6 students to create a visual education tool for a specific chronic illness and target patient population. Groups wrote an abstract about their project and designed a final product under the guidance of a senior medical student or physician mentor. The visual education tools took the form of written education materials, such as a poster or

pamphlet. Although each group studied a different chronic illness, the projects were created in a similar format that afforded the opportunity to implement any patient education strategies. Groups were assessed on their ability to evaluate the healthcare needs of a specific patient population, design an education plan to empower a specific patient or population, articulate the ways in which learning impacts professional identity formation, and individual group member participation. Regarding this visual education tool, students were also asked in a survey to select the strategy that they felt best characterized their project.

After completing the module, all second-year WSUSOM medical students (n=298) were invited via email to complete a survey regarding their opinion on the most effective strategies for successful patient education. The survey anonymously asked students to rate each of the following patient education strategies from least (1) to most (10) effective: providing written patient education materials available in numerous languages, patient teach-back, provider empathy, patient motivation, education follow-up, patient health literacy levels, and considering social determinants of health barriers. A one-way analysis of variance (ANOVA) test was conducted on the mean effectiveness ratings for the patient education strategies. Students were also asked to select the patient education strategy that best characterized their project.

Fig. 1. Sample visual chronic illness education tool

3. Results

45 students (15.1%) completed the survey. The results (Fig. 2) were statistically significant ($p <$ 0.01) with an F score of 6.7442. After completing the module, students rated patient teach-back (mean score of 8.44), provider empathy (8.27), patient motivation (8.00) and social determinants of health (7.91) as the top strategies for patient education. Written patient education materials

available in numerous languages (7.47), patient health literacy levels (7.47), and education

follow-up (7.18) were rated as less effective strategies.

Students were also asked to identify the patient education strategy that best characterized the

visual education tool they created (Fig. 3). The largest proportion of students reported patient

health literacy levels (n=12, 26.7%) and social determinants of health (n=12, 26.7%) as the

strategies that best characterized their project. The next most reported patient education

strategies best characterizing the students' projects were patient teach-back (n=7, 15.6%), written

patient education materials available in numerous languages (n=4, 8.9%) and patient motivation

(n=4, 8.9%). The least reported patient education strategies best characterizing the students'

projects were provider empathy (n=3, 6.7%) and education follow-up (n=3, 6.7%).

As part of the assignment, student groups reflected on the impact of this project on their

professional identify formation. The group that created the tool in Fig. 1 stated, "This project

helped us understand the basic building blocks of how to create a CKD friendly diet. In the long

run, this will help us not only better advise CKD patients but also be more aware of the unique

dietary restrictions that are in place for many chronic conditions. Just as important as knowing

what foods are healthy is being able to access those choices. This project helped us understand

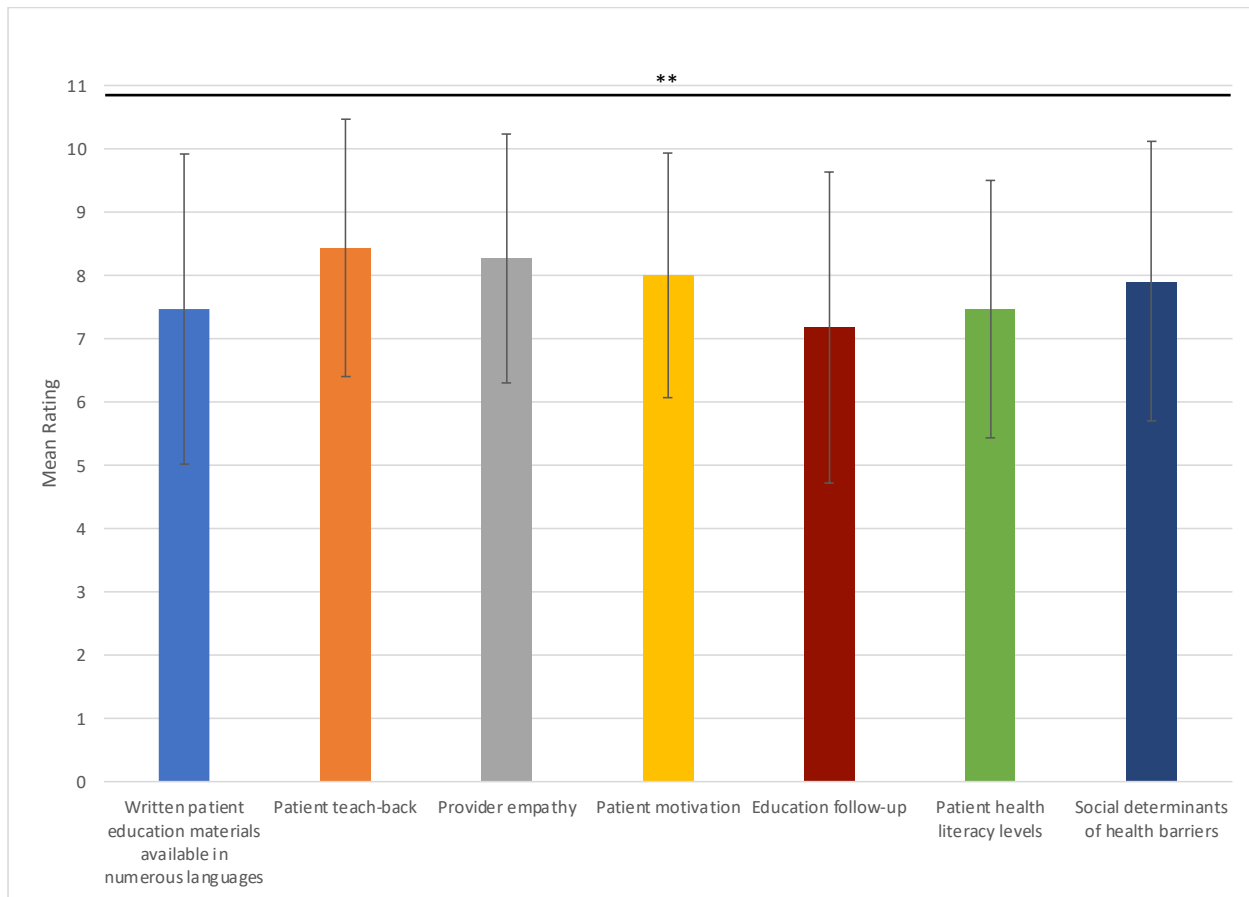the emotional and psychological toll a chronic diagnosis can have on a person."

Fig. 2. Mean score of perceived top strategies and implemented strategies
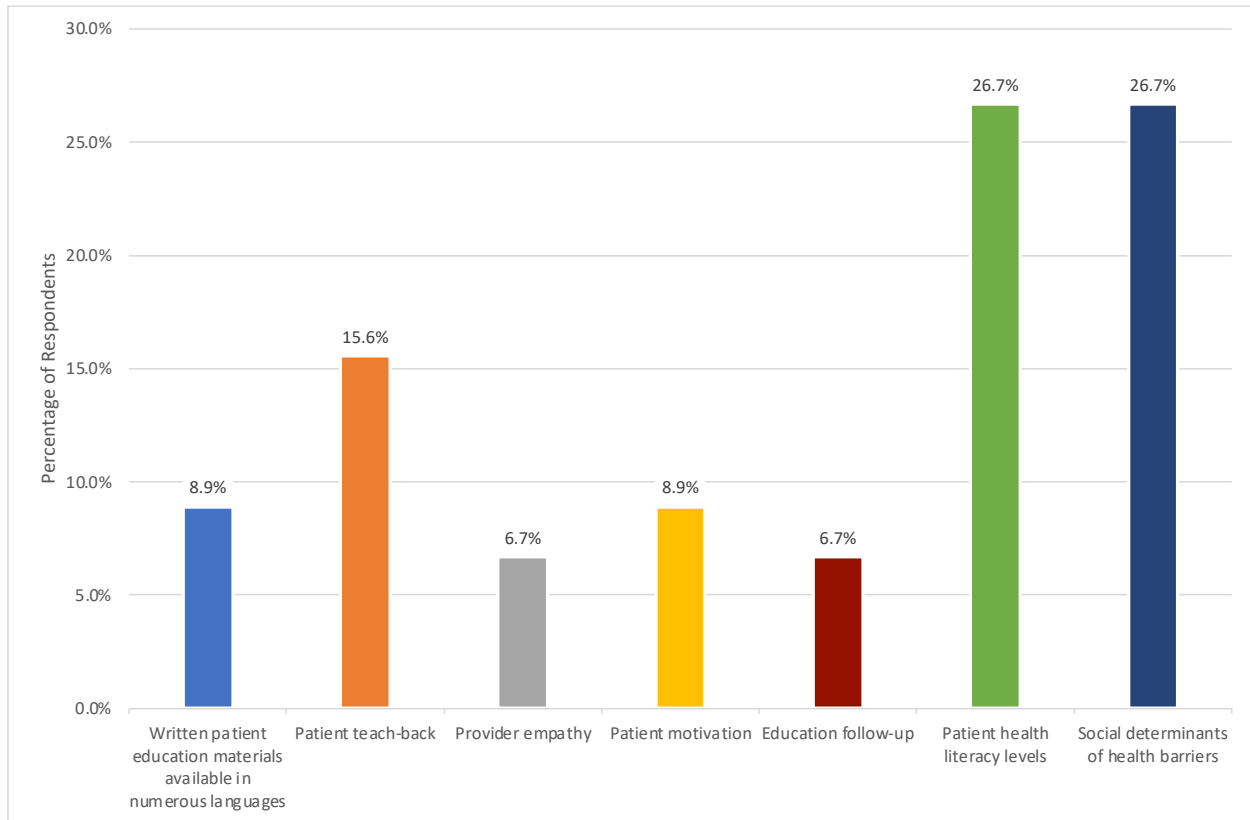
Fig. 3. Patient education strategies utilized in chronic illness project

4. Discussion

Analysis revealed a significant difference between the patient education strategies students rated

as most effective. The students rated patient teach-back and provider empathy as the most

effective strategies. Utilizing teach-back and empathy are important strategies for assessing

patient understanding [8] and improving patient outcomes [9], respectively. Although there was a

consensus that these were the most effective strategies, students reported most frequently using

patient health literacy levels and social determinants of health barriers as education strategies in

their project. Since students were able to implement any of the strategies within the scope of the

assignment, these results may reveal a discrepancy between medical student understanding and

implementation of patient education strategies. If students' understanding and implementation of

patient education strategies were aligned, results would be expected to show the strategies ranked as most effective to also be those implemented in student projects. This could suggest that students struggle to implement the patient education strategies they deem as most effective. The results may also indicate that medical students fail to recognize the importance of implementing effective patient education strategies, which emphasizes the need for a more focused curriculum. Alternatively, students may have felt limited in the strategies they could implement based on the project medium, since they were asked to create a visual tool.

As with any type of research, this study has several limitations. One limitation is the use of self-reported data, which may be inaccurate or biased. For example, physicians believe they use effective patient education strategies, such as teach-back, more than they actually do in clinical practice [10, 11]. Similarly, students may have overestimated their use of specific patient education strategies in their chronic illness projects. Another limitation is potential participant bias. Students identified social determinants of health as the most characteristic of their chronic illness educational tool. The Service Learning course's goal includes educating students to provide patient-centered and culturally responsive care. Considering the context of the assignment, students may have been influenced by the overall course goals when creating and describing their projects. Another limitation may be that some of the intervention strategies were easier to implement than others. For example, students may have had an easier time using language considerate of patient health literacy compared to language that expressed empathy. A final limitation is the survey response rate of 15.1%, which may not have been representative of the entire group of students. In the future, incentivizing students to respond to the survey could increase the response rate and generate results that better reflect the studied population.

Future research should focus on further understanding medical students' utilization of patient education strategies. Simulated patient encounters or supervised clinical work could serve as environments for additional assessment of students' use of patient education skills. Given the importance of education in treatment adherence and clinical outcomes [3, 12], there is a need to provide quality education to future physicians in developing effective skills for educating patients. To encourage students' use of strategies they deem most effective, educators may consider developing educational modules related to best practices in patient education to equip students with these skills. Facilitating simulations, case-based scenarios, or peer-to-peer team learning may aid in teaching students how to use teach-back methods, express empathy, and motivate patients, among other strategies. After these sessions, prompting student reflection on their experience could solidify understanding and promote professional development.

Data Availability

The student-created chronic illness projects can be viewed at

https://digitalcommons.wayne.edu/patienteducation/. The datasets generated and analysed during the current study are available from the corresponding author on reasonable request.

Statements and Declarations

The authors declare no competing interests.

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