



Medical students' perspective on incorporating a rheumatology expert patient program in their curriculum: a cross-sectional survey-based study

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Abstract

To evaluate the rheumatic diseases patient expert program and assess the students' perspective on its implementation into the medical school's curriculum. During the 4th year, small groups of medical students participated in a 2-h session with a rheumatic disease patient expert and a rheumatologist. The students had the opportunity to learn about the patient's journey, manifestations, shared thoughts, and asked questions. The patient demonstrated the hand musculoskeletal exam. At the end of the academic year, an online survey was sent to 88 students and they were asked to fill out a 19-item questionnaire using a Likert-scale response. The voluntary response rate was 67%, and 64.4% were females. Overall, most participants had a favorable experience with the program (strongly agree/agree response). 93% were satisfied with the communication they had with the patient, 93% felt the patient was active in their teaching, and 89% were engaged in meaningful learning. The vast majority of the students would recommend the program to their fellow students and they strongly believe that it should be a part of the medical school's curriculum. The findings of this study indicate the patient expert program is a novel educational activity that had a favorable impact on medical students' education and a positive perspective of implementing it to the medical school curriculum. The program's implementation will raise awareness for RMD, attract more students in the field of rheumatology, and promote the patient-centered care approach.

Keywords Patient expert · Medical education · Rheumatic diseases · Curriculum · Communication skills · Patients · Teaching · Medical students

Introduction

Medical education can be enriched by embracing patient involvement so that students can learn about rheumatic diseases (RMD) from patient experts. Patient experts have developed an expertise in their chronic disease by living with it, acquiring knowledge from courses and being empowered with the skills needed to play an active role in teaching other patients and healthcare providers [1].

Although few published studies examined the impact of patient expert involvement in the students' education, all have been linked to high satisfaction rates and lower levels of stress and anxiety during the encounter [1]. Moreover, previous studies demonstrated that patients' involvement in students' education is associated with higher levels of empathy towards the patient and a better understanding of the importance of a strong patient–doctor relationship among medical students [2]. Education strategies focusing on real-life patients allow the students to approach the patient as an individual and not as a condition, promoting patient centricity and the biopsychosocial medical practice model [3–6]. There are no previous studies assessing the role of patient experts with rheumatic diseases in medical educational programs. To enhance students' knowledge about rheumatic diseases, improve their listening and communication skills, the Cyprus League Against Rheumatism, in collaboration with the University of Cyprus Medical School, initiated a novel interactive educational

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activity. The objective of this study is to obtain feedback from the students about the program to assess its on their education and evaluate its integration into the school's curriculum. Based on the results information about its integration potential and acceptance by the students would be obtained.

Methods

This was a cross-sectional, survey-based study conducted at the University of Cyprus Medical School. The patient expert program took place between September 2018 and May 2020. During the internal medicine rotation in year 4, the medical students had the opportunity to participate in a 2-h session with a trained rheumatic disease patient expert. Each group comprised of five students, one attending rheumatologist and one patient expert. Through the session, the students had the opportunity to listen to the patient's journey, learn about symptoms and emotions, and were able to share thoughts, and ask questions. Following the history, the patient shares the disease's impact on her daily life, work, relationship with family and friends, and her overall quality of life with the group. The patient describes the challenges she experienced through the health care system and her own suggestions on how things can improve. Further, the patient expert presented the anatomy of the hand, followed by demonstration of the hand musculoskeletal exam, discussion regarding the clinical exam differences between osteoarthritis and rheumatoid arthritis, and students had the opportunity to practice with the patient and receive feedback. At the end of the academic year, an online survey was sent to 88 students by email and they were asked to fill out a 17-item question evaluation using a Likert-scale response and a free text comments section to assess the program. Study participation was voluntary, and data collection was anonymous. The survey questions were developed following a literature review of the existing bibliography and through a discussion and consensus among the rheumatology attending, the patient expert, and three medical students. The data collection was anonymous [1–4]. The questionnaire was subsequently reviewed and scrutinized by two rheumatologists for validity and relevance and feedback was provided [5, 6]. The survey was designed and delivered via REDCap, a secure web application for building and managing online surveys [5, 6]. Questionnaires' responses were reported using frequencies statistics (percentages). No further statistical tools have been used.

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Statement of patient consent: The Cyprus National Bioethics Committee (CNBC) due to the nature of the

manuscript as an online questionnaire did not require patient consent.

Results

Among the 88 students who participated in the program, 59 (67%) responded to the survey and of those 38 (64.4%) were female (Table 1).

The strongly agreed or agreed choice was regarded as a positive response. The participants were asked if they were satisfied with the introduction provided by the patient expert, with 52 (91.2%) having a positive response (Table 1). Fifty-four (93.1%) responded positively to the question if they had enough contact/communication with the patient expert. When asked if the patient expert was active in their teaching, 55 (93.2%) had a favorable experience. Regarding engagement in meaningful learning, 53 (89.8%) students responded positively. Fifty-three (89.83%) students stated that the patient expert was committed to the program. Thirty-nine (66.1%) had a positive response to the question regarding the satisfaction with the presentation of the hand and wrist anatomy presented by the expert patient.

In respect to the demonstration of the hand and wrist examination by the patient expert, 49 (83.1%) students had a favorable response. Forty-five (76.2%) students were satisfied learning about assistive devices and aids for patients with rheumatic diseases. Fifty-four (91.52%) students had a positive response to the question regarding learning about rheumatic disorders from the patient's perspective. Forty-eight (81.35%) students were positive that they learned about the stigma or stereotypes that may exist about rheumatic disorders. Forty-one (69.5%) students felt that they improved their communication skills. When asked if they learned about the impact on patient's autonomy related to the disease progression, 54 (91.52%) were satisfied. Forty-five (76.2%) students were positive that the patient expert program helped them grow professionally. Fifty-six (94.91%) students felt that the learning environment was safe and supportive. Fifty-seven (96.61%) students were positive that they had the opportunity to ask questions to the patient expert. Fifty-three (89.83%) students would recommend the patient expert program to other students. Concerning the implementation of the patient expert program into the medical school's curriculum, 53 (89.8%) students had a positive response. The last question queried the students to express their comments, ideas, or recommendations to improve the patient expert program. Overall, most of the students stated that the program helped them to understand better the patients' feelings, emotions and it will strengthen their communication and clinical skills. Moreover, the students had a positive attitude towards the small group size, and they find it helpful.

Table 1 Patient expert program questionnaire results

Question	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Were you satisfied with the introduction provided by the expert patient?	28 (49.1%)	24 (42.1%)	5 (8.8%)	0 (0.0%)	0 (0.0%)
Did you have enough contact/communication with the expert patient?	28 (48.3%)	26 (44.8%)	4 (6.9%)	0 (0.0%)	0 (0.0%)
Was the patient expert active in your teaching?	34 (57.6%)	21 (35.6%)	3 (5.1%)	1 (1.7%)	0 (0.0%)
Did the patient expert engage all students in relevant, meaningful learning?	30 (50.8%)	23 (39.0%)	6 (10.2%)	0 (0.0%)	0 (0.0%)
Was the expert patient committed to the program?	29 (49.15%)	24 (40.7%)	6 (10.2%)	0 (0.0%)	0 (0.0%)
Were you satisfied with the presentation of the hand and wrist anatomy by the expert patient?	17 (28.8%)	22 (37.3%)	16 (27.1%)	4 (6.8%)	0 (0.0%)
Were you satisfied with the demonstration of hand and wrist examination by the expert patient?	23 (39.0%)	26 (44.1%)	9 (15.2%)	1 (1.7%)	0 (0.0%)
Did you learn about assistive devices and aids for patients with rheumatic diseases?	15 (25.4%)	30 (50.8%)	9 (15.2%)	5 (8.5%)	0 (0.0%)
Did you learn about Rheumatic disorders from the patients' perspective?	29 (49.2%)	25 (42.4%)	4 (6.8%)	1 (1.7%)	0 (0.0%)
Did you learn about any possible stigma or stereotypes that may exist about rheumatic disorders?	23 (38.9%)	25 (42.4%)	10 (16.9%)	1 (1.7%)	0 (0.0%)
Do you feel that you improved your communication skills?	14 (23.7%)	27 (45.8%)	13 (22.0%)	5 (8.5%)	0 (0.0%)
Did you learn about the effect that patient autonomy has on the illness progression and management?	30 (50.8%)	24 (40.7%)	3 (5.1%)	2 (3.4%)	0 (0.0%)
Did the patient expert program help you grow as a professional?	22 (37.3%)	23 (39.0%)	14 (23.7%)	0 (0.0%)	0 (0.0%)
Was the learning environment safe and supportive?	38 (64.4%)	18 (30.5%)	3 (5.1%)	0 (0.0%)	0 (0.0%)
Did you have the opportunity to ask questions about the expert patient?	42 (71.2%)	15 (25.4%)	2 (3.4%)	0 (0.0%)	0 (0.0%)
Would you recommend the patient expert program to other students?	35 (59.3%)	18 (30.5%)	6 (10.2%)	0 (0.0%)	0 (0.0%)
Do you feel the patient expert program should be part of the medical school curriculum?	33 (55.9%)	20 (33.9%)	5 (8.5%)	1 (1.7%)	0 (0.0%)

Discussion

In the current study, we found that this novel educational activity had a significant impact on the students' education and was associated with a positive experience. To our knowledge, this is the first study evaluating the role of patient experts in the education of medical students, focusing on RMDs. The interaction between the patient and students through this activity led to significant improvement of the communication skills as perceived by the students. Moreover, the students reported that the demonstration of the hand and wrist exam by the patient expert enhanced their physical examination skills. During the session, emphasis was given to the biopsychosocial model of care and the patient-centered approach. The students had the opportunity to learn more about the condition through the patient's perspective, the impact on their family, work, daily life and to ascertain the patient's values, preferences, and fears. Furthermore, the students perceived professional growth and most of them will recommend the program to their fellow students. Implementation of patient expert programs into the medical schools' curriculum can be a novel breakthrough in the current traditional teaching methods leading the way in new teaching methods.

The patient expert program can be beneficial not only to the medical students but also to the patient [1]. Patient experts train through available courses that enhance their understanding of their conditions, and they learn how to teach others [7–11]. These courses allow the patient to develop self-management and problem-solving skills that contribute to better daily living as patients feel more confident about their condition. Even more, they feel more valuable given their involvement in the development of future health care providers. As a result, healthcare providers will work in partnership with the patients and provide better care in a patient-centered medicine approach [12–17].

Medical education has improved substantially over the past 30 years with the introduction of standardized patients, evidence-based medicine, and the introduction of flipped classroom model [18]. One of the challenges implementing the patient expert model in the medical school's curriculum, including RMD and other chronic conditions, is the curriculum overload and the excessive daily academic activities, leading to reduced available time for the students to participate in such programs. Can these be implemented in real life? Will the students accept an extracurricular activity given that their free time is limited? A potential answer might be reducing classroom lectures and transition to online, aiming to provide more

available time for in-person interactions with the patient expert.

This study demonstrates a positive impact of the patient expert program in students' education and will encourage medical schools to embrace similar programs in undergraduate and postgraduate studies. It is worth noting recent studies have demonstrated deficiencies in the rheumatology training programs and healthcare professionals express and interested in online as well as face-to-face educational programs [19, 20]. This highlights the need for more emphasis in involvement of patient experts in their curriculum. More recently, the coronavirus disease-2019 (COVID-19) pandemic resulted in significant barriers and drawbacks in medical education, including rheumatology training in the undergraduate level [20]. This obstacle unveiled the emerging role of online rheumatology education, including web-based interactive modules, self-assessment tools, social media journal clubs, which can complement the patient expert teaching session and further promote medical student education [19, 21, 22].

This study has several limitations. The long-term impact of the patient expert program on students' education is not available, given the short duration of the study. Also, it is essential to standardize the patient experts' training and ensure diversity among the patients in order to represent different ethnic groups and socioeconomic statuses. Additional limitations related to the self-report questionnaire include recall bias, although the questionnaire was sent at the end of each academic year to shorten the period between the session and the survey. An additional limitation is the non-response bias, and in this study, the relatively high response mitigates the risk.

In conclusion, the patient expert program is a novel educational activity that positively impacts medical students' education, and it is associated with it is associated with a favorable experience. The students would recommend it to their peers and they also believe it should be integrated into the school's curriculum.

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Author contributions All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by ES and KP. The first draft of the manuscript was written by ES and all authors commented on previous versions of the manuscript. All authors were responsible for interpretation of the data and for drafting, revising and approving the final submitted manuscript. All authors read and approved the final manuscript. All authors and co-authors take full responsibility for all aspects of the integrity of the work.

Data availability Data are available upon request from the authors.

Declarations

Conflict of interest None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting or dissemination plans of this research.

Patient consent Not required.

Ethics approval The study was approved by the Cyprus National Bioethics Committee. EEBK EPI 2021.01.39. Due to the nature of the manuscript as an online optional questionnaire did not require patient or student consent.

Statement of ethics and consent The Cyprus National Bioethics Committee (CNBC) approved this study.

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