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RESEARCH ARTICLE

Use of the arts in pharmacy education to develop self-perceived empathy

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Abstract

Background: Demonstrating empathy is a key competency expected of pharmacy undergraduate students. Various art media have been shown to help develop empathy in students. A new optional module designed to incorporate a range of art forms to support empathy development has been delivered and evaluated in a UK School of Pharmacy. The aim of this paper is to present this module and its evaluation. **Methods:** A standard teaching evaluation was emailed to students at the end of the module, and reflective work submitted as part of the assessment was thematically analysed in this mixed methods study. Ethics approval was obtained from Keele University to undertake the study. **Results:** Eleven students were assigned to the module. The teaching evaluation was completed by ten students and was rated favourably in every respect. This positive viewpoint was supported by analysis of eleven reflective pieces. Four key themes emerged from the data, namely, i) the learning experience; ii) the perception of illness; iii) seeing the patient as an individual; and iv) perceived empathy development. **Conclusion:** This study describes a range of artistic activities that can increase perceived empathy levels and be enjoyed by students. Further research is necessary to ascertain if this self-perceived empathy results in increased levels in practice.

Introduction

In January 2021, the General Pharmaceutical Council (GPhC; the United Kingdom [UK] pharmacy regulatory body) published new standards for the initial education and training of pharmacists (General Pharmaceutical Council, 2021). All undergraduate Master of Pharmacy (M.Pharm.) students must be able to demonstrate the knowledge, skills and professional behaviours set by the GPhC to register as pharmacists in the UK. The first intended learning outcome listed within the standards is to 'demonstrate empathy and keep the person at the centre of their approach to care at all times', whilst, in the United States of America (USA), new ACPE accreditation standards also placed increasing emphasis on developing the affective domain, enhancing the human side to the profession (Accreditation Council for Pharmacy Education, 2016). Whilst still in its infancy compared with medicine, the importance of using the humanities in pharmacy to develop personal skills, such as empathy in these students, is recognised (Poirier & Stamper-Carr, 2018).

Morse and colleagues (1992) proposed four empathy components, i.e. emotive, moral, cognitive, and behavioural. Cognitive and behavioural aspects are essential in clinical encounters, particularly the ability to identify and understand another person's feelings and perspective from an objective stance and act accordingly by communicating a response to make another person's point of view understood. Clinical empathy has been defined as "*an ability to (a) understand the patient's situation, perspective, and feelings (and their attached meanings), (b) to communicate that understanding and check its accuracy, and (c) to act on that understanding with the patient in a helpful (therapeutic) way*" (Mercer & Reynolds, 2002). The benefits of empathetic care for patients and healthcare professionals alike have been widely evidenced in medicine. For example, studies have found that interactions with an empathetic

healthcare professional are associated with improved clinical outcomes (Kaptchuk *et al.,* 2008; Del Canale *et al.,* 2012) and better patient satisfaction (Kim *et al.,* 2004), whilst empathetic doctors have been reported to have lower rates of depression and burnout (Post, 2011). Despite these reported benefits, empathy levels in medical students in the United States of America (USA) have been found to decrease over the course of their degree programme (McTighe *et al.,* 2016; Hojat *et al.,* 2020). In pharmacy students, the picture is mixed. Empathy levels in pharmacy students in the UK were found to increase between their first and third year of study (Silvia, 2020), whereas two more recent studies in the USA found that empathy scores remained stable throughout their duration of study (Wilson *et al.,* 2012; Jacoby *et al.,* 2022). This knowledge, combined with the requirement to address empathy in a new curriculum conceived to meet the new GPhC standards, prompted Keele University to design an optional module to further develop empathy in pharmacy students in a UK university. The aim of this paper is to present the optional module and report on its evaluation.

The 'Art of Pharmacy' optional module

The addition of arts and humanities to health-related degrees has been engaged to develop empathy in students. The literature describes various activities that aim to foster empathy in different health education contexts. These activities include using literary texts to convey patients' experiences (van Hooser *et al.*, 2022) and assigning music projects to develop empathy in pharmacy students (Teagarden, 2013). Additionally, nursing students engage with patient voices (Leonard *et al.*, 2018), while medical students explore empathy through poetry, film, and visual arts (Muszkat *et al*., 2010; Yang & Yang, 2013; Ahmadzadeh *et al.*, 2019). The articles tend to report mainly on single activities within a module or single art forms spanning across a module. This new 'Art of Pharmacy' optional module exposes students to a variety of art forms throughout one term. Students in the final year cohort (n = 130) were invited to choose from a list of optional modules, with each module accommodating between 8 and 15 students. Eleven students were allocated this module, designed to address the following specific learning outcomes:

- To help students further develop an empathetic approach to patients with specific illnesses through various art forms.
- To understand the role of art in supporting patients (through rehabilitation) and pharmacists (in their professional development).

The module consisted of 2-hour workshops once a week across ten weeks and was optional for fourth (final) year undergraduate Masters of Pharmacy (M.Pharm.) students. Table I presents an overview of the variety of art forms studied and their focus on particular health conditions.

Table I: Overview of art forms addressed within the 'Art of Pharmacy' optional module

Art form	Health condition(s) addressed	Format/activities	Session led by
Pottery	Rehabilitation from stroke, mental health, and drug addiction	Attendance at a pottery workshop in a studio external to university Working with clay, listening to experiences of patients	Clay therapy lead
Film	Cancer	Watched film ('50/50' directed by Jonathan Levine) Detailed group discussion (see box 1)	Senior lecturer in Film (NA)
Performance	Cancer	Forum theatre activity around breaking bad news	MA
Patient/carer voice	Mental health, cancer, and dementia	External speakers – experience of their journey as patient or care giver	MA
Poetry	Dementia, student's own choice	Padlet (electronic platform) for all students to post poems in advance. Detailed study of poem about dementia. Further discussion on student's chosen poems	MA
Paintings	Mental health, students own choice	Padlet (electronic platform) for all students to post paintings in advance. Study of range of artwork relating to mental health e.g. Van Gogh's 'Starry night', Tracey Emin's 'My bed'. Further discussion on student's chosen paintings. Videos on art therapy. Collaborative production of a painting/collage.	MA
Music	Recovering from addiction Music therapy in dementia etc.	Workshop on music therapy (see box 2)	Senior Lecturer in Music (FMD)

Furthermore, Table II and Table III provide detailed accounts of two of the sessions that were led by Humanities faculty, Senior Lecturers in their respective fields of film and music.

Table II: Outline of group discussion on the film *50/50*

The means through which film generates empathy is an emerging area in Film Studies, though within that field the discussion tends to remain within a highly theoretical context, in terms of supposed effects on viewers. It was therefore interesting to explore these ideas within a discussion group, especially as this group were not coming from a Film Studies background, and was therefore free of the preconceptions and interpretive frameworks film students bring to discussions.
The session proved especially revealing in terms of the different applications of film to the discussion of illness, its impacts and its treatment. On the one hand, the film in question (50/50, an autobiographical film about an otherwise healthy young man diagnosed with cancer) showed the ways in which film uses specific techniques (cinematography, sound, performance style and so on) to encourage an empathetic understanding of the experience of diagnosis and treatment. Equally, as a dramatic form, film is able to offer examples of behaviours that are then subject either to the viewer's sympathy or critique, in relation both to patients and medical practitioners (the question of how well or otherwise the latter dealt with the patient generated, I found, the most interesting discussions).
In particular, in looking at a Hollywood film, together with its particular conventions, studying 50/50 offered a broader platform for considering the capacity of popular cinema to deal with themes of serious illness and mortality, as well as some its shortcomings. Overall, the session proved highly revealing and productive, in terms of the ways the students engaged with the film's stylistic and narrative efforts to represent illness; but also, how they responded analytically and questioningly to Hollywood's role in telling such stories. It was clear that the students were able to bring their own experiences, as well as their own imagined view of being in a similar situation, to bear critically on the depictions within the film.

Table III: Outline of workshop on music therapy

Firstly the work of scholars such as Tia de Nora, Simon Frith, John Sloboda, Thomas Turino and FMD's own ethnomusicological research was explored to present important theoretical work around music, empathy, social agency and inclusion. Students could see how commonly we associate feelings and life experiences with particular sounds, so that music is not just music anymore, it becomes meaning, feeling, but also a vehicle of prejudice and stereotype.
After this section, students were introduced to community music and music therapy as fields that use music as a technology to help society, as well as individuals with physical or mental challenges. Several examples of music therapy were provided with children on the autistic spectrum and elderly people with dementia. Students were guided through the five primary psychological needs for dementia sufferers: Comfort, attachment, inclusion, occupation and identity. All of this was discussed in an interactive way and through short excerpts of music therapy in practice, so that students could experience a music therapy session centred on patient needs.
The last section was spent discussing pre-conceptions of addiction in society in general and among students in particular. Three popular music video clips discussing different testimonies and stages of addiction were shown: 1. Johnny Cash, Hurt; 2. A Perfect Circle, Gravity; 3. NF, How could you leave us? These three songs depict addiction in different ways. The first one is by an older singer regretting his years of addiction. In a way, it could be interpreted as a song of regret and redemption by a former addict. The second song describes the feeling of being on drugs and the frustration of being unable to quit from the point of view of the addict. The third one, is a song delivered from the perspective of a son (the singer) who lost her mother to drugs. Students' reactions and comments triggered a moving discussion on how music allows us to enter other people's worlds, encouraging us in this way to remember even outside music environments that every person has a story, a life experience, a struggle. This exercise proved to be useful to develop students' empathy levels associated with situations and health conditions that they will encounter in their fields of practice.

Three assessments were associated with the module: i) conducting a short literature review of evidence supporting the use of one art-based media in healthcare; ii) developing a creative piece of writing, music, or painting that represents the student's understanding of a patient's journey with a health condition/illness of their choice; and iii) presenting a reflective piece on their experience of the art forms studied, consideration of any preconceptions challenged, and potential impact on future role.

Methods

This was a mixed methods study in which the course lead was also a researcher (MA). A standard teaching module evaluation was developed for completion after the final assessment was submitted. In addition, the reflective pieces that were submitted as part of the assessment were analysed to identify emerging themes.

The Microsoft 365 Forms platform was used to disseminate the teaching evaluation prior to students receiving their final marks for the module. The form was developed based on the intended learning outcomes of the module and the range of activities included. It involved mainly Likert items ranging from 1 (strongly disagree) to 5 (strongly agree). The beginning of the evaluation gathered overall views on the module; for example, were learning objectives met, was it relevant to future practice, and did they enjoy it.

The second part of the evaluation involved students' rating each artistic method in terms of helping them to relate to and understand a patient's therapy or journey.

The third section gathered students' views of the assessments, e.g. if they were linked to the teaching and learning outcomes and were pitched at the appropriate level.

The final section was a free text response for students to suggest how the module could be improved and provide any other comments. The teaching evaluation was emailed to all students at the end of the module, to be completed in their own time.

After the eleven reflective pieces were submitted for assessment and marked, an inductive approach was taken whereby MA familiarised herself with the data. The content was anonymised and then analysed by generating codes, and then common themes were searched for and refined (Kiger & Varpio, 2020). SJ and JT reviewed a selection of reflective pieces and confirmed the appropriateness of the theme(s) applied.

Ethical approval for the study was granted by the Keele Institute for Innovation and Teaching Excellence Research Committee (Reference KR-210075).

Table IV: Mean scores (minimum 1-maximum 5) for Likert statements in evaluation

General overview	Mean score
The learning objectives of the option topic were met	4.9
The option topic was relevant to my learning needs	4.8
The option topic was relevant to my future practice	5.0
I enjoyed doing the option topic	5.0
I found the option topic challenging	3.2
I found the option topic boring	1.1
The option topic content should be mandatory for all students	4.0
The option topic should NOT be offered again	1.0
The option topic helped me to relate to the experiences of patients	4.8
Rating of artistic methods in terms of helping relate to and understand a patient's therapy or a patient's journey	
Pottery	3.7
Poetry	4.8
Film	4.4
Performance	4.3
Music	4.8
Paintings	4.7
External speaker's stories	5.0
Assessment	
The amount of assessment was appropriate for an option topic	5.0
The assessments were linked to teaching and the intended learning outcomes	5.0
The assessments were enjoyable	4.7
The literature review was pitched at the appropriate level	4.7
The creative piece of art was pitched at the appropriate level	5.0

Results

Teaching evaluation

Ten of the 11 students undertaking the optional module completed the evaluation (response rate 91%), nine of whom were female.

Overall, the module scored very high on positive statements and extremely low on negative statements. Although all artistic methods scored well, pottery was the only activity that received a mean mark below 4, and external speaker's stories received 5 out of 5. Assessments were viewed as relevant and perceived to be pitched at the appropriate level.

Mean scores for agreement with all statements can be seen in Table IV.

In addition to the Likert statements, students were asked to select from a list the word that best described the module; the words were a mix of positive and negative adjectives. The words chosen were 'enjoyable' (3), 'interactive' (3), 'stimulating' (2), 'well-pitched' (1) and 'interesting' (1). When asked for suggestions for improvement, suggestions made were to include more real-life stories and more time 'doing the arts'. Two students wanted to know more about art therapies, and one proposed allowing students to suggest what to include in the sessions. All comments included in the free text box were very positive, and examples included:

> *"I think it's very important to develop these skills as healthcare professionals as we aren't just straight*

scientists and empathy and patient connection is equally important."

"It allows you to see yourself in another perspective you never thought you had, it allows you to show your creative skills. It was so fun and creative and engaging I could not recommend this option topic [optional module] more."

"I would 100% recommend that this option topic is integrated into every year group as it's very important for us pharmacists to be able to feel and understand what patients are going through and that is exactly what this option topic helped all of us students to do."

Reflective pieces

Analysis of the reflective pieces submitted for assessment identified four key themes from the data, namely, (i) the learning experience, (ii) the perception of illness, (iii) seeing the patient as an individual, and (iv) perceived empathy development.

(i) The learning experience

Within the reflections, students reported on their learning experiences in several ways. A few of them acknowledged the importance of being empathetic, which the optional module highlighted. They appeared to have a greater appreciation of why being empathetic is a desirable trait for a pharmacist. For example, student 8 stated:

"I have enjoyed every moment of these different media experiences because each one of them has taught me a bit more about the value of empathy and has broadened my understanding of what a patient may need." (Student 8)

About half the students also reported gaining a broader perspective, with the course having *"…really opened my eyes…*" (student 2 and student 4) to either the use of an art form to help understand a patient's journey or the impact that art therapy can have on a patient. The effectiveness of the individual art media used was a further aspect of their learning experience that was reflected upon by nine students. No single art form emerged as 'the most effective' way to develop empathy, although poetry was mentioned most often. Students reflected that they had not previously realised the impact of art media either as therapy or to support their understanding of patients' journeys. For example, student 11 stated:

"As someone who suffers from anxiety, I was able to experience its [pottery] positive impact first-hand and I now have endeavoured sculpting sessions for my own recovery." (Student 11)

Whilst student 6 explained:

"I have not had an interest in poetry in the past and so to feel such strong emotions as a result of a poem felt strange and unfamiliar. Not only did it alter my view of the condition [dementia], but also poetry in general." (Student 6)

(ii) Perception of illness

The second theme was related to students' perception of illness. Two students reported that, during the module, their preconceptions regarding a particular illness were reinforced, whereas eight students conveyed that their preconceptions were challenged or changed by what they were exposed to. For example, student 5 explained how enlightening it was listening to the poem:

"The poem was able to fill the knowledge gap within my mind and challenge my pre-conceptions thus changing my viewpoint of dementia patients." (Student 5)

Students also referred to their preconceptions being challenged around the use of the art media too. For example, student 11 stated:

"This art form [pottery] did challenge my preconceptions as I thought it would be more of a frustrating form of art due to it being quite messy but also the fact that moulding can be quite difficult which may be quiet distressing and cause stress to anxious and depressed patients in particular. However, I was completely wrong, and it was the exact opposite." (Student 11)

(iii) Seeing the patient as an individual

Around half of the students (6) reflected on how the module helped them look beyond the health condition or the medicines and appreciate that, as pharmacists, their role is to treat patients rather than conditions. Student 1, for example, reflected on how she will not stereotype when treating patients with dementia:

"In the case of dementia, I know now not to adhere to the label of the patient's illness." (Student 1)

…whilst student 7 highlighted the need to treat a patient holistically, taking into account, for example, their social circumstances too:

"The expression of inner thoughts with a narrative in poetry and music, and watching colleagues act as patients, has reminded me that every patient is more than their condition. When studying disease

states, you can forget that it is not just drugs that work on x receptor, and that this is happening in the body of a patient who is experiencing life outside of their condition." (Student 7)

(iv) Perceived empathy development

All but one student felt that their empathy levels had increased after completing the module. As an outlier, student 11 reported that she had "*always felt the same deep empathy for all patients equally*." The perceived development of empathy in the other ten students was described in various ways that have been categorised as follows: emotional (they experienced heightened emotions at one or more points in the module that affected their empathy levels), cognitive (they reported feeling more empathetic due to having a greater understanding of what patients experienced living with their illness), or compassionate (the increased empathy level experienced in the module had resulted in them wanting to change how they would care for future patients). Seven students reflected on the emotional impact of the module, with student 1 reporting feeling "*overwhelmed with emotions*", whilst student 3 stated:

"Poetry allowed an insight into conditions such as cancer and depression from the patient's perspective, evoking lots of emotions within me." (Student 3)

Seven students linked a greater understanding of patients' condition or how it is to live with a condition to a higher sense of empathy towards them. For example, student 9 reflected:

"I think film can do a particularly important job in demonstrating how terminal/chronic [cancer] diagnosis can completely shatter someone's life, which I feel would make viewers more understanding and empathetic as it did me." (Student 9)

Ten of the eleven students also reported on their future practice, explaining how they believe it will differ as a result of completing the module. For some, it was the fact that they would recommend art therapy as a viable option to support patients. However, the majority spoke about how they believe it will impact directly on the care they provide. Some, like student 7, took this a step further and reported that they plan to hold their colleagues to account, too:

"I will ensure to treat patients as people by greeting them on ward rounds and explaining what I am doing; I do not want to be a source of confusion and worry if I enter their space, look at their chart and then consult a doctor without explanation. I also feel empowered to keep other professionals accountable in these ways to ensure the highest quality of care for future patients." (Student 7)

Discussion

Evaluation of the 'Art of Pharmacy' optional module could demonstrate that students enjoyed the module and perceived it to be relevant to their future practice. This finding is crucial, as students who enjoyed their teaching sessions tend to be more engaged, and engagement has been found to facilitate deep learning and to be associated with improved student outcomes (Marton & Säljö, 1976; Carini *et al.,* 2006). All forms of art media helped them understand the patient's journey to varying degrees, and the associated assessments were deemed appropriate and linked to the learning outcomes, showing constructive alignment throughout the module (Biggs & Tang, 2011). Approximately two-thirds of students in the cohort were female, so a higher proportion of female students was expected. This point may perhaps also reflect a tendency for female students to be more empathetic, as noted in studies (Fjortoft *et al.,* 2011; Wilson *et al.,* 2012). Analysis of the reflective pieces showed that most students felt they had increased empathy levels after the optional module. Their perception of illness and how they view patients appeared to have changed, with the majority believing that what was learned would impact their future practice.

Key points for discussion

The optional module included a variety of art media to help further develop empathy in pharmacy students. Most published literature tends to focus on a single art medium, either used as a one-off intervention (Teagarden, 2013; Yang & Yang, 2013; Leonard *et al.,* 2018; Ahmadzadeh *et al.,* 2019) or the same art medium used several times (Muszkat *et al.,* 2010; Zazulak et al., 2015). This module introduced students to various media, exposing them to different ways of exploring patient journeys and offering the opportunity to compare and discover what they found most helpful in developing their understanding of patient experiences. Although using a variety of formats means that it is difficult to assess how the different methods compare, it could increase students' exposure to what the arts have to offer. The findings suggest that students believed this approach was efficient in developing empathy towards patients as they reported feeling greater empathy themselves, enough for them to want to change how they had planned to practice. A recent scoping review on activities undertaken to promote empathy among pharmacy learners identified

reflection as the most common method, followed by didactic teaching, role play and group discussion. Over half of the 89 studies involved one-time single learning activities, the duration of which varied widely, ranging from single one-hour activities to those that extended across an entire term or longer (Garza *et al.,* 2023). What is apparent is that the use of the arts to develop empathy is not currently widely adopted in pharmacy education.

The study had a further aim of raising awareness of art therapies. Evidence supports the introduction of art therapies in some patient groups, for example, painting (Bozcuk *et al.,* 2017) or music (Wang *et al.,* 2018) therapy in cancer patients and dance, drama, music, and visual arts in patients with dementia (Fong *et al.,* 2020). This topic was not included in any other part of the M.Pharm. curriculum and helped students see beyond medicines alone as an option for patients. As students were given the opportunity within the module to undertake some art activities themselves, as detailed in Table I, they reported understanding how patients could benefit as they found that undertaking the activities impacted positively on their own mental health. In an age when poor mental health among students is of concern within the academic world (Eleftheriades *et al*., 2020), and even more so post the COVID-19 pandemic, this was a very welcome additional benefit of the module.

Analysis of the reflective pieces identified different ways students chose to express their development of empathy. Students highlighted emotional or cognitive aspects and proposed changes in behaviour. Empathy has been described as multidimensional, associated with these three aspects (Larson & Yao, 2005). These three domains of empathy were measured in pharmacy students in a USA university using the Jefferson Scale of Empathy (Medical Student version), and emotional empathy was found to score significantly higher than cognitive and behavioural empathy (Tamayo *et al.,* 2016). Analysis of the reflective pieces in this study found more of an even response across the domains. However, the results did skew towards behavioural empathy, but as students were asked specifically to reflect on the impact of the course, it could be argued that this focus was to be expected.

Strengths and limitations

Although a small module, the majority of students completed the evaluation, and all submitted a reflective piece, so most views are captured. It is essential to acknowledge the limitations of the study as well. The findings reflect students' perceptions of empathy development, which, although it could be considered valid in itself, has not been verified by a more objective method. Similarly, the students reported that they believe the module would influence their future practice, but it is unknown how long the impact of the module will last and whether this ideal would be carried on into practice. The module was self-selected, so it most likely reflects the views of students more willing to embrace the arts and who possibly are more empathetic generally than the average student; the findings, therefore, may not be representative of the whole cohort of pharmacy students. Finally, it is hoped that the reflective pieces accurately capture students' experiences, but students might have been inclined to match the assessor's (MA) expectations, given that the module was an assessment.

Implications for practice

Findings from this study describe how students perceive that empathy can be further developed using an artistic approach to teaching through the arts and humanities. It may be that this improvement has been achieved in those students who are already relatively empathetic compared to their peers and more open to change. Due to restrictions on timetabling, the optional module will not be available for the whole year cohort. Instead, possible ways to incorporate the arts to align with current teaching sessions will be adapted. For example, the poem about a dementia patient can be included alongside the therapeutic aspects of dementia, and an external speaker will be invited to talk during a 'carers' workshop.

Implementation of a new curriculum to address the new GPhC standards will involve many more hours of placement activity across all four years of the M.Pharm. degree course (General Pharmaceutical Council, 2021). It is hoped that this will provide more opportunities to observe empathetic interactions, to see patients being treated holistically and to have time to talk more with patients and understand their journeys living with their health conditions. Activities can be incorporated into placement workbooks to ensure these discussions happen. In addition, the timing of creative activities can be aligned to support specific placements, e.g. either film or performance around a patient with cancer can be timetabled prior to placement in an oncology ward.

Conclusion

This study describes a range of artistic activities that students can enjoy while increasing their self-perceived levels of empathy. These encouraging findings suggest that curriculum changes aimed to promote empathy could potentially benefit many other students across the entire cohort; suggestions have been made on how

this goal might be achieved. Additional studies are planned to assess empathy following the implementation of activities across the curriculum, alongside an increase in placement hours. Lastly, further research is necessary to determine whether this self-perceived empathy translates into increased engagement in placement activities or influences future practice.

Conflict of interest

The authors declare no conflict of interest.

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