Undergraduate medical students’ attitudes towards patient-centredness: a longitudinal study

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Abstract

Objective

Due to various reasons patient-centredness has become an attribute most medical institutions aim to develop in their graduates. Research however indicates that there is a decline in undergraduate medical students’ attitudes towards patient-centredness as they progress through their training. Most of the studies available are cross sectional studies, therefore a longitudinal study to look at how the attitudes of a specific group of undergraduate medical students change over time can be very useful.

Methods

A longitudinal study involving undergraduate medical students was employed. These students completed the Patient Practitioner Orientation Scale (PPOS) over the last four years of their training and the mean scores of the PPOS was compared. The PPOS measures two constructs related to patient-centredness namely "caring" and "sharing".

Results and discussion

PPOS results indicated that students already exhibited fairly low attitudes towards patient-centredness at the beginning of their clinical rotations in their third year, with no significant decline over the next three years. Reasons why the PPOS scores in this study are generally lower than in other similar populations is not clear, but possibilities that are mentioned are that it might be low from the first year already as well as the lack of a comprehensive communication skills training curriculum.

Conclusion

Our study showed that students' relatively low attitudes towards patient-centredness did not change significantly during their last four years of training. Implications for this finding is that selection criteria of students could perhaps be reconsidered and deliberate teaching and learning interventions to promote positive attitudes towards patient-
centredness should be included as part of a comprehensive communication skills curriculum until students graduate.

Keywords: patient-centredness, undergraduate medical students

1. Introduction

Over the last two decades the content, structure and delivery of medical curricula have undergone substantial transformation. Some of these changes can be seen as a reaction to an awareness that place increasing emphasis on patient-centred, collaborative and partnership approaches to health care (Donetto, 2012; Frenk et al., 2010). Modern medical curricula include more structured communication skills training, longer clinical placements and a shift away from approaching patients in paternalistic ways, rendering a more patient-centred approach (Donetto, 2012).

Patient-centred medical care seems to be important due to several reasons: it builds caring relationships between healthcare providers and patients; it reduces costs of medical care (Mead, Bower, & Hann, 2002), while it can also increase levels of patients’ quality of life (Lewin S, Skea Z, Entwistle VA, Zwarenstein M, 2001; Little et al., 2017). There is also evidence that a patient-centred approach can increase doctor and patient satisfaction and reduce anxiety in patients (K, 2002; Stewart, 2003). Following all these motivations in favour of patient-centredness, it is not surprising that various authors (Little et al., 2017; Stewart, 2003; Tsimtsiou, Kerasidou, Efsthathiou, Papaharitou, et al., 2007) have recommended that patient-centredness should form a central paradigm for teaching the skills of clinical practice in undergraduate medical curricula.

While it is widely acknowledged that patient-centredness is an important attribute of medical graduates, research indicates that there are several factors that impact negatively on these attitudes (Bombeke et al., 2011; Mohamadreza Hojat et al., 2009). The Patient Practitioner Orientation Scale (PPOS) is a validated questionnaire (Krupat et al., 2000) that set out to determine students’ attitudes towards patient-centredness and it had been used in many countries worldwide. There are some institutions that has showed an improvement in their students’ attitudes (M. Ribeiro, Krupat, Faria, Amaral, & Mo, 2014; Wahlqvist, Gunnarsson, Dahlgen, & Nordgren, 2010), but most studies however have reported a decline in attitudes as medical students become more senior (Archer et al., 2014; Bombeke et al., 2010; Haidet et al., 2002). Most of the available studies are cross-sectional in nature and therefore one cannot assume the trend that the attitudes of students would follow over their training years. Tsimtsiou, et al., reported a longitudinal study which confirmed that the students became more doctor-centred by the end of their training (Tsimtsiou, Kerasidou, Efsthathiou, & Papaharitou, 2007).

This study was undertaken recognising the potential value of longitudinal data; by determining at which stage in the curriculum, attitudinal changes of students happens could perhaps assist curriculum planners to intervene with teaching interventions and specific student support. Furthermore such studies on the development of patient-centredness in medical students in South-Africa have not been published yet.

2. Methods

2.1 Study setting

The institution where the study was conducted offers a 6-year undergraduate medical programme which is followed by 2 years of compulsory internship training. The students’ first two years in the programme are regarded as a pre-clinical training period with mostly theory and some basic communication skills training. The students start with
regular patient contact during the third year when they begin with their clinical rotations. The latter take place at the tertiary hospital complex attached to the medical school as well as at several smaller peripheral hospitals and clinics.

The purpose of this study was to determine the attitudes of a cohort of undergraduate medical students at a South-African medical school over a period of four years by making use of the PPOS to determine how their patient-centred attitudes change over the time.

2.2 Study sample and instrument

This was a longitudinal study of the 3\textsuperscript{rd} year undergraduate medical class of 2012 at the University of Stellenbosch, Faculty of Medicine and Health Sciences. The data was collected for four consecutive years until the cohort was in their final (sixth) year in 2016. This group of students completed the Patient-Practitioner Orientation Scale (PPOS) at the beginning of their 3\textsuperscript{rd}, 4\textsuperscript{th}, 5\textsuperscript{th} and 6\textsuperscript{th} year. The PPOS is an international validated instrument designed to measure students’ attitudes towards patient-centredness (Krupat et al., 2000). This questionnaire consists of 18 items that aim to measure two constructs of patient-centredness, namely ‘sharing’ and ‘caring’. For each construct there are 9 items and students are asked to rate their agreement or disagreement with the items on a 6-point Likert scale, where higher scores point to preferences for a more patient-centred relationship and lower scores to a more doctor-centred relationship.

The author distributed the self-administered anonymous surveys to the medical students at the beginning of each consecutive year. Students were invited to complete the paper-based questionnaire during various class activities where attendance was recommended but not mandatory, which explains why all the students were not available to take part each year.

The Stellenbosch University Health Research Ethics Committee approved the study and it was conducted in accordance with the declaration of Helsinki (S11/10/011). The participants signed informed consent for their participation and they were informed that the purpose of the study was to determine attitudes towards patient-centredness in the doctor-patient relationship. The data was kept on a password-protected computer that only the researcher had access to.

2.3 Statistical analysis

To test the reliability of the PPOS scales, Cronbach alphas were calculated. Comparison of mean scores over time was done using a mixed model repeated measures ANOVA. Cohen’s D effect sizes were calculated to quantify differences in mean scores between the years.

3. Results

3.1 Reliability

To measure the internal validity of the PPOS, Cronbach’s alpha was calculated. This was done to measure how well the PPOS items measured the two constructs of sharing and caring. Alpha values that are closer to 1 (0.7-0.9) would indicate an acceptable reliable scale. The alpha value for sharing was 0.58 and for caring it was 0.47. The value for
the complete set of items was 0.66.

3.2 Results of the PPOS

Table 1 indicates the numbers of students who completed the questionnaire including the gender distribution per year group.

Table 1: Number of students who completed the PPOS (n=239)

| Year | Total amount of students | % Female students | % Male students |
|------|--------------------------|-------------------|-----------------|
| 2012 | 235                      | 70                | 30              |
| 2013 | 130                      | 68                | 32              |
| 2014 | 127                      | 74                | 26              |
| 2015 | 178                      | 70                | 30              |

As can be seen in Table 1, the 3rd year class consisted of 239 students and during the first year of the study almost all the students completed the questionnaire. In the three years thereafter less students completed the questionnaire since it is more difficult for the seniors to participate due to clinical placements they are required to attend. During the 6th year however, the researcher was fortunate to get access to most of the students since they had to be together for some logistical arrangements. The ratio of male students to female students that took part in the study was equal to the demographics of the entire class and also fairly constant over the entire study.

With regards to the scores for the constructs of the PPOS that is measured on a Likert scale between 1 and 6, the scores were consistently towards the lower end of the scale (Table 2).

Table 2: Scores of the PPOS (Total, Caring and Sharing components)

| Year | Total Score | Caring Component | Sharing Component |
|------|-------------|------------------|-------------------|
| 2012 | 2.8         | 2.9              | 2.5               |
| 2013 | 2.27        | 2.85             | 2.45              |
| 2014 | 2.7         | 2.8              | 2.45              |
| 2015 | 2.6         | 2.75             | 2.3               |

What is evident though is that students were already scoring low with regard to their attitudes towards patient-centredness at the beginning of their third year and this then stayed low or even deteriorated further over the next
three years of their studies. The trend was very similar for the two underlying constructs of the PPOS as for the total score. Cohen's D effect sizes was small, which support our finding that there were only slight changes over the 4 years.

4. Discussion

Our results confirms what some authors have already found (Haidet et al., 2002; Tsimtsiou, Kerasidou, Efstadthiou, & Papaharitou, 2007), namely that the measurements of the PPOS (total, sharing and caring) were lower by the final year compared to when the students were in their early years of study. In our study both the caring and sharing scores were low at the start of year 3 and then both declined a little more during the next 4 years. This same trend happened in another longitudinal study (Tsimtsiou, Kerasidou, Efstadthiou, Papaharitou, et al., 2007) where students views on patient-centredness were measured at two points during medical training. Yet, their scores were overall much higher (total score of 3.96 going down to 3.81).

Our study's finding of relatively low scores at the beginning of the third year of undergraduate medical training is in line with the findings of a previous South-African study (Archer et al., 2014), where students already had low scores in their first year, just as they entered medical school. The reason for such low scores at first year level is not clear and needs further investigation, but variances in cultures could possibly play a role. Another aspect that need to be considered as part of such investigations is that of selection criteria of medical students. Some authors advise the inclusion of personality measures as part of the admission criteria for medical school entrance (Abbiati, Baroffio, & Gerbase, 2016). Others even suggest that it might be more desirable to select applicants for medical studies that have already developed an empathetic orientation rather than selecting those without such an orientation and who would need substantial training to develop such attitudes (M Hojat, 2014).

It should be noted that there are some studies where the PPOS scores have increased during medical training (Ribeiro, Krupat, & Amaral, 2007; Wahlqvist et al., 2010). Curriculum interventions that has led to an increase in PPOS scores are longitudinal integrated clerkships (Krupat et al., 2009) as well as a communication skills course in shared decision making skills (Hoffmann, Bennett, Tomsett, & Del Mar, 2014).

Apart from the possibility that our third-year medical students could already have had low PPOS scores from the beginning of their studies, other reasons for their relative low scores at the beginning of the third year could have been the theory focused first two study years. During this time there is little contact with real patients and students tend to focus on the biomedical aspects of disease.

There could be various reasons for the lack of increase in scores from the third to the sixth years of study. One such reason could be the lack of a comprehensive longitudinal communication skills curriculum enabling students to learn some of the more complex skills, such as shared decision-making.

5. Conclusion

The findings of this study suggests that our medical students' attitudes towards patient-centredness are already relatively low when they commence their clinical training and that it changed relatively little over time. The reasons for these low scores are not clear and need to be investigated in further studies. It might be advisable to reconsider the criteria currently being used to select medical students. There might be various reasons why we did not find an increase in PPOS scores form the third to final years of study. A possible intervention that may counteract this
phenomenon is to introduce more comprehensive and well-planned longitudinal communication skills training into the curriculum. Our Faculty of Medicine and Health Sciences is currently embarking on a process of comprehensive reform of our medical curriculum, which creates the opportunity for the introduction of such communication skills training. Clinical training in this curriculum will already commence in the first year of study and longitudinal community-based clinical exposure in the primary healthcare setting will be a hallmark of that training. These are additional factors that could facilitate an increase in patient-centred attitudes amongst our students. The findings of this study should, therefore, guide the development of this new curriculum to ensure maximising our students’ patient-centeredness.

6. Strengths and limitations

To our knowledge, this study represents the first longitudinal report on the attitudes of undergraduate medical students towards patient-centeredness undertaken in a South-African medical school. A limitation might be that the study was limited to only quantitative data without obtaining qualitative evidence from the students that could support their self-reported attitudes.

Take Home Messages

Curriculum developers need to be cognisance of various factors when the development of patient-centred attitudes of undergraduate medical students are considered. Aspects to consider are selection criteria as well as planned teaching and learning interventions known to promote positive attitudes towards patient-centredness.

Notes On Contributors

Elize Archer is a senior lecturer and holds a PhD in Health Professions Education.

Ben van Heerden is the Programme Coordinator of the undergraduate medical programme. He has extensive experience in medical education and curriculum development.

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Appendices

none
Declaration of Interest

*The author has declared that there are no conflicts of interest.*