

GENERAL

A COMPARISON OF PATIENT ATTITUDES TOWARDS COMMUNITY PHARMACIES IN POLAND AND IN ENGLAND

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Abstract: Pharmaceutical care has been found to improve patients' health status and reduce healthcare. However, it is still not implemented in some European countries, including Poland. This study aimed to investigate the patients' satisfaction, expectations and the use of services provided in pharmacies in Poland and England. Anonymous questionnaires were distributed to community pharmacies in Poland and England between January and August 2011. The questionnaire consisted of 31 questions, gathered demographic data and patients' views on different aspects of pharmaceutical services. The internal consistency of the survey and validation had been assessed prior to use. Questionnaires were collected from a total of 823 subjects. Considerably more English than Polish patients were interviewed by a pharmacist about symptom characteristics (77.9% vs. 52.5%), their duration (70.5% vs. 41.5%), taking other medications (81.9% vs. 45.3%), and comorbidities (69.2% vs. 38.6%, $p = 0.0001$ each) when purchasing OTC drugs. 59.3% of patients in Poland compared with 91.3% of patients in England declared to have filled all the prescriptions ($p < 0.001$). Patients in England more frequently consulted pharmacists about conditions, whereas in Poland respondents preferred self-treatment or GP advice. Expectations for additional services, including: estimation of blood glucose (83.1% vs. 80.4% in Poland and England respectively, $p = 0.3228$), cholesterol (84.6% vs. 83.3%, $p = 0.6146$), or blood pressure measurements (85.5% vs. 85.9%, $p = 0.8635$), were similar in both countries. The range and quality of services provided in community pharmacies in Poland are substantially worse in comparison with those in England. Patients' expectations in both countries bear similarities.

Keywords: community pharmacy, healthcare, pharmaceutical care

The past few years have seen the increasing importance of pharmaceutical care that involves providing the patient with medication-related care to ensure greater safety and clinical efficacy (1-7). Since the primary goal of pharmacists is to care for patients' well-being, it became significant to offer

professional services in pharmacies (8, 9). Pharmaceutical care is considered to be an essential part of healthcare in many countries (10, 11). Due to the current trends in pharmaceutical marketing, active pharmaceutical care (apart from being in line with the mission of pharmacy practice) enables to

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gain a competitive advantage. The primary parameter that can be used to determine the quality of services provided in a particular pharmacy is the assessment of patient satisfaction (12). The patient who uses high-quality pharmaceutical services actively participates in making treatment decisions and forms long-term relationships with healthcare providers, which contributes to enhanced treatment efficacy and improved clinical status (13, 14). Furthermore, such a patient is more likely to visit a particular pharmacy and thoroughly recommends its services.

Pharmaceutical care is being barely implemented in Poland at present, although the provision of pharmaceutical care as a part of pharmaceutical services is mentioned in the Pharmaceutical Chambers Act from 1991 that regulates the profession of pharmacist (15). Since then, only pilot programs were carried out, but they covered only certain areas of pharmaceutical care (16-18). New initiatives aimed at legislative changes that are necessary to fully implement pharmaceutical care in the Polish healthcare system are being undertaken by the government (19). As many as 87% percent of Poles declare that they trust pharmacists. When considering the pharmacist as a position of public trust and a low number of physicians (the mean of 2.3 per 1,000 inhabitants in Poland compared with the mean of 3.5 per 1,000 inhabitants in EU), the implementation of pharmaceutical care seems to be justified (19).

The degree of commitment and the percentage of pharmacists providing healthcare services appears to be markedly higher in England than in Poland (4). In the UK, a three-tier structure of pharmaceutical services (consisting of essential, advanced, and enhanced-level services) has been used since 2005 (4). A pharmacist is often the first point of contact for patients. Pharmacists in the UK closely cooperate with addiction treatment centers, can dispense emergency hormonal contraception or administer influenza vaccines. Community pharmacists in the UK are recognized by the government as essential contributors to public health and primary healthcare (4). The budgetary allocations for pharmaceutical care in the UK account for 0.53% of gross domestic product (GDP) being the highest in Europe (19).

This study investigates the patients' satisfaction with services provided in community pharmacies in Poland and England. To advance the understanding of differences in practice between the countries, patients' perceptions of pharmacies, pharmacists and pharmaceutical services in both countries were measured.

EXPERIMENTAL

This cross-sectional study was carried out in Poland (Masovian, Pomeranian and Lower Silesian districts) and in England (Cambridgeshire, Essex, Northamptonshire, and Norfolk ceremonial counties). Polish and English-language versions of the anonymous questionnaires were distributed between January and August 2011 to patients who visited community pharmacies to fill the prescriptions. No specific inclusion or exclusion criteria were applied. All study participants were informed about the anonymity, aims, and design of the survey. The patients gave their consent to participate in the study by returning completed questionnaires.

The questionnaires were primarily filled out in the pharmacy and returned immediately to the pharmacy team. Alternatively, patients could take them home and scan them or take a photo with their phone, then send the image via email to the pharmacy which originally handed it. We explained to the pharmacy staff how to fill in the forms and the options for delivering the questionnaires filled in by the patients. After that, the pharmacies which decided to participate in the project forwarded the emails to the researcher.

The study was approved by a Polish (AKBE/74/12) and British bioethics committees (REF 04/26/50) (Research Ethical Approval).

The questionnaire consisted of 31 questions. The first section focused on demographic data, including patients' age, sex, marital and professional status. The second section of the questionnaire was designed to gather patients' opinions on different aspects of pharmaceutical services using a five-point Likert scale (1, strongly disagree; 2, disagree; 3, neither agree nor disagree; 4, agree; 5, strongly agree). The questionnaire was validated by panel members (in terms of face and content validity). Panel discussions were held in Poland and England. Each panel involved a total of 10 individuals, including hospital pharmacist, professor of medicine, pharmacy or public health, community pharmacists, physicians, and patients. The internal consistency and applied scales were assessed using Cronbach's α (20). Data on the patients' preferences for particular pharmacies, included in the questionnaire, had been analyzed and published previously (21).

All statistical analyses were carried out using Statistica 12.0 (StatSoft) and Excel software (Microsoft). Continuous variables were expressed as means, standard deviations, medians, ranges, and 95% confidence intervals. Categorical variables

were presented as numbers and percentages. The Shapiro-Wilk test was used to assess normality, and the Levene's (Brown-Forsythe) test was used to assess the equality of variances. Student's t-test (or Welch's t-test in the case of inequality on variances), or the Mann-Whitney U test (if conditions for Student's t-test were not met or to analyze discrete variables) were used to compare the two groups. The F test (ANOVA) followed by post-hoc

Tukey's test or the Kruskal-Wallis test (if conditions for ANOVA were not met) followed by Dunn's test were used to compare more than two groups. To determine the differences between paired samples, the paired t-test or the Wilcoxon signed-rank test were used. The applied tests for multiple comparisons involved the repeated measures ANOVA or the Friedman test. The χ^2 tests for independence (with Yates' correction, evaluation of Cochran con-

Table 1. Demographic characteristics of the study groups.

	Poland (N = 418)	England (N = 405)	Total (N = 823)	P-value
Sex				
Female	308 (73.9%)	282 (69.6%)	590 (71.8%)	0.1778 ¹
Male	109 (26.1%)	123 (30.4%)	232 (28.2%)	
Age, years				
<20	8 (1.9%)	29 (7.2%)	37 (4.5%)	0.0001 ²
20-29	271 (65.0%)	108 (26.7%)	379 (46.1%)	
30-39	62 (14.9%)	75 (18.5%)	137 (16.7%)	
40-49	34 (8.2%)	79 (19.5%)	113 (13.7%)	
50-59	28 (6.7%)	62 (15.3%)	90 (10.9%)	
≥ 60	14 (3.4%)	52 (12.8%)	66 (8.0%)	
Marital status				
Married	136 (32.9%)	217 (53.6%)	353 (43.1%)	0.0001 ¹
Single	261 (63.0%)	153 (37.8%)	414 (50.5%)	
Widowed	7 (1.7%)	13 (3.2%)	20 (2.4%)	
Divorced	10 (2.4%)	22 (5.4%)	32 (3.9%)	
Education				
Primary	7 (1.7%)	233 (59.4%)	240 (29.7%)	0.0001 ²
Vocational	10 (2.4%)	57 (14.5%)	67 (8.3%)	
Secondary	188 (45.1%)	23 (5.9%)	211 (26.1%)	
Higher	212 (50.8%)	79 (20.2%)	291 (36.0%)	
Profession				
Healthcare professional	55 (13.3%)	129 (33.0%)	184 (22.9%)	0.0001 ¹
Office worker	145 (35.1%)	77 (19.7%)	222 (27.6%)	
Businessman/businesswoman	20 (4.8%)	35 (9.0%)	55 (6.8%)	
Physical worker	26 (6.3%)	87 (22.3%)	113 (14.1%)	
Student	151 (36.6%)	40 (10.2%)	191 (23.8%)	
Pensioner	16 (3.9%)	23 (5.9%)	39 (4.9%)	
Place of residence				
Village	60 (14.4%)	118 (29.4%)	178 (21.8%)	0.0001 ²
Town < 100,000 inhabitants	112 (26.9%)	181 (45.0%)	293 (35.8%)	
Town 100,000-500,000 inhabitants	73 (17.5%)	89 (22.1%)	162 (19.8%)	
Town ≥ 500,000 inhabitants	171 (41.1%)	14 (3.5%)	185 (22.6%)	

¹ χ^2 test; ²Mann-Whitney U test.

ditions, or the Fisher's exact test, as appropriate) were used to analyze the relationships between categorical variables. To investigate correlations between variables, Pearson or Spearman's correlation coefficients were used. P values less than 0.05 were considered statistically significant.

RESULTS

Study group characteristics

Completed questionnaires were collected from a total of 823 subjects. In Poland, 418 (50.8%) subjects from 36 pharmacies responded to the questionnaire whereas, in England, data were gathered from 405 subjects (49.2%) from 56 pharmacies. Table 1 shows the demographic characteristics of the study groups. Females predominated in both groups and comprised 71.8% of the total subject sample. The majority of Polish individuals were aged from 20 to 29 years (constituting 65% of all patients enrolled in Poland), whereas the age distribution of English participants was more equal, with 26.7% of the patients

aged from 20 to 29 years. Both study groups differed significantly regarding age, marital status, education as well as profession. Individuals in Poland were predominantly single students living in large cities. This was in contrast to a typical English respondent who was a married healthcare professional living in a town with less than 100,000 inhabitants.

Patients' opinion on the quality of services

Patients' opinions on the quality of services provided in community pharmacies differed significantly between the countries. Significantly higher scores for all aspects of patient-pharmacist interactions, such as ease of contact, pharmacists' involvement, and the quality of advice provided, were obtained in England than in Poland (Table 2).

When purchasing OTC drugs, a high percentage of patients in England reported to have been interviewed by a pharmacist about symptom characteristics (77.9%), their duration (70.5%), taking other medicines (81.9%), and comorbidities (69.2%). The following corresponding percentages

Table 2. Patients' opinion on the quality of services provided by a pharmacist.

Statement	Poland N = 418	England N = 405	p-value
	Mean* (SD)	Mean*(SD)	
● The pharmacist recognizes me and knows my name.	1.8 (1.3)	3.5 (1.6)	0.0001
● The pharmacist is competent and meets my requirements.	3.6 (0.9)	4.4 (0.8)	0.0001
● The pharmacist listens carefully what I am telling him/her.	3.8 (1.0)	4.4 (0.8)	0.0001
● The pharmacist fully answers all my questions.	3.6 (1.0)	4.4 (0.8)	0.0001
● I find my pharmacist trustworthy when he/she gives me adequate advice and information.	3.6 (1.0)	4.4 (0.8)	0.0001
● I am happy with my relationship with my pharmacist.	3.7 (1.0)	4.2 (1.0)	0.0001
● The pharmacist is always involved, concerned and interested in my health issues.	2.5 (1.2)	4.1 (1.1)	0.0001
● I can ask my pharmacist all the questions regarding my health condition.	3.3 (1.2)	4.2 (1.0)	0.0001
● When I talk to the pharmacist, I do not feel that he violates my privacy.	3.9 (1.1)	4.3 (0.9)	0.0001
● Good advice offered by the pharmacist makes me want to come to him/her again.	3.6 (1.1)	4.4 (0.9)	0.0001
● The pharmacist speaks clearly using simple words and understandable language.	3.9 (0.9)	4.4 (0.8)	0.0001
● I am fully satisfied with the pharmacist's answers to my questions.	3.7 (0.9)	4.4 (0.8)	0.0001
● The pharmacist is always available and eager to help.	3.6 (1.0)	4.3 (0.9)	0.0001
● I am served quickly and efficiently at my pharmacy.	3.4 (1.2)	4.2 (0.9)	0.0001
● I am convinced that the pharmacist will never reveal any of my private information from the consultation.	3.4 (1.2)	4.5 (0.8)	0.0001
● Overall grade	51.1 (11.0)	64.1 (11.7)	0.0001

*Patients' opinions were evaluated on a five point scale, where 1 corresponds to 'strongly disagree', and 5 - 'strongly agree' statement). SD, standard deviation; Mann-Whitney U Test.

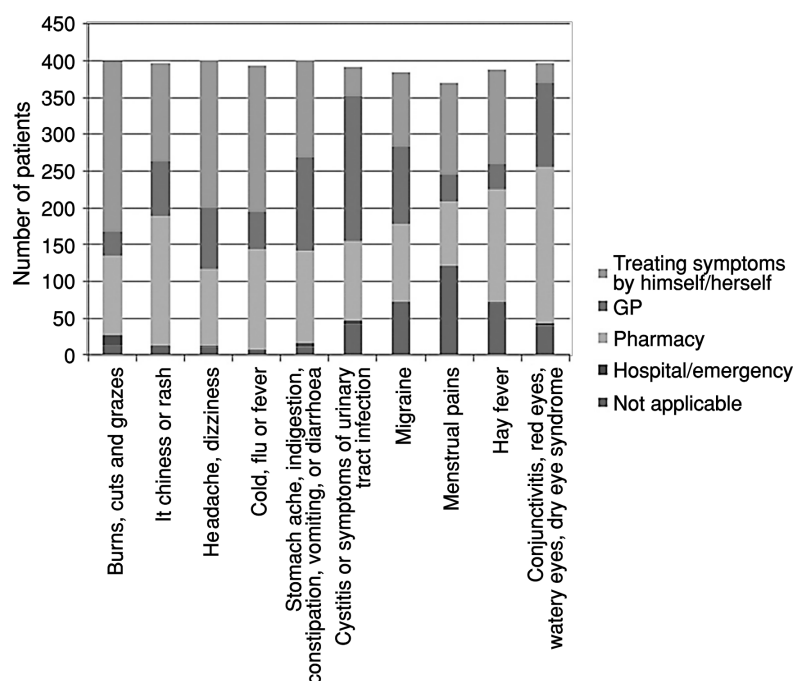


Figure 1. Sources of first aid and medical advice in England. GP, general practitioner.

were significantly lower in Poland: 28.4%, 13.8%, 10.2%, 6.1%, respectively ($p = 0.0001$ for each pairwise comparison).

Prescription filling

Only 59.3% of patients in Poland compared with 91.3% of patients in England declared to have filled all prescriptions ($p < 0.001$). The most common reasons for failure to fill the prescriptions were: stockpiles of medications at home (9.4% of all individuals), treatment concerns (8.5%), and financial issues (6.8%).

Sources of medical information

Overall, patients' preferences as to where to seek medical advice on the analyzed conditions differed significantly between England and Poland ($p = 0.0001$ for each pairwise comparison). In England, for most individuals who reported itchiness or a rash, migraine, hay fever, and eye conditions, the pharmacy was the first place they considered visiting (Fig. 1). On the contrary, the majority of Polish patients preferred to consult a GP when experiencing itching, a rash or eye problems, and to treat themselves for the symptoms of migraine or

hay fever (Fig. 2). If the urinary tract infection was suspected, most patients from both Poland and England consulted a GP. Similarly, in both countries, the highest percentages of patients practiced self-care to treat burns, cuts, headaches, dizziness, cold, fever, gastrointestinal disorders, and menstrual pain.

Patients' expectations for pharmacy services

A similar rate of patients in Poland and England expressed their interest in additional services that could be provided in pharmacies, such as estimation of blood glucose, cholesterol, and blood pressure measurements. English patients were more likely to be able to measure body weight/body mass index. A considerable proportion of patients would like to receive training and education in the use of inhalers, glucometers, or blood pressure monitors in their pharmacy. Likewise, more than one in three of the patients were enthusiastic about obtaining information from the pharmacists on healthy eating, diet, and physical activity as well as being supported in quitting addictions, like alcohol drinking, smoking, or drugs (Table 3).

DISCUSSION

This study has shown that there were wide variations between Polish and English patients in terms of their views and expectations about the provision of pharmaceutical care by community pharmacists. The level of patient satisfaction with provided services was generally higher in England compared with Poland. This can be attributed to the limited availability of pharmaceutical care services in Poland, while in England they are widely implemented and financed by the National Health Service. According to our findings, the majority of patients purchasing OTC medications in England were interviewed by a pharmacist about the duration and characteristics of symptoms as well as potential risks associated with the treatment. In Poland, less than half of patients declared to have had such consultations. Furthermore, they were also less eager to seek advice from a pharmacist in the case of various common illnesses and conditions than patients in England. This was associated with a greater tendency for self-care among Polish patients.

In England, the active role of pharmacists in healthcare is well-established. Compared with pharmacists in Poland, they have many more roles and

responsibilities, including renewing prescriptions for chronic conditions, administering influenza vaccines, measuring glucose and ketone bodies levels in the blood, and monitoring blood pressure (22). Pharmaceutical care in the UK often provides some definite outcomes. For example, it was demonstrated that pharmacist-conducted medication reviews were effective in the elderly with heart failure. Moreover, most recommendations offered by a pharmacist were further approved by a general practitioner (23). Therefore, English pharmacists became an essential part of the healthcare system. This critical role of pharmacists in England was confirmed in this study – a pharmacists' advice appeared to be more preferable to general practitioners' in various medical conditions.

The need for implementation of pharmaceutical care in Poland has been perceived and extensively discussed for several years (24, 25), but the availability of such services in community pharmacies remains very limited (26, 27). Two pharmaceutical care pilot programs involving patients with hypertension were accomplished thus far. They showed that a pharmacist can broaden patients' knowledge of the disease, improve their clinical conditions, and reduce the amount of drug-related

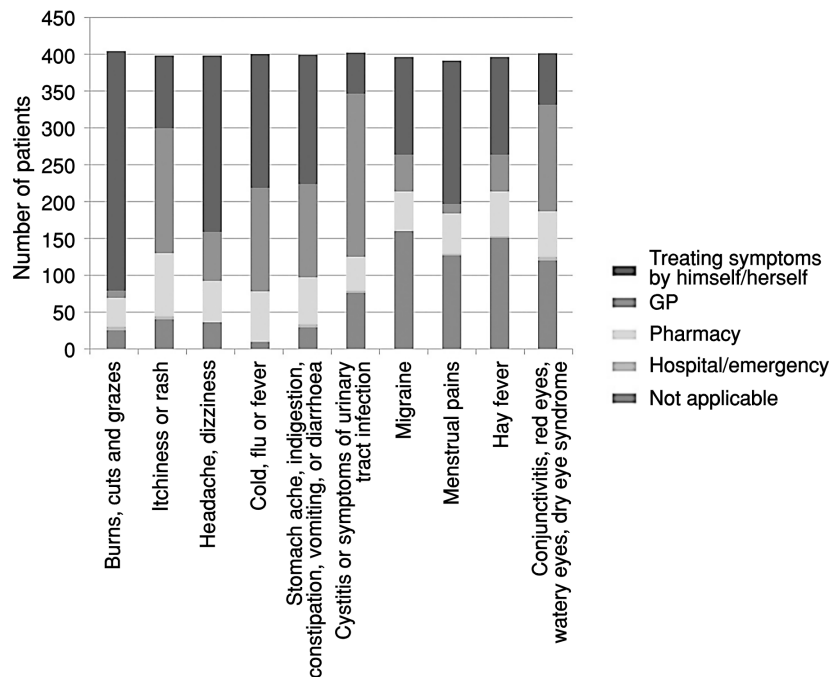


Figure 2. Sources of first aid and medical advice in Poland. GP, general practitioner.

Table 3. Patients' expectations for additional services that could be provided in community pharmacies.

Service	Poland N = 418		England N = 405		P value
	N	%	N	%	
Measurements					
Glucose	343	83.1%	315	80.4%	0.3228
Cholesterol	347	84.6%	330	83.3%	0.6146
Blood pressure	353	85.5%	335	85.9%	0.8635
Body weight/BMI	325	78.7%	317	83.9%	0.0632
Trainings					
Inhalers	182	44.6%	186	49.9%	0.1415
Glucometers	168	41.2%	179	48.0%	0.0556
Blood pressure monitors	181	44.4%	197	52.8%	0.0182
Advice					
Healthy eating and diet	264	64.2%	211	55.4%	0.0111
Physical activity	152	37.0%	146	38.3%	0.6979
Help with addictions	155	37.7%	137	36.0%	0.6090
Personal hygiene	100	24.3%	67	17.6%	0.0211

χ^2 test.

problems (17, 18). Currently, systemic implementation of pharmaceutical care is to be achieved in Poland as well as in other European countries, such as Croatia, Serbia, Romania, or Montenegro (26). Though it was observed that patients tended to practice self-care in Poland, the rate of health illiteracy in this country is relatively high compared with other European countries. Only 42% of patients would adhere to treatment regimens or recommendations, whereas 32% would have serious problems with following medical advice (19). Analysis of drug-related problems in an outpatient unit found that the occurrence of adverse drug events or lack of efficacy of pharmacotherapy among Polish patients with chronic conditions was common (28). These issues could be dealt with, at least to some extent, by the provision of medical support by community pharmacists, especially if bearing in mind that a third of adverse events are due to OTC drugs taken alone or in combination with prescription drugs (28).

Surprisingly, our previous findings suggested that the vital factors predisposing patients to visit a particular pharmacy in both Poland and England weren't low prices of medications but convenient location and high quality of services (21). This is in contrast to the increasing importance of marketing strategies, e.g., price reduction, observed in Polish pharmacies that result from intense competition in

the pharmaceutical market. This, along with the results of the present study, highlights the key role of high-quality services and specialized support provided by pharmacists in managing patient care. Additionally, our findings demonstrated that in spite of apparent discrepancy in both quality of services and availability of pharmaceutical care service between Poland and England, patients' expectations for the provision of various services in community pharmacies are very similar. This suggests that patients in Poland expect to receive pharmaceutical care, which would possibly facilitate the potential implementation of these services. In our previous study, more respondents preferred to visit a particular pharmacy in England than in Poland, which indicates that pharmaceutical care can ensure patients' loyalty and strengthen the position of the pharmacists in the highly competitive market (21).

12% of the population in Poland and only 4% of the EU population reported unmet treatment needs. Long waiting times to access the specialist consultations are the main reason why healthcare availability is restricted (19). In 2016, patients in Poland waited 363 days to receive a specialized medical procedure, which is much longer than in the OECD where the average time was 113 days (19). Moreover, almost 40% of Poles suffer from chronic diseases (19). Services provided by community pharmacists could manage such patients (29).

Pharmaceutical care is associated with significant healthcare cost reduction. Asheville Project studies showed that pharmaceutical care provided to patients with three different chronic conditions, including diabetes mellitus, asthma, and hypertension/dyslipidemia, not only improves the patients' condition but also produces considerable healthcare savings (30-32). A recent study investigating the financial impact of pharmaceutical care revealed that managing patients with chronic diseases in 12 pharmacies was cost-effective and generated a net profit of \$ 60,023 over 3 years (33). It is estimated that pharmaceutical care in Poland could lead to savings in healthcare costs of over 4 billion Polish zlotys (PLN), which means that it can be implemented without burdening the government budget (19, 34, 35).

There are about 15 000 pharmacies in Poland and 26 000 pharmacists who are appropriately qualified to be actively involved in the patient care process (19). Such engagement of pharmacists seems to be crucial considering a steady decrease in the number of physicians and nurses along with growing demand for healthcare in the aging society.

CONCLUSIONS

This study has shown that, according to patients' opinions, the range, as well as the quality of services provided in community pharmacies in Poland, are substantially worse in comparison with those in England. However, patients' expectations and needs in both countries bear similarities. These findings indicate that there is a great need to implement pharmaceutical care in Poland as a part of the healthcare system. Moreover, they may contribute to the effective and quick implementation of the pharmaceutical care concept in Polish medical practice.

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Conflict of interest

The authors declare that there is no conflict of interest.

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