

ETHICAL ISSUES RELATED TO PHARMACOGENETICS: ATTITUDES OF PHARMACY STUDENTS

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Pharmacogenetics is a study of how people respond differently to drug therapy based upon their genes (1). Available pharmacogenetics tests performed before starting therapy allow each patient to receive the appropriate drug in an adequate dose, in accordance with their genetic status (2). The aim of this research was to assess the attitudes of pharmacy students about potential ethical issues that may be related to pharmacogenetics testing. This descriptive study was conducted in the period from November to December 2019. Students from all faculties of pharmacy in Serbia filled out a structured questionnaire of 35 questions. A total of 256 respondents, predominantly female (83.8%), studying at the Faculty of Pharmacy – University of Belgrade, participated in the research (88.7%). Most respondents would consider doing a genetic test (78.5%). Of the ethical issues that may be associated with pharmacogenetics testing, students cited patient privacy (27.0%) and data confidentiality (22.7%), or both issues simultaneously (11.3%). Other reasons were forced testing, stigmatization or racial problems (9.8%, 5.1%, 3.5%, respectively). Students of the Faculty of Pharmacy in Belgrade more often recognized all five ethical problems in relation to other faculties and this difference is high statistically significant ($\chi^2 = 68.68$, $p < 0.001$). The issue of patient privacy, race and forced testing were more often recognized by students in lower years than in higher years of study ($\chi^2 = 46.31$, $p < 0.001$). We conclude that pharmacy students have a positive attitude towards pharmacogenetics and recognize ethical issues related to pharmacogenetics and personalized medicine.

References

1. Luzum JA, Petry N, Taylor AK, Van Driest SL, Dunnenberger HM, Cavallari LH. Moving Pharmacogenetics Into Practice: It's All About the Evidence! Clin Pharmacol Ther. 2021 Sep;110(3):649-661.
2. Polasek TM, Mina K, Suthers G. Pharmacogenomics in general practice: The time has come. Aust J Gen Pract. 2019 Mar;48(3):100-105.

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ETIČKI PROBLEMI POVEZANI SA FARMAKOGENETIKOM: STAVOVI STUDENATA FARMACIJE

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Farmakogenetika se bavi genetičkim razlikama u metaboličkim putevima koji utiču na odgovor pacijenta tokom primene lekova, u pogledu terapijskog dejstva i nuspojava (1). Dostupni farmakogenetički testovi koji se rade pre započinjanja terapije omogućavaju svakom pacijentu da dobije odgovarajući lek u adekvatnoj dozi, u skladu sa svojim genetičkim statusom (2). Cilj ovog istraživanja je bila procena stavova studenata farmacije o potencijalnim etičkim problemima koji mogu biti povezani sa farmakogenetičkim testiranjem i predstavljati prepreku kliničkoj implementaciji personalizovane medicine. Ova deskriptivna studija sprovedena je u periodu od novembra do decembra 2019 godine. Studenti svih farmaceutskih fakulteta u Srbiji popunjavali su strukturirani upitnik od 35 pitanja. U istraživanju je učestvovalo ukupno 256 ispitanika, dominantno ženskog pola (83,8%), koji studiraju na Farmaceutskom fakultetu – Univerziteta u Beogradu (88,7%). Većina ispitanika razmotrila bi mogućnost da uradi genetički test (78,5%). Od etičkih problema koji mogu biti povezani sa farmakogenetičkim testiranjem, studenti su najčešće navodili privatnost (27,0%) i poverljivost podataka pacijenta (22,7%), ili oba problema istovremeno (11,3%). Pored njih, drugi razlozi su bili i prisilno testiranje, stigmatizacija ili rasni problemi (9,8%, 5,1%, 3,5%, redom). Studenti Farmaceutskog fakulteta u Beogradu češće su prepoznavali svih pet etičkih problema u odnosu na ostale fakultete i ta razlika je visoko statistički značajna ($\chi^2 = 68.68$, $p < 0,001$). Pitanje privatnosti pacijenata, rasu i prisilno testiranje češće su prepoznavali studenti nižih u odnosu na više godine studija ($\chi^2 = 46,31$, $p < 0,001$). Zaključujemo da studenti farmacije imaju pozitivan stav prema farmakogenetici i prepoznaju etičke probleme povezane sa farmakogenetikom i personalizovanom medicinom.

Literatura

1. Luzum JA, Petry N, Taylor AK, Van Driest SL, Dunnenberger HM, Cavallari LH. Moving Pharmacogenetics Into Practice: It's All About the Evidence! Clin Pharmacol Ther. 2021 Sep;110(3):649-661.
2. Polasek TM, Mina K, Suthers G. Pharmacogenomics in general practice: The time has come. Aust J Gen Pract. 2019 Mar;48(3):100-105.

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