

Comparison of beliefs about cardiovascular medicines in Polish and American patients:

a cross sectional study

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Introduction

Patient adherence to medication is a constant concern and challenge for healthcare. Patients varying beliefs about medicines impact how adherent they are to their medications; it has been seen that two of the most important factors are necessity for the given treatment and concerns about the treatment. Given this, the Necessity-Concern Framework (NCF) could help shape interventions to improve adherence and outcomes¹. Also, cultural differences can play an important factor when evaluating these differences as different countries may have different medical systems and general beliefs. All of these components influence many aspects of medicine, including the doctor-patient relationship.

Objectives

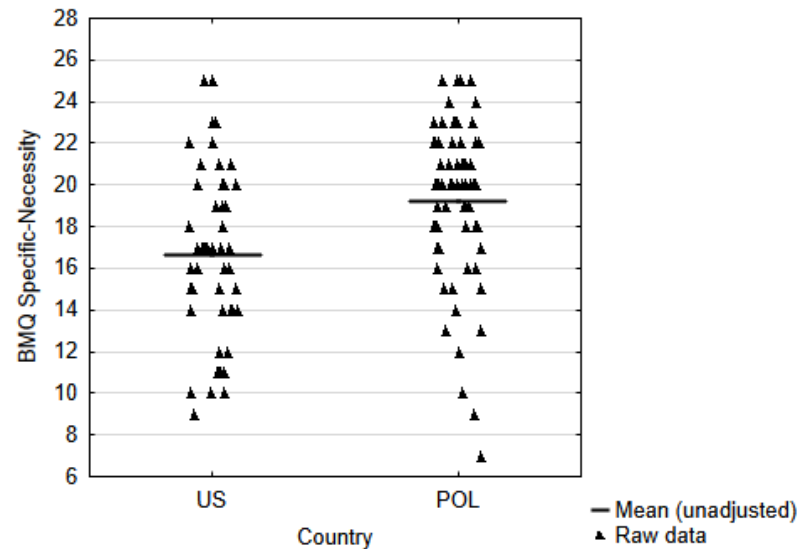
The aim of this study was to compare the beliefs about patient's prescription medications in Lodz, Poland to those in Detroit, Michigan. The aim was to find any key differences between these groups to get a better understanding of the patient's perspective of their medications. The study specifically evaluates patients taking cardiovascular medication for common diseases such as hypertension, coronary artery disease, arrhythmias and congestive heart failure.

Materials and Methods

A paper questionnaire was given to general outpatient clinics, pharmacies and senior living homes. The original English version² as well as the recently validated Polish version of the Beliefs about Medicines Questionnaire (BMQ)³ was used together with the Adherence to Refills and Medications Scale (ARMS)⁴. Additionally, patients were asked to answer demographic questions regarding sex, age, place of residence and socioeconomic status.

Results

Figure 1



The study population was mostly females (n=96) and males (n=26) with a mean age +/- SD of 68 between the two groups. The extent of general beliefs that medicines are harmful and overused as well as the specific beliefs or concerns did not significantly differ between the studied populations (p>0.05). However, beliefs about the necessity of prescribed medications were significantly higher in the group of Polish (n=69) patients as compared to the American (n=50) (Figure 1) and the difference remained significant after adjusting for sociodemographic covariates (18.3, 95%CI 17.2-19.5 vs. 16.2, 95%CI 14.9-17.5, p=0.02). Necessity-minus-Concern beliefs (Figure 2) significantly predicted self-reported medication adherence also after adjusting for sociodemographic covariates (r=0.41, 95%CI 0.25-0.55, p<0.0001), with no significant difference existing between the studied groups (p=0.65).

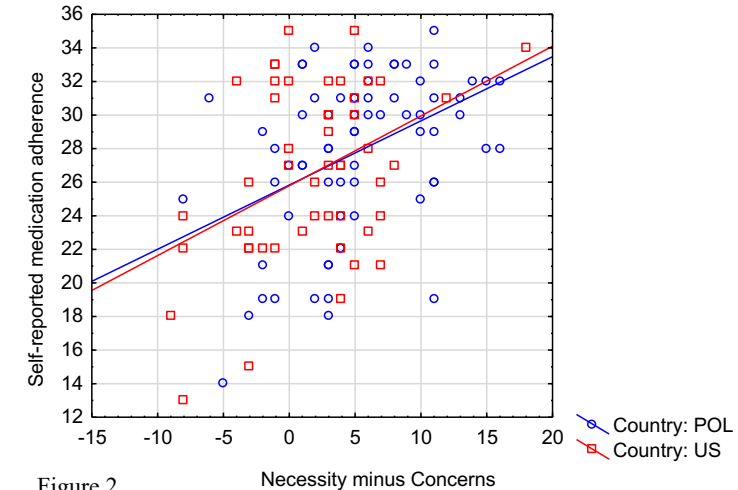


Figure 2

Conclusions

Polish patients seem to believe that their cardiovascular medications are more necessary than American patients, however, the results may be biased due to the possible effect of unmeasured covariates and non-probabilistic sampling. The Necessity-Concerns Framework (NCF) appears equally useful in predicting self-reported adherence to cardiovascular medications in both populations. Calculated as Necessity of the medication subtracted from the Concerns about the treatment.

References

- Phillips, L. A., Diefenbach, M. A., Kronish, I. M., Negron, R. M. and Horowitz, C. R. Phillips, L. Alison et al. "The Necessity-Concerns Framework: A Multidimensional Theory Benefits From Multidimensional Analysis". *Annals Of Behavioral Medicine*, vol 48, no. 1, 2014, pp. 7-16. *Oxford University Press (OUP)*, doi:10.1007/s12160-013-9579-2. Accessed 13 July 2020.
- Robert Horne, John Weinman & Maitteiv Hankins (1999) The beliefs about medicines questionnaire: The development and evaluation of a new method for assessing the cognitive representation of medication. *Psychology & Health*, 14:1, 1-24, DOI: [10.1080/08870449908407314](https://doi.org/10.1080/08870449908407314)
- Karbownik, M. S., Jankowska-Polańska, B., Horne, R., Górski, K. M., Kowalczyk, E. and Szemraj, J. Karbownik, Michał Seweryn et al. "Adaptation And Validation Of The Polish Version Of The Beliefs About Medicines Questionnaire Among Cardiovascular Patients And Medical Students". *PLOS ONE*, vol 15, no. 4, 2020, p. e0230131. *Public Library Of Science (Plos)*, doi:10.1371/journal.pone.0230131. Accessed 26 May 2020.
- Lomper, K., Chabowski, M., Chudiak, A., Białoszewski, A., Dudek, K. and Jankowska-Polańska, B. Lomper, Katarzyna et al. "Psychometric Evaluation Of The Polish Version Of The Adherence To Refills And Medications Scale (ARMS) In Adults With Hypertension". *Patient Preference And Adherence*, Volume 12, 2018, pp. 2661-2670. *Informa UK Limited*, doi:10.2147/ppa.s185305. Accessed 13 July 2020.
- Horne, R., Chapman, S., Parham, R., Freemantle, N., Forbes, A., & Cooper, V. (2013). Understanding Patients' Adherence-Related Beliefs about Medicines Prescribed for Long-Term Conditions: A Meta-Analytic Review of the Necessity-Concerns Framework. *Plos ONE*, 8(12), e80633. doi: 10.1371/journal.pone.0080633