

Irrational Use of Medicines: An Assessment of Turkish Patients in Primary Care Settings

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Presenter Disclosures

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Rational Use of Medicines: WHO Definition

Patients receive medications:

- appropriate to their clinical needs,
- in doses that meet their own individual requirements,
- for an adequate period of time, and
- at the lowest cost to them and their community.

Patients adhere to the treatment.

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Irrational Use of Medicines

- ▣ Worldwide more than 50% of all medicines are prescribed, dispensed, or sold inappropriately.
- ▣ 50% of patients fail to take them correctly.
- ▣ At the same time, about one-third of the world's population lacks access to essential medicines.

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Problem

- ▣ Inappropriate doses result in serious morbidity and mortality, particularly for childhood infections and chronic diseases such as hypertension, diabetes, epilepsy and mental disorders
- ▣ Inappropriate use and over-use of medicines waste resources:
 - frequent out-of-pocket payments by patients
 - significant patient harm in terms of poor patient outcomes and adverse drug reactions

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Purpose & Design

- ▣ The purpose of this study was to assess rational medicine use behaviors of individuals.
- ▣ Three hundred eighty-three individuals were randomly selected from five primary healthcare centers in Istanbul, Turkey.
- ▣ A non-experimental, correlational design was used.

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Instrument

- ❑ The instrument was developed specifically for the Turkish context.
- ❑ It included 26 questions on rational use of prescription medicines and perceptions of subjects.
- ❑ There were additional questions on socio-demographic characteristics of participants.

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Map of Turkey



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The Turkish Context

- ❑ Bridge between Europe and Asia
- ❑ Slightly larger than Texas
- ❑ 17th largest economy in the world
- ❑ One of the fastest growing economies in the world
- ❑ Population of 75 million
- ❑ GDP per capita – about \$14,700
- ❑ The only stable secular democracy in the world with a large Muslim majority

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Turkish Health Care System

- ❑ Nearly all Turkish citizens are under a single insurance system
- ❑ Freedom to choose a family physician
- ❑ Freedom to choose any public hospital
- ❑ Freedom to choose participating private hospitals with higher co-pays
- ❑ Community health center in each city/ town
- ❑ Completed National Health Information System

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Accomplishments

- ❑ Infant mortality rates (under 1 year of age) down from 29 per 1000 in 2003 to 10 in 2010
- ❑ Life expectancy up from 70.9 to 73.7 (76.1 for women)
- ❑ Infant vaccination rates at 97%
- ❑ Higher satisfaction rates with health care services (39.5% to 73.1%)
- ❑ Burden of out-of-pocket expenditures declined
- ❑ Productivity in hospitals improved

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Common Costs to Patients in the Turkish National Health System

- \$100 per month per person premium
- Per visit charges (\$2 to \$10)
- 30% out-of-pocket private hospital costs
- **Prescription charges (\$2)**
- **20% out-of-pocket medication costs**

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Demographic Characteristics

		N	%
Gender	Female	241	63.1
	Male	141	36.9
Health Insurance	Yes	367	96.1
	No	15	3.9
Income	More than adequate	15	3.9
	Adequate	222	58.1
	Inadequate	145	38.0

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Demographic Characteristics

		N	%
Education	No formal education	47	12.3
	Primary School	152	39.8
	Middle School	47	12.3
	High School	75	19.6
	University	61	16.0
Profession	Housewife	183	47.9
	Government Employee	24	6.3
	Laborer	63	16.5
	Student	16	4.2
	Retiree	31	8.1
	Self-employed	21	5.5
	Other	44	11.6

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Descriptive Findings

	N	%
Keeps old meds	257	67.3
Inquires about directions on meds	281	73.6
Stops using meds without asking provider	256	67.0
Double doses after skipping a dose	26	6.8
Agrees to use generics	180	47.1
Receives details about diagnosis from provider	268	70.2
Receives medications without examination	128	33.5
Requests a specific medication from provider	233	61.0
Receives information about prescription	272	71.2
Receives information on alternative treatments	221	57.9
Goes back to the provider for re-evaluation	196	51.3
Provider asks questions on current medications	265	69.4
Provider asks questions on chronic conditions	268	70.2

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Descriptive Findings

	N	%
Provider asks questions on liver/kidney problems	246	64.4
Fully comprehends provider's explanations of meds	341	89.3
Asks provider to repeat explanations of meds	142	37.2
Asks provider to prescribe cheaper meds	84	22.0
Provider explains how quickly meds will work	243	63.6
Provider explains side effects of meds	269	70.4

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Subjects over 35 years of age are significantly more likely to:

- Keep old meds
- Use medicines in the medicine cabinet when sick
- Stop using meds without asking provider
- Double dose after skipping a dose
- Object to use of generics
- Receive details about diagnosis from provider
- Receive medications without examination
- Receive information about prescription

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Subjects with high school and more education are significantly more likely to:

- Not keep old medications
- Inquire about directions on meds
- Not stop using meds without asking provider
- Fully comprehend provider's explanations of meds

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Subjects with adequate or more income are more likely to:

- Request a specific medication from the provider
- Receive information about a prescription
- Have the provider ask questions on current medications
- Ask the provider to repeat explanations of meds
- Not ask the provider to prescribe cheaper meds

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Summary

- Age, education level and income are significant predictors of irrational use of medicines in the Turkish Primary Health Care context.
- Overall, for a great majority of the questions, 30% to 50% of respondents indicated irrational use of medicines.

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\$418 BILLION wasted in the USA

- \$55.8 billion was spent unnecessarily on higher-priced medications when more affordable, similar drugs could have been used.
- \$93.1 billion could have been saved if patients had shopped around pharmacies or used mail order pharmacies.
- \$269.4 billion was spent on avoidable medical expenses because patients did not stay on the medicines they were prescribed.
- 9 of the 10 poorest states rank among the most wasteful in medication related costs.

<http://www.forbes.com/sites/matthewherper/2013/06/28/does-medication-waste-cost-the-u-s-418-billion/>

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WHO: Tactics for Improving Rational Drug Use

- Improved pharmacotherapy training for physicians and other providers
- Essential drugs lists
- Prescribing & dispensing formularies and treatment guidelines
- Patient cost-sharing
- Promotion controls
- Advertising spending limits
- Prescribing controls
- Banning unsafe drugs and irrational combinations
- Dispensing controls
- Limit on number of drugs per patient

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THANK YOU

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