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## OBJECTIVES

One of the important problems in the field of health in Turkey is irrational use of antibiotics which is seen commonly all country wide. Using antibiotics unnecessarily with insufficient time and dosage causes resistance. Additionally, it can cause inefficient treatment and increasing costs of medical cares. Evaluation of family physicians' prescription content contributes to determinate the situation of antibiotic use. It also contributes to improve the arrangements to solve the problems about irrational use of medicines. In this study, we aimed to investigate antibiotic prescription contents of Turkish family physicians in primary care health services and compare provinces relating to their percentages of antibiotic prescriptions.

## METHODS

E-prescription data of Turkish Family physicians prescriptions in the year 2013 were obtained and evaluated retrospectively by Prescription Information System (PIS). Also records of family physicians were evaluated by PIS and numbers of

prescriptions including antibiotics was found. Dispersion of prescribed antibiotics established in terms of number of items/boxes/costs. Provinces is compared relating to their percentages of antibiotic including prescriptions. For the cost analysis, we used drug resale prices for the year 2010.

## RESULTS

In 2013, 230.830.573 protocol was entered into the system. 50.28% (116.063.545) were resulted with prescriptions. 33.95% (39.403.316) of this prescriptions were including antibiotics. The most frequently prescribed antibiotic was amoxicillin and enzyme inhibitor (27.82%) and the following antibiotics are cefuroxime(7.83%),cefdinir (6.94%), clarithromycin (4.24%) (Table 1). The province with highest proportion of prescriptions containing antibiotics was Diyarbakir (55.18%) (Fig.1). The following provinces were Sanliurfa (52.42%) and Gaziantep (52.05%) (Fig.1). The less frequent use of antibiotics occurred in Artvin (20.45%), Sinop (22.75%) and Rize (23.13%) (Fig.1). The costs of all prescribed antibiotics was 951.452.540 TL and it's responsible for 9.45% of all drug costs.

Cumulatively highest-cost antibiotic was cefdinir (19.92%) (Table 2). The following were amoxicillin and enzyme inhibitör (18.4%) and cefuroxime (16.02%) (Table 2). The number of antibiotic items per one antibiotic containing prescription was 1.11, the number of antibiotic boxes per one antibiotic prescription were 1.47 and costs of antibiotics per one antibiotic prescription was 24.15 TL.

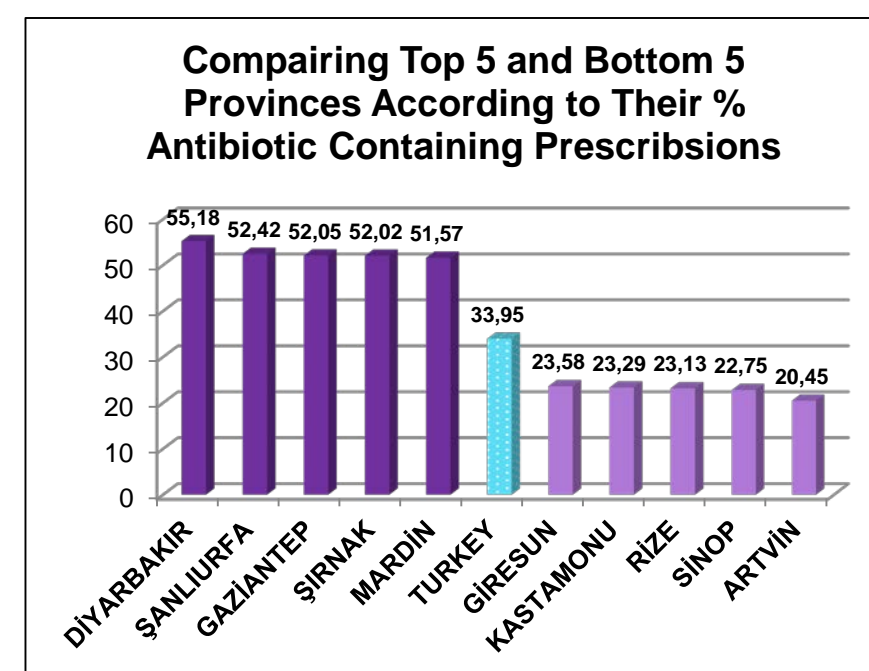


Fig. 1

Row of Item	ATC 5 Code	ATC 5 Name	Number of Item	% of Item	Number of Box	Row of Box
1	J01CR02	amoxicillin and enzyme inhibitor	12137527	%27.82	12320972	1
2	J01DC02	cefuroxime	3417170	%7.83	6814249	2
3	J01DD15	cefdinir	3027247	%6.94	3059563	4
4	J01FA09	clarithromycin	1851311	%4.24	1875826	6
5	J01DD08	cefixime	1398375	%3.21	1416134	7
6	J01DC10	cefprozil	1320409	%3.03	1330128	9
7	J01MA02	ciprofloxacin	1299947	%2.98	1350749	8
8	J01CR04	sultamicillin	1284006	%2.94	1305229	10
9	J01DD13	cefpodoxime	1180415	%2.71	1189128	11
10	J01CA04	amoxicillin	1087503	%2.49	1112489	13

Table 1

Row of Cost	ATC 5 Code	ATC 5 Name	Total Cost (TL)	% of Cost	Number of Box	Row of Box
1	J01DD15	cefdinir	189.533.738,62	%19.92	3059563	4
2	J01CR02	amoxicillin and enzyme inhibitor	175.036.896,98	%18.4	12320972	1
3	J01DC02	cefuroxime	152.456.148,04	%16.02	6814249	2
4	J01DC10	cefprozil	38.548.014,63	%4.05	1330128	9
5	J01DD13	cefpodoxime	35.087.827,64	%3.69	1189128	11
6	J01FA09	clarithromycin	31.834.960,56	%3.35	1875826	6
7	J01CR04	sultamicillin	26.941.867,66	%2.83	1305229	10
8	J01DD04	ceftriaxone	26.245.309,87	%2.76	3005029	5
9	J01DB04	cefazolin	21.626.126,88	%2.27	4544204	3
10	J01DD16	cefditoren	21.009.098,17	%2.21	458232	30

Table 2

## CONCLUSION

In this study, we evaluated antibiotic prescriptions which is independent from diagnosis and seasonal differences in 2013 all over the country. The proportion of antibiotic including prescriptions is important to WHO as a criteria for rational use of medicines. In Turkey, 33.95% of all prescriptions were including antibiotics which is very high. It is observed once again with this study that there is a need for auditing prescribing habits of family physicians. In improvement activities directed to rational use of medicines we must examine the reasons for differences between provinces. We must also consider that we need different strategies for coming up with a solution about this matter.