Original Article

The Pattern of Medication Usage in the Southern Region of Iran: A population-based Pharmacoepidemiological Study

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ABSTRACT

Objective: The purpose of this study was to document the demographic data, to assess the proportion of consumed medicines and the amounts and types of drugs available to households, and to to estimate the probable prevalence of certain diseases in the southern region of Iran. **Methods:** In this cross-sectional population-based study carried out in Shiraz (the central city in the Southern part of Iran), we documented and evaluated the drug usage details in a random sample of 1000 households during 2018–2020. We analyzed the usage of drug categories based on the anatomical therapeutic chemical classification, which the World Health Organization recommends. **Findings:** In the studied population, the average age (± standard deviation) was 45.54 ± 15.82, ranged 18–91 years. More than 90% had medical insurance coverage. About 81.8% of the participants had individual family medicine practitioners, and most of them (93.8%) received medications with a physician's prescription. The most frequently used medications were cough and cold preparations (12.9%), nervous system drugs (12.6%), and cardiovascular system drugs (11.6%). **Conclusion:** Despite the easy access to medications for most participants, few individuals (about 6%) received their medications without a prescription. The most frequently prescribed medicines were the common cold, acetaminophen, and metformin. Common cold, gastrointestinal (GI) disorder, and diabetes were the most commonly used medication classes. Furthermore, we have found a probably higher than average prevalence of cardiovascular, GI, and endocrine disorders. This information could be used by the local policymakers as a basis for the estimation and allotment of health-care resources.

KEYWORDS: *Medication usage pattern, population-based study, pharmacoepidemiology*

INTRODUCTION

Medications have always played a significant role in improving health issues and problems. In Iran, people usually keep the remained drugs of their prescriptions in their houses. They may also go to the pharmacies and ask for specific medicines, such as generic drugs, herbal remedies, or dietary supplements.[1,2] Therefore, finding the pattern of reaching these medications and the diversity of available medicines in households will give a true and accurate image of these medications' availability at each Iranian house. These data can help arrange specific policies in the field of pharmaceutical services for the future.

Recently, the prescribed medications in most countries for outpatients, over-the-counter (OTC) medicines, and health-care products have been increased in cost value.[3-5] Furthermore, many articles have reported an

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increase in the use of OTC medications and supplements over the past decade.[3,4,6-8] Besides, the amount and number of available medicines as remaining drugs were increased in their houses.[9] Hence, the cost of treatment has raised trend in all countries.[3,4] Governments are looking for ways to reduce costs, such as controlling the price and limiting the patient's medication purchase, except when necessary.[10] Costs and patterns of prescriptions and used medicine are among the financial issues about any country's health system.[11] However, there is a lack of information about the community's actual consumption in the community.[12] To control the cost of prescription drugs, some countries plan to increase the cost sharing with insurance companies. Hence, insurance companies will cover only a part of the cost of the prescribed medicines, and patients cover the other part of the cost. According to the previous studies, there is an observable relationship between sharing medicine costs and reducing essential drugs based on the population and chronic diseases. Of course, when seeking to share medicine costs, medicine discontinuation of one category of the prescription has also been reported. Hence, it has effects in the result of the treatment. One factor that is effective on the excessive or moderate use of the medicines is cost sharing of the medicines. Despite Iran's insurance system, which is designed to share medicine costs, studies have shown that the number of prescribed medicines and OTC drugs prescribed for each patient in Iran is higher than the amount required by the individual.[13-17]

Medical utilization of supplements and herbal medicines is also increasing, along with taking chemical drugs. On the other hand, there is minimal information about the consumers of herbal medicines and food supplements. This lack of information has led to the apparent lack of uniformity of drug therapy in societies.[18] According to the National Health Interview Survey, 10%–19% of the United States (US) population consumes nonvitamin supplements. Furthermore, it has been reported that the amount of dietary supplements is different in the case of age, gender, and breeds. However, most people who have chronic or recurrent diseases usually use supplements.[19]

Based on the Iranian Food and Drug Organization latest report, more than three-fourths of pharmacies in Iran are established in the private sector,[3] which may help justify the fact that the Iranian population has a higher level of medicine consumption than the other middle-income countries.[7,20,21] Therefore, we have decided to carry out a population-based study in the city of Shiraz, Iran, to document the demographic data, to assess the proportion of consumed medicines and the amounts and types of drugs available to households, and to estimate the probable prevalence of certain diseases in the southern region of Iran.

Methods

This cross-sectional population-based study was performed between May 2018 and March 2020 in the city of Shiraz (Iran). Shiraz is the center of a Fars province in southwest Iran and has a population of about 2 million inhabitants. According to municipality regions, 1000 individuals were chosen randomly to cover all city areas using stratified sampling. For selecting the study participants, the inclusion criteria included Iranian people older than 18 years who lived in Shiraz for at least 2 years and eager to participate and answer questions thoroughly. The exclusion criteria included people who were reluctant to participate in the study, incomprehension of valuation questions. They gave up in the middle of questionnaire completion or failure to complete the questionnaire. Residential areas such as dormitories, hotels, stores, agencies, companies, and places except residential houses were also excluded from the study.

Postal codes were obtained from the Shiraz Central Post Office, after which multistage random cluster sampling was used to select clusters corresponding to the population in each postal area. We chose a total of 57 main clusters, each having 14 postal codes with a distance of ten houses from each other.

Finally, 1036 people participated, and we acquired 798 respondents (57 × 14). Among whom, 45 "Afghan nationality Residential" were excluded. This left us with a count of 991 residents. Hence, during data cleaning, the final sample contained 871 individuals [Figure 1].

The study was approved by the Local Ethics Committee of Health Policy Research Center of Shiraz University of Medical Sciences, with the code number EC-HP-01-62-11926.

A multipart data gathering sheet was designed for collecting data in two parts. The first part collected demographic and social profile (age, gender, education, marriage status, occupation, income/salary, insurance coverage and type insurance, residence, family physician coverage, and current living conditions). The second part of the datasheet contained tables for recording prescribed items. Five specialists confirmed the content validity of the questionnaire in pharmacy, social medicine, and biostatistics.

Quantitative variables were described by mean ± standard deviation (SD), and qualitative

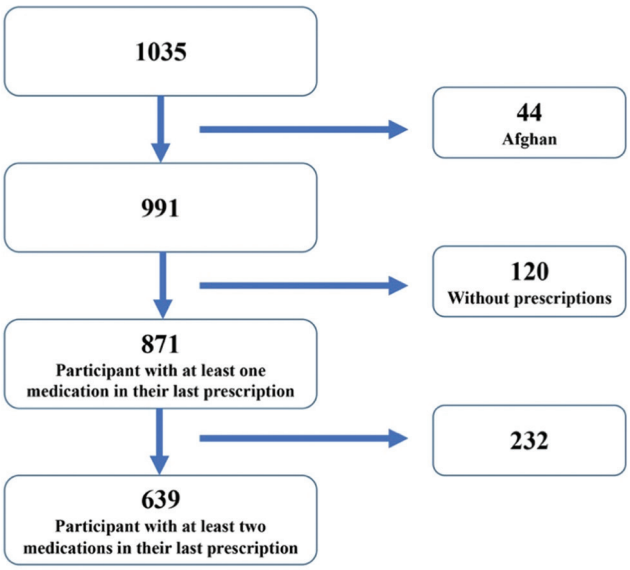

Figure 1: Flowchart of participants overview of this study

variables were described by the frequency (percent). Our specific goal was to observe the overall and the primary type of drug groups prescribed. Hence, all the recorded pharmaceutical items were categorized in the anatomical therapeutic chemical (ATC) classification.[22] This kind of rating showed the most frequently prescribed main drug groups and therapeutic subgroups. A two-step clustering method was used to cluster the subjects into homogenous groups that reported the same medication used in the first two numbers of their last prescription. Three clusters were selected considering pharmacological interpretability and lower Bayesian information criterion. Using the Chi-square test and Kruskal–Wallis test, qualitative and quantitative variables were compared between clusters for medication used in their last prescription. All statistical analyses were done using SPSS (Statistical Package for the Social Sciences), version 25. $P < 0.05$ was considered statistically significant.

Results

The participants' age varied in the range of 14–91 years, with an average ± SD of 45.54 ± 15.82 years. 75.7% of the participants were graduated or had lower education, and the rest had a university education. 50.2% and 29.7% of the participants were covered by social insurance and health insurance services, respectively. Only 38.3% of the cohort was covered by supplementary insurance.

Only 96 (9.3%) respondents could not have access to medications easily. The most prevalent problem for getting drugs was financial limitations\ expensive medicine (43.4%), followed by the drugs' unavailability (16.6%).

About half (44.7%) of the participants showed that they stopped medications earlier than the due date. The most frequent reasons for stopping medications were resolving disease symptoms (66%), feeling that the pill did not affect recovery (21.9%), and adverse drug reactions (11.2%). Family physicians covered 81.8% of the participants. About one-fourth (24.3%) of patients did not have any reference to their family physicians during the past year, by 17.6% of patients did not recall their visit numbers, and the rest (58.1%) had come to their family physician at least once a year. 11.4% of the participants stated that they did not receive all their medications from a family physician. Only 28.5% of the participants received all their prescriptions by prescribing from a family physician. About 52.6% of people assessed their health status well to excellent, while others did not have any opinion about their health status or assessed it as moderate or weak. Only 44.8% of the people reported continuous daily physical activity.

78.5%, 80.5%, and 76.5% of the cohort, respectively, stated their priority as governmental instead of private hospitals, clinics, and specialized clinics. Only 18.9% of participants referred to physicians other than family physicians. The participants reported their most frequent visits to family physicians (58.9%), specialists (22.4%), and general practitioners (15.1%). Only 4.6% of the patients stated that their primary medication source was something except the physician's prescription. In treating their illness, people used chemical drugs, herbal medicines, and the frequency of 45.3%, 34.2%, and 18.8%, respectively; <0.5% did not pay attention to the type of medication. 1.3% of the people also expressed that they have not used any chemical and herbal medicines.

In our study, 93.8% of people usually received medication with a physician's prescription, and only about 6% of participants have reported that they received their medications without a prescription.

About one-fourth (22.2%) of the participants stated that their medications were the same as their previous medications. Since they could not visit a physician or get a new prescription from him, they received the medicine without a prescription. About thirty-four (35.9%) percent of the participants stated that they did not buy any drugs without a prescription. 40.1% of the respondents said they could buy pills without a prescription because they could purchase the drugs without a pharmacy prescription.

27.8% of people stated that consuming self-administered medication was inevitable in some instances. Due to side effects, about half of people (48.7%) opposed OTC

treatment. Other participants expressed delayed diagnosis of disease (6.1%), antibiotic resistance (10.8%), and extra-cost of medications (2.8%) as their converse reasons for receiving the medicine without a prescription.

The top 10 medications prescribed were common cold (7.7%), acetaminophen (6.3%), metformin (3.8%), losartan (3%), iron (2.3%), ranitidine (2.2%), diphenhydramine (2%), atorvastatin (1.9), amoxicillin (1.8%), and calcium (1.8%).

The most frequent ATC codes reported in the first medication of the last prescription of the study population were R05_Respiratory system, part of cough and cold preparation (12.9%), nervous system (12.6), and cardiovascular system (11.6). Table 1 shows the demographic characteristics of the first six common ATC codes in the last prescription. The distribution of age (P = 0.001), education (P = 0.016), supplementary insurance (P = 0.001), and health status (P = 0.001) was significantly different among the ATC codes.

Table 2 and Supplementary Table 1 show the detailed distribution of ATC codes within 3 clusters based on the first two medications in the last prescription. Cluster 1 (labeled "common cold") consisted of people who had more R05 (27.5%), N (24.5%), J (18.1%), and M (14.4%) of ATC codes in the first two number of their last prescription. Cluster 2 (labeled "gastrointestinal [GI] disorder") consisted of people who had more A (30.7%), B (28.2%), and A12 (18.1%) of ATC codes in the first two numbers of their last prescription. Cluster 3 (labeled "diabetes") consisted of people who had more C (40.4%) and A10 (27.5%) of ATC codes in the first two numbers of their last prescription.

The distribution of remaining variables was significantly different among the clusters of the medications except for gender (P = 0.929), insurance type (P = 0.174), family physician (P = 0.321), and the number of families who had a job (P = 0.339). The Supplementary Table 1 shows the distribution and comparison of epidemiologic variables within and between clusters 1, 2, and 3.

Discussion

This study is the first population-based study describing consuming prescribed medication among households living in southern Iran. We determined the most commonly used drugs, ATC codes, clusters of the first two medications in the last prescription, and their possible association with the demographic and socioeconomic variables.

Our results showed that although more than 90% (90.7%) of the cohort can easily access medications, about half of them declared that they were opposed to OTC treatment. Besides, only about 6% of participants have

Table 1: The first six common anatomical therapeutic classification codes in the last prescription of participants (number of respondents=871)

	R05 (*n*=112; 12.9%)	N (*n*=110; 12.6%)	C (*n*=101; 11.6%)	B (*n*=86; 9.9%)	J (*n*=76; 8.7%)	A (*n*=70; 8%)	*P*
Age							
≤39	67 (59.82)	48 (43.64)	15 (14.85)	43 (50.00)	48 (63.16)	18 (25.71)	0.001
40-59	35 (31.25)	41 (37.27)	38 (37.62)	26 (30.23)	21 (27.63)	35 (50.00)	
≥5	10 (8.93)	21 (19.09)	48 (47.53)	17 (19.77)	7 (9.21)	17 (24.29)	
Sex							
Female	80 (71.43)	77 (70.00)	72 (71.29)	54 (62.79)	55 (72.37)	49 (70.00)	0.778
Male	32 (28.57)	33 (30.00)	29 (28.71)	32 (37.21)	21 (27.63)	21 (30.00)	
Education							
≤diploma	74 (66.07)	76 (69.09)	78 (77.23)	66 (76.74)	47 (61.84)	59 (84.28)	0.016
>diploma	38 (33.93)	34 (30.91)	23 (22.77)	20 (23.26)	29 (38.16)	11 (15.71)	
Insurance							
Yes	103 (91.96)	104 (94.54)	98 (97.02)	78 (90.69)	68 (89.47)	67 (95.71)	0.284
No	9 (8.03)	6 (5.45)	3 (2.97)	8 (9.30)	8 (10.52)	3 (4.28)	
Supplementary insurance							
Yes	29 (25.89)	44 (40.00)	55 (54.45)	31 (36.04)	19 (25.00)	33 (47.14)	0.001
No	83 (74.10)	66 (60.00)	46 (45.54)	55 (63.95)	57 (75.00)	37 (52.85)	
Health status (self-reported)							
Excellent, very good, or good	81 (72.97)	64 (58.18)	32 (31.68)	37 (43.53)	51 (67.11)	30 (42.85)	0.001
Fair or poor	30 (27.03)	46 (41.82)	69 (68.32)	48 (56.47)	25 (32.89)	40 (57.15)	
Daily exercise plan							
Yes	59 (52.67)	56 (50.90)	39 (38.61)	32 (37.20)	35 (46.05)	30 (42.85)	0.301
No	53 (47.32)	54 (49.09)	62 (61.38)	54 (62.79)	41 (53.94)	40 (57.14)	

Table 2: Distribution of anatomical therapeutic classification codes within 3 clusters based on the first two medications in the last prescription

	Cluster 1, *n* (%)	Cluster 2, *n* (%)	Cluster 3, *n* (%)	Total, *n* (%)
Number 1				
A	5 (1.7)	50 (30.7)	0	55 (8.6)
B	1 (0.3)	46 (28.2)	6 (3.4)	53 (8.3)
C	1 (0.3)	3 (1.8)	72 (40.4)	76 (11.9)
D	0	8 (4.9)	0	8 (1.3)
G	2 (0.7)	0	1 (0.6)	3 (0.5)
H	3 (1.0)	0	12 (6.7)	15 (2.3)
J	54 (18.1)	4 (2.5)	0	58 (9.1)
L	0	2 (1.2)	1 (0.6)	3 (0.5)
M	43 (14.4)	2 (1.2)	1 (0.6)	46 (7.2)
N	73 (24.5)	0	10 (5.6)	83 (13.0)
P	1 (0.3)	0	0	1 (0.2)
R	10 (3.4)	0	0	10 (1.6)
S	13 (4.4)	3 (1.8)	0	16 (2.5)
V	0	3 (1.8)	7 (3.9)	10 (1.6)
A10	0	5 (3.1)	49 (27.5)	54 (8.5)
A12	0	27 (16.6)	0	27 (4.2)
C08	0	2 (1.2)	4 (2.2)	6 (0.9)
C10	0	6 (3.7)	14 (7.9)	20 (3.1)
R05	82 (27.5)	0	1 (0.6)	83 (13.0)
R06	10 (3.4)	2 (1.2)	0	12 (1.9)
Number 2				
A	26 (8.7)	19 (11.7)	1 (0.6)	46 (7.2)
B	2 (0.7)	35 (21.5)	15 (8.4)	52 (8.1)
C	0	19 (11.7)	54 (30.3)	73 (11.4)
D	1 (0.3)	7 (4.3)	0	8 (1.3)
G	0	3 (1.8)	0	3 (0.5)
H	1 (0.3)	0	9 (5.1)	10 (1.6)
J	49 (16.4)	5 (3.1)	1 (0.6)	55 (8.6)
L	0	0	1 (0.6)	1 (0.2)
M	26 (8.7)	23 (14.1)	0	49 (7.7)
N	54 (18.1)	16 (9.8)	12 (6.7)	82 (12.8)
R	10 (3.4)	3 (1.8)	1 (0.6)	14 (2.2)
S	9 (3.0)	1 (0.6)	0	10 (1.6)
V	1 (0.3)	6 (3.7)	11 (6.2)	18 (2.8)
A10	10 (3.4)	0	36 (20.2)	46 (7.2)
A12	5 (1.7)	21 (12.9)	1 (0.6)	27 (4.2)
C03	0	1 (0.6)	2 (1.1)	3 (0.5)
C08	1 (0.3)	0	14 (7.9)	15 (2.3)
C10	2 (0.7)	1 (0.6)	19 (10.7)	22 (3.4)
R05	89 (29.9)	2 (1.2)	0	91 (14.2)
R06	12 (4.0)	1 (0.6)	1 (0.6)	14 (2.2)

reported that they received their medications without a prescription. They announced several reasons for their belief, including not tolerable side effects, delayed diagnosis of disease, antibiotic resistance, and extra costs. A systematic review and meta-analysis on 25 articles published between 2000 and 2015 showed that the overall prevalence of self-medication was estimated to be 53% in Iran. In the US, Qato *et al*. reported that 42% and 49% of older adults used at least one OTC medication and dietary supplement, respectively.[6] In our neighbor country, Saudi Arabia, Bawazir stated that 42.4% of clients obtained OTC drugs through community pharmacies.

Interestingly, more than 35% of the medicines distributed as OTC were prescription drugs (e.g., antibiotics and cardiovascular drugs).[23] This rate was 29.9% in Brazil, 32.9% in China, and 11.9% in India.[24] Variation in the study population and the definition of self-medication may consider these differences.

In our cohort, the most frequently prescribed medications were the common cold, acetaminophen, and metformin. According to the ATC, the most commonly used medication classes were common cold, GI disorder, and diabetes. These results can be somewhat expectable because, based on the last National Rational Drug Use Committee official report in 2010 and 2011, adult cold, acetaminophen codeine, and diphenhydramine/compound were among the most commonly prescribed medications by physicians in Iran. Metformin and antidiabetics were determined as the third most frequently prescribed medication and drug class in the current study. This can be somewhat explained by the fact that there was a 35% increase in the diabetes prevalence rate among Iranian adults from 2005 to 2011.[25] An in-house interview in the US between 2005 and 2006 showed that cardiovascular agents were the most commonly used prescription or OTC medications among older adults.[6] A similar pattern was observed in the same age group in another survey in the US in 2011. Several therapeutic classes, including statins, antiplatelets, nonsteroidal anti-inflammatory drugs, and proton-pump inhibitors, significantly increased in 2011 compared to 2005.[8] In a survey in Saudi Arabia, community pharmacies, analgesics/antipyretics, and dermatological drugs were the most commonly distributed OTC drugs.[23]

The pattern of ATC codes and their clustering were significantly different among the age categories. More consumers of the two most frequent ATC codes (R05 and N) were under 39 years. The same case was for ATC codes of B and J. Just ATC codes of C and A were more consumed by above 60 years and 40–59 years.

The participants with a lower level of education were more medication users, especially for ATC codes of A and the cluster of GI disorders. By these data, self-medication practices were more prevalent among illiterate individuals in Bangladesh's rural population.[26] Similar patterns and associations have been reported from other studies in Kosova[27] and Pakistan.[28] Due to inadequate knowledge and low literacy, people may

ignore health issues and be unaware of medication's potential consequences over misuse. Besides, individuals with a lower educational level usually cannot read the medication leaflet normally.[29] These emphasize the importance of public education about health issues through different approaches such as mass media.

Although most of our participants were women, the medication use pattern was not significantly different among men and women. Similarly, Qato *et al*. reported that men and women were likely to use prescription and nonprescription medications equally. However, more consumers of dietary supplements were women.[6] In contrast, a cross-sectional survey in a Swedish municipality showed that women were significantly associated with prescribed and nonprescribed pharmaceuticals and herbal medicines and self-care products.[10] Furthermore, at least three studies have shown that women used more prescription medications and dietary supplements than men in all age groups.[19,30]

Our study suffers from limitations such as lack of data about the potential drug, drug interactions between prescribed and/or OTC medications, patients' comorbidities, and their monthly income.

Our findings showed that although there was easy access to medications for most participants, few individuals (about 6%) received their medications without a prescription. The most frequently prescribed medicines were the common cold, acetaminophen, and metformin. Common cold, GI disorder, and diabetes were the most commonly used medication classes. A low level of education was significantly associated with the number of received medications. The distribution of age, education level, supplementary insurance, and health status was quite different among the ATC codes. According to the frequency and pattern of drug utilization in this area, we have found a probably higher than average prevalence of cardiovascular, GI, and endocrine disorders. Regarding pharmacoepidemiologic aspects, this information could be used by the local policymakers as a basis for the estimation and allotment of health-care resources.

Authors' Contribution

Marziyeh Zare was involved in the concept, design, definition of intellectual content, experimental studies, data analysis, manuscript preparation, editing and review. Saba Afifi and Amir Hossein Alizadeh Bahmani was involved in concept, design, literature search, experimental studies, manuscript preparation, editing and review. Iman Karimzadeh, Mohammad Salehi-Marzijarani, Leila Zarei, and Behnam Honarvar were involved in design, definition of intellectual content, data analysis and statistical analysis. Sulmaz Ghahremani, Kamran B. Lankarani, and Ali Mohammad Sabzghabaee were involved in definition of intellectual content, Experimental studies, and Manuscript preparation. Also, Payam Peymani was involved in concept, design, definition of intellectual content, literature search, experimental studies, data analysis, manuscript preparation, editing and review, and grantor.

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Conflicts of interest

There are no conflicts of interest.

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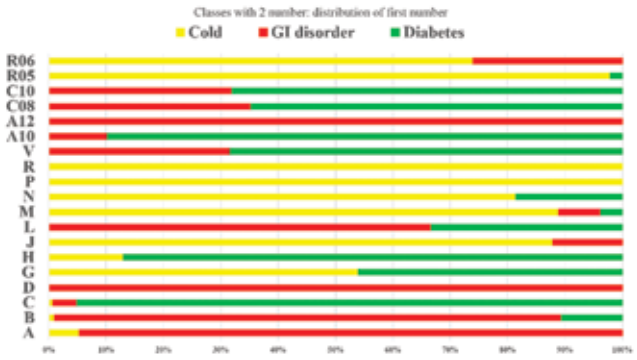
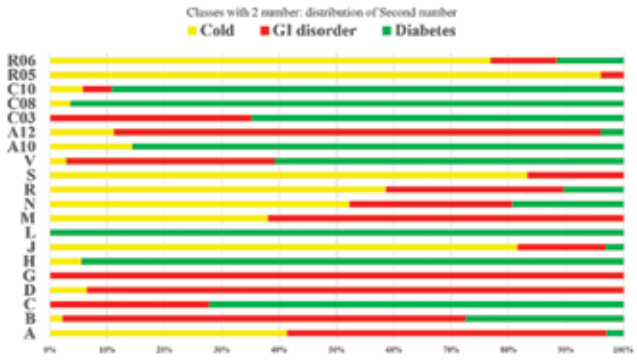
Supplementary Table 1: Distribution of variables within the clusters of the first two medications in the last prescription





	Cluster 1 (*n*=298), *n* (%)	Cluster 2 (*n*=163), *n* (%)	Cluster 3 (*n*=178), *n* (%)	*P*
Age				
≤39	153 (51.34)	49 (30.06)	23 (12.92)	0.001
40-59	102 (34.23)	72 (44.17)	75 (42.14)	
≥60	43 (14.43)	42 (25.77)	80 (44.94)	
Sex				
Female	203 (68.12)	113 (69.32)	124 (69.66)	0.929
Male	95 (31.88)	50 (30.68)	54 (30.34)	
Education				
≤diploma	203 (68.12)	136 (83.44)	143 (80.34)	0.001
>diploma	95 (31.88)	27 (16.56)	35 (19.66)	
Insurance				
Social insurance	142 (47.65)	83 (50.92)	89 (49.14)	0.174
IH insurance	104 (34.90)	49 (30.06)	52 (32.08)	
Other	29 (9.73)	22 (13.50)	30 (12.68)	
No	23 (7.72)	9 (5.52)	7 (6.10)	
Supplementary insurance				
Yes	98 (32.89)	74 (45.40)	100 (56.18)	0.001
No	200 (67.11)	89 (54.60)	78 (43.82)	
Family physician				
Yes	252 (84.56)	133 (81.59)	141 (79.21)	0.321
No	46 (15.44)	30 (18.41)	37 (20.79)	
Family physician visit				
0	52 (17.45)	37 (22.70)	40 (22.47)	0.038
1-3	61 (20.47)	31 (19.02)	33 (18.54)	
>3	121 (40.60)	63 (38.65)	87 (48.88)	
Did not remember	64 (21.48)	32 (19.63)	18 (10.11)	
Prescribed all medication with family physician				
Absolutely yes	89 (29.87)	37 (22.70)	43 (24.16)	0.020
Some-what yes	155 (52.01)	80 (49.08)	84 (47.19)	
No	23 (7.72)	22 (13.50)	32 (17.98)	
Not related	31 (10.40)	24 (14.72)	19 (10.67)	
Number of family has a job				
0	32 (10.74)	26 (15.95)	27 (15.17)	0.339
1	197 (66.11)	103 (63.19)	118 (66.29)	
≥2	69 (23.15)	34 (20.86)	33 (18.54)	
Health status (self-reported)				
Excellent, very good, or good	189 (63.42)	62 (38.04)	56 (31.46)	0.001
Fair or poor	109 (36.58)	101 (61.96)	122 (68.54)	

Contd...

Supplementary Table 1: Contd...				
	Cluster 1 (*n*=298), *n* (%)	Cluster 2 (*n*=163), *n* (%)	Cluster 3 (*n*=178), *n* (%)	*P*
Daily exercise plan				
Yes	142 (47.65)	71 (43.56)	63 (35.39)	0.033
No	156 (52.35)	92 (56.44)	115 (64.61)	
More visit by				
GP	43 (14.43)	17 (10.43)	28 (15.73)	0.001
FP	197 (66.11)	85 (52.15)	89 (50.00)	
Specialist/subspecialist	58 (19.46)	61 (37.42)	61 (34.27)	
Usually, buy prescribed medication				
Yes	275 (92.28)	157 (96.32)	175 (98.31)	0.001
No	23 (7.72)	6 (3.68)	3 (1.69)	
Cost of medication				
Pay the total cost of the drug by the person	63 (21.14)	57 (34.97)	39 (21.91)	0.011
Free of charge	8 (2.69)	3 (1.84)	6 (3.37)	
Combination of insurance and patient	225 (75.50)	102 (62.58)	128 (71.91)	
Other person/organization paid	2 (0.67)	1 (0.61)	5 (2.81)	

IH=Iranian National Health Insurance, GP=General Practitioner, FP=Family Physicians