CASE SERIES

22(94), November- December, 2018

ISSN 2321–7359 EISSN 2321–7367

Medical Science

Health Services Utilization and Responsiveness: A comparison of Slum and Non-slum Regions in Tabriz, Iran

Jafar Sadegh Tabrizi[1], Mostafa Farahbakhsh[2], Homayoun Sadeghi Bazargani[3], Mohammad Saadati[4], Mina Golestani[5]✉, Akram Zakeri[6]

Background: **Health services utilization and responsiveness is a variable that can be affected by the location of habitat. This must be considered in planning and employing a system of proper service delivery. The aim of this study was to compare health care utilization and responsiveness between Akhmaqaya Slum Region (ASR) and Tabriz Representative Sample (TSR), Iran.** ***Methods:*** **A cross-sectional household study, using cluster random sampling, (n= 582 households) was conducted in 2015. Akhmaqaya slum region and Tabriz city were selected for data collection. A validated questionnaire was used for data collection. Data were analyzed by STATA 13.** ***Results:*** **Household's socio-economic status was significantly high in Tabriz. Moreover 7.2% of Akhmaqaya slum households were not able to use health services especially medication in their last year due to the high costs when compared with 3.3% in Tabriz. Results showed that 18.5% of Akhmaqaya slum households and 6.4% of Tabriz households had no insurance coverage. Services quality was rated to be average and bad by 40% of households. Responsiveness level in both regions was low and significant difference was not observed between the two regions.** ***Conclusion:*** **it was concluded that socio-economic differences seem to contribute in the health services utilization inequities between Akhmaqaya slum region and Tabriz as a sample. As well as low insurance coverage and financial protection, led to more refuse in health services utilization in slum households. It sounds that health policy in Iran must concentrate more on redesigning health provision structures to eliminate inequities originated by the difference in regions of living.**

INTRODUCTION

Most developing countries including Iran are experiencing rapid growth in urban population. It is expected that by 2030, the urban population in developing countries would reach 3949 million resulting in higher levels of poverty (1). On the other hand, urbanization has been identified as an involving factor in improvement of health status due to higher accessibility to health services (1, 2). Hence, the governments decided to provide required facilities and possibilities for primary healthcare services (3). Health systems have the task to provide health care for the whole population of country. Furthermore, as World Health Organization(WHO) defined every health system has three basic goals: responsiveness, improving health outcome and fair financial contribution (4).

Health services utilization is affected by different variables. Perceived health status was introduced to be a predictor of health services utilization (5-7). Studies had showed that socio-economic status, access to health facilities, education, insurance and place of residence affect healthcare utilization (8-13). Moreover, existing literature reveal that slum residents (urban) (define slum for this study), compared with households living in non-slum regions are less advantageous in health services utilization (1, 14). An Indian study showed that health services utilization was poor in urban slums (15). Autonomy, choice, clarity of communication, confidentiality of personal information, dignity, prompt attention, quality of basic and access to family and community support are defined to be the dimensions of responsiveness (16). Based on WHOs 2008 health system responsiveness survey, prompt attention and dignity, were respectively the most important domains in Iran (17). The same results were reported by Karami-Tanha et al (2014), (18). Unlike these results, Also, a study of responsiveness in17 countries by WHO revealed that responsiveness score in Iran were 75.4% and 71.9% for outpatient and inpatient services, respectively (17). The overall responsiveness of health care system was reported to be 84% by patients who suffered from heart failure (18). Appropriate level of responsiveness would lead to increase

[1]Tabriz Health Services Management Research Center. Tabriz University of Medical Sciences, Tabriz, Iran; [2]Clinical Psychiatry Research Center, Tabriz University of Medical Sciences, Tabriz, Iran; [3]Road Traffic Injury Research Center, Statistics and Epidemiology Department, School of Health & Nutrition, Tabriz University of Medical Sciences, Tabriz, Iran; [4]Road Traffic Injury Research Center, Iranian Center of Excellence in Health Management, School of Management and Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran; [5]Road Traffic Injury Research Center, Tabriz University of Medical Sciences, Tabriz, Iran; [6]National Public Health Management Center, Tabriz University of Medical Sciences, Tabriz, Iran

✉*Corresponding author:* Mina Golestani, Road Traffic Injury Research Center, Tabriz University of Medical Sciences, Tabriz, Iran; Email: mgolestani8958@gmail.com

© 2018 Discovery Publication. All Rights Reserved. www.discoveryjournals.org | OPEN ACCESS

in health services utilization by population in various socio-economic situations. It improves patients' adherence to the health care providers' recommendations and leads into the improved population health (19). Health services utilization and responsiveness necessary to have the baseline data to evaluate the reforms effectiveness. APHC reform plan called "Health Complex" will be run in East-Azerbaijan Province PHC system in close future, and to measure its effectiveness a comprehensive study will be conducted (20). The aim of this study is to describe and compare baseline data on health services utilization and responsiveness in Akhmaqaya Slum Region (ASR) and Tabriz Representative Sample (TRS).

MATERIALS AND METHODS

A cross-sectional household survey was conducted in 2015 in Tabriz, Iran. Tabriz, a city in northwest of Iran, is the 6th populated city with 1558639 dwellers. Representative samples of households were enrolled from Akhmaqaya region and the rest parts of Tabriz.

Akhmaqaya is located in south-western Tabriz (7th district of Tabriz municipality), capital of East Azerbaijan Province, Iran. Its socio-economic status is relatively low compared to the other parts. This area was categorized as slum in province development plan. In Akhmaqaya 1200 households were enrolled in 60 clusters (with each cluster containing 20 households). We used random cluster sampling based on the census forms completed in 2014.

In Tabriz, the representative sample included sixty clusters each containing 20household. Tabriz clusters were selected based on the selected clusters of the Demographic Health Survey framework (national survey in 2011).In both studied areas, households number 6-10 households (totally 600 households) in each cluster were selected to response health services utilization and responsiveness questionnaire (rest of the households were answered to other survey instruments in the main study).Finally, 300 households in each studied area were enrolled in the study as shown in Figure 1. Head of households or housewife were interviewed by a trained questioner. Each household was approached for data 3 times. Household with a residential time of less than 6 months in each area was excluded.

Finally a 17-item questionnaire was developed for health services utilization and responsiveness. The questionnaire was validated based on the experts (n=12) opinion (Kappa =1). Kappa coefficient was calculated using the formula reported by McHuge, 2012 (21).

$$Kappa = \frac{P0 - Pc}{1 - Pc}$$

Where: Po is the proportion of observed agreements and Pc is the proportion of agreements expected by chance.

Reliability of the whole questionnaire was approved by conducting a test-retest pilot study (n=30) with a two week break (ICC (95% CI) = 0.76(0.49-0.88).

The questionnaire included items about households health needs, households' utilization of health services, barriers to health services utilization. Moreover household economic capacity questionnaire validated (α = 0.95) in Tabriz Clinical Governance Research Project (TCGRP) was used (22). Economic capacity of household was a self-administered questionnaire, measuring the household economic ability to pay for basic needs, travels, jewelry and so on (more details in Sadeghi-Bazargani et al.(23)). Data were analyzed using SPSS software (version 13).

RESULTS

Totally, 582 households participated in the study (response rate: 98.6%). About half of the respondents were in ASR (49.5%). Household dimension mode was 4 (32.5% of households) in ASRwhen compared with 3 (33.9% of households) in TRS. About 27% and 20.7% of the households in Akhmaqaya and Tabriz had an under 5-old-year child, respectively. The annual ever-hospitalization rate of a family member, for the year before the study time, was 150 per 1000 household in ASR versus 201 in TRS. Results showed that 18.5% of ASR households and 6.4% of TRS households had no insurance coverage. Frequency distribution of 4 main health issues is illustrated in Figure 2.

The mean of households economic capacity was significantly different in ASR (Mean= 30.05± 17.2 (95% CI: 28.07-32.03)) and TRS (Mean= 42.34± 16.82 (95% CI: 40.42-44.27)) (sig =0.001). Findings showed that 53.6% and 54.2% of households' members in ASR and TRS had used health services in last 30 days, before study time. The reasons to utilize health services in the last referral to health facilities are given in Table 1.

Most of the households in ASR (83.6%) and TRS (92.6%) had received they needed health services. About 5.2% of households (7.2% ASR and 3.3% TRS) who were not able to get the health services, had stated high cost of services to be the main reason. Majority of the households had referred to the private clinics to receive the services (41.3% in ASR and 54.7% in TRS). Only 0.3% of TRS households had used home care services. Majority of the households believed that using home care services was not a possible issue. Households (79.6% in ASR and 68.3% in TRS) identified high costs of home care services as the main obstacle. In their last referral to health provider facilities Drugs were prescribed for 82.5% of Akhmaqaya Slum Region households and 90.6% of TRS households. Considering this, 7.1% and 1.2% of households in ASR and TRS were not able to take their drugs, respectively. 52.5%of ASR households had mentioned that financial problems were the main reason. Getting better and feeling well was the main reason to not to take the drugs in TRS households (58.7%). Most of the households in ASR and TRS were fairly satisfied with health services (62.9% and 61.5% respectively). There was a significant difference between ASR and TRS households health services quality rating (sig=0.032). About 40% of households had rated the services quality as average and bad (36% in ASR and 44.5% in TRS). As uttered by the households, about a quarter of households' members (24.5% in ASR and 19.3% in TRS) felt no change in their health status after treatment. The mean of health system responsiveness was 33.79±16.13 and 34.09±14.79 in ASR and TRS, respectively. The mean cost of the last outpatient health services (total and out of pocket costs) used by respondents are given in Table 2.

DISCUSSION

Health services utilization was different in ASR and TRS. As reported in results, ASR household had used preventive services such as vaccination, child care and maternal health more than TRS. On the other hand TRS households had more used tertiary services such as heart failure and hypertension services. Rewardingly, households' satisfaction was not differing but the quality of services was significantly different from respondents' perspective in ASR and TRS. Moreover, health system responsiveness was in low level in both regions.

Literature revealed that slum residents, had disadvantage over the use of health services when compared to residents of the city (1, 14). It was cleared that hospitalization rate was higher in TRS region versus ASR. This may not be due to less need of ASR people to the

© 2018 Discovery Publication. All Rights Reserved. www.discoveryjournals.org | OPEN ACCESS

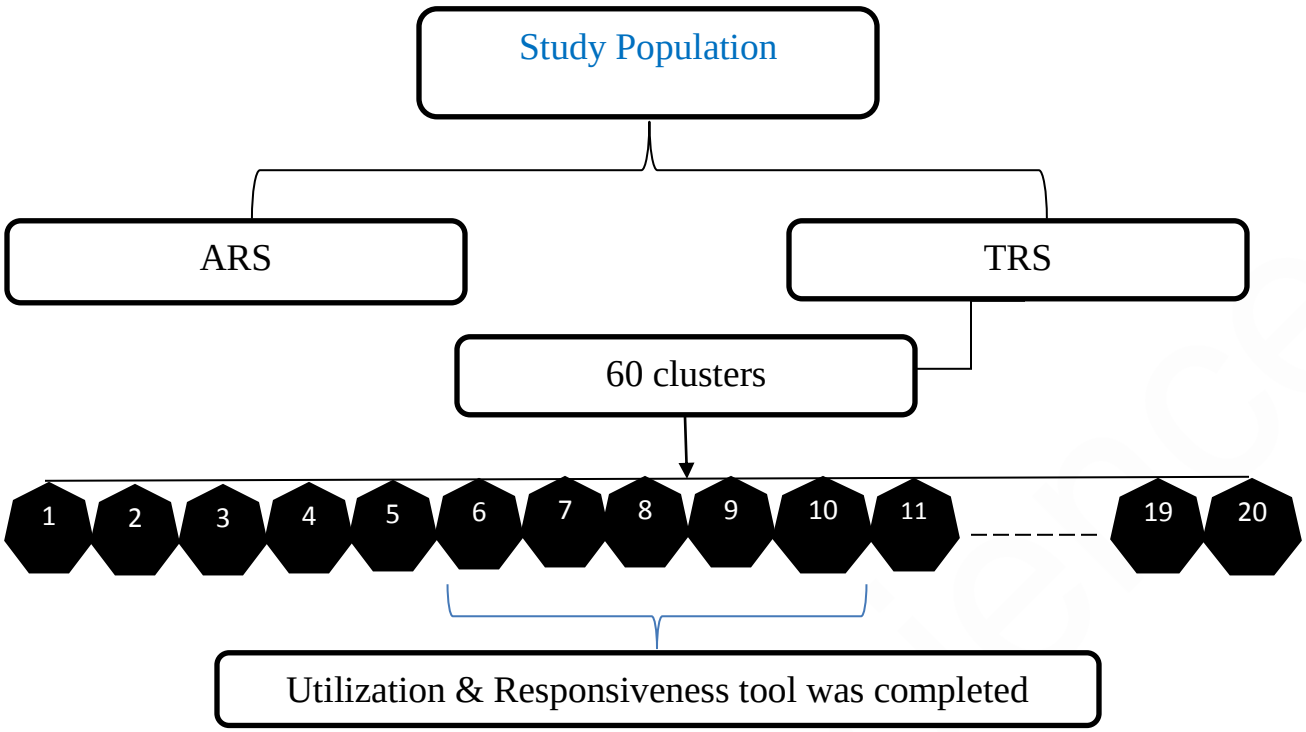

Figure 1 Flowchart how to choose a household from study population

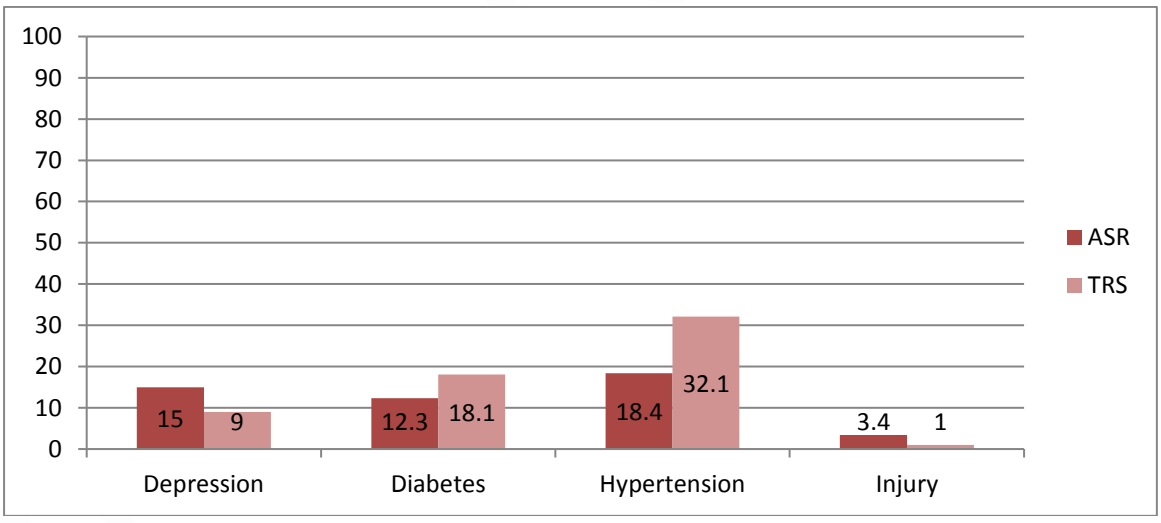

Figure 2 Frequency distribution of 4 main health issues in studied regions

Table 1 (%) of household who had used various health services in last referral to health facilities

services	ASR (% of households)	TRS (% of households)	Total (% of households)
Dentistry	7.2	7.4	7.3
Vaccination	8.9	4	6.4
Pregnancy care	2	1	1.5
Child care	6.5	3	4.7
Workplace health control	0.7	0	0.3
Injuries	1	0.3	0.7
Mental health	6.8	4.7	5.7
Arthritis	7.5	8.7	8.1

© 2018 Discovery Publication. All Rights Reserved. www.discoveryjournals.org | OPEN ACCESS

Asthma	0.7	1	0.8
Diabetes	3.4	3.7	3.5
Thyroid Disease	1	1	1
Maternal health	16	9.4	12.7
Stroke	0	0.3	0.2
Heart failure or hypertension	7.8	12.4	10.1
Febrile and infectious diseases	2.7	2.3	2.5
Cancer	0	0.3	0.2
Outpatient surgery	1.4	0.3	0.8
Hospitalization	2	0.7	1.4
Laboratory	5.8	6.7	6.3
Taking drug	3.1	7	5.1
Rehabilitation Services	0.7	0	0.3
Emergency services	2.4	0.3	1.4
Imaging services	3.1	2.7	2.9
other	31.1	42.8	37

Table 2 Mean total cost and out of pocket payments in ASR & TRS

N	Service	Mean Total cost (Rial)		Mean Out of pocket (Rial)	
		ASR	TRS	ASR	TRS
1	Physician examination	280090 (9.3 $*)	245970 (8.2$)	163450 (5.4$)	702550 (23.4$)
2	Drug	519060 (17.3$)	1059090 (35.3$)	355720 (11.8$)	1211510 (40.3$)
3	Clinical analysis	640000 (21.3$)	628330 (20.93$)	562360 (18.7$)	732280 (24.4$)
4	Transportation	95540 (3.2$)	134570 (4.4$)	-	-
5	Other costs	3776250 (125.8$)	1805230 (60$)	3029350 (101$)	1303900 (43.4$)

*The base for USD$ calculation was the informal market of Iran and may vary through the time

hospitalization. But it may be a matter of inaccessibility especially due to low insurance coverage in ASR. As it was concluded in previous studies in Shiraz slum areas, it can be confessed that insurance system coverage was lower in slum regions (24).

As results revealed, the prevalence of depression and injury in ASR was more than TRS. This had caused more use of mental health and injury services by ASR households (1 and 6.8% of households respectively) compared with TRS households (0.3 and 4.7% of households respectively). As previous studies illustrated, due to the exposure to stress, ongoing life events and weak social support, low Socioeconomic Status (SES) is generally correlated with psychiatric disorders (25). Our findings were in accordance with the previous studies. An interesting result was the more prevalence of diabetes and hypertension in TRS group unlike to the previous studies which discussed that the prevalence of chronic disease were higher among groups with lower SES (26). However, In Shiraz slum areas 7.2% and 10% of participants above 15 years, were diabetic and hypertensive, respectively (24). It was higher in ASR accounting for 12.3% diabetic and 18.4% hypertensive. This may be due to the environmental and cultural differences of Shiraz slum areas and ASR. Unequal utilization of health services for different population can increase the risk of certain disorders and increase social discriminations in terms of health and brings financial burdens (27).

Our study calculated this to be 15% in ASR and 20.1% in TRS. The difference could be as a sample size matter. High cost of services was the main obstacle for not using health services in 5.2% of households especially medicine.

There is a negative relationship between the increase in the price and the frequency of prescribing a drug, thus making it less affordable for households to get the drug they need (28). Saadati et al. (2011) study on hospitalized cardiac patients showed that 50% of patients had a delay in health services utilization because of high costs (29).

However, the majority of households were fairly satisfied with the services. The quality issue is an important aspect of services that undermines the utilization of health services (30). As indicated in the results, most of the households (40%) rated the quality of services to be average or bad. Previous studies suggested that public health services are commonly perceived by the households to have poor and insufficient quality (31, 32). Significant difference of services quality between slum and non-slum residents, might be due to the variation in perception of quality by different cultural and SES status populations and characteristics related to the services provision (33). Due to the high cost of out-of pocket to supply medicine in both parts of the study therefore it is noted that several factors affect drug administration. Most important of them are knowledge of physicians and pricing (28, 34).

Low quality of services contributes in insufficient responsiveness. Lack of proper responsiveness might lead to low level of public trust in health system (35). Iranian health system was ranked 100 in responsiveness by WHO report in 2000 suggesting that it needs more initiatives to be improved (4). However, Iran health services utilization survey had reported the responsiveness rate in outpatient as 82.8% and inpatient 74.9% (13). Our study results were not similar. The difference might be due to the implemented questionnaire, sampling method and sample size. There was not a significant difference in health system responsiveness between two studied regions. This was discussed in previous studies that socioeconomic status had a little effect on responsiveness (36).

CONCLUSION

Results revealed a general association of SES and health care utilization. A clear trend was not observed in health services using across ASR and TRS. However, results showed that in ASR, financial problems led to more refusals of service utilization. Despite promoted national health indicators and improved quantity and quality of health services in Iran, still there is inequality in terms of health service utilization among

© 2018 Discovery Publication. All Rights Reserved. www.discoveryjournals.org | OPEN ACCESS

populations of different regions. It sounds that health policy in Iran must have more concentration on redesigning health provision structures to eliminate inequities regarding various residential regions.

Limitations

All the information was self-reported by households, which are prone to recall errors. It is expected that such errors were random and may not affect the validity of results.

REFERENCES

1. Kumar A, Mohanty SK. Intra-urban Differentials in the Utilization of Reproductive Healthcare in India, 1992–2006. Journal of Urban Health: Bulletin of the New York Academy of Medicine. 2011;88(2):311-28.
2. Rossi-Espagnet A, Goldstein GB, Tabibzadeh I. Urbanization and health in developing countries: a challenge for health for all. World Health Stat Q. 1991;44(4):186-244.
3. Tabrizi JS, Rezapour R, Saadati M, Seifi S, Amini B, Varmazyar F. Medical Waste Management in Community Health Centers. Iranian journal of public health. 2018;47(2):286.
4. WHO. The World health report 2000: health systems: improving performance. Geneva: World health organization, 2000.
5. Morris St, Sutton M, Gravelle H. Inequity and inequality in the use of health care in England: an empirical investigation. Soc Sci Med. 2005;60:1251-66.
6. Parslow R, Jorm A, Christensen H, Jacomb P, Rodgers B. Gender differences in factors affecting use of health services: an analysis of a community study of middle-aged and older Australians. Soc Sci Med. 2004;59(2121-2129).
7. Pappa E, Niakas D. Assessment of health care needs and utilization in a mixed public-private system: the case of the Athens area. BMC Health Services Research. 2006;6(146).
8. Redondo-Sendino A, Guallar-Castillon P, Banegas Banegas JR, Rodriguez-Artalejo F. Gender differences in the utilization of health-care services among the older adult population of Spain. BMC Public Health. 2006;6(155).
9. van der Heyden JHA, Demarest S, Tafforeau J, van Oyen H. Socioeconomic differences in the utilization of health services in Belgium. Health Policy. 2003;65:153-65.
10. Goins RT, Williams KA, Carter MW, Spencer M, Soloviena T. Perceived barriers to health care access among rural older adults: a qualitative study. J Rural Health. 2005;21:206-13.
11. Oliva-Moreno J, Zozaya N, Lopez-Valcarcel BG. Opposite poles: A comparison between two Spanish regions in health-related quality of life, with implications for health polic. BMC Public Health. 2010;10(576).
12. Lahana E, Pappa E, Niakas D. Do place of residence and ethnicity affect health services utilization? evidence from greece. International Journal for Equity in Health. 2011;10(16).
13. Nagavi M, Jamshidi H. utilization of health services in Iran. Tehran,Iran: Ministery of Health and Medical Education, 2003.
14. Islam M, Montgomery M, Taneja S. Urban health and care-seeking behavior: a case study of slums in India and the Philippines. Bethesda: The Partners for Health Reformplus Project, ABT Associates Inc, 2006.
15. Khan Z, Mehnaz S, Khalique N, Ansari MA, Soddiqui AR. Poor perinatal care practices in urban slums: possible role of social mobilization networks. ;. Ind J Commu Medic. 2008;34(2):102-7.
16. Elvik R, Vaa T. Handbook of road safety measures. Amsterdam Elsevier. 2004.
17. Valentine N, darby C, Bonsel GJ. Which aspects of non-clinical quality of care are most important? Results from WHO's general population surveys of "health systems responsiveness" in 41 countries. Social Sciences & Medicine. 2008;66:1939 - 50.
18. Karami-Tanha F, Moradi-Lakeh M, Fallah-Abadi H, Nojomi M. Health System Responsiveness for Care of Patients with Heart Failure: Evidence form a University Hospital. Archives of Iranian Medicine. 2014;17(11):736-40.
19. Rice N, Robone S, Smith P. Vignettes and health systems responsiveness in cross-country comparative analyses. J R Statist Soc A. 2012;175(1):1-21.
20. Tabrizi JS, Farahbakhsh M, Sadeghi-Bazargani H, Hassanzadeh R, Zakeri A, Abedi L. Effectiveness of the Health Complex Model in Iranian primary health care reform: the study protocol. Patient preference and adherence. 2016;10:2063.
21. McHugh ML. Interrater reliability: the kappa statistic. Biochemia medica: Biochemia medica. 2012;22(3):276-82.
22. Sadeghi-Bazargani H, Saadati M, Tabrizi JS, Jannati A, Pourasghar F, Ghasemi B, et al. Tabriz Clinical Governance Research Project (TCGRP): Study Protocol. J Clin Res Gov. 2014;2:76-80.
23. Sadeghi-Bazargani H, Aboubakri O, Asghari-Jafarabadi M, Alizadeh-Aghdam M, Imani A, Tabrizi JS, et al. Psychometric properties of the short and ultra-short versions of socioeconomic status assessment tool for health studies in Iran (SES-Iran). Journal of Clinical Research & Governance. 2016;5(1).
24. Joulaei H, Bhuiyan AR, Sayadi M, Morady F, Kazerooni PA. Slums' access to and coverage of primary health care services: a cross-sectional study in Shiraz, a Metropolis in Southern Iran. Iranian journal of medical sciences. 2014;39(2 Suppl):184.
25. Andrade L, Caraveo-Anduaga JJ, Berglund P, Bijl R, Kessler R.C, Olga D, et al. Crossnational comparisons of the prevalences and correlates of mental disorders. Bull World Health Organ. 2000;78:413-26.
26. Jackson CA, Jones NRV, Walker JJ, Fischbacher CM, Colhoun HM, Leese GP, et al. Area-based socioeconomic status, type 2 diabetes and cardiovascular mortality in Scotland. Diabetologia. 2012;55:2938-45.
27. Dahlgren G, Whitehead M. A framework for assessing health systems from the public's perspective: the ALPS approach. Int J Health Serv. 2007;37(2):363-78.
28. Tahmasebi N, Kebriaee Zadeh A, Imani A, Golestani M. Evaluation of Factors Affecting Sales of Prescription Medicines by Econometric Methods in Iran. Pharmaceutical sciences. 2013;19(3):101-7.
29. Mohammad S. Determining the distribution of effective factors on out of pocket payment (formal and informal) in hospitalized cardiac patients of Shahid Madani hospital and its side effects on the patient or companions-Iran-Tabriz 2010. Hospital Journal. 2013;11(4).
30. Khan M, bner OG, Kra¨mer A. Frequently used healthcare services in urban slums of Dhaka and adjacent rural areas and their determinants. Journal of Public Health. 2012:1-11,doi:0.1093.
31. Vaughan JP, Karim E, Buse K. Healthcare system in transition III. Bangladesh, Part I. An overview of the healthcare system in Bangladesh. J Public Health Med. 2000;22:5-9.
32. Osman FA. Health policy, programmes and system in Bangladesh: achievements and challenges. South Asian Sur. 2008;15:263-88.
33. Peltzer K. Patient experiences and health system responsiveness in South Africa. BMC Health Services Research. 2009;9(117).
34. Golestani M, Eshghi P, Rasekh HR, Cheraghali AM, Salamzadeh J , Imani A. Comparison of Bypassing Agents in Bleeding Reduction in Treatment of Bleeding Episodes in Patients With Haemophilia and Inhibitors. Iran Red Crescent Med J. 2014;16(12).
35. Tabrizi J, Saadati M, Sadeghi Bazargani H, Abedi L, Alibabayee R. Iranian public trust in health services: evidence from Tabriz, Islamic Republic of Iran. EMHJ-Eastern Mediterranean Health Journal. 2016;22(10):713-8.
36. Rashidian A, Kavosi Z, Majdzadeh R, Pourreza A, Pourmalek F, Arab M, et al. Assessing Health System Responsiveness: A Household Survey in 17th District of Tehran. Iran Red Crescent Med J. 2011;13(5):302-8.

Article Keywords

Health care utilization, Responsiveness, Residency

© 2018 Discovery Publication. All Rights Reserved. www.discoveryjournals.org | OPEN ACCESS

Ethical approval
The study was approved with Code.no. TBZMED.REC.1394.35 by Ethical Committee of Tabriz University of Medical Sciences.

Acknowledgment
The authors thank the questioners and households for their contribution. This research was done under the support of health chancellor of Tabriz University of Medical Sciences and was funded by Health Services Management Research Centre, Tabriz University of Medical Science, Tabriz, Iran.

Conflict of interests
The authors declare no potential conflict of interest

Article History
Received: 14 August 2018
Accepted: 1 October 2018

Published: November-December 2018

Citation
Jafar Sadegh Tabrizi, Mostafa Farahbakhsh, Homayoun Sadeghi Bazargani, Mohammad Saadati, Mina Golestani, Akram Zakeri. Health Services Utilization and Responsiveness: A comparison of Slum and Non-slum Regions in Tabriz, Iran. *Medical Science*, 2018, 22(94), 577-582

Publication License
This work is licensed under a Creative Commons Attribution 4.0 International License.

General Note
Article is recommended to print as color digital version in recycled paper. *Save trees, save nature*

© 2018 Discovery Publication. All Rights Reserved. www.discoveryjournals.org | OPEN ACCESS