

# 40 Years after Alma Ata: How People Trust in Primary Health Care?

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## Research article

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# Abstract

**Background:** Primary Health Care (PHC) was introduced as the first level of health services delivery after Alma Ata declaration. PHC as a first level of health services delivery needs to be more trustfulness to achieve its defined goals. Public trust in PHC is one of the ignored issues in the context. The aim of this study was to explore public trust in PHC in Iran.

**Methods:** This was a household survey study conducted in 2016 in East Azerbaijan Province, Iran. Two-stage cluster sampling method with probability proportional to size (PPS) approach was used. Totally 1178 households were enrolled in the study. PHC trust questionnaire and Ultra-short version of socio-economic status assessment questionnaire (SES-Iran) was used for data collection. Data were analyzed using STATA 15 through descriptive statistics and linear regression.

**Results:** The mean age of the participants was 41.2, (SD: 15.1) and most of them (53.7%) were female. Mean score of PHC trust was  $56.9 \pm 24.7$  (out of 100). It was significantly different between inhabitants of Tabriz (the province capital city) and other cities in the province ( $p < 0.001$ ). Linear regression showed that younger age, gender, insurance type, being married and households higher socio-economic situation had a significant positive influence on PHC trust level with  $R^2 = 0.14383$ .

**Conclusions:** Public trust in PHC system in Iran needs to be improved. Individual variables had a small but significant share in trust level. PHC trust not only influenced by individual variables and experience but also by health system and health providers characteristics and public sphere about PHC system. PHC trust level could be used as a public indicator in health systems especially in Low and Middle income countries to lead system strengthening policies in national and international levels.

## Background

Primary Health Care (PHC) as the first level of health services delivery was extended after Alma Ata Declaration, worldwide [1]. PHC was introduced as an approach to achieve "Health for All" through providing appropriate, accessible, acceptable and affordable services for broad population in a country [2]. Effective and responsive PHC strengthen the integration of health services and improve the health outcomes in the community [3, 4]. One of the most important determinants of health services effectiveness is trust [5]. Interpersonal and public trust in health are crucial issues in relation of health system or providers and patients [6, 7]. Employing patient-centered approach, shared decision making, providing information for patients by health providers would lead to more trust of patients [8].

Trust in health system is as a public support indicator and could be served as the orienting variable in health policy making [9]. A study of trust in health system in 33 countries revealed that low level of public trust stem from the health system incapacity in community health promotion [10]. It was revealed that low level of trust in health providers or organizations lead to underutilization of vaccination and health services [11, 12]. Moreover, it causes delay in care-seeking and lower adherence of health providers' orders [13-15]. However, literature reported that trust is significantly related with patients' outcomes and

well-being [16, 17]. In a comparative study, it was revealed that German people had the least level of trust in health system compared with England, Wales and Dutch. Trust in health system mean score was reported as 7 and 5.3 out of 10 in Dutch and Iran, respectively [5, 9]. Trust in health system was reported to be affected by various variables such as age, gender, education, religion, race and socio-economic status [18-21]. Most of the previous studies on trust have focused on whole health system [9], health providers or organization [22, 23] and health insurances [24]. Only some of the studies have a small glance on public trust in PHC. As Tabrizi et al (2016) reported that trust on health system was 10.83 out of 20 for PHC in Iran [5].

Gille et al (2015) stated that regarding the effects of trust/mistrust in health system, it is needed to produce more evidences on it to improving efficiency and effectiveness of health systems [25]. Considering that public trust was used as a public indicator and have an important share in developing health policies, it is necessary to be measured continuously using valid tools [26]. Measuring public trust in PHC provides evidences on the people experience and PHC system accountability and performance. The aim of this study was to measure public trust in PHC system in East-Azerbaijan, Iran.

## Methods

**Study Design:** A household survey was conducted in East-Azerbaijan Province of Iran in 2015. This study is part of a larger project designed to assess the effectiveness of PHC reform in Iran. Methodological details were published previously as the research and intervention protocols [3].

**Study Setting:** East Azerbaijan Province with a total population around 3900000 people (based on 2016 census) is located in northwest of Iran. Tabriz as the capital city is the most developed, populated (1773033 people) and oldest city in the province.

**Sampling:** Two-stage cluster sampling method with probability proportional to size (PPS) approach was used. One county was selected randomly as the representative of each of five geographical parts (central, northwest, southwest, northeast, southeast) of the province.

Regarding, Tabriz metropolitan as province capital, Oskou in central part, Marand in northwest, Varzeghan in northeast, Bonab in southwest and Mianeh in southeast were selected.

120 clusters comprising 20-household were allocated as Tabriz city sample and the National Demographic Health Survey study (2011) was used as sampling framework. Similarly, 120 clusters were allocated to the other cities based on PPS. In cities other than Tabriz, the national population census was used as sampling framework.

**Questionnaires:** PHC trust questionnaire was used for data collection [26]. The questionnaire validity (Kappa coefficient = 0.94) and reliability (Cronbach-Alpha=0.98, ICC=0.94; CI: 0.87- 0.97) was approved. The questionnaire included 2 sections: first demographic data such as age, gender, education, insurance, marital status and household dimension, and the second comprising 30 items on trust in PHC. Moreover,

Ultra-short version of socio-economic status assessment questionnaire (SES-Iran) which was validated in previous studies was used for data collection [27, 28].

**Data collection and analysis:** According to the main study data collection plan [3], households number 6-10 (600 households) in each cluster, were asked to response the PHC trust questionnaire. Each household was approached for data 3 times. Head of the households or housewife were interviewed by a trained questioner. If he/ she was not able to respond, an educated member of the household of at least 15 years old was asked to respond. At least 6 month of residency was used as inclusion criteria for households. Descriptive statistics including frequency, mean and standard deviation and inferential statistics based on data normality were used for data analyzing through STATA 15.

## Results

Totally 1178 households were enrolled in the study. The mean age of the participants was 41.2, (SD: 15.1) and most of them (53.7%) were female. Nearly a quarter of the participants (24.15%) had elementary education and 84.6% of them were married. Household size mean was  $3.5 \pm 1.2$ . Demographic characteristics of the participants are presented in Table 1.

**Table 1.** Demographic characteristics of the study population

Variable		Tabriz Sample % (N)	Other cities Sample % (N)
Gender	Male	55.25 (352)	52.26 (335)
	Female	44.75 (285)	47.74 (306)
Education	Illiterate	17.49 (110)	21.63 (138)
	Elementary	22.1 (139)	26.18 (167)
	Under-diploma	23.21 (146)	22.26 (142)
	Diploma	23.69 (149)	18.5 (118)
	BSc	12.08 (76)	10.97 (70)
	MSc and upper	1.46 (9)	0.47 (3)
Insurance	No-insurance	14.75 (90)	4.04 (25)
	Health (public workers)	8.69 (53)	10.02 (62)
	Social security	59.51 (363)	43.62 (270)
	Military	2.62 (16)	2.26 (14)
	Rural	0.66 (4)	34.73 (215)
	Self-insured	0.49 (3)	0
	Iranian (public)	12.46 (76)	5.01 (31)
Marital status	Married	83.49 (521)	85.85 (546)
	Single	16.51 (103)	14.15 (90)

About 16% of the households had a member hospitalized at least once during the year before the study. Based on the participants responses; 6.65%, 5.79% and 14.07% of the households had at least a member with diabetes, depression and hypertension, respectively.

Mean score of PHC trust was  $56.9 \pm 24.7$  (out of 100). PHC trust score distribution was skewed based on Shapiro-Wilk W test ( $p < 0.05$ ) so nonparametric analyses were used. Results revealed that PHC trust score was different between inhabitants of Tabriz and Other cities in the province ( $p < 0.001$ ). Moreover, female have significantly more trust on PHC than men (Table 2). Individuals with university education had lower level of trust compared with those with diploma and under-diploma level education but the difference was not significant.

**Table 2.** Relation between PHC trust score and participants characteristics

Variable		PHC trust score (Mean ± SD )	P-Value
Gender	Male	53.86±25.7	0.001
	Female	59.53±23.4	
Participants residential city	Tabriz inhabitants	49.32± 24.63	0.001
	Other cities inhabitants	64.13± 24.68	
Marital status	Married	57.81± 24.3	0.007
	Single	52.14± 26.03	

It was revealed that people with chronic disease (diabetes, hypertension and depression) had a lower trust on PHC compared with other people ( $p < 0.05$ ). Contrary to this, people who have faced an injury from road accidents or falling, have more trust on PHC than who have not and the difference was not statistically significant. Regarding households socio-economic situation (SES), majority of the households (89.2%) had rate their economic capacity as low (SES score  $\leq 25$ ) and middle ( $25 < \text{SES score} \leq 50$ ). Trust level was significantly different between households with different level of SES ( $p = 0.02$ ).

Linear regression showed that younger age, gender, insurance type, being married and households socio-economic situation had a significant effects on PHC trust level with  $R^2 = 0.14383$  (Table 3).

**Table 3.** Correlation of various factors with PHC trust

Independent variables		Coef.	Std. Err.	Sig	[95% Conf. Interval]	
					Lower	Upper
Age		-0.1374873	.0554154	0.013	-.2462224	-.0287522
Gender		-8.031263	1.432971	0.000	-10.84301	-5.219511
Married		-7.120119	2.039348	0.001	-11.12169	-3.118544
Insurance type*	No-Insurance	-21.69379	2.965023	0.000	-27.51171	-15.87587
	Staff insurance	-18.90197	2.827646	0.000	-24.45033	-13.35361
	Social security	-19.63547	1.913221	0.000	-23.38956	-15.88138
	Military	-15.49104	4.777801	0.001	-24.86596	-6.116113
	Public insurance	-20.40934	2.815921	0.000	-25.9347	-14.8839
Diabetes		-2.257582	3.203666	0.481	-8.543762	4.028599
Depression		-4.900601	3.229798	0.129	-11.23806	1.43685
Hypertension		-3.24862	2.394783	0.175	-7.947623	1.450384
SES**	Middle level	4.144453	1.614019	0.010	.9774518	7.31145
	High level	4.897282	2.573098	0.05	-.1516085	9.946173

\* Reference group: Rural insurance

\*\* Reference group: Low level

## Discussion

PHC is a health approach to optimize equitably level of health and well-being in the whole of community. The results of the present study showed that PHC trust was in an average level but it was not acceptable level. Age, gender, being married, type of health insurance, SES level and living in the province capital city were the variables which affect the PHC trust level. PHC focuses on population needs and preferences, individually and as community, and systematically address the health social determinants by providing proper services for health promotion [29]. PHC is the widest and first level of health services delivery in Iran with a focus on deprived population [30, 31]. It is revealed in literature that trusted health team provide emotional care and also information for patients and help them in shared decision making about their health (cognitive care) [29, 32, 33]. Low level of public trust in PHC will affect the health services effectiveness and patients comply with healthy behaviors suggested by PHC providers [15, 34]. Kelley

and et al (2014) in a systematic review of 13 randomized clinical trials, conclude that trust have a small but significant effect on health outcomes [17]. PHC system needs to be more trustful than other sectors of health system. Because it provides preventive health services with focus on population health needs and interventions which support achieving sustainable development goals and also address the social determinants of health like healthy childhood. Identifying PHC trust determinants and employing proper policies to increase its level should be one of the policy-makers priority.

Female, younger people, married people, having Insurance, individuals from households with higher level of SES and participants from cities other than Tabriz (the province capital city) have higher level of trust with a significant difference ( $p < 0.05$ ) compared with corresponding variables. In contrast with our results, Zhao et al (2017) resulted that younger people in china had lower level of trust in health system [35]. It was reported in previous studies that age had a positive and significant relation with trust level means that people with higher age have higher level of trust in health care or health providers [36, 37]. PHC system in Iran did not provide efficiently health services needed for middle-aged and elderly. However, individuals in these groups beside clinical services, mostly need routine care, education and empowerment. Population aging is a real trend in Iran and also most of the countries and PHC system should consider the changing face of health needs and be more responsibility and accountable. This could help to bring more trust on PHC system.

Results revealed that people with chronic condition have less PHC trust than others. This was consistent with Ronny et al (2016) results which stated that people with fewer chronic condition had higher trust level on physicians [38]. This may be the result of long time involvement of individuals in chronic condition treatment and also experiencing the system deficiencies during this long-term relation with health system. PHC system mostly provides caring services and suggest lifestyle intervention for people with chronic condition which has long-term outcome. This is not a pleasant achievement for patients and they are seeking for short-term positive outcomes about their condition and this affects their trust level in PHC services.

It was revealed that demographic variables had a small but significant relation with PHC trust level ( $R^2 = 0.14383$ ). In a study by Jodyn E. Platt et al (2017), it was resulted that demographics only describe 18% of system trust [39]. Zhao et al (2019) in study of trust in physician trend in china among 2011-2016, revealed that demographic variables have a small share in predicting trust level [36]. Trust is a multifaceted concept which is affected by various social, economic, individual and behavioral variables. Trust in health system, as a complex system, is related with institutional and individual factors and also the context and depiction of health system in the society. Literature reported that interpersonal relation between provider and patients, health provider skill, patients' experiences by health services delivery and outcome, high quality services provided by health facilities and social image of health system made by social media affects public trust on health system [9, 40]. Moreover, it was reported that patient participation in PHC services delivery and shared decision making will lead to improved trust and public sphere of the health system [41, 42]. Policy-makers should adopt PHC system reform considering social context to create positive experiences. Public trust in PHC system is a vital requirement for countries to

increase health level and also achieve Universal Health Coverage (UHC) goals. As a first level of health services delivery, it should be trustful to encourage people to employ healthy lifestyle and also adhere health behavior.

## Conclusions

PHC trust needs to be in focus of all policies to reform the system. PHC trust level is a sight of health services quality and patients experience. Public trust in PHC system not only influenced by individual variables and experience but also by health system and health providers characteristics and public sphere about PHC system. It is needed to work empirically more on PHC trust concept to identify building blocks of trust in and out of health system. PHC trust level could be used as a public indicator in health systems especially in Low and Middle income countries to lead system strengthening policies in national and international levels

## List Of Abbreviations

**PHC:** Primary Health Care

**UHC:** Universal Health Coverage

## Declarations

**Ethical approval and consent to participate:** The study was approved by ethical committee of Tabriz University of Medical Sciences (ethical code: TBZMED.REC.1394.35). Written informed consent were obtained from all participants.

**Consent for Publication:** Not applicable

**Availability of data and materials:** The datasets generated and analyzed during the current study are not publicly available due to the ethical restrictions made by the ethical committee but are available from the corresponding author on reasonable request.

**Competing interest:** The authors declare no conflict of interest.

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**Author Contributions:** HSB and MS and JST conceptualized, designed and managed the study. MS and MF contributed in instrument development and data collection and monitoring. HSB and MS and MG analyzed the data. MS and MG drafted the manuscript. All the authors approved the final manuscript.

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