Original Article

Measuring Self-Rated Social Health of Iranians: a Population Based Survey in Three Cities

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Abstract

Background: Social health as third dimension of health, along with physical and mental health, has drawn more attention in recent years among policy makers and health system managers. No other study, according to our review, has documented measuring individual-level social health in Iran. In response to this need, our study tends to assess Iranians self-rated social health through conducting a survey in 3 cities of Iran.

Materials and Methods: We conducted a survey using cross sectional method in three cities of Iran (Tehran, Isfahan, Urmia) included people more than 18 years old. We use a random sample size of 800 people. The scale provides a total score of social health and three sub-scores. Total score was calculated by summing all 33 items, so the range was between 33 to 165, considering that higher score indicating better social health. Psychometric parameters of scale were acceptable. To interpret scores, respondents were categorized into five ordered groups as quintiles for amount of social health. To compare social health scores in different demographic groups multiple linear regression was employed to interpret association between demographic variables and social health score.

Results: From a pool of 800 persons, 794 (99%) agreed to participate and filled out the questionnaire completely. The mean of self-rated social health score was 105.0 (95% confidence interval, 103.8 to 106.2). 50% of participants had medium level of social health. Social health score was higher for those who live in Uremia as a small city in comparison with big cities-Tehran and Isfahan ($p<0.001$) and was lower for unemployed people ($p=0.029$). There was no association between social health score and other factors such as sex, age and educational level ($p>0.05$).

Conclusion: This study may be considered as the first step in evidence-based policy-making in the field of social health in Iran. Certainly, it is necessary to conduct more studies to measure social health and its determinants in a nation-wide approach.

Keywords: Social, Health, Iran, Self-rated

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Introduction

Social health is an increasingly important area in public health[1]. Social health as third dimension of health, along with physical and mental health has drawn more attention in recent years among policy makers and health system managers[2]. It seems social factors play an increasing role in the promotion of other dimensions of health- physical and mental[3-5]. This may be due to the fact that the pattern

of diseases is changing from communicable to non communicable diseases- the phenomenon named as "epidemiologic transition"[6]. It is clear that the social aspects of non communicable diseases are more prominent than other aspects, even social aspects of recent major communicable diseases such as AIDS (Aquired Immunodeficiency Syndrome) and TB (tuberculosis) are more outstanding than old ones like respiratory and gastrointestinal infections[7,8].

The issue of social health has been a controversial with much disputed subject within its definition. Considering different approaches, it seems that social health can be defined in following ways: [1] social health is considered as a dimension of individual health, along with physical and mental health, [2] There is another view in which social health is viewed as social determinants that predict health, and focuses on poverty, unemployment, education and so on, [3] There is a third concept regarding social health in which social health is considered as healthy society. In this concept, "a society is healthy when there is equal opportunity for all and access by all to the goods and services, essential to full functioning as a citizen"[9]. In authors opinion, there is a forth view that focuses on social capital considering that recent decades have seen growing interest in understanding how an 'assets-based' approach might help address some of the long standing problems and inequalities associated with health.

Considering described concepts, the focus of this study is on first concept- individual based social health which points to "that dimension of an individual's well-being concerning how he/she gets on with other people, how other people react to him/ her, and how he/ she interacts with social institutions and societal mores"[10].

In spite of the definition of WHO (World Health Organization) from individual's social health in 1948, it is not clear what they obviously meant, so measuring individual's social health has been a challenging task in recent decades[11]. One of the first attempts to measure social health was made by Belloc and Breslow in 1971[12]. They took a systematic and practical approach to study individual's social health. They defined it as "degree of members function in a society" and asked some questions about social, mental and physical dimensions of health to figure out members function. Some of the subsequent developed scales are-the RAND (Research and Development Corporation), Social Health Battery[13], MOS (the Medical Outcomes Study) Social Support Survey[14], and the Duke-University of North Carolina (UNC) Functional Social Support Questionnaire[15], the Katz Adjustment Scales[16], the Social Functioning Schedule[17], the interview Schedule for Social Interaction[18], and the Social Adjustment Scale[19].

No other study, to our knowledge, has documented measuring individual-level social health in Iran. The most of health surveys in our country have focused on physical health, particularly on health indicators of children and maternal health, and in recent years, on risk factors of non communicable diseases and mental health issues[2]. But there is no survey related to individual's self-rated social health.

For evidence-based policy making in the social health field, there is a need to gather valid information[20]. ،his study performed to assess the Iranians self-rated social health. To precede the research objectives, we employed a validated Scale and conducted a survey in 3 cities of Iran to measure Iranians' social health.

Methods

We conducted a population based survey using cross sectional method in *three* cities- Tehran (capital), Isfahan, and Urmia which have total population of 8 million, 2 million and 600 thousands, respectively. It should be mentioned that Tehran, capital city of Iran, has a population with different cultures from all around of Iran due to high emigration rate. Isfahan and Urmia are in the center and North West of Iran, respectively. Inclusion criteria included people more than 18 years old agreed to enter the study.

We use a random sample size of 800 people. The sample size of the study was determined using the one-sample mean formula. It was assumed that the expected standard deviation of social health score as 15, and the least desirable difference to detect as 2.5. Considering a response rate as 80% and study design effect as 1.5, with 80% power and alpha error of 0.05, the sample size was estimated to be 200 for each stratum. In view of more cultural variation in Tehran, the sample size for Tehran was determined as 400. In sum, the sample size for target cities-Tehran, Isfahan, and Urmia was 400, 200 and 200, respectively.

We used multi-stage sampling method due to logistical and financial limitations. A list of units defining target population was defined as sampling frame. A systemic random selection approach was used to select samples. Kish method was used to select a sample within a household (the Kish Method is a technique that allows for the random selection of one individual from a household).

To fill out questionnaire, primarily the method was explained to participants by interviewer and then participants completed forms by themselves. For illiterates, the items were read one by one. In Urmia which mother tongue of people is different (Turkish), the survey

was conducted by educated staff familiar with the mother tongue of the region and necessary clarification was made by interviewer whenever there was an ambiguity of the language of the instrument for participants. Informed consent was given verbally. Information of personal factors included socio-demographics-sex, age, educational level and occupation was collected.

For measuring social health, 33 items taken from three domains of social health were employed. The three domains of scale were "community", "family" and "friends and relatives" with 19, 6, and 8 items, respectively. Family is defined as all household members and "friends and relatives" means people with whom one has a close relationship. Other communications were determined as the domain of "community".

Each question (i.e. item) consists of a series of declarative statements. The respondent is asked to indicate whether he/she agrees or disagrees with each statement. Five options are provided: "strongly agree," "agree," "undecided," "disagree," and "strongly disagree" (the five point Likert type scale). Items were scored by assigning a value of five for "Strongly agree" to one for "Strongly disagree". The scale provides a total score of social health and three subscores. Total score was calculated by summing all 33 items and its range was between 33 and 165, considering that higher score indicating better social health. The ranges of subscores for the domains of "community", "family" and "friends and relatives" are 19-65, 6-30, 8-40, respectively.

To interpret scores, respondents were categorized into five ordered groups as quintiles for amount of social health [33-59.4 (very low), 59.5-85.8 (low), 85.9-112.2 (medium), 112.3-138.6 (high), 138.9-165 (very high)]. Similar categorization was made for 3 defined domains.

For this scale, Cronbach's alpha for internal consistency was estimated to be 0.86 and the reliability coefficient was 0.91. Cronbach's Alpha for internal consistency of different domains was estimated to be between 0.77 and 0.91 and the corresponding value of the reliability indicator (ICC) was calculated between 0.67 and 0.80. More details about the psychometric evaluation of scale are available elsewhere. (21)

To compare social health score in different demographic groups, we conducted univariate analysis using student t test and one-way ANOVA. Then we conducted multiple linear regressions to interpret association between demographic variables and social health score. To do this, occupations were dichotomized into unemployed and others (employed, student, housekeeper, retired), educational level into "lower than diploma degree" and "diploma degree or higher", respondents' age into "lower than 45" and "higher than 45", city into "small city" and "big city". Data analysis was done using Statistical Package for Social Sciences (SPSS), Version 16.0 (SPSS Inc. 2008).

A multivariate linear regression analysis was conducted with social health as the dependent variable, and including independent variables based on significance from a univariate analysis. Similar analysis was done for different domains.

The study protocol was approved by the Shahid Beheshti University of Medical Sciences ethical board. The authors declare that they have no conflicts of interest and certify their responsibility for this manuscript.

Results

From a pool of 800 persons, 794 (99%) agreed to participate and filled out the questionnaire completely (at least 30 of 33 questions). The demographic characteristics of subjects and corresponding social health scores are displayed in table 1.

The mean of social health score was 105.0 (95% confidence interval, 103.8 to 106.2). Table 2 shows details of statistics of social health and its domains.

Data are shown using population-based quintiles for social health and its domains in table 3.

Five questions with the higher and lower scores among 33 questions are displayed in table 4.

Multiple regression analysis was used to analyze the association between social health and its domains as dependent variable and demographic characteristics as independent variable.

Analysis showed that the predictors of social health are only living in small city (Urmia) as positive and being unemployed as negative predictor. These factors accounted for 22% of variances that almost all of variance is contributed to living in small city and the role of unemployment is very negligible (only 1% R^2 change).

The significant predictors of the "community" domain are living in small city (Urmia) with 30% and educational level with only 1% of contributed variance. It should be mentioned that the higher educational level predicts lower score of "community domain". The significant predictors of lower score of the "family" domain are lower educational level and being unemployed, although the contributed variance is very small (only 2%). The only predictor of "friends and relatives" domain is living in small city (Urmia) with a very small contributed variance (less than 1%). More details are displayed in table 5.

Table 1: Demographic characteristics and social health scores of respondents

		Number	Mean (SD) of social health score
sex	Female	405	105.2 (17.2)
	Male	389	104.8 (17.1)
age	17-30	335	104.1 (15.8)
	31-45	243	104.9(17.7)
	46-60	164	105.6 (18.4)
	61 and higher	52	109.0 (18.6)
Educational status	no formal education	57	108.3 (16.0)
	a degree lower than diploma	208	109.1 (18.1)
	diploma degree	262	102.8 (16.9)
	university degree	267	103.2 (16.2)
city	Tehran	394	100.7 (17.2)
	Urmia	200	118.0(11.2)
	Isfahan	200	100.3 (15.3)
Occupational status	employed	284	105.1(16.0)
	housewife	253	105.2 (17.5)
	Student	106	104.6 (17.0)
	Retired	76	106.4 (19.8)
	Unemployed	73	102.6 (17.7)

Table 2: scores of social health and its domains

	N	Min	Max	Mean	Std. Deviation
"Community" domain	794	23	89	54.3	12.7
"Family" domain	794	6	300	23.0	3.7
"Friends and relatives" domain	794	8	40	27.6	4.7
Total social health score	794	42	154	105.0	17.1

Table 3: The number of people based on social health scores and its domains in each ordered group

	very low N (%)	Low N (%)	Moderate N (%)	High N (%)	very high N (%)
"Community" domain	52 (6.5%)	255 (32.1%)	290 (36.5%)	185 (23.3%)	12 (1.5%)
"Family" domain	7 (0.9%)	17 (2.1%)	146 (18.4%)	434 (54.7%)	190 (23.9%)
"Friends and relatives" domain	5 (0.6%)	63 (7.9%)	294 (37.0%)	349 (44.0%)	83 (10.5%)
Social health score	3 (0.4%)	103 (13.0%)	401 (50.5%)	272 (34.3%)	15 (1.9%)

Discussion

This field study was aimed at measuring self- rated social health of Iranian population located in three cities. It shows most of subjects has medium level of social health. Also, it can be inferred that Iranians perception of social health that is related to domain of "family" and "friends and relatives" was almost good but the domain of "community" was below the medium level. Living in Urmia as a small city compared with Tehran (capital of Iran) and Isfahan as two big cities was the most important predictor of the score of "social health" and domain of "community". Unemployment was a weak predictor of lower score of "social health" and domain of "family". Also, higher level of education was weak predictor of higher score of domain of "family" and lower score of domain of "community". There was no association between age and sex with social health and its domains.

It seems living in small cities due to more common culture and social norms makes higher levels of social

Table 4: questions with higher and lower scores

Five questions with the higher scores	***Mean (SD)****
I am satisfied of relationship with family members	4.05 (0.9)
Family members express love to me	3.98 (0.8)
Family members support me emotionally	3.95 (0.9)
I make emotional support to others	3.81 (0.9)
Family members support me at the time of disability	3.75 (1.0)
Five questions with the lower scores	***Mean (SD)****
I can use social organizations at the time of economic problems	1.89 (1.1)
Community provides me circumstances make me entertained and happy	2.40 (1.2)
I can benefit from social benefits at the time of disability	2.51 (1.1)
I trust to community members	2.59 (1.1)
Community provides me a supportive environment for me to be healthy	2.61 (1.1)

- Five point Likert type scale

Table 5: Multiple regression analysis of demographic variables against social health and its domains

Dependent variable	**Step**	**Independent variables**	**Beta coefficient**	**SE**	**R^2**	**P Value**
Social health	1	City (small)	0.47	1.3	0.21	<0.001
	2	Occupation (unemployed)	-0.08	2.1	0.22	0.029
	Overall F=85.0 , df=2, p<0.001					
"Community" domain	1	City (small)	0.52	0.94	0.30	<0.001
	2	Educational level (diploma and higher	-0.12	0.96	0.31	0.001
	Overall F=136.7 , df=2, p<0.001					
"Family" domain	1	Educational level (diploma and higher)	0.09	0.27	0.01	0.011
	2	Occupation (unemployed)	-0.07	0.45	0.02	0.048
	Overall F=5.0 , df=2, p=0.006					
"Friends and relatives" domain	1	City (small)	0.25	0.55	0.06	<0.001
	Overall F=41.2 , df=1, p<0.001					

cohesion and consequently perceived social health. In big cities, a large number of people are immigrants and it may impede social integration[22]. Other problems of big cities such as traffic, higher life costs and difficult life conditions also effect on perceived social health of individuals. Similarly in health domains, such as mental health, the situation of Tehran and other big cities are worse. For example, the prevalence of mental health disorders in Tehran is 35%, in comparison with 20%, in the whole country[23-28].

This is the first study, to the best of the authors' knowledge, aimed to assess social health of Iranians. Furthermore, there is not a nationally-accepted method for measuring individual social health in Iran[21]. There are no exact similar studies in the Iranian literature which could be used for comparing our findings with. Although some studies that assess social health or its different aspects such as social support and functioning confirm our study[29]. For example when we assessed studies which measure social functioning and vitality as a domain of quality of life, the results were, to some extent, consistent with our study, especially in students and elderly population[30-35].

Our study clarifies the important role of family and the close relationships in social health and reminds us not to neglect them. It shows good level of perceived social health obtained from family members, friends and relatives can compensate lower level of perceived social

health related to community and structures.

Due to lack of enough documents, it is very difficult to make judgment about level of social health in comparison with other cities and countries. However there are some signs that implicate unfavorable social health of Iranians. Similar studies that assess positive health outcomes such as social wellbeing, happiness, quality of life, etc. report levels higher than medium status[36]. For example in northern Ireland social wellbeing survey, people report high or very high level of social wellbeing or most of studies that measure happiness report scales more than medium level. Studies which measure happiness, in a scale from 1 to 10, report scores about 7, even in developing countries[37].

Our study tends to show a clear view of Iranians social health, but some concerns deal with it. First one is due to sampling. Initially, we decided to do sampling, from 5 cities in Iran; from north, west, east, south and center. But, due to study limitations, sampling was limited to 3 cities that lessen generalizability of our results. It should be mentioned we studied only perceived social health and to have a clear view of population social health status, it is necessary to assess objective aspects of social health such as poverty and unemployment in other studies.

Given the results obtained from this study, this work may be considered as the first step in evidence-based policy-making in the field of social health. We recommend it is necessary to conduct more studies to measure social health and its determinants in a nation-wide approach and with complementary scales to make a clear view of Iranians social health.

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