



# Social Support and Adjustment During COVID-19 Epidemic: A Community-Based Study in Iran

Samaneh Torkian <sup>1</sup>, Elham Akhlaghi <sup>2</sup>, Vahid Khosravi <sup>3</sup>, Reza Etesami <sup>4</sup>, Ali Ahmadi <sup>5,\*</sup>, Narges Khanjani <sup>6</sup> and Abozar Nazari<sup>7</sup>

<sup>1</sup>Department of Epidemiology, School of Public Health, Iran University of Medical Sciences, Tehran, Iran

<sup>2</sup>Department of Medical Surgical Nursing, School of Nursing and Midwifery, Iran University of Medical Sciences, Tehran, Iran

<sup>3</sup>Department of Health Education and Promotion, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

<sup>4</sup>Department of Statistics, Shahid Bahonar University, Kerman, Iran

<sup>5</sup>Department of Epidemiology and Biostatistics, School of Health and Modeling in Health Research Center, Shahrekord University of Medical Sciences, Shahrekord, Iran

<sup>6</sup>Neurology Research Center, Kerman University of Medical Sciences, Kerman, Iran

<sup>7</sup>Department of Health Education and Promotion, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran

\*Corresponding author: Associate Professor of Epidemiology, Modeling in Health Research Center, Shahrekord University of Medical Sciences, Shahrekord, Iran. Email: aliahmadi2007@gmail.com

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## Abstract

**Background:** Coronavirus disease 2019 (COVID-19) epidemic is neither the first nor the last epidemic in human societies. Epidemic control requires cooperation and adherence to health and prevention protocols in the whole community. Social support and social adjustment may be effective in epidemic control.

**Objectives:** This study aimed to investigate the level of social support, social adjustment, and related factors during the COVID-19 epidemic in Iran.

**Methods:** A nationwide cross-sectional study, including 1,145 individuals, was conducted from April to May 2020 in Iran. Social adjustment and social support were measured using the Bell Adjustment Inventory and Philips Social Support questionnaires. Each province was assumed as a cluster, and Generalized Estimating Equations (GEE) models were used to determine the demographic variables that were related to social support and social adjustment during the COVID-19 outbreak. All analyses were conducted with SPSS26.

**Results:** In this study, 58.9% of people were in the moderate and 39.9% in the high social support group. About 57.6% of people were in moderate and 30.8% in the high social adjustment group. People with a good (OR = 3.81, 95% CI: 2.29, 6.34) and moderate (OR = 2.02, 95% CI: 1.40, 2.92) financial situation had significantly higher social support scores. Master or doctorate graduates (OR = 2.38, 95% CI: 1.80, 3.15), and people with a good (OR = 1.83, 95% CI: 1.20, 2.79) and moderate (OR = 1.40, 95% CI: 1.17, 1.69) financial situation had significantly higher social adjustment scores.

**Conclusions:** The participants of this study had mainly moderate to high levels of social support and adjustment; however, they may not represent the whole Iranian society. Social support and adjustment are low in people with a poor financial situation and low education. These groups need more attention in epidemics.

**Keywords:** COVID-19 Epidemic, Iran, Social Adjustment, Social Support

## 1. Background

Coronavirus disease 2019 (COVID-19) was declared as a Public Health Emergency of International Concern (PHEIC) by the World Health Organization (WHO) on January 30, 2020. By December 2019, COVID-19 had spread to nearly every country in the world (1). The lack of a certain treatment and vaccine and fear of acquiring the disease and dying can affect people's physical and mental health. People may de-

velop negative feelings (e.g., anxiety) and negative cognitive assessments, which are natural defense mechanisms (2, 3). People also intend to avoid contact with people who have suspicious symptoms (4). Public health emergencies can cause negative emotions, and in the long-term, negative emotions can weaken the immune system and disturb natural physiological mechanisms (5). Health is influenced by complex biological, psychological, social, cul-

tural, economic, and spiritual factors. Social factors can play an essential role in creating, maintaining, and promoting health; therefore, they are effective in the occurrence, spread, and persistence of diseases (6). From this perspective, it is important to study the social factors affecting mental health (7).

Psychological well-being is influenced by many socio-cultural factors. Social support refers to the care and support that people feel they receive from other people (1). It has been shown that adequate social support has a positive effect on mental health (8), and can also improve physical health (9). Another socio-cultural factor affecting mental health is adjustment. Social adjustment refers to “accommodation to the demands, restrictions, and mores of society, including the ability to live and work with others harmoniously and to engage in satisfying interactions and relationships” (10). Adjustment includes the specific behaviors and abilities that people use to deal with everyday problems and cope with the existing situations (2). According to Rogers’ theory, the unadjusted person is a person who has been threatened internally, but the adjusted person does not feel threatened (11). Adjustment includes dimensions such as community, family, emotions, occupation, health, and marriage. Some experts believe that social adjustment is superior to all other dimensions. Adaptation and its dimensions may change at any time and at any stage of social development (11). People’s adaptability depends on their lifetime experiences, cognitive and social development, stress, motivations, beliefs, and sensitivities (12).

Public health officials and the media have focused more on the medical and physical consequences of the COVID-19 outbreak, and very little attention has been paid to mental health issues. Therefore, more attention should be paid to mental health in this crisis. Early detection of potential psychological changes caused by COVID-19 can help alleviate these issues. Psychological changes can be surveyed in a timely manner through emotional and cognitive indicators (13).

## 2. Objectives

The present study aimed to investigate the level of social support and social adjustment in Iranian society during the pandemic.

## 3. Methods

This cross-sectional web-based study was conducted from April to May 2020 by convenient sampling. A three-part web-based questionnaire, including demographic information, the Bell Adjustment Inventory (BAI), and Philips social support (SS-A), was used to collect data. The questionnaire was distributed as a web-link through social networks, including Telegram, WhatsApp, and Instagram. The validity and reliability of both questionnaires have already been confirmed in Iran (14, 15). The Cronbach’s alpha of the BAI and SS-A questionnaires in this study was 0.79 and 0.89, respectively.

Han et al. (2020) was used to determine the sample size (16). According to this study, assuming a standard deviation = 10.3, confidence level (95%) = 0.05 and error (d) = 0.6, the minimum samples size required was 1,133. A total of 1,145 people completed the questionnaire. Questionnaires were completed anonymously. Participation in this study was voluntary.

Demographic variables included in the questionnaire were gender (male and female), marital status (single, married, divorced, and widowed), education (high school diploma or less, graduate diploma, bachelor, masters, and doctorate), financial situation that was people’s opinion about their financial situation (good, moderate and poor), place of residence (city, village), and ethnicity (Gilak, Arab, Turk, Kord, Bakhtiari, Azari, Fars, Lor, and so on).

The SS-A questionnaire has 23 items, which are assessed on a 5-grade Likert scale (very high = 5, high = 4, medium = 3, low = 2, very low = 1). Questions 21, 13, 10, 3, and 22 are scored in reverse. The mean score of these 23 questions is calculated. A score of 23 to 54 indicates poor social support, 55 to 86 indicates moderate social support, and 87 to 115 high social support (17).

The BAI questionnaire has 32 questions with a 3-grade Likert scale (no = 0, yes = 1, I do not know = 2). Questions 2, 8, 9, 13, 17, 19, 21, 23, 26, 30, and 31 are scored in reverse. The “I do not know” answer does not enter into the analysis. The total score of the questionnaire ranges from 0 to 32, the range 0-8 shows a high level of social adjustment, 9-19 shows moderate, and 20-32 shows poor social adjustment or social incompatibility (18).

Each province was assumed as a cluster, and Generalized Estimating Equation (GEE) models were used to determine the demographic variables that were related to social support and social adjustment. All independent variables

were entered into the univariable, and variables with a p-value of less than 0.2 were entered into the multivariable model. The final model was achieved using a backward selection approach. A P-value of less than 0.05 was considered significant. All of the analyses were conducted with SPSS version 26.

Ethics approval was obtained from the Shahrekord University of Medical Sciences. The ethics code was IR.SKUMS.REC.1399.025.

#### 4. Results

In this survey, most participants were female (67.9%), married (73.8%), had a high school diploma or less education (43.0%), had a moderate financial situation (65.7%), lived in the city (93.8%), and were Fars. The mean (SD) of social adjustment and social support in Iranians during the COVID-19 epidemic was 11.95 ( $\pm$  5.49) and 81.45 ( $\pm$  13.23), respectively.

Most people had moderate-social support (58.9%), and the rest had good- (39.9%) or poor-social support (1.8%). The situation of social support in demographic subgroups is shown in [Table 1](#).

There was a significant difference in the mean score of social support in the education, financial situation, and ethnicity subgroups ( $P < 0.05$ ). Associations between demographic variables and social support in univariable models are shown in [Table 2](#). In the multivariable model, good (OR=3.81, 95% CI: 2.29- 6.34) and moderate (OR=2.02, 95% CI: 1.40 - 2.92) financial situation were significantly associated with higher social support. Also, people with a bachelor (OR=1.214, 95% CI: 1.012 - 1.458) or higher degree (OR=1.485, 95% CI: 1.101 - 2.003) had significantly more social support.

In this study, 57.6% of people were in the moderate, 30.8% in the high, and 11.5% in the low social adjustment group. The mean score of social adjustment was different in the education and financial situation subgroups ( $P < 0.05$ ). Associations between demographic variables and social adjustment in univariable models are shown in [Table 2](#). In multivariable models, good (OR = 3.81, 95% CI: 2.29 - 6.34) and moderate (OR=2.02, 95% CI: 1.40 - 2.92) financial situation were significantly associated with higher social support. Master or doctorate education (OR = 2.38, 95% CI: 1.80 - 3.15), good (OR = 1.83, 95% CI: 1.20 - 2.79) and moderate (OR=1.40, 95% CI: 1.17 - 1.69) financial situation were significantly associated with higher social adjustment ([Table 3](#)).

#### 5. Discussion

In this study, most Iranians reported moderate to high levels of social adjustment and moderate to high social support during the COVID-19 epidemic. In China, during the COVID-19 epidemic, the level of social support among medical staff was directly associated with self-efficacy and sleep quality and inversely associated with anxiety and stress (16). A study on health care workers in China during the COVID-19 outbreak showed that health care workers working in the internal medicine department had less social support than health care workers who worked in other hospital departments (19). Another study in China during the COVID-19 outbreak reported individuals with higher psychological distress had less social support than those with lower psychological distress (20). Social support is defined as the perceived or actual receipt of tangible or emotional social resources and is one of the most reliable predictors of disease morbidity and mortality. Improving social support through research and appropriate policy interventions can help individuals live healthier and happier lives (9). Social support in epidemics can decrease anxiety and depression in the community and among health professionals (21). However, during the COVID-19 epidemic, limited social networking and social distancing made it difficult to obtain support from friends and family members, and these conditions had adverse effects for individuals (22). One of the most common problems during the COVID-19 epidemic was the disintegration of people's social structures, such as place of worship, schools, and workplaces. The breakdown of these social structures made people feel isolated and vulnerable (22, 23).

Social adjustment is the ability of individuals to react effectively and profitably to social situations and relationships (24). However, during the COVID-19 epidemic, people were required to limit their social activities (25). Strategies applied for slowing the rate of disease transmission included social distancing, going out only for necessary things, self-isolation, not attending mass gathering, and closure of educational, religious, and cultural institutions (26). However, many people may not be able to comply, and this can increase their risk of infection (27, 28). However, adapting to these conditions and accepting the new social conditions was essential for controlling this epidemic (29).

One of the limitations of this study was that only volunteers participated in this study, and a random sample was not taken from the general population. Therefore, there is

**Table 1.** The Situation of Social Support and Social Adjustment in the Demographic Subgroups (n = 1,145)

Variables	No. (%)	Social Support				Social Adjustment			
		Low	Moderate	High	P Value	Low	Moderate	High	P Value
<b>Overall</b>	1145	21 (1.8)	674 (58.9)	450 (39.9)	-	132 (11.5)	660 (57.6)	353 (30.8)	-
<b>Gender</b>					0.952				0.368
Male	367 (32.1)	9 (2.5)	211 (57.5)	147 (40.1)		53 (14.4)	199 (54.2)	115 (31.3)	
Female	778 (67.9)	12 (1.5)	463 (59.5)	303 (38.9)		79 (10.2)	461 (59.3)	238 (30.6)	
<b>Marital status</b>					0.990				0.713
Single	277 (24.2)	10 (54.5)	151 (41.9)	116 (82.0)		36 (13.0)	148 (53.4)	93 (33.6)	
Divorced/widow	23 (2.0)	1 (4.3)	17 (73.9)	5 (21.7)		1 (4.3)	17 (73.9)	5 (21.7)	
Married	845 (73.8)	10 (1.2)	506 (59.9)	329 (38.9)		95 (11.2)	495 (58.6)	255 (30.2)	
<b>Residence</b>					0.887				0.354
Urban	1074 (93.8)	19 (1.8)	633 (58.9)	422 (39.3)		121 (11.3)	620 (57.7)	333 (31.0)	
Village	71 (6.2)	2 (2.8)	41 (57.7)	28 (39.4)		11 (15.5)	40 (56.3)	20 (28.2)	
<b>Education</b>					0.016				< 0.001
High school diploma or less	492 (43.0)	9 (1.8)	301 (61.2)	182 (37.0)		65 (13.2)	304 (61.8)	123 (25.0)	
Graduate diploma	113 (9.9)	3 (2.7)	77 (68.1)	33 (29.2)		15 (13.3)	66 (58.4)	32 (28.3)	
Bachelor	352 (30.7)	6 (1.7)	199 (56.5)	147 (41.8)		39 (11.1)	206 (58.5)	107 (30.4)	
Masters/doctorate	188 (16.4)	3 (1.6)	97 (51.6)	88 (46.8)		13 (6.9)	84 (44.7)	91 (48.8)	
<b>Financial situation</b>					< 0.001				< 0.001
Good	122 (10.7)	0 (0.0)	53 (43.4)	69 (56.6)		8 (6.6)	66 (54.1)	48 (39.3)	
Moderate	752 (65.7)	11 (1.5)	431 (57.3)	310 (41.2)		86 (11.4)	419 (55.7)	247 (32.8)	
Poor	271 (23.7)	10 (3.7)	190 (70.1)	71 (26.2)		38 (14.0)	175 (64.6)	58 (21.4)	
<b>Ethnicity</b>					0.016				0.587
Lor/Lak/Bakhtiari	187 (16.3)	2 (1.1)	103 (55.1)	82 (43.9)		18 (9.6)	199 (63.6)	50 (26.7)	
Fars	505 (44.1)	7 (1.4)	292 (57.8)	206 (40.8)		60 (11.9)	279 (55.2)	166 (32.9)	
Gilak	55 (4.8)	2 (3.6)	44 (68.8)	19 (29.7)		6 (10.9)	26 (47.3)	23 (41.8)	
Tork	64 (5.6)	1 (1.6)	15 (8.4)	163 (91.1)		6 (9.4)	41 (64.1)	17 (26.6)	
Kord	31 (2.7)	1 (3.2)	20 (64.5)	10 (32.3)		5 (16.4)	18 (58.1)	8 (25.8)	
Azari	186 (16.2)	4 (2.2)	119 (64.0)	63 (33.9)		22 (11.8)	116 (62.4)	48 (25.8)	
Others	117 (10.0)	4 (3.4)	69 (59.0)	44 (37.6)		15 (12.8)	61 (52.1)	41 (35.0)	

a possibility that people who were less stressed and more cooperative participated in this study, and in fact, they had more social support and adaptation. However, because of the COVID-19 epidemic situation and the necessity for social distancing, we had to use this method to complete the questionnaires.

In conclusion, the participants of this study had mainly moderate to high levels of social support and ad-

justment; however, they may not represent the whole Iranian society. Social support and adjustment were low in people with a poor financial situation and low education. These groups need more attention in epidemics.

**Table 2.** Univariate Generalized Estimating Equation Model Results About the Association Between Demographic Variables, Social Support, and Social Adjustment

Variables	Social Support		Social Adjustment	
	OR (95% CI)	P Value	OR (95% CI)	P Value
<b>Gender</b>				
Female	1.022 (0.756, 1.381)	0.887	0.914 (0.687, 1.215)	0.534
Male	1	1	1	1
<b>Marital status</b>				
Single	1.060 (0.806, 1.395)	0.675	1.073 (0.833, 1.382)	0.587
Divorced/widow	0.425 (0.169, 1.065)	0.068	0.910 (0.487, 1.699)	0.767
Married	1	1	1	1
<b>Residence</b>				
Urban	1.021 (0.638, 1.632)	0.932	1.240 (0.736, 2.090)	0.419
Village	1	1	1	1
<b>Education</b>				
Graduate diploma	0.703 (0.433, 1.142)	0.155	1.119 (0.859, 1.457)	0.406
Bachelor	1.214 (1.012, 1.458)	0.037	1.278 (1.017, 1.606)	0.036
Masters/doctorate	1.485 (1.101, 2.003)	0.010	2.666 (2.079, 3.418)	< 0.001
High school diploma or less	1	1	1	1
<b>Financial situation</b>				
Good	3.812 (2.292, 6.340)	< 0.001	2.239 (1.545, 3.244)	< 0.001
Moderate	2.028 (1.407, 2.922)	< 0.001	1.587 (1.346, 1.871)	< 0.001
Poor	1	1	1	1
<b>Ethnicity</b>				
Lor/Lak/Bakhtiari	1.136 (0.869, 1.486)	0.352	0.863 (0.591, 1.259)	0.444
Gilak	1.229 (0.817, 1.849)	0.322	1.405 (0.953, 2.073)	0.086
Tork	0.631 (0.392, 1.016)	0.058	0.863 (0.552, 1.351)	0.521
Kord	0.670 (0.441, 1.018)	0.06	0.695 (0.168, 2.870)	0.615
Azari	0.740 (0.529, 1.036)	0.079	0.787 (0.443, 1.399)	0.415
Others	0.835 (0.599, 1.164)	0.288	1.053 (0.690, 1.607)	0.812
Fars	1	1	1	1

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## Footnotes

**Authors' Contribution:** ST, EA, and AA conceived and designed the evaluation. VK, ST, EA, and AN collected the clinical data. ST and VK interpreted the clinical data. RE per-

formed the statistical analysis. ST, AA, NK, VK, AN, and EA drafted the manuscript. NK, AA, and ST revised it critically for important intellectual content. All authors read and approved the final manuscript.

**Conflict of Interests:** The authors declare that there is no conflict of interest.

**Ethical Approval:** Ethics approval was obtained from the Shahrekord University of Medical Sciences with the ethical code IR.SKUMS.REC.1399.025.

**Table 3.** Multivariable Generalized Estimating Equation Model Results About the Association Between Demographic Variables, Social Support, and Social Adjustment

Variables	Social Support		Social Adjustment	
	OR (95% CI)	P Value	OR (95% CI)	P Value
<b>Gender</b>				
Female	-	-	-	-
Male	-	-	-	-
<b>Marital status</b>				
Single	-	-	-	-
Divorced/widow	-	-	-	-
Married	-	-	-	-
<b>Residence</b>				
Urban	-	-	-	-
Village	-	-	-	-
<b>Education</b>				
Graduate diploma	-	-	1.078 (0.833, 1.396)	0.568
Bachelor	-	-	1.193 (0.960, 1.483)	0.112
Masters/doctorate	-	-	2.385 (1.802, 3.157)	< 0.001
High school diploma or less	-	-	1	1
<b>Financial situation</b>				
Good	3.812 (2.292, 6.340)	< 0.001	1.832 (1.204, 2.790)	0.005
Moderate	2.028 (1.407, 2.922)	< 0.001	1.407 (1.171, 1.690)	< 0.001
Poor	1	1	1	1
<b>Nationality</b>				
Lor/Lak/Bakhtiari	-	-	-	-
Gilak	-	-	-	-
Tork	-	-	-	-
Kord	-	-	-	-
Azari	-	-	-	-
Others	-	-	-	-
Fars	-	-	-	-

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