



The Association Between Communication Skills and the Mental Health of Elderly Patients' Hospitalization in the South of Iran Hospitals in 2020

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Abstract

Background: Aging is considered a critical period of life, and paying attention to the needs of this stage is a social necessity.

Objectives: This study aimed to investigate the association between communication skills and mental health of elderly patients who were hospitalized in the south of Iran hospitals in 2020.

Methods: The present study is a descriptive-analytical study conducted on 386 elderly patients. The data of the present study were collected through a three-section questionnaire consists of demographic information, interpersonal communication skills, and mental health. The data were analyzed by descriptive and inferential statistical methods, Pearson correlation coefficient, *t*-test, ANOVA, and multiple linear regression tests in SPSS software version 23 and at a significance level of $\alpha = 0.05$.

Results: Elderly patients' communication skills were assessed at a low level (67.01 ± 7.36). The mean score of total mental health among elderly patients indicated mild symptoms of mental disorders among them (177.84 ± 9.21). A significant association was also found between communication skills and mental health disorders among elderly patients ($P < 0.001$, $r = -0.631$). The results of multiple linear regression revealed that the components of understanding the message ($P < 0.001$), emotional control ($P = 0.001$), listening ($P = 0.001$), assertiveness ($P = 0.005$), and insight ($P = 0.006$) had a positive and significant impact on the mental health of elderly patients.

Conclusions: Owing to the correlation between communication skills and mental health, it is recommended to develop and use supportive programs in the form of elderly health programs in medical centers to improve the mental health status of elderly patients.

Keywords: Communication Skills, Mental Health, Older People, Hospital, Shiraz

1. Background

Aging is a critical period of human life, and it is a social necessity to pay attention to the needs of this stage (1). Communication skills are among the needs of this age group (2). It has been considered one of the oldest and most valuable human achievements (2). In other words, it refers to the process of sending information from one person to another and understanding it by the audience. It means transferring and sharing thoughts, ideas, and facts in such a way that the audience receives and understands them. In other words, communication is a process by which people seek to achieve common concepts by exchanging symbolic messages (3). Concerning the signifi-

cance of communication in human life, some experts argue that all human development, individual harms, and human progress depend on the process of communication (4). People's inability to communicate and maintain satisfying communication with others results in a sense of deprivation, which is seen at an older age (5). Some studies indicate that with disabilities caused by old age, social isolation, and physical problems, communication skills are negatively influenced, and their quantity and quality decrease (6, 7). Also, with the arrival of the 21st century and social, economic, medical, and health needs, the phenomenon of aging is considered one of the most fundamental problems in all countries since older people are at

risk of many diseases and disabilities (8). Cardiovascular diseases, diabetes, hypertension, and many other diseases increase during the last years of people's life. Mental and psychological disorders, including dementia and depression, are also commonly seen among the elderly and are considered the second leading cause of loss of life years due to disability (9, 10). Mental disorders with their serious symptoms, including depression, anxiety, memory loss, sleep pattern change, sense of loneliness, and social isolation, affect 15 to 25 percent of people aged over 65 (11). Several studies were conducted throughout the world, which has been reported that depression is a cause of disability at old age, and factors such as loss of a spouse, living alone, living at home, or special retirement institutions for a longer time are associated with depression in older people (12). Based on the available findings and given the global burden of diseases related to mental disorders that are predicted to increase from 10.5% in 1996 to 15% in 2020, World Health Organization (WHO) has introduced improving mental health as one of the priorities of low- and middle-income countries (13). Based on a study conducted on the burden of disease in Iran in 2003, mental and behavioral disorders were ranked second after injuries and harms (14). Several studies were carried out on the prevalence of mental disorders in Iran. The rate of psychiatric disorders was reported at 17.10% in the population aged 18 years and older, and another study reported the rate of psychiatric disorders was 21% on a population aged 15 years and older. In this regard, the rate of anxiety in these studies was reported at 8.31% and 2.3%, and the rate of depression was reported at 2.98% and 3.8%, respectively (15, 16). In a research conducted on older people living in nursing homes of Tehran, the rates of depression, anxiety, somatic disorders, and obsessive-compulsive disorder were reported at 32.5%, 18.3%, 27.5%, and 19.1%, respectively (17). In another research, it was reported that 24% of older people living in district 13 of Tehran had problems of depression and anxiety (18). Evidence indicates that a desirable level of communication skills and enhancing the level of these skills may improve mental health, enrich human relationships, and enhance the health and healthy behaviors at micro and macro levels (19). Also, communication skills, as a part of life skills, can be used both as a way to promote mental health and as a powerful tool by mental health officials in a community to empower people at social and psychological dimensions (19). The subject of interpersonal communication is a crucial subject in healthcare centers since it is dealing with health of people. The ability of people to communicate effectively is one of the crucial factors that facilitate receiving health services and improving the process of providing services, and gaining health (physical and mental health) (20).

2. Objectives

The present study aimed to investigate the association between communication skills and mental health of the elderly admitted to the teaching hospitals of Shiraz University of Medical Sciences in 2020.

3. Methods

3.1. Design of the Study, Participants, and Sample Size

The present study is a descriptive-analytical and cross-sectional study carried out in 2020. The statistical population of the present study included elderly patients hospitalized in hospitals affiliated to Shiraz University of Medical Sciences (including hospitals of Namazi, Shahid Dastgheib, Shahid Chamran, Khalili, Hafez, Shahid Faghihi, Ibn Sina, Zeinabieh, and Shahid Rajaei). According to the correlation between communication skills and mental health based on a pilot study in Iran (21), with a 95% confidence interval and 90% statistical power, the sample size was estimated to be 261 people ($r = 0.2$). In this study, 386 people were included in the study to increase accuracy and prevent bias resulting from sample loss. Distribution of these 386 patients among the hospitals was proportional to the population size of each of the studied hospitals. Accordingly, researchers referred to each of the hospitals identified total number of elderly patients (patients aged 60 years and older) hospitalized in different wards of the hospitals. After determining total number of elderly patients hospitalized in the mentioned hospitals, stratified sampling proportional to volume was used to distribute 386 samples among the hospitals. Hence, more samples were assigned to a hospital, where a higher number of elderly patients had been hospitalized. Also, in each hospital, in proportion to each of the wards (using stratified sampling in proportion to sample volume, more samples were assigned to the ward of hospital where more patients had been hospitalized), patients were selected and included in the study.

3.2. Inclusion and Exclusion Criteria

The inclusion criteria of the study included age of 60 years and older, having the ability to speak, and lack of cognitive problems. The exclusion criteria were age less than 60 years, inability to speak (answer), and having cognitive problems.

3.3. Ethics Statements

The participants were justified about the objectives of the study; the principle of confidentiality was also emphasized, and their verbal consent was obtained. Then,

anonymous questionnaires without any first names and surnames were distributed among the respondents. In addition, participants were free to leave the study at any stage if they did not want to continue. Also, the protocol of the study was approved by the Ethics Committee of Shiraz University of Medical Sciences (ethics code: IR.SUMS.REC.1398.1321).

3.4. Questionnaire

A three-section questionnaire was used to collect the research data. The first section consists of demographic information of the elderly patients, including their age, gender, and marital status and level of education. The second section consists of a revised version of standardized interpersonal communication skills test. It has been designed to assess communication skills in adults. It includes 34 five-choice questions in five areas of the ability to receive and send messages (9 questions), emotional regulation (9 questions), and listening skills (6 questions), insight to communication process (5 questions), and communication with assertiveness (5 questions). In this section of the questionnaire, a 5-point Likert scale ranging from never (score 1), rarely (score 2), sometimes (score 3), often (score 4), always (score 5) was used to answer the questions. Based on the range of scores (34 to 170), the communication skills of elderly patients were assessed based on score ranges of 34 to 68 (reflecting poor communication skills), 69 to 102 (reflecting moderate communication skills), and scores above 102 (reflecting high communication skills). The questionnaire validity was examined and confirmed in a study conducted by Mojadam et al. (6). Its reliability was also confirmed in a study conducted by Chary and Fadakar (22) using Cronbach's alpha method that was obtained at 0.69. The third section of the questionnaire has been developed to assign the mental health of the samples. This section was the standardized mental health questionnaire SCL-90-R. This questionnaire consists of 90 questions to assess nine symptoms, including depression (13 questions), anxiety (11 questions), hypochondriasis (12 questions), Obsession and coercion (11 questions), sensitivity in interpersonal relationships (12 questions), and violence (7 questions), phobia (8 questions), paranoid thoughts (6 questions), psychosis (10 questions). In this section, the questions of the questionnaire are answered on the 5-point Likert scale, ranging from no (score 0), low (score 1), to some extent (score 2), high (score 3), and strongly (score 4). Based on the range of scores (0 - 360), the mental health status of elderly patients was assessed according to score ranges of 0 - 90 (reflecting completely healthy person without symptoms), 91 - 180 (reflecting mild symptoms), 181 - 270 (reflecting moderate symptoms) and a score above 270 (reflecting severe symptoms of the disease). Its reliability and validity

were examined in various domestic and foreign studies. Its reliability coefficient was reported at 0.97 using test-retest method, and the sensitivity, specificity, and efficiency of the test were reported at 0.94, 0.98, and 0.96, respectively (23, 24). The researcher referred to elderly patients' hospitalization ward to ask the questions of the elderly patient, and he marked the patients' answers on the questionnaire. It took an average of 20 minutes to complete each questionnaire. The questionnaires were completed from May 22 to June 30, 2020.

3.5. Statistical Analysis

The data were analyzed using descriptive and inferential statistical methods, Pearson correlation coefficient, *t*-test, and ANOVA tests, and multiple linear regression in SPSS23 software at the significance level of $\alpha = 0.05$.

4. Results

The mean age of the subjects was 68.62 ± 5.18 years and majority of them (43.78%) were in the age group of 60 to 70 years. Moreover, 53.89% were male and the rest were female. Most of them had primary education (33.94%) and were married (70.47%). A significant correlation was found between communication skills (and mental health) with age $P = 0.02$, $r = 0.32$ ($P = 0.01$, $r = 0.44$), gender $P = 0.03$, $t = 1.28$ ($P = 0.01$, $t = 1.74$), marital status $P = 0.04$, $F = 1.86$ ($P < 0.001$, $F = 2.021$) and level of education $P < 0.001$, $F = 2.113$ ($P = 0.002$, $F = 1.904$) (Table 1).

The mean score of general communication skills was obtained at 67.01 ± 7.36 , indicating a low level of this skill among the elderly patients based on the Likert scale used in this study. Also, the mean score of total mental health of the elderly patients was obtained at 177.84 ± 9.21 , indicating mild symptoms of mental disorders among the elderly patients studied (Table 2).

The results of the present study revealed a significant correlation between communication skills and mental health of the elderly patients ($P < 0.001$, $r = -0.631$), indicating that increasing communication skills was associated with a reduced level of mental health disorders (Table 3).

The results of multiple linear regression analysis used to assess the simultaneous effect of different dimensions of communication skills on the mental health of the elderly patients revealed that the significant variables of the model that were determined using the Enter method included understanding the message, emotional control, listening, assertiveness, and insight, respectively, in terms of importance. Table 4 presents the β values of the influential variables that indicate the priority of affecting mental

Table 1. Characteristics of the Study Participants

Variable	No. (%)	P-Value Communication Skills (Mental Health)
Age, y		0.02 (0.01)
60 - 70	169 (43.78)	
71 - 80	128 (33.16)	
> 81	89 (23.06)	
Total	386 (100)	
Gender		0.03 (0.01)
Man	208 (53.89)	
Female	178 (46.11)	
Total	386 (100)	
Marital status		0.04 (< 0.001)
Single	69 (17.87)	
Married	272 (70.47)	
Divorced	13 (3.37)	
Wife's death	32 (8.29)	
Total	386 (100)	
Level of education		< 0.001 (0.002)
Illiterate	65 (16.84)	
Reading and Writing	86 (22.28)	
Elementary	131 (33.94)	
Diploma	56 (14.51)	
Bachelor's degree and higher	48 (12.43)	
Total	386 (100)	

health. This test also indicated that the coefficient of determination (R^2 adjusted) of the model was 0.51, meaning that 51% of the variations in the mental health score can be explained by the variables of the model.

5. Discussion

The findings of the present study revealed that communication skills had a reverse and significant association with mental health disorders and their dimensions among the elderly patients. It means that the score of mental disorder decreases with increasing communication skills. The results of studies carried out by Amini et al. (25), Mostafa-Nezhad and Dortag (26, 27), Sahebdel and Asadi (27), Gheirati et al. (21), Solati (28), and Herbert et al. (29) in investigating the impact of communication skills training on mental health showed that communication skills had a significant impact on mental health, and training and improving this skill were an effective method to improve mental health and decrease mental disorders. The results

Table 2. Mean of Communication Skills and Mental Health of the Study Participants

Area	Mean \pm SD
Communication skills	
Listening	15.11 \pm 2.46
Emotional control	15.36 \pm 3.61
Understand the message	11.24 \pm 2.54
Insight	13.09 \pm 2.39
Assertiveness	12.21 \pm 3.41
Total	67.01 \pm 7.36
(Disorders) mental health	
Depression	23.21 \pm 3.21
Anxiety	21.42 \pm 3.32
Hypochondriasis	18.22 \pm 2.29
Obsession and coercion	23.03 \pm 4.03
Sensitivity in interpersonal relationships	19.06 \pm 4.11
Violence	21.12 \pm 3.19
Phobia	18.02 \pm 2.51
Paranoid thoughts	16.24 \pm 4.08
Psychosis	17.52 \pm 4.13
Total	177.84 \pm 9.21

of studies conducted by Johnsson et al. (30), Hoglander et al. (31), and Tsai et al. (32) also revealed that communication skills significantly correlated with mental health, and it is in line with the results of the present study. Also, the results of a research carried out by Mirdarikvand et al. (7) revealed that communication skills were one of the variables predicting sense of loneliness as one of the causes of mental disorders. Furthermore, the results of a study conducted by Dong and Simon (33) showed that the autocracy of the elderly patients and their inability to establish social communication were significantly associated with poor health status and low cognitive function, and depression symptoms. It seems that desirable level of communication skills creates a set of abilities in the older people that are effective in social adjustment, showing positive behaviors, and improving mental health. Also, older people probably experience fewer mental disorders such as stress, anxiety, and depression due to stronger communication skills and thus having the ability to ask for help and support from others. In the present study, a significant association was found between communication skills and mental health and the variables of age, gender, marital status, and level of education. In the studies carried out by Mojadam et al. (6), Peyman et al. (34), and Yorkston et al. (35), a significant correlation was reported between communication skills and demographic variables, which is in line with the results of

Table 3. Correlation Between Communication Skills and Mental Health

Dimensions of Communication Skills	Dimensions of Mental Health									
	Depression	Anxiety	Hypochondriasis	Obsession and Coercion	Sensitivity in Interpersonal Relationships	Violence	Phobia	Paranoid Thoughts	Psychosis	(Disorders) Total Mental Health
Listening	$r = -0.340$ ($P < 0.001$)	$r = -0.676$ ($P < 0.001$)	$r = -0.287$ ($P < 0.001$)	$r = -0.423$ ($P < 0.001$)	$r = -0.301$ ($P < 0.001$)	$r = -0.394$ ($P < 0.001$)	$r = -0.227$ ($P < 0.001$)	$r = -0.231$ ($P = 0.011$)	$r = -0.216$ ($P = 0.011$)	$r = -0.597$ ($P < 0.001$)
Emotional control	$r = -0.401$ ($P < 0.001$)	$r = -0.428$ ($P < 0.001$)	$r = -0.276$ ($P < 0.001$)	$r = -0.462$ ($P = 0.002$)	$r = -0.381$ ($P < 0.001$)	$r = -0.494$ ($P < 0.001$)	$r = -0.369$ ($P = 0.007$)	$r = -0.431$ ($P = 0.003$)	$r = -0.501$ ($P = 0.003$)	$r = -0.617$ ($P < 0.001$)
Understand the message	$r = -0.470$ ($P < 0.001$)	$r = -0.432$ ($P < 0.001$)	$r = -0.373$ ($P = 0.002$)	$r = -0.424$ ($P < 0.001$)	$r = -0.272$ ($P < 0.001$)	$r = -0.364$ ($P < 0.001$)	$r = -0.289$ ($P < 0.001$)	$r = -0.413$ ($P < 0.001$)	$r = -0.511$ ($P < 0.001$)	$r = -0.661$ ($P < 0.001$)
Insight	$r = -0.531$ ($P < 0.001$)	$r = -0.489$ ($P < 0.001$)	$r = -0.366$ ($P = 0.023$)	$r = -0.379$ ($P = 0.002$)	$r = -0.265$ ($P < 0.001$)	$r = -0.421$ ($P < 0.001$)	$r = -0.306$ ($P = 0.003$)	$r = -0.261$ ($P < 0.001$)	$r = -0.276$ ($P = 0.023$)	$r = -0.610$ ($P = 0.006$)
Assertiveness	$r = -0.512$ ($P = 0.006$)	$r = -0.509$ ($P < 0.001$)	$r = -0.346$ ($P = 0.002$)	$r = -0.406$ ($P = 0.005$)	$r = -0.446$ ($P < 0.001$)	$r = -0.394$ ($P < 0.001$)	$r = -0.325$ ($P = 0.006$)	$r = -0.401$ ($P = 0.007$)	$r = -0.372$ ($P = 0.004$)	$r = -0.566$ ($P = 0.005$)
Total Communication Skills	$r = -0.578$ ($P < 0.001$)	$r = -0.598$ ($P < 0.001$)	$r = -0.413$ ($P < 0.001$)	$r = -0.212$ ($P < 0.001$)	$r = -0.462$ ($P < 0.001$)	$r = -0.481$ ($P < 0.001$)	$r = -0.462$ ($P < 0.001$)	$r = -0.376$ ($P < 0.001$)	$r = -0.369$ ($P < 0.001$)	$r = -0.631$ ($P < 0.001$)

Table 4. Factors Affecting Mental Health Disorders Using Multiple Linear Regression Model

Variables	Unstandardized Coefficients		Standardized Coefficient β	t Statistics	P-Value
	Std. Error	Coefficient β			
Understand the message	0.063	-0.345	-0.323	-3.571	< 0.001
Emotional control	0.072	0.275-	-0.261	-2.264	0.001
Listening	0.069	0.225-	-0.198	-2.301	0.001
Assertiveness	0.101	0.201-	-0.188	-2.238	0.005
Insight	0.110	0.197-	-0.184	-1.187	0.006

the present study. Riviere et al. reported a significant association between mental health and demographic variables of age and gender (36), which was in line with the results of the present study. Arasteh et al. (37) also reported a significant association between mental health and the variables of gender, income level, and level of education. The results of studies carried out by Gheirati et al. (21) and Ansari et al. (38) also revealed a significant association between mental health and the variables of gender and marital status, which is in line with the results of the present study. According to the results of the present study, among the dimensions of communication skills, understanding message, emotional regulation, listening, assertiveness, and insight, respectively, had a significant and inverse effect on mental health disorders. The multiple linear regression results also revealed that the component of “understanding message” had the highest impact on the mental health of the elderly patients. It means that the mental health of elderly patients increases with increasing the level of understanding of messages (the ability to receive and send messages). In the research carried out by Amini et al. (39), understanding verbal and nonverbal messages was found to be one of the predictors of general health. The ability to send and receive verbal and nonverbal messages is one of the most important factors promoting mental health since it enables older people to transfer their desired needs to

others; so meeting these needs will result in a desirable level of mental health in them. According to the results of the present study, emotional regulation was another component of communication skills affecting mental health so that with increasing the emotional regulation, the level of mental health of the older people increases. This result was in line with the results of a study conducted by Amini et al. (39). It can be stated that with increasing emotional regulation ability, the older people will be able to resist against psychological pressures such as stress, anxiety, and depression and maintain their mental health at an acceptable level. The results also indicated that “listening” was another component of communication skills affecting mental health so that with increasing the level of listening skills, the mental health of the older people increases. Dalvandi et al. (40) also showed that listening had a significant impact on mental health so that implementation of listening programs was associated with improved mental health of older people. Listening is one of the most important factors in interpersonal communication that can improve mental health. It can be justified by the fact that by improving and strengthening the listening skill, the older people will be able to eliminate their possible misunderstandings in the relationship with others and be protected from psychological harm. The present study also revealed that “communication with assertiveness” and “insight to

communication” were other components of communication skills affecting mental health. It indicates that improving the ability to establish communication with assertiveness and having right insight into the communication will increase the mental health of the older people. Tsai et al. (32) and Amini et al. (39) also reported that two variables of assertiveness and insight predicted the mental health of people. It can be stated that having assertiveness and right insight in communication maintains human dignity, self-esteem, and self-confidence, and helps people have a correct perception of communication.

5.1. Study Limitations

The present study has some limitations. One of its limitations is cross-sectional nature of the study, making it difficult to determine causal relationships in this type of study. Additionally, only a questionnaire was used in the present study to assess the impact of communication skills, so it is recommended further studies should be conducted longitudinally using different data collection methods.

5.2. Conclusions

There was a significant correlation between communication skills and the mental health of elderly patients. Also, proper communication skills play an important role in promoting elderly patient's mental health. It is recommended to develop and use supportive programs to improve communication skills in the form of elderly health programs, given the role and impact of communication skills and their dimensions on the mental health of the older people and to improve their health status.

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Footnotes

Authors' Contribution: Study concept and design: AY and SHB. Acquisition of data: EA and JSH. Analysis and interpretation of data: SHB. Drafting of the manuscript: AY and SHB. Critical revision of the manuscript for important intellectual content: NN and ZK. Statistical analysis: EA and

JSH. Administrative, technical, and material support: AY and SHB. Study supervision: NN and ZK.

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References

- Schmeer C, Kretz A, Wengerodt D, Stojiljkovic M, Witte OW. Dissecting Aging and Senescence-Current Concepts and Open Lessons. *Cells*. 2019;8(11). doi: [10.3390/cells811446](https://doi.org/10.3390/cells811446). [PubMed: [31731770](https://pubmed.ncbi.nlm.nih.gov/31731770/)]. [PubMed Central: [PMC6912776](https://pubmed.ncbi.nlm.nih.gov/PMC6912776/)].
- Nikmanesh P, Mohammadzadeh B, Nobakht S, Reza Yusefi A. Nurses Communication Skills Training and Its Effect on Patients' Satisfaction in Teaching Hospitals of Shiraz University of Medical Sciences. *Iran J Health Sci*. 2018. doi: [10.18502/jhs.v6i4.201](https://doi.org/10.18502/jhs.v6i4.201).
- Wigham CR, Chanier T. A study of verbal and nonverbal communication in Second Life - the ARCH121 experience. *ReCALL*. 2013;25(1):63-84. doi: [10.1017/s0958344012000250](https://doi.org/10.1017/s0958344012000250).
- Chevalier B, Watson B, Cottrell W. Pharmacy students' self-reported attitudes, beliefs and behaviours about communicating with patients, measured over time. *Pharm Educ*. 2020;116-26. doi: [10.46542/pe.2020.201.p116-126](https://doi.org/10.46542/pe.2020.201.p116-126).
- Shankar A, McMunn A, Demakakos P, Hamer M, Steptoe A. Social isolation and loneliness: Prospective associations with functional status in older adults. *Health Psychol*. 2017;36(2):179-87. doi: [10.1037/hea0000437](https://doi.org/10.1037/hea0000437). [PubMed: [27786518](https://pubmed.ncbi.nlm.nih.gov/27786518/)].
- Mojadam M, Eshghizadeh M, Johari Naeimi A. Assessing interpersonal communication skills of elderly in Gonabad city. *J Geriatr Nurs*. 2015;2(1):29-38.
- Mirdrikvand F, Panahi H, Hoseyni Ramaghani NS. Loneliness of the elderly: the role of communication skills, social support and functional disability. *Aging Psychol*. 2016;2(2):113-3.
- Mortazavi SS, Ardebili HE, Mohamad K, Beni RD. Assessing the mental health status of elderly in Shahrekord and relationship with sociodemographic factors. *Payesh*. 2011;10(4):485-92.
- Homan KJ, Greenberg JS, Mailick MR. Generativity and Well-Being of Midlife and Aging Parents With Children With Developmental or Mental Health Problems. *Res Aging*. 2020;42(3-4):95-104. doi: [10.1177/0164027519884759](https://doi.org/10.1177/0164027519884759). [PubMed: [31698996](https://pubmed.ncbi.nlm.nih.gov/31698996/)]. [PubMed Central: [PMC7031015](https://pubmed.ncbi.nlm.nih.gov/PMC7031015/)].
- Zargar Balaye Jame S, Markazi-Moghaddam N, Ebrahim Z, Kavosi Z, Ahmadi Marzaleh M, Yusefi AR. The Comparison of Out of Pocket Payments for Coronary Artery Bypass Graft Surgery Before and After the Health Sector Evolution Plan in the South of Iran. *Shiraz E-Med J*. 2019;20(10). doi: [10.5812/semj.87097](https://doi.org/10.5812/semj.87097).
- Fakhr-Movahedi A, Salsali M, Negharandeh R, Rahnavaard Z. A qualitative content analysis of nurse-patient communication in Iranian nursing. *Int Nurs Rev*. 2011;58(2):171-80. doi: [10.1111/j.1466-7657.2010.00861.x](https://doi.org/10.1111/j.1466-7657.2010.00861.x). [PubMed: [21554289](https://pubmed.ncbi.nlm.nih.gov/21554289/)].

12. Malakouti SK, Fatollahi P, Mirabzadeh A, Zandi T. Reliability, validity and factor structure of the GHQ-28 used among elderly Iranians. *Int Psychogeriatr*. 2007;**19**(4):623-34. doi: [10.1017/S1041610206004522](https://doi.org/10.1017/S1041610206004522). [PubMed: [17069666](https://pubmed.ncbi.nlm.nih.gov/17069666/)].
13. Martin P, Vikram P, Shekhar S, Mario M, Joanna M. No health without mental health. *Lancet*. 2007;**370**(19).
14. Naghavi M, Abolhassani F, Pourmalek F, Lakeh M, Jafari N, Vaseghi S, et al. The burden of disease and injury in Iran 2003. *Popul Health Metr*. 2009;**7**:9. doi: [10.1186/1478-7954-7-9](https://doi.org/10.1186/1478-7954-7-9). [PubMed: [19527516](https://pubmed.ncbi.nlm.nih.gov/19527516/)]. [PubMed Central: [PMC2711041](https://pubmed.ncbi.nlm.nih.gov/PMC2711041/)].
15. Mohammadi MR, Davidian H, Noorbala AA, Malekafzali H, Naghavi HR, Pouretmad HR, et al. An epidemiological survey of psychiatric disorders in Iran. *Clin Pract Epidemiol Ment Health*. 2005;**1**:16. doi: [10.1186/1745-0179-1-16](https://doi.org/10.1186/1745-0179-1-16). [PubMed: [16185355](https://pubmed.ncbi.nlm.nih.gov/16185355/)]. [PubMed Central: [PMC1253522](https://pubmed.ncbi.nlm.nih.gov/PMC1253522/)].
16. Noorbala AA, Mohammad K, Bagheri Yazdi SK. Validation of GHQ-28 in Iran. *Hakim Res J*. 2009;**11**(4):47-53.
17. Etemadi A, Ahmadi K. Psychological Disorders of Elderly Home Residents. *J Appl Sci*. 2009;**9**(3):549-54. doi: [10.3923/jas.2009.549.554](https://doi.org/10.3923/jas.2009.549.554).
18. Kaldi AR. A study on physical, social and mental problems of the elderly in district 13 of Tehran. *Age Ageing*. 2004;**33**(3):322. doi: [10.1093/ageing/afh097](https://doi.org/10.1093/ageing/afh097). [PubMed: [15082448](https://pubmed.ncbi.nlm.nih.gov/15082448/)].
19. Karnieli-Miller O, Michael K, Gothelf AB, Palombo M, Meitar D. The associations between reflective ability and communication skills among medical students. *Patient Educ Couns*. 2021;**104**(1):92-8. doi: [10.1016/j.pec.2020.06.028](https://doi.org/10.1016/j.pec.2020.06.028). [PubMed: [32624329](https://pubmed.ncbi.nlm.nih.gov/32624329/)].
20. Shimizu T, Mizoue T, Kubota S, Mishima N, Nagata S. Relationship between burnout and communication skill training among Japanese hospital nurses: a pilot study. *J Occup Health*. 2003;**45**(3):185-90. doi: [10.1539/joh.45.185](https://doi.org/10.1539/joh.45.185). [PubMed: [14646296](https://pubmed.ncbi.nlm.nih.gov/14646296/)].
21. Gheirati E, Shabanifar A, Akhlaghi M, Peyman N. Relationship between communication skills and mental health among the students of Mashhad University of Medical Sciences, Mashhad, Iran. *J Sch Public Health Inst Public Health Res*. 2016;**14**(3):61-72.
22. Hussain Chary M, Fadakar MM. Effect of university on communication skills based on the comparison between students and University students. *Daneshvar Raftar*. 2006;**12**(15):21-32.
23. Mosalanejad L, Kheshti A, Gholami A. The Assessing mental Health in pregnancy and relative psychopathologic factors in Jahrom. *Pars Jahrom Univ Med Sci*. 2007;**5**(3):23-9. doi: [10.29252/jmj.5.3.4.23](https://doi.org/10.29252/jmj.5.3.4.23).
24. Sharhraky Vahed A, Mardani Hamuleh M, Asadi Bidmeshki E, Heidari M, Hamed Shahray S. Assessment of the items of SCL90 test with quality of work life among Amiralmomenin Hospital personnel of Zabol City. *Avicenna J Clin Med*. 2011;**18**(2):50-5.
25. Amini M, Nouri A, Samavatyan H. Effect of communication skills training on general health of nurses. *Health Inf Manag*. 2013;**10**(1):109-17.
26. Mostafa-Nezhad P, Dortag F. The effectiveness of communication skills training on mental health of first year students of welfare sciences of Kerman University. *J Clin Psychol Stud*. 2011;**1**(4):73-88.
27. Sahebdel H, Asadi M. The effect of communication skills training on the mental health of mothers with addicted children. *Q J Res Addict*. 2016;**10**(37):98-112.
28. Solati K. The Effectiveness of Life Skills Training on Happiness, Mental Health and Marital Satisfaction in Wives of Iran-Iraq War Veterans. *Middle East J Fam Med*. 2017;**15**(7):74-82. doi: [10.5742/mewfm.2017.93038](https://doi.org/10.5742/mewfm.2017.93038).
29. Herbert JD, Gaudiano BA, Rheingold AA, Myers VH, Dalrymple K, Nolan EM. Social skills training augments the effectiveness of cognitive behavioral group therapy for social anxiety disorder. *Behav Ther*. 2005;**36**(2):125-38. doi: [10.1016/s0005-7894\(05\)80061-9](https://doi.org/10.1016/s0005-7894(05)80061-9).
30. Johnsson A, Boman A, Wagman P, Pennbrant S. Voices used by nurses when communicating with patients and relatives in a department of medicine for older people-An ethnographic study. *J Clin Nurs*. 2018;**27**(7-8):e1640-50. doi: [10.1111/jocn.14316](https://doi.org/10.1111/jocn.14316). [PubMed: [29493834](https://pubmed.ncbi.nlm.nih.gov/29493834/)].
31. Hoglander J, Eklund JH, Eide H, Holmstrom IK, Sundler AJ. Registered Nurses' and nurse assistants' responses to older persons' expressions of emotional needs in home care. *J Adv Nurs*. 2017;**73**(12):2923-32. doi: [10.1111/jan.13356](https://doi.org/10.1111/jan.13356). [PubMed: [28586520](https://pubmed.ncbi.nlm.nih.gov/28586520/)].
32. Tsai HH, Tsai YF, Weng LC, Chou HF. More than communication skills: experiences of communication conflict in nursing home nurses. *Med Educ*. 2013;**47**(10):990-1000. doi: [10.1111/medu.12233](https://doi.org/10.1111/medu.12233). [PubMed: [24016169](https://pubmed.ncbi.nlm.nih.gov/24016169/)].
33. Dong X, Simon M. Prevalence of elder self-neglect in a Chicago Chinese population: The role of cognitive physical and mental health. *Geriatr Gerontol Int*. 2016;**16**(9):1051-62. doi: [10.1111/ggi.12598](https://doi.org/10.1111/ggi.12598). [PubMed: [26337031](https://pubmed.ncbi.nlm.nih.gov/26337031/)].
34. Peyman H, Yaghoubi M, Sadeghifar J, Sayehmiri K, Alizadeh M, Yamani N, et al. Assessment of interpersonal communication skill levels in lecturers of Ilam University of medical sciences: A case study. *Iran J Med Educ*. 2012;**11**(9):1436-42.
35. Yorkston KM, Bourgeois MS, Baylor CR. Communication and aging. *Phys Med Rehabil Clin N Am*. 2010;**21**(2):309-19. doi: [10.1016/j.pmr.2009.12.011](https://doi.org/10.1016/j.pmr.2009.12.011). [PubMed: [20494279](https://pubmed.ncbi.nlm.nih.gov/20494279/)]. [PubMed Central: [PMC3074568](https://pubmed.ncbi.nlm.nih.gov/PMC3074568/)].
36. Riviere M, Dufoort H, Van Hecke A, Vandecasteele T, Beeckman D, Verhaeghe S. Core elements of the interpersonal care relationship between nurses and older patients without cognitive impairment during their stay at the hospital: A mixed-methods systematic review. *Int J Nurs Stud*. 2019;**92**:154-72. doi: [10.1016/j.ijnurstu.2019.02.004](https://doi.org/10.1016/j.ijnurstu.2019.02.004). [PubMed: [30826498](https://pubmed.ncbi.nlm.nih.gov/30826498/)].
37. Arasteh M, Hadinia B, Sedaghat A, Charejo N. Investigation of mental health status and related factors among non-medical staff of hospitals in Sanandaj in 2006. *J Kurdistan Un Med Sci*. 2008;**13**:35-44.
38. Ansari H, Bahrami L, AKBAR ZL, Bakhshani NM. Assessment of general health and some related factors among students of Zahedan University of Medical Sciences In 2007. *Zahedan J Res Med Sci*. 2008;**9**(4):295-304.
39. Amini R, Soleymani F, Mohammadi N, Tapak L. Relationship between Communication Skills and General Health in Nursing Students of Hamadan University of Medical Sciences. *J Educ Commun Health*. 2018;**5**(2):36-44. doi: [10.21859/jech.5.2.36](https://doi.org/10.21859/jech.5.2.36).
40. Dalvandi A, Memari A, Falahi-khoshknab M, Mohammadi F, Bastami A, Bastami M. Impact of instilling hope and active listening program on mental health of elderly residents of Kahrizak nursing home, during year 2015. *Iran J Rehabil Res*. 2017;**3**(3):16-23.