Health Literacy among Parents of Referral Children to Hamadan Hospital, Iran: A Cross-Sectional Study

ABSTRACT

Background and Objectives: Parent health literacy plays a critical role in the health of the pediatric patients. Awareness about the level of health literacy of parents is essential. This study is aimed to investigate the health literacy among parents of referral children to Besat hospital, Hamadan, Iran

Materials and Methods: This cross-sectional study was conducted on 100 parents (87 mothers and 13 fathers), who their children were referred to Besat Hospital, in fall 2021. Samples were randomly selected. Demographic and TOFHLA questionnaire were used to collect data. SPSS 21 was used to analyze data by independent t-test, chi-square test, ANOVA at a significance level of 0.05.

Results: The average leve of fathers' and mothers' health literacy was 32.64± 10.23 and 64.96 ±22.75, respectively. A total of 85 (85%) of the participants were married and lived with spouses. The education level of 51.72% of mothers and 53.84% of fathers were under diploma. Parents' health literacy was significantly changed based on the parent's education level (p = 0.05), the parent's job (p= <0.001), and the place of residency (p=0.001). Effect of marital status (p=0.486) and parents' gender (p = 0.984) on parents' health literacy were not significant

Conclusion: Half of the parents' health literacy was inadequate, and the level of health literacy was higher in parents that lived in urban and especial work with higher academic education

Paper Type: Research Article

Keywords: Health literacy, Parents, Children, pediatric

▶ **Citation:** Mortazavi Z, Alimoradian A, Shahbazi M, Ameri P, Mortazavi S. Health Literacy among Parents of Referral Children to Hamadan Hospital, Iran: A Cross-Sectional Study. *Journal of Health Literacy*. Summer 2022; 7(2):69-76 .

Zahra Mortazavi
Ph.D. Student in Speech Therapy, Tehran University of Medical Sciences, Tehran, Iran.

Ahdieh Alimoradian
Hamadan University of Medical Sciences, Besat Hospital. Hamadan, Iran.

Mehnoosh Shahbazi
Hamadan University of Medical Sciences, Nahavand Hospital. Hamadan, Iran.

Pegah Ameri
MSc, Department of Epidemiology, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran.

Saideh Sadat Mortazavi
* PhD Candidate, Department of Occupational Therapy, the University of Social Welfare and Rehabilitation Sciences, Tehran, Iran. (Corresponding Author): s.mortazavi.ot@gmail.com

Received: 21 November 2021
Accepted: 23 March 2022
Doi: 10.22038/jhl.2022.63154.1264

Introduction

Health literacy (HL) is an important topic considering in the administration of healthcare to children (1). Health literacy, beyond the ability to read, is most generally defined as the extended individuals having the capacity to obtain, process, and understand fundamental health information and services needed to make suitable health decisions (2). Parent HL has been related to child health outcomes and adherence to medical treatment (3-5). For example, inadequate parent health literacy has been linked with poor adherence among children with Epilepsy (6), Asthma (7), and type 1 diabetes (8). They perpetrate more medication dosing errors and have higher rates of emergency visits and hospitalizations among their children (9-11). This leads to difficulty in understanding comprehensive basic health information and conducting health-related activities for their children (e.g., reading a digital thermometer and understanding a growth chart) (12). Nearly one-half of all Iranian adults, including parents, have problems to understand health information (13). The recent studies in Iran showed that HL in parents of children with special needs (14), and children with high dental caries and fewer dental fillings (15) was inadequate. Results of several other studies indicate that 40% of American adult parents had basic and below basic HL (12), and inadequate HL parents may be an independent risk factor for outcomes among children with Epilepsy (6). However, some studies like Kampouroglou et al (16), and Krishnan et al. (7) reported adequate level of parents' health literacy among children.

The survey parents' health literacy level is important in several regards. Inadequate HL affects parent attainment of knowledge, attitudes, and behaviors, as well as child health consequences in the area of disease prevention and acute or chronic disease care (1). Poor use of health care services increased hospitalizations, and higher health care costs are the consequences of inadequate HL (17-20). Whereas hospital admission and discharge, coincide with times when wide amounts of information are communicated with parents (20). A recent study suggested that inadequate HL was associated with a longer hospital length and it may extend into the inpatient setting (21).

Due to the rates of hospitalization of children (6) and the importance of the subject, there are significant gap of knowledge about parent health literacy in hospitalized children. Therefore, the present study is aimed to determine health literacy in parents of referral children to Hamadan hospital, Iran.

Materials and Methods

The present study was a cross-sectional study. The statistical population included parents of referral children to Hamadan hospital, Iran in fall 2021. Samples were selected from Besat Hospital. In this study, the health literacy of parents in pediatric wards was measured once. The sample size was estimated using the study of MJ Leach et al. (2021) (22), with the first type the error of 0.05 and 80% test power. The sample size was estimated as 110 considering the sample loss, a total of 119 parents were included in this study, but 19 parents were excluded due to incomplete answers (more than 30 %) (23) to the questions of the questionnaires. The data were collected once and no intervention was performed. One hundred parents of referral children to beast hospital completed the questionnaire with personal satisfaction.

Random sampling was performed. We explained all details of studies when questionnaires were distributed among eligible participants (19 October to 18 December 2021 ،19:00 to 21:00 in the patient's room in the pediatric ward) and sufficient time (20 minutes) was considered for the careful study of the questionnaire and

response to it. In addition, they were assured that their information would be kept completely confidential and their participation in the study was voluntary. The researcher (second author of the article) was present at the time of filling out the questionnaires in order to answer the possible questions of the participants.

Inclusion criteria were attending a hospital due to child's illness, non-use of narcotics and psychotropic drugs, no psychiatric disorders, parents over 18 years old, and ability to read Persian. Exclusion criteria were unwillingness to complete the questionnaires or incomplete questionnaires. The data were collected using demographic and the TOFHLA questionnaires.

The demographic questionnaire included the age, sex (male, female), job (self-employed/ housekeeper, worker, especial work), level of education (under diploma, diploma& associate degree bachelor and master's degree or higher), place of residency (urban, rural), and expending pediatric disease (acute or chronic).

TOFHLA questionnaire (Test of Functional Health Literacy in Adults) is one of the most comprehensive and common standard tools in the field of health literacy assessment in the world. TOFHLA questionnaire consists of two parts. First part is related to assessing the reading ability and numeracy skill. This part measures reading comprehension ability and consists of three passages and 50 questions. All participants had 20 minutes to fill out the blanks with appropriate answers. The first part of the reading passage was about instructions for preparing the upper gastrointestinal tract radiographic series. The second and third parts of the reading passages were about patients' rights and responsibilities in insurance and hospital consent forms, respectively. The part of numeracy skill consisted of some description about medication, the results of laboratory tests, and appointments. After 10 minutes, the participants answered 17 questions based on cue cards. Each of the 50 reading comprehension questions had one score (a total of 50 scores) and the point of 17 questions in the calculation section was obtained as 2.941 by multiplying the point of each question. In general, the score of this section of the questionnaire was 50 . The total score of the questionnaire was calculated out of 100 (24). Scores 1-59 indicated inadequate health literacy scores, 60-74 indicate marginal health literacy, and scores 75-100 indicated adequate health literacy (25). Inadequate health literacy is defined as failure to fully comprehend standard medical prescriptions (26)(27). Tehrani and colleagues translated the original version of the TOFHLA instrument to Persian (28). The validity and reliability of the questionnaire were confirmed in Iran. Reisi et al. reported that the validity of the questionnaire for the numerical ability section and comprehension section is 0.79 and 0.88(29), respectively.

After questionnaires were completed, the data were analyzed by SPSS21 software based on Kolmogorov- Smirnov test to measure the normality of data distribution ($P>0.05$). The Student t-test or Mann-Whitney U test and chi-square test were used to examine the differences between the parents' health literacy and parent's education level, parent's job, place of residence, marital status, parent's gender. Differences and correlations were considered significant when $p < 0.05$.

Results

This study conducted on 100 parents (mother or father) whose child was hospitalized in the pediatric wards of Besat Hospital. A number of 87 mothers with a mean age of 38.25± 8.19 years and 13 fathers with a mean age of 44.44±8.60 years attended. A total of 85 (85%) of the participants were married and lived with a

spouse. The education level of 51.72% of mothers and 53.84% of fathers were under diploma (Table 1). The level of health literacy in both groups of parents was 31% adequate. Mean (SD) of mothers and father's health literacy mothers was 64.96 ±22.75 and 32.64± 10.23, respectively.

Table1: characteristics of the studied units

Variables		Sex	
Mothers N (%)		Fathers N (%)	
Marital status	Single	9 (10.35%)	6 (46.15%)
	Married	78 (89.65%)	7 (53.85%)
Education	Under diploma	45 (51.72%)	7 (53.84%)
	Diploma& associate degree	28(32.18%)	5 (38.46%)
	Bachelor, Master's degree and higher	14 (16.09%)	1 (7.69%)
job	self-employed /Housekeeper	58(66.66%)	2 (15.38%)
	worker	4 (4.59%)	9 (69.23%)
	Especial work	25 (28.73%)	2 (15.38%)
Place of residence	Rural	27 (31.03%)	1 (7.69%)
	urban	60 (68.96%)	12 (92.30%)
Pediatric disease	acute	40(45.97%)	0
	chronic	47(54.02%)	13(100%)
Age	Year	M ± SD	M ± SD
		38.25± 8.19	44.44±8.60

The comparing results by gender revealed that although the mean score of mothers in the fields of calculation, reading comprehension, and the total score was higher than the father's score, but there was no statistically significant difference between the two groups (p-value = 0.98). The health literacy was significantly changed with the level of education.

The results of the chi-square test indicated that the marital status of the parents was not significantly related to health literacy levels (p = 0.48). However, the place of residency (urban, Rural), parent's job and health literacy levels (p<0.001) had a significant relationship. The level of health literacy among parent with special jobs who lived in urban areas was higher than the parents with lower education who live in rural areas. (Table2).

Table2: Relationship between health literacy and marital status, type of job and Place of residence

Variables		Inadequate N (%)	Marginal N (%)	Adequate N (%)	P value
Sex	father	7(13,46%)	2(13.33%)	4(12.90%)	0.984
	mother	45(86.53%)	15(89.47%)	27(87.09%)	
Marital status	Single	3(9.67%)	4(22.22%)	8(15.68%)	0.486
	Married	28(90.32%)	14(77.77%)	43(84.31%)	
Place of residence	Rural	15(46.87%)	0 (0%)	13(27.65%)	0.001
	urban	17(53.12%)	21(100%)	34(72.34%)	
job	self-employed / Housekeeper	27(45%)	7(11.66%)	26(43.33%)	<0.001
	worker	4(30.76%)	6(46.15%)	3(23.07%)	
	Especial work	3(11.11%)	3(11.11%)	21(77.77%)	

Discussion

In this cross-sectional study, half of the parents had inadequate health literacy, as measured by TOFHLA. In line with the present results, Kampouroglou et al., reported that almost half (46.1%) of the 664 parents in Agia Sophia Children's Hospital, Athens, Greece, had limited or problematic health literacy (16). In another study, AM Dunn-Navarra et al., emphasized that arental health literacy levels were low in an Urban Latino Immigrant Population (30). This is in contrast to a recent large cross-sectional study that found eighty-nine percent of English-speaking parent of pediatric patients evaluated in the emergency department having adequate health literacy (31). Interestingly, a systematic and meta-analysis study identified that Iranian health literacy status was in the range of marginal health literacy level in the Iranian population (32). Results of this study is important because it may have a significant impact on the way healthcare professionals interact and communicate with parents of younger children. Limited health literacy skills have been related with difference in access to care, adverse health consequence, increased hospitalization, higher healthcare costs, increased utilization of emergency services, ineffective relevance, inability to comprehend informed consent, and inability to understand verbal and written medical suggestions (7, 33-36). One solution healthcare professional has taken to reduce the effects of low health literacy is to tailor health-related speaking to patients' literacy and understanding levels (37). On the other hand, what is clear from the present study is that the strong association between limited health literacy parents and the increased hospitalizations of children, regardless of age. Low health literacy can be explained by low education levels among participants. Hence, matters of adequate reading and comprehension of basic health information may be challenged. In fact, low literacy is the leading explanatory factor for low health literacy (38, 39).

There are several factors that influence parents with low and adequate health literacy. Similar to previous studies, parents who live in rural areas (40-42) with self-employed and low-level jobs (43, 44) had inadequate health literacy. Higher health literacy is expected in urban areas because citizens are surrounded by much more informative networks (40). Khezerloo et al. showed that there was a significant relationship between health literacy and job in a way that employees had higher health literacy (45). One of the reasons for the great level of health literacy among higher job status may be associated with their education level (46).

The main limitation of the current study is the small sample size, another limitation of this study is that the sample was randomly selected among parents of referral children to a hospital in Hamadan. It includes parents of individuals registered as patients with different diagnoses and different ethnicities (Lor, Kurdish, and Persian) and therefore may limit the generalizability of the study. Also, as with any self-report survey, responses may be subject to social desirability biasness.

The results of the current study have implications for the clinical management of pediatric illnesses and can contribute to programs which aim to educate patients and caregivers about disease prevention, anticipatory guidance, facilitation of transition of care, and illness recognition, preventing poor health outcomes. Further studies in a variety of different communities are recommended to determine the general representativeness of the data.

Conclusion: In this study of parent population of referral children to Hamadan hospitals, Iran,

half had inadequate health literacy as measured by reading comprehension and numeracy. In addition, a significant relationship between limited health literacy levels and residence in rural with self-employed /Housekeeper or worker job.

Acknowledgment: The present study was approved by the ethics committee on Research Council of Besat Hospital Educational and Medical Center, Hamadan University of Medical sciences, Hamadan, with the code of IR.UMSHA.REC.1398.345, and followed ethical points as: 1-informed consent of all interviewees, 2-complete information given to the interviewees about the purpose of the research, and 3) the comments of interviewees remained confidential.

The authors would like to thank the parents, staff, and nursing of the Besat hospital who participated in the implementation and completion of the research process.

Conflict of Interest: The authors declare that they have no conflict of interest.

Funding: This research was supported by Council of Besat Hospital Educational and Medical Center, Hamadan University of Medical Sciences, Hamadan. The funding bodies played no role in the design of the study and data collection, analysis and interpretation of data and in writing the manuscript.

References

1. Morrison AK, Glick A, Yin HS. Health literacy: implications for child health. Pediatrics in review. 2019;40(6):263-77. https://doi.org/10.1542/pir.2018-0027 PMid:31152099
2. Karamali M, Yaghoubi M, Parandeh A. Scientific Mapping of Papers Related to Health Literacy Using Co-Word Analysis in Medline. Iranian Journal of Health Education and Health Promotion. 2021;9(3):280-95 https://doi.org/10.52547/ijhehp.9.3.280
3. Yin HS, Johnson M, Mendelsohn AL, Abrams MA, Sanders LM, Dreyer BP. The health literacy of parents in the United States: a nationally representative study. Pediatrics. 2009;124(Supplement_3):S289-S98. https://doi.org/10.1542/peds.2009-1162E PMid:19861483
4. Olyani S, Tehrani H, Esmaily H, Rezaii MM, Vahedian-Shahroodi M. Assessment of health literacy with the Newest Vital Sign and its correlation with body mass index in female adolescent students. International journal of adolescent medicine and health. 2020;32(2).
5. Sanders LM, Federico S, Klass P, Abrams MA, Dreyer B. Literacy and child health: a systematic review. Archives of pediatrics & adolescent medicine. 2009;163(2):131-40. https://doi.org/10.1001/archpediatrics.2008.539 PMid:19188645
6. Paschal AM, Mitchell QP, Wilroy JD, Hawley SR, Mitchell JB. Parent health literacy and adherence-related outcomes in children with epilepsy. Epilepsy & Behavior. 2016;56:73-82. https://doi.org/10.1016/j.yebeh.2015.12.036 PMid:26851644
7. Krishnan S, Rohman A, Welter J, Dozor AJ. Relationship between health literacy in parents and asthma control in their children: a prospective study in a diverse suburban population. Pediatric Allergy, Immunology, and Pulmonology. 2018;31(4):221-5. https://doi.org/10.1089/ped.2018.0929
8. Howe CJ, Cipher DJ, LeFlore J, Lipman TH. Parent health literacy and communication with diabetes educators in a pediatric diabetes clinic: a mixed methods approach. Journal of health communication. 2015;20(sup2):50-9. https://doi.org/10.1080/10810730.2015.1083636 PMid:26513031
9. DeWalt DA, Hink A. Health literacy and child health outcomes: a systematic review of the literature. Pediatrics. 2009;124(Supplement 3):S265-S74. https://doi.org/10.1542/peds.2009-1162B PMid:19861480
10. Lokker N, Sanders L, Perrin EM, Kumar D, Finkle J, Franco V, et al. Parental misinterpretations of over-the-counter pediatric cough and cold medication labels. Pediatrics. 2009;123(6):1464-71. https://doi.org/10.1542/peds.2008-0854 PMid:19482755 PMCid:PMC2911576
11. Yin HS, Mendelsohn AL, Wolf MS, Parker RM, Fierman A, Van Schaick L, et al. Parents' medication administration errors: role of dosing instruments and health literacy. Archives of pediatrics & adolescent medicine. 2010;164(2):181-6. https://doi.org/10.1001/archpediatrics.2009.269 PMid:20124148
12. Yin HS, Johnson M, Mendelsohn AL, Abrams MA, Sanders LM, Dreyer BP. The health literacy of parents in the United States: a nationally representative study. Pediatrics. 2009;124(Supplement 3):S289-S98. https://doi.org/10.1542/peds.2009-1162E PMid:19861483
13. Afshari M, Khazaei S, Bahrami M, Merati H. Investigating adult health literacy in Tuyserkan city. J Educ Community Health. 2014;1(2):48-55. https://doi.org/10.20286/jech-010248

14. Eisapareh K, Nazari M, Kaveh MH, Ghahremani L. The relationship between job stress and health literacy with the quality of work life among Iranian industrial workers: The moderating role of social support. Current Psychology. 2020:1-9. https://doi.org/10.1007/s12144-020-00782-5
15. Alami A, Erfanpoor S, Lael- Monfared E, Ramezani A, Jafari A. The prevalence of dental caries and related factors in children aged 7 and 8 years: A cross-sectional study. Iranian Journal of Health Education and Health Promotion. 2021;9(3):258-68. https://doi.org/10.52547/ijhehp.9.3.258
16. Kampouroglou G, Velonaki V-S, Pavlopoulou I, Drakou E, Kosmopoulos M, Kouvas N, et al. Parental anxiety in pediatric surgery consultations: The role of health literacy and need for information. Journal of pediatric surgery. 2020;55(4):590-6. https://doi.org/10.1016/j.jpedsurg.2019.07.016 PMid:31431293
17. DeWalt DA, Callahan LF, Hawk VH, Broucksou KA, Hink A, Rudd R, et al. Health literacy universal precautions toolkit. Rockville, MD: Agency for Healthcare Research and Quality. 2010:1-227.
18. Berkman ND, Sheridan SL, Donahue KE, Halpern DJ, Crotty K. Low health literacy and health outcomes: an updated systematic review. Annals of internal medicine. 2011;155(2):97-107. https://doi.org/10.7326/0003-4819-155-2-201107190-00005 PMid:21768583
19. Nielsen-Bohlman L, Panzer A, Kindig D. Committee on Health Literacy, Board on Neuroscience and Behavioral Health, Institute of Medicine. Health literacy: A prescription to end confusion. 2004. https://doi.org/10.17226/10883 PMid:25009856
20. Mackley A, Winter M, Guillen U, Paul DA, Locke R. Health literacy among parents of newborn infants. Advances in neonatal care: official journal of the National Association of Neonatal Nurses. 2016;16(4):283. https://doi.org/10.1097/ANC.0000000000000295 PMid:27391562 PMCid:PMC4955655
21. Jaffee EG, Arora VM, Matthiesen MI, Meltzer DO, Press VG. Health literacy and hospital length of stay: an inpatient cohort study. Journal of hospital medicine. 2017;12(12):969-73. https://doi.org/10.12788/jhm.2848 PMid:29236095
22. Leach MJ, Nichols S, Trenholm S, Jones M. Health Literacy of Parents and Carers in a Regional Community: A Cross-Sectional Study. International Quarterly of Community Health Education. 2021:0272684X211022572. https://doi.org/10.1177/0272684X211022572 PMid:34096382
23. Jafari A, Peyman N, Gholian-Aval M, Mahdizadeh M, Tehrani H. Design and evaluation of psychometric properties of cigarette smoking tendency questionnaire for female adolescents (CTQFA). BMC Public Health. 2021;21(1):1-10. https://doi.org/10.1186/s12889-021-11784-8
24. Ghanbari S, Majlessi F, Ghaffari M, Mahmoodi Majdabadi M. Evaluation of health literacy of pregnant women in urban health centers of Shahid Beheshti Medical University. Daneshvar Medicine: Basic and Clinical Research Journal. 2020;19(6):1-12.
25. Haerian AA, Morowati SMA, Rezapour Y, Pourghayumi AA. Investigation of the relationship of oral health literacy and oral hygiene self-efficacy with DMFT and Gingival index in students of Ardakan University. 2015.
26. Apolinario D, Braga RdCOP, Magaldi RM, Busse AL, Campora F, Brucki S, et al. Short assessment of health literacy for Portuguese-speaking adults. Revista de saúde pública. 2012;46:702-11. https://doi.org/10.1590/S0034-89102012000400015 https://doi.org/10.1590/S0034-89102012005000047 PMid:22782124
27. Cole Mattson CM. Health Literacy and Health Numeracy's Effects on Inhaler Technique and Physical Outcomes in Patients with Chronic Obstructive Pulmonary Disease: Kent State University; 2015.
28. Tehrani Banihashemi S-A, Haghdoost AA, Amirkhani MA, Alavian S-M, Asgharifard H, Baradaran H, et al. Health literacy and the influencing factors: a study in five provinces of Iran. Strides in development of medical education. 2007;4(1):1-9
29. Reisi M, Javadzade SH, Mostafavi F, Sharifirad G, Radjati F, Hasanzade A. Relationship between health literacy, health status, and healthy behaviors among older adults in Isfahan, Iran. Journal of education and health promotion. 2012;1(1):31. https://doi.org/10.4103/2277-9531.100160 PMid:23555134 PMCid:PMC3577376
30. Dunn-Navarra A-M, Stockwell MS, Meyer D, Larson E. Parental health literacy, knowledge and beliefs regarding upper respiratory infections (URI) in an urban Latino immigrant population. Journal of urban health. 2012;89(5):848-60. https://doi.org/10.1007/s11524-012-9692-8 PMid:22707307 PMCid:PMC3462826
31. Tran TP, Robinson LM, Keebler JR, Walker RA, Wadman MC. Health literacy among parents of pediatric patients. Western journal of emergency medicine. 2008;9(3):130.
32. Tavakoly Sany SB, Doosti H, Mahdizadeh M, Orooji A, Peyman N. The Health Literacy Status and Its Role in Interventions in Iran: A Systematic and Meta-Analysis. International journal of environmental research and public health. 2021;18(8):4260. https://doi.org/10.3390/ijerph18084260 PMid:33920508 PMCid:PMC8073744
33. DeWalt DA, Berkman ND, Sheridan S, Lohr KN, Pignone MP. Literacy and health outcomes. Journal of general internal medicine. 2004;19(12):1228-39. https://doi.org/10.1111/j.1525-1497.2004.40153.x PMid:15610334 PMCid:PMC1492599
34. Baker DW, Gazmararian JA, Williams MV, Scott T, Parker RM, Green D, et al. Health literacy and use of outpatient physician services by Medicare managed care enrollees. Journal of general internal medicine. 2004;19(3):215-20. https://doi.org/10.1111/j.1525-1497.2004.21130.x PMid:15009775 PMCid:PMC1492157

35. Davis TC, Wolf MS. Health literacy: implications for family medicine. FAMILY MEDICINE-KANSAS CITY-. 2004;36(8):595-8.
36. Morrison AK, Myrvik MP, Brousseau DC, Hoffmann RG, Stanley RM. The relationship between parent health literacy and pediatric emergency department utilization: a systematic review. Academic pediatrics. 2013;13(5):421-9. https://doi.org/10.1016/j.acap.2013.03.001 PMid:23680294 PMCid:PMC3808118
37. Williams MV, Davis T, Parker RM, Weiss BD. The role of health literacy in patient-physician communication. FAMILY MEDICINE-KANSAS CITY-. 2002;34(5):383-9.
38. Sentell T, Braun KL. Low health literacy, limited English proficiency, and health status in Asians, Latinos, and other racial/ethnic groups in California. Journal of health communication. 2012;17(sup3):82-99. https://doi.org/10.1080/10810730.2012.712621 PMid:23030563 PMCid:PMC3552496
39. Amoah PA. Social participation, health literacy, and health and well-being: A cross-sectional study in Ghana. SSM-population health. 2018;4:263-70. https://doi.org/10.1016/j.ssmph.2018.02.005 PMid:29854910 PMCid:PMC5976832
40. Golboni F, Nadrian H, Najafi S, Shirzadi S, Mahmoodi H. Urban-rural differences in health literacy and its determinants in Iran: A community-based study. Australian Journal of Rural Health. 2018;26(2):98-105. https://doi.org/10.1111/ajr.12378 PMid:29214687
41. Wood FG. Health literacy in a rural clinic. Online Journal of Rural Nursing and Health Care. 2005;5(1):9-18. https://doi.org/10.14574/ojrnhc.v5i1.187
42. Jafari Y, Tehrani H, Esmaily H, Shariati M, Vahedian-shahroodi M. Family-centred empowerment program for health literacy and self-efficacy in family caregivers of patients with multiple sclerosis. Scandinavian journal of caring sciences. 2020;34(4):956-63. https://doi.org/10.1111/scs.12803 PMid:31985862
43. Glymour MM, Avendano M, Kawachi I. Socioeconomic status and health. Social epidemiology. 2014;2:17-63. https://doi.org/10.1093/med/9780195377903.003.0002
44. Witter S, Govender V, Ravindran TS, Yates R. Minding the gaps: health financing, universal health coverage and gender. Health policy and planning. 2017;32(suppl_5):v4-v12. https://doi.org/10.1093/heapol/czx063 PMid:28973503 PMCid:PMC5886176
45. Khezerloo S, Feizi A. A Survey Of Relationship Between Perceived Self-Efficacy and Self-Care Performance in Diabetic Patients Referring to Urmia Diabetes Center. Nursing and Midwifery Journal. 2012;10(3):0-.