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Original Article

Attitude to, Knowledge and Practice of Skin Care in Older Adults in Sarakhs City, and Prevalence of Some Skin Problems among Them

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A B S T R A C T

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Introduction: Considering the effects of skin diseases on health, activities, and quality of life of older adults, the study was conducted with the aim of determining knowledge, attitude, and practice status in older adults of Sarakhs city about skin care and prevalence of some skin problems among them.

Methods: Totally 400 older adults aged 60 years and above (60-99 years) in a cross-sectional study were selected through cluster random sampling from urban and rural older adults in Sarakhs city, Razavi Khorasan Province, Iran. Data was collected through skin examination and a researcher-made questionnaire, which included four parts of demographic questions, attitude to, knowledge, and practice of skin care. Descriptive statistics, t-tests, analysis of variance, and Pearson correlation coefficient were used to analyze the data.

Results: The most commonly detected skin problem was dryness (30.25%) followed by pruritus (5.9%) and flaking of the skin (8.25%). Average knowledge score was 18.15 ± 7.59 (possible score range of 0-56), average attitude score was 27.13 ± 3.17 (possible score range of 12 to 36), and average practice score was 33.9± 8.30 (possible score range of 13-67). There was a positive significant correlation between scores of knowledge and attitude ($r = 0.283$, $p < 0.001$), knowledge and practice ($r = 0.222$, $p < 0.001$), as well as attitude and practice ($r = 0.298$, $p < 0.001$).

Conclusion: The commonest skin problems among older adults was skin dryness, pruritis and flaking. Knowledge and practice of skin care is at low level. An accurate and comprehensive training plan seems necessary to promote the level of these people's knowledge and practices.

Keywords: Knowledge, Attitude, Practice, Older adults, Care, Skin

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Introduction

Aging is a sensitive period of life, the problems and needs of which is considered as a social necessity (1). The phenomenon of aging is followed by varieties of physiological, psychological, economic, and social changes (2). Taking into consideration, certain needs of this period and paying attention to older adults' quality of life are very important issues which are mainly neglected (3).

Skin diseases and disorders are factors that affect people's quality of life and health (4). Skin problems and diseases are seen in older adults more than other age groups due to some basic changes in structure of skin in aging (5). Some functions of the skin are: conserving water, electrolytes, and proteins in the body, making a barrier between internal parts of the body and external environments (6), producing sweat and vitamin D (7), absorbing UV, regulating the body temperature, as well as conducting autonomic and immunologic actions (8).

Skin aging includes structural and physiological changes which are made due to cumulative combination of internal and external factors. Internal factors include natural process of aging and some of the external factors are exposure to harmful UV rays, smoking, and various environmental damages (9). With increase in age, an individual's covering and vascular systems develop atrophy; there is decrease in skin surface fat, sweat glands, sebum production (10), vitamin D synthesis, total skin water, heat and sensory regulation, and vascular storage (11) and the epidermal also becomes thinner. Reduction of collagen and elastic property of skin predisposes elderly people to increased risk of pressure ulcers, thermal damage, and prolonged time of healing after injury or surgery (9). Skin diseases have important effects on social psychological modes and activities (12). On one hand, social, individual, and psychological daily activities, as well as relaxation and personal relationships of people who have skin problems may be affected due to their skin diseases. On the other hand, negative attitude of patients with skin disorders towards their bodies leads to creation of low self-confidence, social isolation, as well as job and educational damages in them. In general, these people are more sensitive to the behaviors of others than healthy people; all these factors lead to creation of severe depression and eventually reduction of quality of life in these people (13, 14).

The most important factors in skin problems are exposure to sunlight and ultraviolet radiation. Protective factors against sunlight are considered the most important primary prevention tools of skin cancer and skin problems (15). Limiting outdoor activities from 10 a.m. to 4 p.m. (UV rays are most powerful at this time); standing in the shade, wearing caps with suitable edges (at least 7 cm protective edge), wearing long sleeve shirts, long pants, sunglasses, and applying sunscreen are effective ways of preventing and protecting the skin against disorders (16, 17). Preventive care of the skin in older adults includes all activities of cleaning and caring for the skin to improve health and reduce possibility of creating skin disorders or diseases. Preventive care of the skin in older adults can be classified as primary, secondary, and tertiary preventions (17).

Studies carried out in the field of knowledge, attitude, and health behaviors against sun rays indicate lack of knowledge and wide span of wrong behaviors in this field (18). In a research conducted by Saridi et al. (19), the knowledge and attitude about protection against sunlight were studied among Greek youth. The results showed that level of knowledge and attitude is low. The research of Sassolas et al. (20), indicated high level of exposure to sun without protection in French people which causes increase risk in skin problems.

Most studies conducted in Iran and throughout the world investigated skin problems and protective behaviors against sunlight which were mostly conducted among the youth and adults. For instance, in Iran, Mazloomy et al. (21), and also Mousavi et al. (22), studied knowledge, attitude, and practice of adults and youth suffering from skin problems and diseases such as skin cancer as well as the protective measures against sunlight. Moreover, the one conducted by Cinar et al. (23), was aimed to evaluate knowledge, attitude, and behavior of Turkish adults in protecting against sun and skin cancer. Cybulski et al. (24), also evaluated common skin diseases in people over 60 years in a nursing home in Poland. However, to the best of our knowledge, there has been no research on knowledge, attitude, and practice evaluation of older adults in the field of skin health.

Considering the increasing number of older adults in most societies (25), the importance of older adults as a at risk group, and effects of skin health on quality of life, this research was conducted to determine status of older adults' attitudes to, knowledge and practices of skin care, and prevalence of some skin problems among them in Sarakhs city.

Methods

Participants and procedures

The present research was a cross-sectional study which was conducted on urban and rural older adults within the age range of 60-99 years in Sarakhs city, Razavi Khorasan Province, Iran. The required sample size was estimated as 400 people, considering the confidence level of 95%, standard deviation of knowledge score equal to 6 (21). Cluster random sampling was applied among residents of Sarakhs city and its villages. Participants were collected from 5 urban clusters and 7 rural clusters. Addresses of 12 cluster heads were obtained from the health center of Sarakhs city and eligible older adults were selected to participate in the study. Selection of houses was conducted in the order census. Sampling was continued in urban and rural clusters until 32 and 34 participants were achieved in each cluster, respectively. Private interview sessions were

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conducted for the selected participants and the questionnaires were filled out. Participation in the research was voluntary.

Instruments

Data collection tools included skin examination and a researcher-made questionnaire. Skin examination included skin dryness, skin redness and flaking of the skin. The elderly were also asked about skin pruritus. The questionnaire included 16 demographic questions, 18 questions for knowledge, 12 items for attitude, and 13 items for practice. The content validity of the questionnaire was evaluated using comments of 14 dermatologists and experts of health education and aging health. Content validity index (CVI) and content validity ratio (CVR) for the questions were as follow: for knowledge, a CVI higher than 0.85 and CVR higher than 0.71; for attitude, CVI of more than 0.92 and CVR of more than 0.71; and for practice, a CVI higher than 0.92 and CVR higher than 0.85. Reliability of attitude and practice parts was confirmed by executing a primary study on 15 older adults and calculating Cronbach's alpha of 0.65 and 0.7, respectively for attitude and practice questions.

The score range of the knowledge questions was 0 - 56; each correct answer received one point. Questions of this part were in two formats. A series of questions had one main question followed by several answers and the correct answerer received one point; for example "which one of the following can be effective on skin and its health?" The second part of the knowledge questions included True/False questions; one point was considered for the correct answer; for instance "Some pesticides and insecticides can directly have harmful effects on skin and cause skin irritation and pruritus".

The possible answer of the attitude questions was prepared based on Likert scale from disagree (1) to agree (3). The scoring was naturally reversed for those questions that asked negative attitude. The scores were summed and the resulting score represents the person's attitude; for example, for the item of "Water consumption in sufficient quantities is one of effective factors on skin health." The options agree, no idea, and disagree got 3, 2, and 1 points, respectively. Regarding the item "protection of skin is a hard, difficult and time-consuming work" the scoring was reversed. Range of the attitude scores was from 12 to 36.

Spectrum of the practice scores was prepared based on the Likert scale, in which the options "Never", "Rarely", "Sometimes", "Often", and "Always" got 1 to 5 scores, respectively. The sample item for the practice scale was "I wear sunglasses". In the case of applying sunscreens, participants were required to answer two additional questions "When do you apply sunscreen?" and "How often do you apply sunscreens?"; in the case of the correct practice in each of the two questions mentioned above, they received one additional point. Therefore, the possible scores range of practice was from 13 to 67.

To classify levels of knowledge, attitude, and practice, the scores were considered in this way: scores lower than 33% of obtainable scores were regarded as the low level, scores between 33 and 66% of obtainable scores as the middle level, and scores higher than 66% of obtainable scores were considered as good level.

Ethical considerations

Protocol of the research was confirmed by Ethics Committee of Shahid Sadooghi University of Medical Sciences, Yazd (IR.SSU.SPH.REC.1395.15). Meanwhile, for older people's convenience, the questionnaires were filled out by referring to their houses; oral informed consents were also received from all of them. In addition, participants were assured about the confidentiality of their information.

Statistical analysis

The collected data were fed into SPSS statistical software. Descriptive statistics as well as t -tests, one way ANOVA, and Pearson correlation coefficient were used to analyze the data.

Results

The average age of the studied older adults was 68.14 ± 7.25, which was in the range of 60-99 years. Among the participants, 51% were female, 70% were married, 75.5% were illiterate, and 60% lived in rural regions. The demographic variables are presented in Table 1.

Table 1. Frequency distribution of demographic characteristics of participants

Variable		N	%
Age	60-74	324	81.0
	75-84	63	15.8
	+85	13	3.3
Gender	Male	196	49.0
	Female	204	51.0
Living region	Urban	178	44.5
	Rural	222	55.5
Education	Illiterate	302	75.5
	Primary	65	16.75
	Guidance	14	3.5
	High school	13	3.25
	Academic	6	1.5
Marital status	With wife	280	70.0
	Alone	11	2.8
	Wife died	109	27.2
Occupation	Employee	9	2.25
	Worker	37	9.25
	Former	86	21.5
	Housewife	171	42.75
	Unemployed	66	16.5
	Others	31	7.75
Skin Diseases	Yes	167	41.75
	No	233	58.25

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In evaluating common skin problems, it was observed that the most frequent skin problem was skin dryness (30.25%) followed by skin pruritus (9.5%) and flaking of the skin (8.25%) (Table 2).

Table 2. The frequency distribution of skin problems in the older adults

Variable	Yes		No	
	N	%	N	%
Skin dryness	121	30.25	279	69.75
Skin redness	23	5.75	377	94.25
Skin pruritus	38	9.50	362	90.50
Flaking of the skin	33	8.25	367	91.75

In evaluating behaviors of skin care, the commonest behavior (37.75%) was wearing clothes which cover most parts of the body against sun. Only 3% of participants used sunscreen frequently which was the un commonest behavior (Table 3).

The mean Knowledge score was 18.15 ± 7.59 with scores ranging from 1 to 45, the average attitude score was 27.13 ± 3.17 with range of 18-35, and the average practice score was 33.94 ± 8.30 with range of 13-59. The elderly's Knowledge, attitude, and practice were at low level; 65, 1.25, and 50.5%, respectively (Table 4).

In evaluating correlation between variables, Pearson correlation coefficient test indicated a significant positive correlation between knowledge and attitude ($r = 0.283$, $p < 0.01$), knowledge and practice ($r = 0.222$, $p < 0.01$), as well as attitude and practice ($r = 0.298$, $p < 0.01$).

According to results of ANOVA ($p < 0.001$), average knowledge scores were different based on education level. According to LSD multiple comparison test, average knowledge score among the older adults with university education was higher than the other groups ($p < 0.001$). Furthermore, this rate was higher in older adults with high school education than in older adults with primary education ($p = 0.029$) and the illiterates ($p = 0.001$). Average attitude scores also were different based on education level according to ANOVA ($p = 0.006$); this rate was lower among the illiterate older adults than older adults with high school education ($p = 0.005$) based on LSD multiple comparison test. Moreover, average practice score was not equal among educational levels according to ANOVA ($p < 0.001$); participants with high school education had higher mean scores than the elderly with no literacy ($p = 0.001$), primary education ($p = 0.008$), and middle education ($p = 0.026$). Therefore, based on the LSD multiple comparison test, this rate was higher among older adults with university education than the illiterates ($p = 0.006$), in the same way, older adults with primary education had higher scores than illiterate older adults ($p = 0.017$).

Knowledge mean scores were different based on type of occupation according to ANOVA ($p = 0.002$); average knowledge score was higher in employees than the other groups ($p < 0.001$) based on LSD multiple comparison test. In addition, average attitude score was equal based on occupation ($p = 0.078$), while the practice mean scores were different based on occupation according to ANOVA ($p = 0.030$). The average practice score was higher in employees than housekeepers ($p = 0.044$) and the unemployed elderlies ($p = 0.027$) based on LSD multiple comparison test.

According to t-test, the practice mean scores were different based on the living location; those who live in urban areas had higher scores (35.15 ± 8.29) than residents of rural areas (32.96 ± 8.20) ($p = 0.009$).

There was no significant statistical difference among knowledge, attitude, and practice scores based on other variables.

Discussion

This study was conducted to evaluate status of knowledge, attitude, and practice among older adults of Sarakhs city in the field of skin care. The average knowledge score achieved by participants was 18.15±7.59 from the obtainable range of 0-56. This indicates that knowledge of the older adults is in a low level. Saridi et al. (19), evaluated participants' knowledge and attitude about protection against sun in Greek youth and reported low level of knowledge. Mousavi et al. (22), who also evaluated knowledge, attitudes, and practices of adults in northern Tehran about protection against sun, indicated that the knowledge level was low in the older adults. Hobbs et al. (26), conducted a research to evaluate knowledge, attitudes, and practices of athletes about skin cancer in the United States of America, their results indicated participants' low knowledge level which is consistent with our findings. Furthermore, Al-Ghamdi et al. (27), evaluated knowledge, attitudes, and practices of exposure to sunlight and protection against Saudis and showed that the public knowledge level is low which is in line with the results of the current research. However, in the study of Mazloomy et al. (21), which was conducted to evaluate knowledge, attitudes, and practices of people in Yazd about skin cancer and protection against sunlight, the knowledge level was reported as medium which is not consistent with this research. This difference may be due to the fact that the research was conducted among various age groups who had higher literacy levels, while the current study was targeted at older adults most of whom were illiterate.

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Table 3. **Frequency distribution of responses to the practice questions in the older adults**

Questions	Never		Rarely		Sometimes		Often		Always	
	N	%	N	%	N	%	N	%	N	%
1. I wear sunglasses	293	73.25	40	10.0	48	12.0	6	1.5	13	3.25
2. I apply sunscreen	295	73.75	42	10.5	41	10.25	10	2.5	12	3.0
3. I use cap during the exposure	238	59.5	59	14.75	58	14.5	25	6.25	20	5.0
4. I use moisturizers or hydrating creams	164	41.0	89	22.25	72	18.0	37	9.25	38	9.5
5. I try to carry out my works in the day time (early morning or afternoon) for less exposure to sunlight	55	13.75	92	23.0	113	28.2	68	17.0	72	18.0
6-I use clothes that cover more parts of body against sunlight	46	11.5	60	15.0	63	15.75	80	20.0	151	37.75
7. I always use vegetables and fruits	26	6.5	101	25.25	135	33.8	81	20.25	57	14.2
8. I always drink 6 to 8 glasses of water	48	12.0	91	22.75	91	22.75	80	20.0	90	22.5
9. I exercise and conduct physical activity for 150 minutes per week	119	19.75	109	27.25	81	20.25	41	10.25	50	12.5
10. I visit physician if I observe skin problems	72	18.0	87	21.75	98	24.5	73	18.3	70	17.5
11. I cover my skin with hat- gloves and mask in cold seasons	116	29.0	99	24.75	55	13.75	58	14.5	72	18.0
12. I allocate some hours in day to rest	140	35.0	108	27.0	73	18.25	34	8.75	45	11.25
13. I use protective tools such as gloves, mask and suitable cloths when using insecticides and pesticides on the farm	89	22.25	124	31.0	68	17.0	34	8.5	85	21.3

Table 4. The frequency distribution of scores of knowledge, attitude in the older adults

	Low		Middle		Good		The average	Standard deviation	Range	Possible scores Range
Index	N	%	N	%	N	%				
Knowledge	260	65	136	34	4	1	18.15	7.59	1-45	0-56
Attitude	5	1.25	262	65.5	133	33.25	27.13	3.17	18-35	12-36
Practice	202	50.5	188	47	10	2.5	33.94	8.30	13-59	13-67

As mentioned earlier, knowledge mean scores were not equal among different educational levels; they were higher in the people with higher education which is consistent with studies of Mazloomy et al. (21), and Gavin et al. (28). This can be explained by the fact that higher education leads to obtaining of higher health information and higher knowledge.

Knowledge mean scores were also not equal to each other based on occupation; employees had higher scores than the other groups; this result is consistent with results of the study conducted by Mazloomy et al. (21). The reason is again attributed to the fact that employees have higher education than others.

Results of this research indicated medium level of attitude in the older adults which is consistent with the study of Mazloomy et al. (21), in which the attitude score was at the medium level, and also confirmed the results reported by Hobbs et al. The mean attitude scores were not equal to each other based on education; older adults with university degrees had higher scores than the other groups, which is consistent with the study of Mazloomy et al. (21). The reason may be attributed the fact that increase of knowledge in the educated older adults increases their attitudes too.

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In this research, mean practice scores were at low level which is consistent with the research of Hobbs et al. (26). This issue can be due to low literacy levels of the older adults and their low knowledge about health. Practice mean scores were significantly different among educational levels; participants with high educations had higher scores which is consistent with the research of Mazloomy et al. (21). The educated older adults' practice increased with increase in their knowledge and attitude.

The practice mean scores were also not equal to each other based on participants' occupation; employees had higher scores due to their higher education, knowledge, and attitudes.

In this research, the most protective behavior (57.7% often or always) was wearing long sleeve cloths and the least reported behavior was wearing sunscreen (5.5% often or always). In the research conducted by Saridi et al. (19), on Greek youth, 40% of participants applied sunscreen, 39% wore cap, and 25.5% used sunglasses. Mousavi et al. (22), also carried out a study on adults in northern Tehran, they reported that 32% applied sunscreen and 41% wore suitable clothes. In the research of Al-Ghamdi et al. (27), which investigated Saudis, 95% wore long sleeve cloths and 23.7% applied sunscreen. As was expected, pattern of preventive behaviors is different among various people and societies; totally, level of conducting these behaviors in the evaluated society was lower than other societies.

As was expected, the correlation among knowledge, attitude, and practice was positive and significant. This means that attitude increased with increase knowledge which leads to increase practice. This result is consistent with results of studies conducted by Mazloomy et al. (21), and Hobbs et al. (26).

Conclusion

Despite various skin problems that are common among older adults, the most frequent skin problem was skin dryness. In addition, their levels of knowledge as well as approaches and practices about skin health were at a low level. An accurate and comprehensive education plan seems necessary to promote these people's knowledge and practices.

Study limitations

The most important methodological limitations of the present study were self-reporting tools to collect information and eye examination which used for determining the skin problems among the participants. Cultural context and economic status of the older adults in Sarakhs city are also cases that should be considered in utilizing results of this study.

Conflict of interest

There is no conflict of interest.

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Authors' contribution

Study design: MA, FB, ZR, MEA

Data collection and analysis: MA, FB, SMN

Manuscript preparation: MA, FB, ZR, MEA, SMN

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