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Lifestyle of the elderly people in rural areas in Beni-Suef Governorate

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Abstract---Lifestyle include components as diet, exercise, hygiene and avoidance of smoking. Aim of this study is to assess lifestyle of elderly people in rural areas in Beni suef Governorate. Design Descriptive design was used. Sample Systemic random selection of 350 elderly. Setting Kom abo Khalad village in Naser center in Beni Suef Governorate. Tools Three tools were used in this study Tool I Interview Questionnaire consisted of 3 parts, 1st: Socio-demographic data of elderly, 2nd: Past and present health history, 3rd: Assessment of elderly lifestyle. Tool II: Observational checklist of elderly people lifestyle. Tool III: Physical assessment to measure weights and heights of elderly people. Result: The study showed that 48.9% of the elderly people their age's ranges from (60-< 70). 57.1% of elderly suffered from insomnia. 54.6% of elderly had smoking habits, 87% of elderly hadn't alcohol use and 74.3 of the elderly had healthy lifestyle. Conclusion More than half of the elderly people were dependent in feeding. More than half of elderly participate in home activity, two thirds of elderly no doing exercise. In additional to, majority of elderly suffer from insomnia & more than half of elderly had smoking habits. Minority of elderly people concerned with personal hygiene. More than half of elderly people had good relation with relatives. Majority of elderly people had not suffer from psychological problems. Majority of elderly had healthy lifestyle. Recommendation Provide health education to all elderly people about healthy lifestyle in their homes.

Keywords---lifestyle, elderly people, rural areas.

Introduction

Lifestyle means “the patterns of behavioral choices made from among alternatives available to people depending on their socio-economic situation. Lifestyle is comprised of the patterns of conscious health-related behavior, as well as values and attitudes represented by people in response to the conditions of their social, cultural and economic environments [1]. Health behaviors determine how the individuals and the population as a whole maintain and strengthen their health. There are four classic modes of health-related behavior: diet, physical activity, smoking, and alcohol consumption that can be identified among the many possible divisions. As proposed, the habits are consistent with the concept of a healthy lifestyle [2].

Old age is a natural process which starts with intrauterine life, continues until death and caused by irreversible degeneration of cells and systems. Old age is not a pathological process and consists of physiological, psychological, sociological and chronological changes. Thus, the definition of old age is quite broad and complex. Physiological old age is used for expressing structural and functional losses; psychological old age for expressing the decreases in perception, learning and problem solving ability; and sociological old age for expressing the decreases and losses in the values given by society to individuals [3].

According to the World Health Organization 2017, 12% of the world population (900 million) consisted of the population aged 60 years and older in 2015. WHO estimated that the world population (2 billion) will increase to 22% in 2050. WHO also indicated that the rate of the population aged 60 years and older will be higher than the rate of the child population younger than 5 years in 2020. 13.8% of the population aged 60 years and older in 2015 were 80 years and older [4]. Rural areas lacked the same amount of formal health and community-based services as major cities. As a result, informal sources of support available to elderly people may be absent. In addition, many adult children have left the rural area, leaving rural elderly people to age in place without the important source of family support [5].

Geriatric nurses in the municipality are the base of a country's primary health care, where geriatric nurses act as health gatekeepers and work in diverse community settings to provide health promotion and disease prevention across the lifespan. In addition, geriatric nurses have essential roles in improving lifestyle of elderly people by provide health education to elderly people about healthy diet, proper exercise, good sleeping habits, improved social and psychological status and avoidance of harmful behavior [6].

Significance of the study

A healthy lifestyle is a way of life that provides, maintains, and promotes the health and well-being of the people. On the other hand, a healthy lifestyle is a way of life that reduces the risk of severe illness or early death, helping to enjoy more aspects of our lives such as a healthy diet, exercise, stress management, social and productive activities, leisure activities, daily activities of life, avoidance of

high-risk behaviors (tobacco, alcohol, substance abuse, and unhealthy sexual behaviors), and prevention of accidents [7].

Egyptian elderly people had reached 6.5 million - 3.5 million males and 3 million females, the number of elderly Egyptians still working had reached 1.217 million, of whom 52.9 % work in agriculture and fishing activities, nearly 17.5 % work in the wholesale and retail trade sector, 4.7 % work in the transportation and storage sector, and 24.9 % work in other activities [8]. Geriatric nurses in the urban have the key role in taking care of elderly people. Because of the limited number of nurses, and a large amount of health care needs requiring qualified practitioners, geriatric nurses are facing challenges in fulfilling their role within health care, the top priority should be understanding the reality and remove the barriers to practice which the geriatric nurses are already experiencing in changing roles, the geriatric nurses' own clinical experiences of promoting healthy aging is important [9].

Aim

The aim of this study to assess the lifestyle of the elderly people in rural areas in Beni- Suef Governorate through:

1. Assessing diet, sleep and exercise that affect lifestyle of the elderly people.
2. Assessing smoking, alcohol intake and hygiene that affect health status of the elderly people.
3. Assessing social activity, emotional and safe environment that affect lifestyle of the elderly people.

Research questions

1. Are diet, sleep and exercise affecting lifestyle of the elderly people?
2. Are smoking, alcohol intake and hygiene affecting health status of the elderly people?
3. Are social activities, emotional and safe environment affecting lifestyle of the elderly people?

Subject and Methods

Research design

A descriptive exploratory research design was used in this study.

Setting of the study

The study was conducted in Kom –Abo Khalad village in Naser center in rural Beni Suef Governorate. The village had 5632 homes. Some homes built by mud bricks and others homes built by red bricks. Majority of village streets were mud land. Majority of homes had one or two floors.

Sampling

Purposive sample of elderly people in rural areas in Beni-Suef Governorate. The study sample was consisted of 315 elderly and was selected according to the following inclusion criteria.

- All elderly people (60 years and above).
- Acceptance to participate.

Data collection tool

There were three tools designed by investigator after reviewing of related literature.

Tool I: Interview Questionnaire

It consisted of three parts:

1st Part: Socio -demographic data of elderly people: It was involved 14 items such as age, sex, education, marital status, have siblings, number of family members, room numbers, crowding index, working before retirement, current work and monthly income.

2nd Part: Past and present medical history of elderly people: It contained two sub-items:

- Past medical history for one year ago was involved 4 close-ended questions such as suffer from diseases, have chronic pain, reason for these pain and site of pain.
- Present medical history was involved 5 questions as senses problems, take more than three drugs daily, ability for movement, need for assistant and if yes, when need help.

3rd Part: Assessment of elderly people lifestyle: It was contained 8 sub-items as: Nutrition involved 11 close-ended questions as independence in feeding, take three meals daily, take 8-10 cups of water daily, drink tea daily, drink coffee per day, follow dietary system and if yes type of dietary system. Exercise involved 2 close-ended questions as participation in home activity, doing of exercise and if yes (type, duration and frequency of exercises).

Sleep involved 4 close-ended questions as sleep 5-10 hours /night, have insomnia, if yes reason for insomnia and using hypnotic pills. Smoking and alcohol abuse involved 3 close-ended questions as you are smoker, drink alcohol and dependability on medication. Hygiene involved 5 close-ended questions as wash hands, cut nails and changing clothes daily. Social statuses involved 7 close-ended questions as having good relation, having conflict with other neighborhoods, having good relation with relatives, participation in handling food and have friends.

Emotional status involved 7 close-ended questions as suffer from emotional problem last months, like to cry, guilt and self-blame, feeling inability to focus, feeling safe away from hazards, pray regularly, feeling of continuous angry and if yes methods of coping with psychological stress. Safe environment involved 7 close-ended questions as the home clean, the home good ventilated, elderly room well organized, frequent cleaning of the bath room, bath room seat suitable for elderly, home with un slippery floors and good lighting of elderly room.

Scoring system

The answers of these questions were scored as 0 for no and 1 for yes.

Total scores of lifestyle level

- Total score (0-46) were divided as:
- Healthy lifestyle $\geq 60\%$ (≥ 27.6)
- Un-healthy lifestyle $< 60\%$ (< 27.6)

Tool II: An observational checklist: It was consisted of 4 sub-items such as:

Nutritional status involved 2 close-ended questions as (face color and back straight). Personal hygiene involved 4 close-ended questions as (tooth brush, cut nails, clean clothes and clean house).

Emotional status involved 4 close-ended questions as elderly accept others, excess crying, difficult speaking and elderly mood.

Safe environment involved 5 close-ended questions as (dependence of elderly on himself when moving, bath room clean, type of the bath room, home with un slippery floor and good lightening of the elderly room).

Scoring system

The answers of these questions were scored as 0 for no, 1 for yes, 0 for abnormal and 1 for normal.

Total scores of observed lifestyle level:

- Total score (0-16) were divided as:
- Healthy lifestyle $\geq 60\%$ (≥ 9.6)
- UN-healthy lifestyle $< 60\%$ (< 9.6)

3rd Tool: Physical assessment of elderly people: involved 3 open-ended questions as (height, weight and body mass index).

Body mass index (Avelino-Silva, & Jaluul, 2017)

- Under weight (< 18)
- Ideal weight (18.5-24.9)
- Over weight (25- 29.9)
- Obese (≥ 30)

Validity

The developed tool was formulated and submitted to five experts in community and geriatric health nursing at faculty of nursing Helwan University to assess the content validity.

Reliability

To assess reliability, the study tools (interview questionnaire and observational checklist) were tested by the pilot subjects for calculating Cronbach's Alpha which was 0.927 for interview questionnaire and 0.985 for observational tool.

Ethical considerations

An official permission to conduct the proposed study was obtained from the Scientific Research Ethics Committee from Faculty of Nursing in Helwan University. Participation in the study was voluntary and subjects were given complete full information about the study and their role before signing the informed consent. The ethical considerations were include explaining the purpose and nature of the study, stating the possibility to withdraw at any time, confidentiality of the information where it was not be accessed by any other party without taking permission of the participants. Ethics, values, culture and beliefs were respected.

Operational Item

Preparatory Phase

It included reviewing of related literature and theoretical knowledge of various aspect of the study using books, articles, internet and magazines to develop tools for data collection.

Pilot study

A pilot study was conducted on 10% (equal 37 elderly people) of the sample to assess the feasibility of the study as well as the clarity of data collection tool, and time required for the interview. According to results of the pilot study, modifications were performed. The pilot sample was excluded from the total number of the sample size since some major modifications was required. Total sample was 315 elderly as pilot sample (37 elderly) were excluded from the sample.

Field work

By using random selection select Kom –Abo Khalad village. Sample size was 352 elderly persons. Written consents were taken from the elderly people at rural Beni Suef Governorate after establish a trustful relationship, each subject was interviewed individually by the investigator to explain the study purpose then study tools was completed. Data was collected 2 days /week within 6 months until the needed sample was completed. The actual field work started from the middle of February 2021 till the end of July 2021 for the data collection. A sample was 352 elderly in Kom –Abo Khalad village.

The investigator made home visits and went to Kom –Abo Khalad village two days/ week on Tuesday and Thursday of each week from 9 am to 7 pm. The investigator met every elderly included in the study, written consent was obtained from each elderly after explaining the purpose of the study and the components of the tools. The tool took 15 minutes to fill out the interview questionnaire and 30 minutes to fill out the observational checklist. The investigator took (12-13) elderly every day where the data collected through interview questionnaire and observational checklist. The visits were repeated after three months to all elderly people.

Significance of the results

Not-significant (NS) if $p > 0.05$

Significant (S) if $p \leq 0.05$

Highly significant (HS) if $p < 0.01$

Results

Table 1: Shows that, 48.9% of the elderly people their ages ranged from 60 - <70 years with mean age (72.1 ± 7.3). 56.2% of them were male. 34.9% no read and write. 44.8% of them were married and 74.6% of them had siblings. 82.2% of elderly people had 5-10 family member. 68.9% of them had 3-5 rooms and 63.2% of them had income sufficient for basic needs only.

Table 2: Illustrates that, 51.1% of the elderly people were dependent in feeding. 39.7% of them took at least one meal contains milk products daily, 43.5% of them took at least two meals contain eggs or beans weekly.

Table 3: Reveals that, 53% of the elderly participated in home activities, 66.3% of them no doing exercises, while, 33.6% of elderly practiced walking exercises.

Table 4: Shows that, 59% of the elderly were sleep from 5:10 hours every night. 56.8% of them no take day naps. 42.9% of elderly no suffering from insomnia. 65.4% of them not used hypnotic bills.

Figure 1: Shows that, 74.3% of the elderly people had healthy lifestyle while 25.7% of them had unhealthy lifestyle.

Figure 2: Illustrates that, 52.7% of the elderly people had unhealthy observed lifestyle while 47.3% of them had healthy observed lifestyle.

Table 5: Illustrates that, there is a highly statistically significant relation between the elderly lifestyles and their socio-demographic data.

Table (1) Percentage Distribution of Socio demographic Data for the Elderly People (n=315)

Item	N.	%
Age		
- 60-<70 years	154	48.9
- 70-80 years	107	34.0
- > 80 years	54	17.1
Mean ± SD	72.1± 7.3	
Gender		
- Male	177	56.2
- Female	138	43.8
Educational level		
- No read and write	109	34.9
- Read and write	83	26.3
- Basic education	43	13.7
- Secondary education	26	8.3
- University education and more	54	17.1
Marital status		
- Married	141	44.8
- Single	80	25.4

- Widowed	94	29.8
Presence of siblings		
- Yes	235	74.6
- No	80	25.4
Number of family members		
- 5-10 family member	259	82.2
- >10 family member	56	17.8
Room numbers		
- 1-3rooms	80	25.4
- 3-5 rooms	217	68.9
- >5 rooms	18	5.7
Crowding index		
- Uncrowded (1-2 residents/ room)	261	82.9
- Crowded (>2 residents/ room)	54	17.1
Mean $\pm$ SD	1.46 $\pm$ 0.56	
Income		
-Not enough	24	7.6
-Sufficient for basic needs only	199	63.2
-Sufficient and saving	92	29.2

Table (2) Percentage Distribution of Nutritional Habits for the Elderly People (n=315)

Items	N.	%
Independence in feeding		
- No	161	51.1
- Yes	54	48.9
Take three meals daily		
- No	233	74
- Yes	82	26
Take at least one meal contains milk products daily		
- Yes	125	39.7
- No	190	60.3
At least two meals contain eggs or beans weekly		
- Yes	137	43.5
- No	178	56.5
Daily meals contain protein		
- Yes	139	44.1
- No	176	55.9
At least two meals contain fruits daily		
- Yes	139	44.1
- No	176	55.9
At least two meals contain vegetables daily		
- Yes	130	41.3
- No	185	58.7

Table (3) Percentage Distribution of the Elderly according to Practicing Exercise (n=315)

Items	N.	%
Participation in home activities		
- Yes	167	53.0
- No	148	47.0
Doing exercises		
- Yes	106	33.6
- No	209	66.3
If yes, Types of sports (N=106)		
▪ Walking	106	100%
If yes, Duration of sporting (N=106)		
▪ 30 minutes	59	55.6
▪ 60 minutes	29	27.4
▪ 90 minutes	18	17
If yes, Frequency of sporting (N=106)		
▪ Monthly	24	22.6
▪ Weekly	63	59.4
▪ Daily	19	18

Table (4) Percentage Distribution of the Elderly people according to their Sleeping Habits (n=315)

Items	N.	%
Sleeping 5-10 hours/ night		
- Yes	186	59.0
- No	96	30.5
Presence of sleep day naps		
- Yes	136	43.2
- No	179	56.8
Suffering from insomnia		
- Yes	180	57.1
- No insomnia	135	42.9
Causes of insomnia (N=180)		
▪ Chest pain	59	32.8
▪ go to toilet	32	17.7
▪ Leg pain	34	18.9
▪ Anxiety	55	30.6
Using hypnotic pills		
- Yes	109	34.6
- No	206	65.4

Figure (1) Percentage Distribution of Total Assessment Lifestyle for Elderly people (n=315)

Total assessment lifestyle

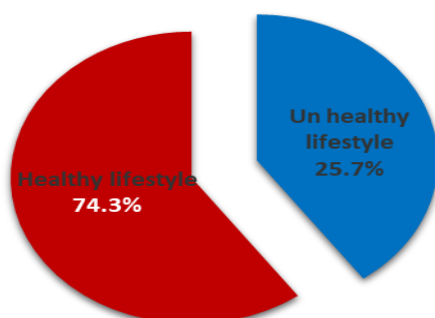


Figure (2) Percentage Distribution of Total Observed Lifestyle for Elderly People (n=315)

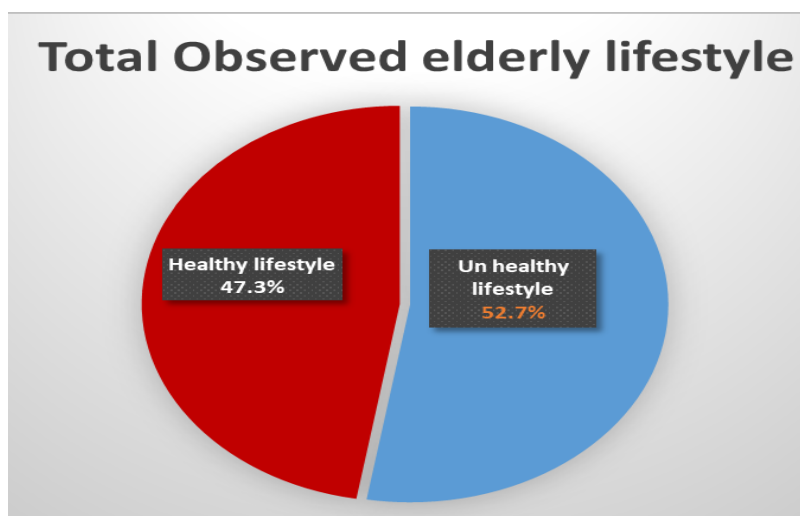


Table (5) the Relation between Total Elderly Lifestyle and their Socio Demographic Data (n=315)

socio demographic data	N	Un-healthy lifestyle (N=81)		Healthy lifestyle (N=234)		X ²	P-Value
		NO	%	NO	%		
Age						88.5	.000**
-60-<70 years	154	76	24.2	78	24.8		
-70-80 years	107	5	1.6	102	32.4		

-> 80 years	54	0	0	54	17.1		
Gender						20.6	.000**
-Male	177	63	20	114	36.2		
-Female	138	18	5.7	120	38.1		
Marital status						37.2	.000**
-Married	141	48	15.2	93	29.5		
-Single	80	0	0	80	25.4		
-Widowed	94	33	10.5	61	19.4		
Presence of siblings						37.1	.000**
-Yes	235	81	25.7	154	46		
-No	80	0	0	80	25.4		
Monthly income							
-Not enough	24	16	20	8	3.6	28.6	.000*
-Enough for basic needs only	199	39	47.7	160	68.2		
-Enough and save	92	26	32.2	66	28.2		

Discussion

A healthy lifestyle is a way of life that provides, maintains, and promotes the health and well-being of the people. On the other hand, a healthy lifestyle is a way of life that reduces the risk of severe illness or early death. A healthy lifestyle help to enjoy more aspects of our lives such as a healthy diet, exercise, stress management, social and productive activities, leisure activities, daily activities of life, avoidance of high-risk behaviors (tobacco, alcohol, substance abuse, and unhealthy sexual behaviors), and prevention of accidents Werfalli, et al., 2018^[10]. Therefore, the current study aimed to assess the lifestyle of the elderly people at rural area in Beni- Suef Governorate. Regarding age of the elderly people, the current study showed that, less than half of the elderly people's ages ranges from 60-<70 years and more than half were male. This result was in the same line with Disu, et al., 2019 who conducted a study entitled "Risk factors of geriatric depression among elderly Bangladeshi people". They found that 48% of geriatric people their ages ranges from 60-70 years and 51% of them were male.

Concerning marital status, the current study showed that, about half of elderly people were married. This result was agreed with Ma, et al., (2018) who conducted a study entitled "Frailty in Chinese older adults with hypertension: prevalence, associated factors, and prediction for long-term mortality" and they found that 50% of elderly people were married. From the investigator opinion, male elderly people in rural areas like multiple marriage and major sample were male due to female elderly people were accompanied with house works and had not have time to talk with investigator. Regarding nutritional habits of the elderly people, the current study illustrated that, more than half of the elderly people were dependent in feeding, less than half of them took daily meals contain protein and took at least two meals contain fruits daily. This result was in the same line with Jeruszka, et al., (2018) who conducted a study entitled "Nutrition-related knowledge and attitudes reflected in lifestyle and health among elderly people". They found that 48% of elderly people took meals consisted of protein and

carbohydrates. From the investigator opinion, rural elderly people eat fresh vegetables and fruits from their farms.

Concerning practicing exercise, the current study revealed that, more than half of the elderly people participated in home activities, nearly half of them no doing exercises. This result was in the same line with Karmakar, et al., (2018) who conducted a study entitled “Quality of life among geriatric population: A cross-sectional study in a rural area of Sepahijala”. They found that 44% of geriatric population were practice exercises in their home. From the investigator opinion, majority of rural elderly people were farmers and did their farm works by themselves and this is a type of exercise.

Regarding sleeping habits, the current study showed that, more than half of the elderly people were sleep from 5:10 hours every day, no presence of sleep day naps, and not used hypnotic pills. Nearly half of elderly people no suffering from insomnia. This result supported with Wu, et al., (2018) who conducted a study entitled “Sleep quality and its associated factors among low-income adults in a rural area of china”. They found that 70.4% of old adults had good sleep pattern. From the investigator opinion, majority of rural elderly people used to sleep early and wake up early to go to their farms. The previous paragraphs answered research Q1: Are diet, sleep and exercise affecting lifestyle of the elderly people?

Concerning total assessment lifestyle, the current study showed that, nearly three quarters of the elderly people had healthy lifestyle while more than one quarter of them had unhealthy lifestyle. This result was in agreement with Chen, (2018) who conducted a study entitled “Unmet needs of activities of daily living among a community-based sample of disabled elderly people in eastern China”. He found that 75% of elderly people had healthy lifestyle. From the investigator opinion, majority of rural elderly people were farmers that make them eat fresh foods and work in their farms may enhance health status and sleeping pattern.

Regarding total observed lifestyle level, the current study illustrated that, more than half of the elderly people had un-healthy observed lifestyle while nearly half of them had healthy observed lifestyle. This result was in the same line with Ma, et al., (2018) who conducted a study entitled “Frailty in Chinese older adults with hypertension: prevalence, associated factors, and prediction for long-term mortality”. They found that 60% of older adults had unhealthy lifestyle. From the investigator opinion, difference between total assessment lifestyle level and total observed lifestyle level, as observation tool contained four items only about lifestyle but interview questionnaire contained eight items of lifestyle. Also, elderly people had wrong concepts about healthy lifestyle and need health education about healthy lifestyle. The previous paragraphs answered research Q2: Are smoking, alcohol intake and hygiene affecting health status of the elderly people? And Q3: Are social activity, emotional status and safe environment affecting lifestyle of the elderly people?

Concerning relation between elderly people lifestyle and their socio demographic data, the current study illustrated that, there is a highly statistically significant relation between the elderly people lifestyle and their socio- demographic data. This result was agreed with Lu, et al., (2019) ^[17] who conducted a study entitled

“The prevalence of sleep disturbances and sleep quality in older Chinese adults”, they found that there is a highly statistically significant relation between the elderly people lifestyle and their socio demographic data. From the investigator point of view, high level of education and social status lead to awareness of elderly people about healthy lifestyle.

Conclusion

Based on the present study and research questions concluded that: The result of the study supported the questions of the study: More than half of elderly people follow dietary system. More than half of the elderly people were dependent in feeding, took daily meals contain protein and took at least two meals contain fruits daily. More than half of elderly people participate in home activity while two thirds of elderly people no doing exercise. Majority of elderly people had insomnia. More than half of elderly people had smoking habits. Majority of elderly people hadn't alcohol use. Minority of elderly people concerned with personal hygiene. More than half of elderly people had good relation with relatives. Majority of elderly people no suffer from psychological problems. Majority of elderly people had healthy lifestyle. There were highly significant relations between elderly people's demographic data and their lifestyle.

Recommendations

The study recommended that: Based on the findings of the present study the following recommendation can be made:

- Provide educational programs to all elderly people about healthy lifestyle.
- Give booklets to elderly people about healthy lifestyle.
- Future research is required to assess effect of lifestyle on health of elderly people around the country to confirm the results.

References

1. Blyth, F.M.; March, L.M.; Brnabic, A.J.; Jorm, L.R.,;Williamson, M.; Cousins, M.J. (2018). ChronicPain in Australia: A PrevalenceStudy.Pain. 89 (2-3), 127-34.
2. Castilla, D., Botella, C., Miralles, I., Bretón-López, J., Dragomir-Davis, A. M., Zaragoza, I., & Garcia-Palacios, A. (2018). Teaching digital literacy skills to the elderly using a social network with linear navigation: A case study in a rural area. *International Journal of Human-Computer Studies*, 118, 24-37.
3. Central Agency for Public Mobilization and Statistics, (2019). Association of socioeconomic and lifestyle factors with chronic non-communicable diseases and multi-morbidity among the elderly in rural Egypt. *Journal of Public Health*, 42(2), 239-246.
4. Chen, S., Zheng, J., Chen, C., Xing, Y., Cui, Y., Ding, Y., & Li, X. (2018). Unmet needs of activities of daily living among a community-based sample of disabled elderly people in eastern China: a cross-sectional study. *BMC geriatrics*, 18(1), 1-11.

5. Cybulski M, Krajewska-Kulak E, Jamiolkowski J. (2018): Preferred health behaviors and quality of life of the elderly people in Poland. *Clin Interv Aging*; 10: 1555–1564.
6. Disu, T. R., Anne, N. J., Griffiths, M. D., & Mamun, M. A. (2019). Risk factors of geriatric depression among elderly Bangladeshi people: a pilot interview study. *Asian journal of psychiatry*, 44, 163-169.
7. Dolu, I.; Nahcivan, N.O. (2019). Impact of a Nurse-led Sleep Programme on The Sleep Quality and Depressive Symptomatology Among Older Adults in Nursing Homes: A non-randomised Controlled Study. *International Journal of Older People Nursing*. 14 (1), e12215.
8. Jeruszka-Bielak, M., Kollajtis-Dolowy, A., Santoro, A., Ostan, R., Berendsen, A. A., Jennings, A., ... & Pietruszka, B. (2018). Are nutrition-related knowledge and attitudes reflected in lifestyle and health among elderly people? A study across five European countries. *Frontiers in physiology*, 9, 994.
9. Karmakar, N., Datta, A., Nag, K., & Tripura, K. (2018). Quality of life among geriatric population: A cross-sectional study in a rural area of Sepahijala District, Tripura. *Indian journal of public health*, 62(2), 95.
10. Lu, L., Wang, S. B., Rao, W., Zhang, Q., Ungvari, G. S., Ng, C. H., ... & Xiang, Y. T. (2019). The prevalence of sleep disturbances and sleep quality in older Chinese adults: a comprehensive meta-analysis. *Behavioral sleep medicine*, 17(6), 683-697.
11. Ma, C., Xu, W., Zhou, L., Ma, S., & Wang, Y. (2018). Frailty in Chinese older adults with hypertension: prevalence, associated factors, and prediction for long-term mortality: a cross-sectional study. *BMC public health*, 18(1), 1-9.
12. Mousavisisi, M., Shamshirgaran, S. M., Rezaeipandari, H., & Matlabi, H. (2019). Multidimensional approach to frailty among rural older people: applying the Tilburg frailty indicator. *Elderly Health Journal*, 5(2), 92-101.
13. Rahmadeni, A. S. ., Hayat, N. ., Alba, A. D. ., Badri, I. A. ., & Fadhila, F. . (2020). The relationship of family social support with depression levels of elderly in 2019 . *International Journal of Health & Medical Sciences*, 3(1), 111-116. <https://doi.org/10.31295/ijhms.v3n1.188>
14. Ramírez-Vélez R, Triana-Reina HR, Carrillo HA, Ramos-Sepúlveda JA, Rubio F, Poches-Franco L, Rincón-Párraga D, Meneses-Echávez J, Correa-Bautista JE. (2018): A cross-sectional study of Columbian University students' self-perceived lifestyle. *SpringerPlus*. 4:289.
15. Shao P, He Z, Cheng Z, Shao T, Liu Ch, Bishwajit G, Feng D, Feng Z. (2019): Factors influencing health knowledge and behaviors among the elderly in rural China. *Int J Environ Res Public Health*. 13: 975. doi:10.3390/ijerph13100975
16. Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). Get vaccinated when it is your turn and follow the local guidelines. *International Journal of Health Sciences*, 5(3), x-xv. <https://doi.org/10.53730/ijhs.v5n3.2938>
17. Werfalli, M., Kassanje, R., Kalula, S., Kowal, P., Phaswana-Mafuya, N., & Levitt, N. S. (2018). Diabetes in south African older adults: prevalence and impact on quality of life and functional disability—as assessed using SAGE wave 1 data. *Global health action*, 11(1), 1449924.
18. Wu, W., Wang, W., Dong, Z., Xie, Y., Gu, Y., Zhang, Y., ... & Tan, X. (2018). Sleep quality and its associated factors among low-income adults in a rural area of china: a population-based study. *International journal of*

environmental research and public health, 15(9), 2055.

19. Xu, C., Bi, M., Jin, X., Zhu, M., Wang, G., Zhao, P.& Song, E. (2020). Long-Term Tea Consumption Is Associated with Reduced Risk of Diabetic Retinopathy: A Cross-Sectional Survey among Elderly Chinese from Rural Communities. *Journal of diabetes research*, 2020.