Journal of
Health, Medicine and Nursing
(JHMN)

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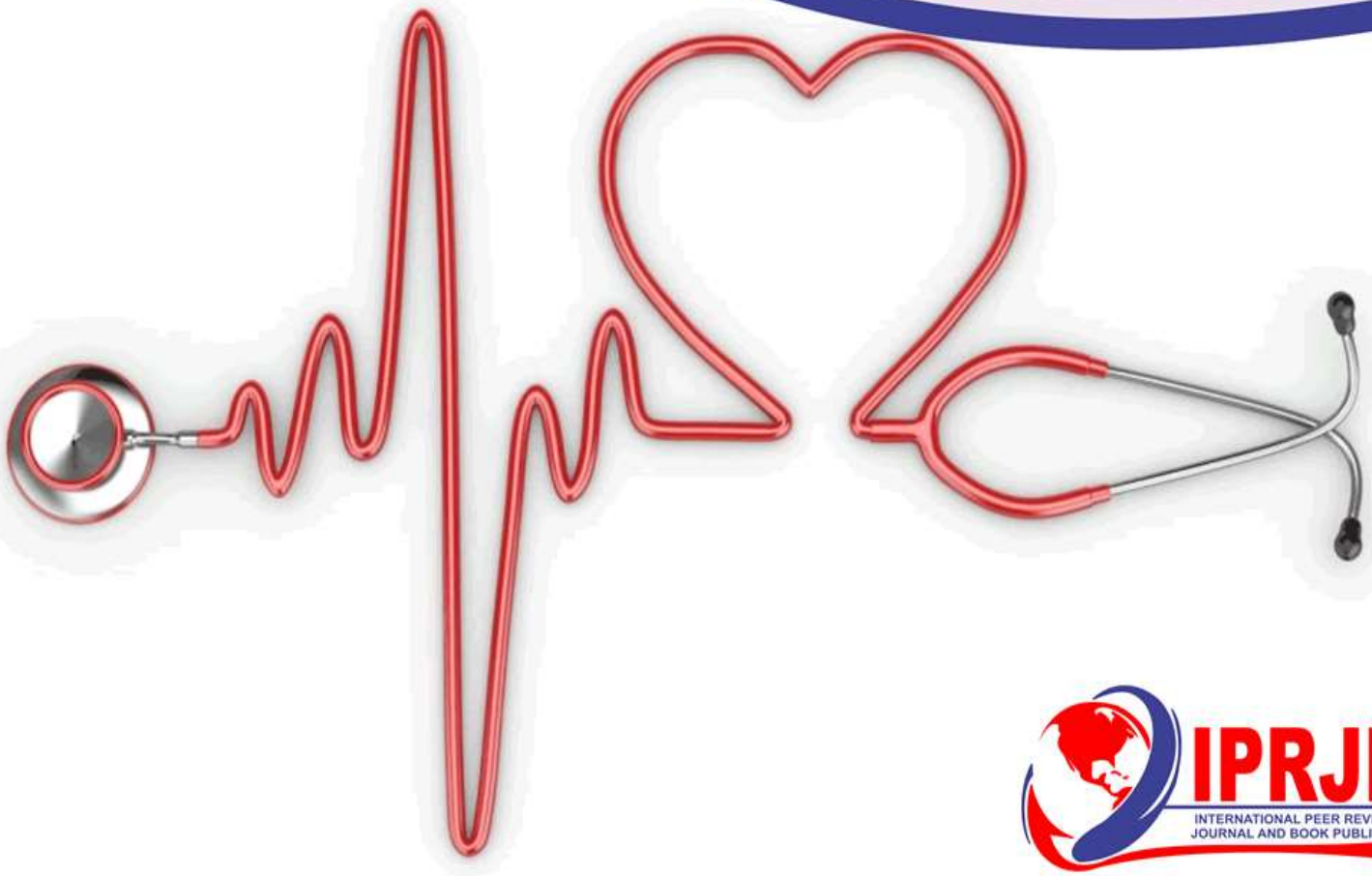

IPRJB
INTERNATIONAL PEER REVIEWED JOURNAL AND BOOK PUBLISHING

Journal of Health, Medicine and Nursing
ISSN 2520-4025 (Online)
Vol.4, Issue 2. No.5, pp 61- 83, 2019

www.iprjb.org

PREDICTIVE FACTORS FOR DIMINISHING SELF-CARE AGENCY AMONG OLDER ADULTS IN URBAN COMMUNITY-EGYPT

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Journal of Health, Medicine and Nursing
ISSN 2520-4025 (Online)
Vol.4, Issue 2. No.5, pp 61- 83, 2019

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Abstract

Background: Self-care agency among older adults is a common subject issue that is associated with health status in relation to a number of factors, so the family caregiver, health care provider, social and health care systems have still faced a significant challenge towards this issue depending on the capability of older individuals to take care of themselves. **Aim:** This study aimed to identify the levels of self-care agency among older-adults in the urban community and its relation to the predictive factors that may increase older adults' risk of developing low capacity for self-care.

Methodology: A descriptive design was used to describe the levels of capacity for self-care among older adults and correlational design was conducted to correlate between levels of self-care agency and predictive factors that may increase older adults' risk of developing low capacity for self-care. Data collected from May 2018 to August 2018 in two social clubs were selected randomly. **Study sample:** A convenience sample of 94 older adults was eligible for inclusion criteria to participate in this research. **Tools:** A cross-sectional survey by face to face interview questionnaire was used for the purpose of data collection, which included six tools **(I).** Socio-demographic characteristics questionnaire ;**(II).**The Appraisal of Self-Care Agency Scale-Revised (ASAS-R);**(III).** The Charlson Comorbidity Index (CCI); **(IV).** The 36-Item Short Form Health Survey (SF-36); **(V).** Satisfaction with Life Scale (SWLS); **(VI).** Rosenberg Self-esteem Scale (SES).

Results: The majority of study sample was represented both old and oldest-old age groups, and the highest percentage of the studied participants (61.7%) was male. More than half of the study sample (51.1%) have lacking capacity for self-care, while (29.8%) and (19.1%) in the level of having capacity for self-care and developing capacity for self-care respectively. A statistical significant correlation between levels of self-care agency and gender, level of education, patterns of living arrangement, family and social support, self-esteem and life satisfaction. However, no statistically significant relationship was found between marital status and levels of self-care agency. The results showed the positive predictors that may impact on the capacity for self-care among older adults were physical component summary domains, life satisfaction, self-esteem, family support, social support, gender, levels of education, and living arrangement; while the severity of co-morbidity index and advanced age were found as negative predictors that may older adults' risk for diminishing capacity for self-care.

Conclusion and Recommendations: By identifying the predictive factors that may reduce capacity for self-care among older adults, this will assist the health care system, health care providers, and family caregivers as well as society to be aware about anticipating future needs and address the issue of self-care deficit among the older adult and to take action for eliminating this sort of health problem with respect to the aging process. In this regards, the study recommended that all the governmental and non-governmental health sectors are indebted to maintain a proactively develop programs that provide medical and social services for an aged population as a way of support of the elder population and their family to maximize the health and maintain self-care agency among those target populations.

Key words: *Predictive factors, Self-Care Agency, Older Adults.*

1.0 INTRODUCTION

Over the last two decades, the number of older people is increasing very rapidly compared to the overall growth of the global population. By 2025, there will be twice as many older people worldwide as there was an increase from 606 million to 1.2 billion. The percentage of older people is expected to be more than double from 7.6% to 16.2% by 2050. [1,2] Similar in Egypt the proportion of elderly people increases in steadily, reaching 6.0% in 2006, and expected to reach 11.5% in 2025 and to 20.8% in 2050. [3,4] This significant growth in the number of older in community dwelling results in places pressure on family members, and health care systems, as well as growing the demand for care, medical services and technologies to prevent and treat illnesses associated with the old aged population. Self-care agency among older adults is a common issue that is associated with health status in relation to a number of factors, so the social and health care systems, health care providers and family caregivers have still faced a significant challenge depending on the capability of older individuals to take care of themselves [3,4] These factors that have an influence on self-care agency as basic conditioning such as age, gender, developmental status, health status, pattern of living, family dynamic, socio-cultural status, external /surrounding environment, health care system, and availability of resources. [5,6]

On the other hands, the Hartford Institute of Geriatric Nursing categorizes the subsequent existing circumstances as risk factors that reduced self-care capacity such as acute illness or injuries, altered environment, altered routines, depression, limited mobility, malnutrition, pain, prolonged bed-rest, and side effects of medications.[7] In addition, another study revealed that a mild level of cognitive impairment signified one of the single most influential factors to diminished capacity for self-care. [8]

Significance of the problem

All older persons will ultimately face deteriorating health and functioning, their specific health trajectories may vary extensively. Some older persons will experience a sudden and rapid decline from good health to death, while for others the decline in functioning will occur gradually over many years, and others still will experience periods of illness and disability interspersed by periods of partial or full recovery and may pose further threats to older persons' health and well-being. [9] Therefore, the professional nurse is playing a crucial role in providing holistic nursing intervention for this vulnerable age group of population, by integrating the whole patient's physical, psychological, and emotional aspects with his or her social and cultural beliefs through establishing and maintaining an adequate level of self-care. The degree of nursing care and intervention depends on the degree to which the client is able or unable to meet self-care needs. [10,11,12]

Hence, the context of this study is focused on the concept of self-care agency that refers to the capability of the older adult participants to take-care themselves and their power to make a decision towards self-care activities that he/she can perform in order to maintain well-being, and prevent illness. At the same time, identify the degree of capacity for self-care among the older adult participants and who have a limitation to meet one or more therapeutic self-care demands and its relation to the predictive factors that increase older adults' risk of developing low self-care capacity.

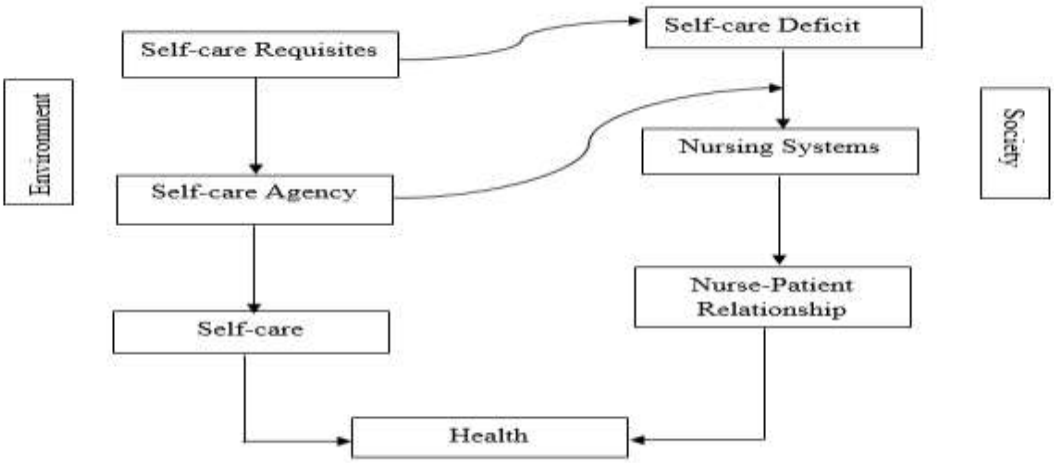
Theoretical framework

The theoretical framework of the self-care agency is defined as "the ability to meet one's continuing requirements for performing self-care activities and evaluate health-related needs that regulates life processes, maintains, promotes the integrity of human structure, function, human development and promotes well- being". [13] Moreover, the Orem model (2001) defined self-care agency actions (health-promoting behaviors) as an established during life and not only when health problems occur. [14] Thus, the intention of self-care agency is to promote health and well-being, as well as prevent and manage illness. [15] Numerous studies have proven that self-care agency is an essential concept in the development and maintenance of both health promoting behaviors (e.g., healthy eating, being active and adequate sleep) and specific illness self-management abilities (e.g., taking medications correctly; proper medical care; and adherence to treatment). [15,16] These personal performances lead to reduction in costs at individuals and government level, as well as maintain the individual's life, health, and recover from disease or injury or need less medical assistance, or cope with the effect. [14,17]

On the other hands, health can be improved if the person has the knowledge and resources to perform self-care activities to minimize self-care deficits. [14] On the contrary, self-care deficit results, when self-care agency is not adequate to meet the self-care demand and failure to meet the health care requisites. Also the self-care deficits may be complete or partial, where a complete self-care deficit refers to a situation in which an individual is unable of meeting any therapeutic self-care demands and those self-care demands can be met by the nurse, while a partial self-care deficit occurs when an individual is not capable to meet some of the therapeutic self-care demands. [13,14]

In addition, the older people (clients) need for nursing intervention through the nursing system to empower by the nurse-patient relationship to identify the degree of self-care deficit develops after determining the patients' self-care capabilities and restrictions. The aim of this intervention is where needed, to maintain an adequate level of self-care and restore the health of the older population and assist them to stay for a long as possible to care of themselves independently and reduce the formal and informal caregiver burden in the society (Figure 1.1). [17]

Figure (1.1) - Orem's Self-Care Model



Aims of the study

1. Identify levels of capacity for self-care among older adults in urban community.
2. Explore predictive factors that may influence on levels of self-care agency among older adults in urban community.
3. Correlate between levels of self-care agency and predictive factors that may increase older adults' risk of developing low capacity for self-care.

Research questions

Q1. What are levels of capacity for self-care among older adults in urban community?

Q2. What are the predictors that may increase older adults' risk of developing low capacity for self-care?

Q3. Is there a significant relationship between levels of capacity for self-care and those predictors that may increase older adults' risk of developing low capacity for self-care?

2.0 METHODOLOGY:

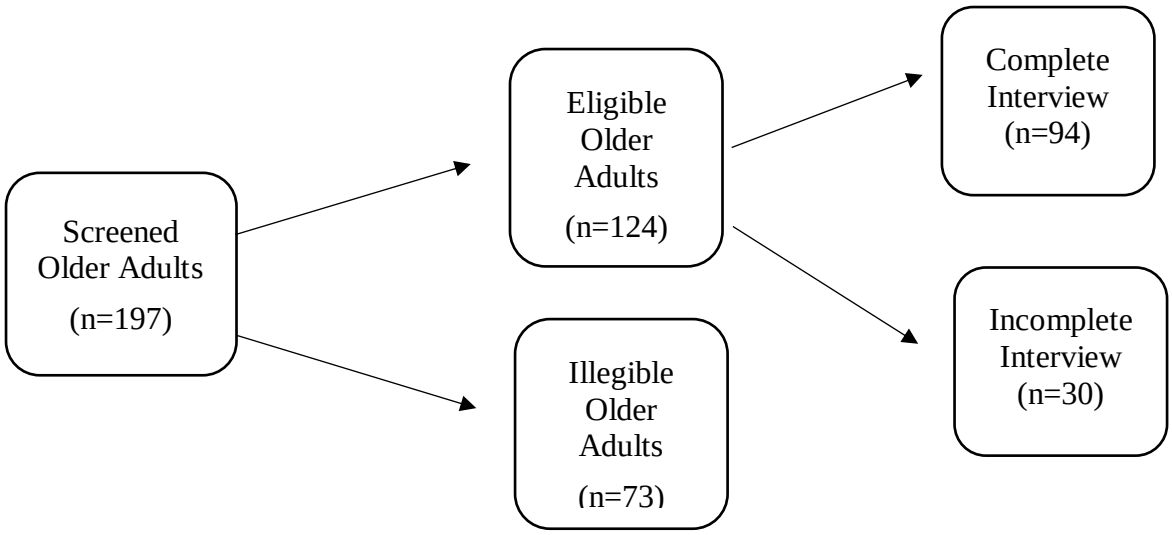
Research design: A descriptive and correlational designs were chosen for the purpose of the study. A descriptive design was used to describe levels of capacity for self-care among older adults while the correlational design was used to explore the relationship between levels of self-care agency and predictive factors that may increase older adults' risk of developing low capacity for self-care in urban community-Egypt.

Research Setting: Pertinent data were collected from May 2018 to August 2018 from two social clubs selected randomly from a list of social clubs in Cairo-Egypt. A cross-sectional survey was conducted to identify the levels of self-care agency among independent older adults in urban community by a face to face structured interview that aimed to explore the predictors that may increase older adults' risk for diminishing capacity for their own self-care.

Study sample: A convenience sample was attained to achieve the objectives of the study. Based on the total number of the accessible population of the elderly who are enrolled as a member in these two social clubs, by using G power (power analysis) of α 0.05, power 90, and medium effect size of 0.5, and using the correlation test, considering the confidence level 95% and confidence interval 5%, the calculated sample size is 97 older adults. [18] The researchers were screened 197 older adults to select the eligible of the older adults. The inclusion criteria were that the elderly people should age 60 and above, willing to participate in the study, able to understand and answer the questionnaire independently without help from the accompanied family members. Exclusion criteria were participants under age 60, those who cannot answer the questionnaire due to physical, psychological, and cognitive problems. The study sample was selected as the flow chart described below (In Figure 1.2).

Pilot study: The questionnaire was piloted among 10 older adult participants to assess the clarity and the applicability of the tools and also determine the time frame that will be required to fulfill the questionnaire. This pilot sample was excluded from the study sample.

Figure (1.2) – Flowchart of study Sample Generation from Social Clubs



Tools of the study: Face to face structured interviewing was conducted by the researchers to collect pertinent data of the study. Each older adult was interviewed individually for the purpose of confidentiality and privacy. This structured interview questionnaire took place within 60-90 minutes. The questionnaire consists of six scales:

Tool I: **Socio-demographic characteristics:** it is included age, gender, marital status, levels of education, patterns of living arrangement, family support, and social support.

Tool II: The Appraisal of Self-Care Agency Scale-Revised (ASAS-R): It is 15-item that measures to evaluate the levels of self-care agency using a five-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). Under the original study the tool displayed good fit and reliability with the following three-factor model: factor 1 - having capacity for self-care (items 1, 2, 3, 5, 6 and 10); factor 2 - developing capacity for self-care (items 7, 8, 9, 12 and 13); and factor 3 - lacking capacity for self-care (items 4, 11, 14 and 15). Score ranged 15-7 where a high score indicated having capacity for self-care and a low score indicates to

lacking capacity for self-care. The final 15-item three-factor ASAS-R had an overall Cronbach's alpha (α) of 0.89 and the three factors had Cronbach's alphas of 0.86, 0.83 and 0.79, respectively. [19]

Tool III. The Charlson Comorbidity Index (CCI): It is a list of sixteen diseases that used to assess the severity of the co-morbid condition of the elderly participants, which is categorized based on the number and severity of the co-morbidity diseases. In this index, the sixteen diseases were included with different weights based on the strength of their association with mortality. The weighted scored of the diseases are allocated as follows: in severe condition, the weighted scored of the disease was given from 2 to 6 scores, while in mild condition, the weight score was given (1) score. The total index scored was classified into mild (1-16), moderate (17-31), and severe co-morbidity (32-96). Test-retest reliability was (ICC 0.94; 95% CI 0.72-0.99). [20]

Tool IV. The 36-Item Short Form Health Survey (SF-36): It is adopted questionnaire consists of 36 questions across eight health domain scales that used to evaluate Health-Related Quality of Life (HRQoL). **(1)** physical functioning; **(2)** role limitations due to physical health; **(3)** bodily pain; **(4)** general health; **(5)** energy/fatigue; **(6)** social functioning; **(7)** role limitations due to emotional problems; and **(8)** emotional well-being. These eight scales are summarized into two main categories: **(I).The Physical Component Summary (PCS),** including the physical functioning, role limitations due to physical health, bodily pain, and general health; and **(II).The Mental Component Summary (MCS),** including the energy/fatigue, social functioning, role limitations due to emotional problems, and emotional well-being. Total summary scores of this eight scales ranged from 0 to 100, with a higher score indicated better HRQoL (50-100) and lower score indicated worse HRQoL. [21]

Tool V. **Satisfaction with Life Scale (SWLS):** It consists of 5 items that proposed to measure life satisfaction. Participants specify their agreement or disagreement with the statements on a 7-point Likert type of scale and the scores ranged from 5 to 35, with higher scores indicated a greater life satisfaction and low score indicated dissatisfaction. The psychometric properties were tested in numerous studies and the internal consistency generally exceeds (.80) and the obtained an alpha coefficient of (.94). [22]

Tool VI. Rosenberg Self-Esteem Scale (SES): It contains 10 items intended to measure degree of self-esteem. The participants indicate agreement or disagreement with the statements on a 3-point Likert scale and the scores ranged from 0 (strongly disagree) to 3 (strongly agree). The scores ranged between 15 and 25, with higher scores indicated a high self-esteem and low score indicated low self-esteem. The Rosenberg Self-Esteem Scale was tested in previous studies and the internal consistency was (.77). [23]

Validity and Reliability: All the study tools were previously tested for reliability and validity. In the current study, these tools were adopted, translated from English to Arabic language by three independent translators for the convenience of its contents and tested for content validity by experts in the field of community health nursing and geriatric nursing. Required modification was done accordingly. This version was checked by the researchers of the present study to assess similarity between the original version and back translated version

to avoid discrepancies. The internal consistency was tested after translation all the tools in Arabic language where the values of the Cronbach's alpha were at the following table (1A).

Table (1A): Test-retest Reliability

Tools	Cronbach's alpha
I. The Appraisal of Self-Care Agency Scale-Revised(ASAS-R) ;	.86
Three factors-model - (Factors 1,2,3)	.82 ; .79 ; .77
II. The Charlson Comorbidity Index (CCI)	.93
III. The 36-Item Short Form Health Survey (SF-36)	.72
Physical functioning	.93
Role limitation due to physical domain	.84
Role limitation due to emotional domain	.83
Energy/fatigue	.86
Emotional well-being	.90
Social functioning	.85
Bodily pain	.78
General health	.78
IV. Satisfaction with Life Scale (SWLS)	.85
V. Rosenberg Self-Esteem Scale (SES)	.75

Ethical consideration: The study has been conducted after the approval was granted by the research and ethics committee - College of Nursing, Cairo University-Egypt and the social club's authority personnel prior commencing the study. A written consent was obtained from each older person after adequate explanation of the purpose of the study before beginning the data collection process, participant's confidentiality and privacy were assured. The researchers were clarified that the participation of older adults was voluntary and there are no potential risks associated with the participation and each participant has the right to withdraw from the research without penalty at any time of the study period. Privacy and confidentiality of the participant's information were completely protected, no identifiers or personal information was collected or stored including participant's name & identification.

Statistical analysis: The collected data were coded and analyzed using Statistical Package for Social Sciences (SPSS) version 20, Chicago, IL, USA. [(24)] A descriptive statistical analysis was used for describing all the study variables as frequency count, percentage, mean, standard deviation, figures, or charts. The Chi-square test was used to determine the significant difference between three levels of self- care agency among groups in relation to the socio-demographic characteristics and health-related factors. The Pearson's correlation coefficients (r) were used to evaluate the correlation between the ASAS-R factors as dependent variable and both the socio-demographic characteristics and health-related factors as independent variables. A multiple forward stepwise conditional logistic regression analysis was used to explore the predictors that may influence on the levels self- care agency. A p-value of ≤ 0.05 was considered statistically significant.

3.0 FINDINGS

In the present study, the results showed that more than half of the studied sample (51.1%) in the level of lacking capacity for self-care, while (29.8%) in the level of having capacity for self-care and (19.1%) in the level of lacking capacity for self-care **Figure-(1).**

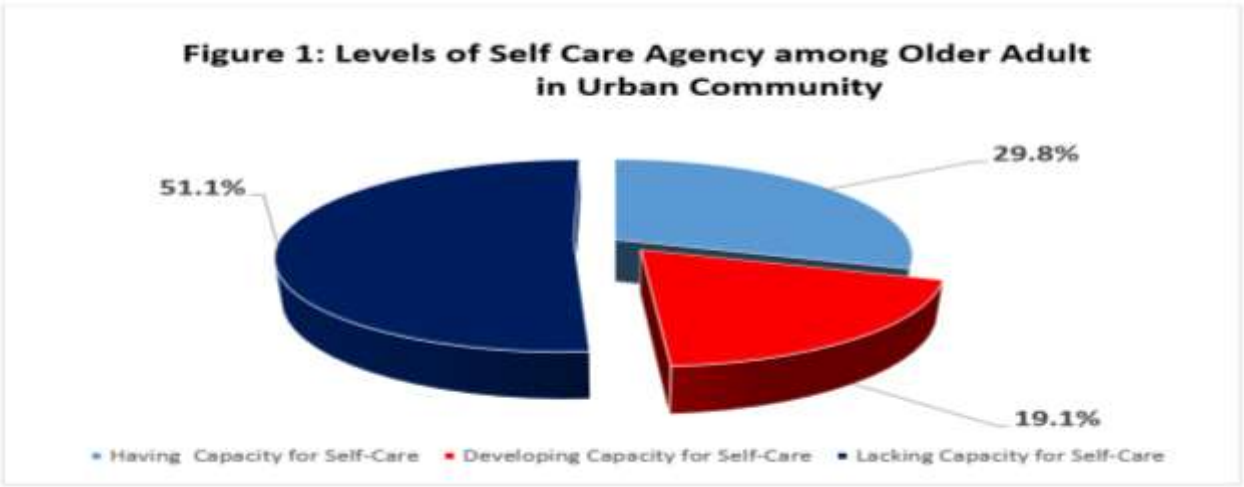


Table (1) showed the three levels of self-care agency in relation to socio-demographic characteristics of older adults in urban community. As inferred from this table, the results displayed that the mean age of the study sample was (72.19± 5.52). Most of the study sample (61.7%) was male; (40.5%) was married, (33%) had completed the baccalaureate degree, while (44.7%) was living alone, and half of the sample (50%) have not receiving family support while (60.6%) have not receiving social support.

In relation to age groups of the study sample, the highest percentage in the level of lacking capacity for self-care was significantly related to more advanced age "oldest-old age group", while the highest percentage in the levels of having capacity for self-care and developing capacity for self-care were related to young-old groups. On the other hands, there was a highly statistically significant difference between self-care agency levels and three age cohort groups of the older adult participants (x^2=13.36, p=.000).

For gender difference, the highest percentage in the level of lacking capacity for self-care was related to male more than female. While the levels of having capacity for self-care and developing capacity for self-care were higher among male more than female. A statistical significant difference was reported between three levels of self-care agency and gender (x^2=9.61, p=.055).

Likewise, the finding for the educational background indicated that the highest percentage in the level of having capacity for self-care was related to those who have a high degree of educational background and vice versa. A statistical significant difference was found between three levels of self-care agency and education background of the study participants (x^2=15.8, p=.015).

In relation to patterns of living arrangement, the results displayed that highest the percentage in the level of lacking capacity for self-care was related to older participants who are living alone more than the older people who are living with their family or a significant relatives. While the highest percentage in the levels of having capacity for self-care and developing

capacity for self-care were related to older participants who are living with their family or significant relatives more than the older people who are living alone. A statistical significant difference was found between three levels of self-care agency and patterns of living arrangement (x^2=12.60, p=.053).

Regarding family support and social support variables, the analysis showed that a highest percentage in the level of lacking capacity for self-care were related to those who had not received family support as well as social. In contradictory the highest percentage in the levels of having capacity for self-care and developing capacity for self-care were related to those who had receiving family and social support. A highly statistically significant difference was reported between levels of self-care agency and both family and social support (x^2=15.98, p=.000; x^2=14.81, p=.003) respectively. However, no statistically significance difference between levels of self-care agency and marital status.

Journal of Health, Medicine and Nursing
ISSN 2520-4025 (Online)
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Table 1: Socio-demographic Characteristics in Relation to Levels of Self -Care Agency

Socio-demographic Characteristics	Study Sample (n = 94)	Levels of Self-Care Agency n=94 Have Capacity for Self-Care n=28	Developing Capacity for Self-Care n=18	Lacking Capacity for Self-Care n=48	x^2	p-value
	n (%)	n (%)	n (%)	n (%)		
Age (years)						
Young old (60-74)	25(26.6)	11 (11.7)	8 (8.5)	6 (6.4)		
Old (75-84)	33(35.1)	9 (9.6)	6 (6.3)	18 (19.2)	13.3	.000**
Oldest-old (85+)	36(38.3)	8 (8.5)	4 (4.3)	24 (25.5)		
Mean ± SD			(72.19±5.52)			
Gender						
Male	58(61.7)	16 (17.1)	10 (10.6)	32 (34.0)	9.61	.055*
Female	36(38.3)	12 (12.7)	8 (8.5)	16 (17.1)		
Marital Status						
Married	38(40.5)	16 (17.1)	8 (8.5)	14 (14.9)		
Not married	21(22.3)	3 (3.1)	2 (2.1)	16 (17.1)	2.62	.269
Widow	35(37.2)	9 (9.6)	8 (8.5)	18 (19.1)		
Levels of Education						
No Formal Education	23(24.5)	2 (2.1)	3 (3.1)	18 (19.2)		
Primary /Middle School	22(23.4)	6 (6.4)	2 (2.1)	14 (14.9)	15.8	.015**
Secondary School	18(19.1)	4 (4.3)	2 (2.1)	12 (12.7)		
	31(33.0)	16 (17.1)	11 (11.7)	4 (4.3)		
Pattern of Living Arrangement	35(37.2)	20 (21.2)	12 (12.7)	3 (3.1)		
With family members	17(18.1)	4 (4.3)	2 (2.1)	11 (11.7)	12.6	.053*
With significant relatives	42(44.7)	4 (4.3)	4 (4.3)	34 (36.3)		
Family Support						
Present	47(50.0)	24 (25.5)	15 (16.0)	8 (8.5)	15.9	.000**
Not present	47(50.0)	4 (4.3)	3 (3.1)	40 (42.6)		
Social Support						
Present	37(39.4)	18 (19.2)	10 (10.6)	9 (9.6)	14.8	.003**
Not present	57(60.6)	10 (10.6)	8 (8.5)	39 (41.5)		

Table (2) revealed that a statistical relationship was observed between levels self-care agency and socio-demographic characteristics of the older adults in urban community. There was a statistically negative correlation depicted between self-care agency and age (r=-.477, p=.000); while there was found a positive correlation between self -care agency and others socio-demographic characteristics such as gender (r=-.329, p=.054); levels of education (r=.211 , p=.041); pattern of living arrangement (r=.233 , p=.021); family support (r=.232 , p=.000); and social support (r=.399 , p=.004). In the

meantime, there was no statistically significant correlation between self-care agency and marital status.

Table 2: ***Correlation between Self -Care Agency and Socio-demographic Characteristics of the Older Adults in Urban Community***

		1	2	3	4	5	6	7	8
1. Self-Care Agency	Pearson Correlation	1	-.477**	.329*	.111	.211*	.233*	.232**	.399**
	Sig. (2-tailed)		.000	.054	.287	.041	.021	.000	.004
	N	94	94	94	94	94	94	94	94
2. Age	Pearson Correlation		1	.588*	.023	.015	.401	.125	.025
	Sig. (2-tailed)			.057	.827	.889	.125	.229	.813
	N		94	94	94	94	94	94	94
3. Gender	Pearson Correlation			1	.248	.412**	.367	.522**	.254*
	Sig. (2-tailed)				.172	.000	.135	.000	.014
	N			94	94	94	94	94	94
4.Marital Status	Pearson Correlation				1	.010	.258*	.224*	.320*
	Sig. (2-tailed)					.925	.022	.034	.050
	N				94	94	94	94	94
5. Levels of Education	Pearson Correlation					1	.406	.422	.211
	Sig. (2-tailed)						.124	.120	.154
	N					94	94	94	94
6.Pattern of Living Arrangement	Pearson Correlation						1	.466**	.297*
	Sig. (2-tailed)							.005	.055
	N						94	94	94
7. Family Support	Pearson Correlation							1	.406**
	Sig. (2-tailed)								.002
	N							94	94
8. Social Support	Pearson Correlation								1
	Sig. (2-tailed)								
	N								94

Table (3) pointed out the health-related factors in relation to levels of self -care agency among older adults in urban community. For co-morbid index, the result presented that the highest percentage in the level of lacking capacity for self-care was significantly related to those who have severe co-morbidity index, while the highest percentage in the levels of both having capacity for self-care and developing capacity for self-care were related to those who have mild co-morbidity index. A highly statistically significant difference was found between self-care agency and severity of the co-morbidity among older adult participants (x^2=11.28, p=.004).

Regarding self-esteem and life satisfaction, the finding specified that the highest percentage in the level of lacking capacity for self-care for those who have perceived low self-esteem;

and also those who have perceived low life satisfaction as well. In contrast, the highest percentage in the levels of having capacity for self-care and developing capacity for self-care were related to those who have perceived a high degree of self-esteem; and also those who have perceived a high degree of life satisfaction. There was found a statistical significant difference between levels of self-care agency and self-esteem (x^2=20.28, p=.000); and for life satisfaction (x^2= 9.17, p=.057).

Table 3: Health –Related Factors in Relation to the Levels of Self -Care Agency

Health-Related Factors	Study Sample (n = 94)	Levels of Self Care Agency n=94			x^2	p - value
		Have Capacity for Self-Care n=28	Developing Capacity for Self-Care	Lacking Capacity for Self-Care		
	n (%)	n (%)	n (%)	n (%)		
Comorbidity Index						
Severe Co-morbid	40(42.6)	0 (0.0)	0 (0.0)	40 (42.6)		
Moderate Co-morbid	16(17.0)	2 (2.1)	8 (8.5)	6 (6.4)	11.2	.004**
Mild Co-morbid	38(40.4)	26 (27.7)	10 (10.6)	2 (2.1)		
Self-Esteem						
High Self-Esteem	39(41.5)	25 (26.6)	8 (8.5)	6 (6.4)	20.2	.000**
Low Self-Esteem	55(58.5)	3 (3.2)	10 (10.6)	42 (44.7)		
Life Satisfaction						
Satisfy	32(34.0)	24 (25.5)	6 (6.4)	2 (2.1)		
Neutral	20(21.2)	4 (4.3)	2 (2.1)	14 (15.0)	9.17	.057*
Un-satisfy		0(0. 0)	10 (10.6)	32 (34.0)		

*p < 0·05 *p < 0·001

Table (4) quantified health-related quality of life in relation to the levels of self-care agency among older adults. Regarding the Physical Component Summary (PCS), the results displayed that the highest percentage in the level of lacking capacity for self -care were significantly related to all the Physical Component Summary (PCS) subscales that exhibited physical functioning (x^2=8.62; p=.013); role limitations due to physical health (x^2=6.34; p=.042); bodily pain (x^2=8.62; p=.001); general health (x^2 = 6.46; p=.039). Meanwhile, for the Mental Component Summary (MCS), the results displayed that the lacking capacity for self -care was statistically significant difference in relation to those participants who have a highest percentage in the "role limitations due to emotional problem and those who have felt fatigue or less vitality" (x^2 =11.79, p=.040; x^2=10.95 , p=.016) respectively. Along with that, there was no statistically significant difference between three levels of self-care agency and the other mental component summary subscale.

Table 4: Health –Related Quality of Life in Relation to the Levels of Self -Care Agency

Health-Related Quality of Life (HRQOL) Scales	Study Sample (n = 94)	Levels of Self-Care Agency n=94 Having Capacity for Self-Care n=28	Developing Capacity for Self-Care n=18	Lacking Capacity for Self-Care n=48	x^2	p - value
	n (%)	n(%)	n(%)	n(%)		
Physical Component Summary (PCS)						
Physical Functioning	89(94.7)	28 (29.8)	16 (17.0)	45 (47.9)	8.62	.013*
Better	5(5.3)	0 (0.0)	2 (2.1)	3 (3.2)		
Worse						
Role Limitations due to Physical Health						
Better	39(41.5)	25 (26.6)	12 (12.7)	2 (2.1)	6.34	.042*
Worse	55(58.5)	3 (3.2)	6 (6.4)	46 (49.0)		
Bodily Pain						
Better	41(43.6)	26 (27.7)	15 (15.9)	0 (0.0)	8.62	0.001**
Worse	53(56.4)	2 (2.1)	3 (3.2)	48 (51.1)		
General Health						
Better	40(42.6)	24 (25.5)	14 (14.8)	2 (2.1)	6.46	.039*
Worse	54(57.5)	4 (4.3)	4 (4.3)	46 (49.0)		
Mental Component Summary (MCS)						
Social Functioning						
Better	45(47.8)	20 (21.3)	11 (11.7)	14 (14.9)	5.09	.078
Worse	49(52.2)	8 (8.5)	7 (7.4)	34 (36.2)		
Role Limitations due to Emotional Problem	46(48.9)	24 (25.5)	12 (12.7)	10 (10.6)	11.7	.040*
Better	48(51.1)	4 (4.3)	6 (6.4)	38 (40.4)		
Worse						
Emotional Well-Being	43(45.7)	16 (17.0)	13 (13.8)	14 (14.9)	4.81	.063
Better	51(54.3)	12 (12.8)	5(5.3)	34 (36.2)		
Worse						
Energy/Fatigue						
Better	32(34.0)	19 (20.2)	10 (10.6)	3 (3.2)	10.9	.016*
Worse	62(66.0)	9 (9.6)	8 (8.5)	45 (47.9)		

*p < 0·05 *p < 0·001

Journal of Health, Medicine and Nursing
ISSN 2520-4025 (Online)
Vol.4, Issue 2. No.5, pp 61- 83, 2019

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Table (5) exhibited the correlation between self -care agency and all health-related factors of older adults in urban community. A negative correlation was depicted between self-care agency and comorbidity index (r=-.383, p=.000); while there was a positive correlation between self -care agency and self-esteem (r=.358, p=.007); life satisfaction (r=.340, p=.001); and overall health-related quality of life (r=.314, p=.024).

Table 5: Correlation between Self- Care Agency and Health-Related Factors

		1	2	3	4	5
1. Self -Care Agency	Pearson Correlation	1	-.383**	.358**	.340**	.314*
	Sig. (2-tailed)		.000	.007	.001	.024
	N	94	94	94	94	94
2. Comorbidity Index	Pearson Correlation		1	.214**	.487*	.560**
	Sig. (2-tailed)			.005	.050	.000
	N		94	94	94	94
3. Self-Esteem	Pearson Correlation			1	.383*	.487**
	Sig. (2-tailed)				.032	.000
	N			94	94	94
4. Life Satisfaction	Pearson Correlation				1	.299**
	Sig. (2-tailed)					.004
	N				94	94
5.Health-Related Quality of Life (HR-QoL)	Pearson Correlation					1
	Sig. (2-tailed)					
	N					94

*p < 0·05 **p < 0·001

Table (6) explored the predictors that may influence the levels of self-care agency among older adults in the urban community. When logistic regression analysis was used, the results identified that the Physical Component Summary (PCS), life satisfaction and self-esteem, family support, social support, gender, levels of education, living arrangement were found as positive predictors; while the severity of co-morbidity index and advanced age were found as negative predictors that may increase older adults' risk for diminishing capacity for self-care.

Table 6: *Predictors of the Self Care Agency among Independent Older Adults in Urban Community*

Dependent Variables	Predictors	R^2	B	Sig	95% Confidence interval	
					Lower Bound	Upper Bound
Three-factor model of self-care agency	Comorbidity Index	0.61	-2.677	< .000	-3.640	-1.715
	Age		1.710	< .000	.914	2.507
	Physical Component		1.314	< .000	.762	1.867
	Family Support		.518	< .003	2.596	.440
	Life Satisfaction		.803	< .006	.233	1.374
	Self-Esteem		-1.450	< .018	-.255	-2.646
	Social Support		.703	< .020	.114	1.292
	Gender		.344	< .054	.032	2.321
	Level of Education		1.092	< 0.056	.027	2.212
	Living Arrangement		.602	< 0.071	1.110	.095

4.0 DISCUSSION

Focusing on the factors that might affect the capacity for self-care is one of the main approaches that assisting health care system, health care providers and family caregivers as well to address the issue of self-care deficit among the older adult and to take action for eliminating or reducing this sort of health problem. At the same time, this approach helps the older adults to know their self-care deficit and health needs, so they will know how to take care of themselves independently and improve their quality of life. Therefore, this study was conducted to explore the significant factors that may have influence on the capacity for self-care of older adults and also to identify the relationship between those factors and different levels self-care agency. Hence, addressing such an issue for evaluating capacity self-care among older adults is essential aspect of this research field.

The results of the present study revealed that, the level of having capacity for self-care and level of developing capacity for self-care among older adults were almost higher in young-old and old-age groups than the oldest-old age group. On the other hands, there was a significant correlation between age and self-care agency in this study sample. This result comes on the same line with (Zeleznik, 2007; Jan et al., 2010; Dale et al.,2011) who reported that lower self-care agency was significantly related to advanced age.[25,26,6] However, this result was inconsistent with (Damasio,2013) who reported that both levels of having capacity for self-care and developing self-care were higher in older people, while the level of lacking capacity for self-care was lower in older people. [27] This may be due to older people are likely to be aware of the benefits of health -related behaviors than young-old age group so they will know how to take care of themselves independently.

Regarding for the gender, the present study findings revealed that male older adults had a higher percent in the level of having capacity for self-care than female. There was a strong positive correlation between gender and capacity for self-care. This finding was agreed with (Kresevic,2011; Damasio,2013; Päivi et al., 2014) who stated that actual performance of self-care behaviors was associated with many factors such as age, and gender.[7,27,28] Meanwhile, this finding was dissimilar with (Dale et al.,2011) who reported that the levels of capacity for self-care were not related to gender.[6] The reason for this difference may be due to biological changes during the ageing process is that women tends to have poorer physical functions than men.

In reference to the marital status, the result of this study exposed that no significant difference was found between three levels of self-care agency and marital status as well as there was no significant correlation. Dissimilar results have been presented that there was a significant difference between the scores of those who were married and never married among older adults in relation to self-care and healthy behaviors.[6,28] The reason for this difference may be due to the fact that married people who had a spouse had someone to encourage and support them to take responsibility toward their health and to take-care of themselves while unmarried or divorced or widowed people who are living alone cannot receive any support to motivate them for caring themselves.

Considering level of education, the finding of this study indicated that approximately half of the studied group had completed a bachelor degree of education that associated with a high percentage in the level of having capacity for self-care, vice versa the older adults who had no formal education, those have a high percentage in the level of lacking capacity for self-care. In addition, this result of the present study also showed that there was a positive significant correlation between levels of capacity for self-care and educational background. This finding was consistent with a systematic literature review provided by (Riegel and Carlson, 2002; Päivi et al., 2014) who clarified that insufficient patient education is a risk factor that may affect the capacity for self-care among older patients. [29,28] In addition, (Dale et al.,2011; Jo and Grif,2011) who revealed that the level of having capacity for self-care and developing capacity for self-care were higher among those with a higher educational background. [6,30] On the other hands, (Cameron et al., 2010 ; Klainin and Ouannapiruk, 2010) found that even a mild degree of cognitive impairment represented one of the single most influential contributors to diminished capacity for self-care.[8,31] The reason for this difference may be due to educational completion will increase knowledge and awareness towards their responsibility for self-care.

In relation to the patterns of living arrangement and family support, the result of this study was illustrated that a significant correlation was found between three levels of self-care agency and living arrangement as well as the family support. In addition, this results showed that the level of having capacity for self-care was higher in older adults who living with their family and receiving support from them rather than who was living alone and didn't receive family support. This finding was similar to (Christel et al.,2006; Dale et al., 2010) who stated that the integration of the family members in the older people's health care may strengthen their relationship and increase self-care capacity.[32,6] In addition, (Zeleznik, 2007; Päivi et al., 2014) who stated that older people who were able to take care of themselves had good functional capacity and good family relationship.[25,28] Furthermore,(Donna,2006; Päivi et al., 2014) who conveyed that there was a significant difference between those participants

who reported living alone and those who did not live alone in relation to the practice of health responsibility where the results showed that those participants who reported living alone stated the practice of taking responsibility for health was more compared to the participants who reported living with others. [33,28]

According to social support, the finding of this study showed that the level of capacity for self-care is affected by the presence of social support. Besides that the results of the present study reported that there was a statistical significant correlation between social support and capacity for self-care. This finding was consistent with (Drageset, et al.,2009; Päivi et al.,2014) who have stated that the social support and friends' relationship are essential to help older persons in maintaining normal functioning and improvement of quality of life. In contrast, the older persons who live alone without help from friends, society, or the community are less to perform any self-care skills that they have learnt. [34,28] The reason for this difference may be due to older adults who received friends' relationship or have a social support are more motivated to take self-management practice and avoid self-neglect.

The results of this study showed the negative correlation and direct effects of severity of comorbidity on capacity of self-care. Other studies confirmed the present results that reported there is a statistically significant relationship between coexisting conditions as risk factors for diminished self-care capacity as illness or injuries, altered environment, altered routines, depression, limited mobility, malnutrition, pain, and prolonged bed rest.[7,28,35,36] Moreover, the findings of several studies reported that the impact of the disease was lower the level of having capacity for self-care and developing capacity for self-care. According to (Maddux,2016; Mehdi et al .,2018) who revealed that there is a positive correlation between lacking capacity for self-care and chronic disease that indicating that the perception of the impact of chronic disease was greater in individuals with a weaker self-care capacity. [38,37] The interpretation of this result may be due to increase of physiological and psychosocial changes associated with aging process which integrated into increase prevalence chronic disease that may cause limitations with activity of daily living that may lead to cause of disability and reduce in the level of personal independence as well as the decline capacity for self-care.

In relation to life satisfaction, the results of the present study also illustrated that there is a positive significant correlation between life satisfaction of older adults and capacity for self-care. This result comes on the same line with (Jan et al., 2010; Damasio, 2013) who reported that there was a positive correlation between capacity of self-care and subjective well-being indicators (satisfaction with life and subjective happiness). [26,27] Higher self-care ability was related to those who have perceived good health and satisfaction with life (Dale et al.,2011; Behice et al .,2017). On the other hands, the possibility of the older adult to feel healthy is dependent on their ability to adjust to their life. [6,39] The interpretation of this result may be due to the elderly people who are a more positive towards their life, they are more motivated to perform self-care actions for maintaining health status and promoting health behaviors that reflect directly a positive view on life as a whole and more insights towards self-care capacity.

In accordance to this study, the finding showed that there is a positive correlation between self-esteem of older adults and capacity for self-care. This result is consistent with other studies that reported that there is a significant relationship between self-care ability and self-esteem where it is stimulating the person in order to stand against life problems. Furthermore,

the results of other studies showed that there is a direct and significant relationship between the ability of the elderly to engage in the daily activities or doing exercise and self-esteem. [40,41] On other hands, other studies indicated that promotion of self-esteem can lead to improve in the elderly spiritual and mental health needs . [42,43] This finding also was agreement with (Mehdi et al .,2018; Maddux,2016; Masoumeh et al.,2016) who showed that with increasing age of the elderly person that can decrease the level of physical activities caused by special biological changes and subsequently can cause psychological changes such as losing of self-esteem. [37,38,44] The interpretation of this result may be due to physiological changes that associated with ageing process lead to older adult who have at least one, but more often they have several chronic illnesses such as diabetes and hypertension, which affect negatively on self-care behaviors and efficient self-care role that is also expected to reduce self-care agency and losing self-esteem.

The results of the current study revealed that there was a positive correlation between overall health -related quality of life domains and self-care agency among older adults. This result was agreement with other studies that reported ASAS-R factors "having capacity for self-care and developing capacity for self-care" have shown a positive correlation with physical and mental health (SF-36v2).[27] In addition, the analysis of the present study displayed that the levels of capacity for self-care was positively significant in related to all the Physical Component Summary (PCS) scales: physical function, role function, bodily pain, and general health. This result was parallel with (Beswick et al.,2010; Dale et al.,2011; Damasio,2013) who depicted that a positive correlation was found between ASAS-R factors and physical components of SF-36v2 which evaluates "the effect of physical problems on job function and bodily pain", while no significant correlation was found between developing capacity for self-care and the same variables. Furthermore, a high self-care ability was related to perceive good health and satisfaction with life as well as the possibility of feel healthy is dependent on older persons' ability to compensate to their actual situation. In addition, other studies stated that the possibility for an autonomous and living independently where the sense of personal growth and physical, psychosocial functioning was developed and being healthy ageing. [45,6,27]

The results of the current study revealed that there was a positive correlation between ASAS-R factors and Mental Component Summary "MCS" scale which evaluates "role limitations due to emotional problem and energy/fatigue". This result was consistent with several studies who reported problems with psychological maladjustment and inability of a person to apply self-care can lead to unintentional self-neglect which inevitability decrease the quality of life. So emotional and psychological support have a crucial role to help older person in maintaining normal functioning and quality of life. [37, 44, 46]

5.0 CONCLUSION AND RECOMMENDATIONS

By identifying the predictive factors that may reduce capacity for self-care among older adults, this will assist the health care system, health care providers, and family caregivers as well as society to be aware about anticipating future needs and address the issue of self-care deficit among the older adult and to take action for eliminating this sort of health problem with respect to the aging process. In this regards, the study recommended that all the governmental and non-governmental health sectors are indebted to maintain a proactively develop programs that provide medical and social

services for an aged population as a way of support of the elder population and their family to maximize the health and maintain self-care agency among those target populations.

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