

## The Effect of Disability and Related Stress Level of Chronically Ill Elderly on Their Coping Strategy

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### Abstract

**Background:** Elderly people face series of challenges such as chronic illnesses and some kind stressors which have direct impact on the body functionality. A lot of the illnesses, disability and even death are associated with chronic diseases. It is more important to adapt with these stressors. Successful coping play an important role in helping the elderly people to manage their stress.

**Aim:** to investigate the effect of disability and related stress level of chronically ill elderly on their coping strategy.

**Methodology:** A convenient sample of 200 elderly persons 60 years old or above who were suffering from one or more of chronic physical illness for the duration of at least one year or more were included in this study. They were selected from the health insurance hospitals in El-Mahaha Alkobra and Tanta city. An interview questionnaire sheet was developed by the researchers to collect the data. It included five parts: 1) Socio-demographic data, 2) Past medical history, 3) World Health Organization Disability Assessment Schedule, 4) Chohen Perceived Stress Scale, 5) Coping strategies inventory.

**Results:** About one half (48%) of the studied elderly had two or more chronic illness. Hypertension and diabetes showed the high prevalence among the studied elderly followed by arthritis (69%, 44% and 17% respectively). Slightly less than one half (46%) of the studied elderly had an overall moderate degree of functioning & disability and 39% of them had mild degree. About one half (49%) of them had high degree of stress and 43% of them had average stress level. About one half (49%, 48%, and 47%) of the elderly used problem solving, social support, and wishful thinking respectively with a high degree as a coping strategy.

**Conclusion:** There was a statistical significant relationship between the elderly level of functioning & disability related to mobility, self-care & participation and their level of stress. As well, there was a significant relationship between the elderly level of stress and express emotions, problem avoidance, wishful thinking, and self-criticism as coping strategies to it. Finally, there was a significant relationship between elderly functioning & disability and nearly with all coping strategies.

**Recommendations:** Coping strategies should be regrouped according to the elderly focus. Health policymakers need to acknowledge these strategies in the delivery of health care promoting activities for older people.

**Keywords:** elderly, coping strategies, stress, disability, and chronic illness.

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### I. Introduction

The elderly population accounts for the fastest growing sector of the global population. Old age is a period in person's life when body systems start to diminish in functionality. Ageing can be described as a continuous irreversible changing process that normally comes with stressors over a long period of time. Therefore, old age could be described as a period in life of a man when he cannot adapt properly to what he had previously adapted to <sup>(1)</sup>.

Elderly people face series of challenges such as illnesses and irreversible loses. As people grow old, they are most likely to go through some kind of illnesses, injuries or stressors and these have direct impact on the body functionality <sup>(2)</sup>. This process works against the will and interest of the elderly people. Chronic illness comes with lots of problems and there may be a need to keep in shapes the elderly emotions, self-image, ability, and relationship <sup>(3)</sup>.

When body is faced with challenges or loss, the ability to manage it become difficult, stressors set in and it will be more important to adapt with the situation <sup>(4)</sup>. Stress is an important factor when it comes to ageing. Stress puts a man at risk of going through ageing process while age also puts man at risk of stress in the other way round <sup>(5)</sup>.

Elderly people may present stress symptoms due to physical, psychological and social changes during aging process. The several changes in daily life resulting from the aging process become a threat to bio-psychosocial equilibrium, thus constituting a stress factor that is capable of stimulating behavioral and neurovegetative responses as an adaptation to stressor events <sup>(6)</sup>.

Chronic diseases can have a profound impact on the health and quality of life of elder people. A lot of the sickness, disability and even death are associated with chronic diseases. Helping a person with a chronic condition maintain his or her lifestyle and adapt with his chronic condition can be a challenge, but by providing information about resources and other help available you can take comfort in the knowledge that you are doing what you can to support their needs and wishes <sup>(7)</sup>.

Information on disability is an important component of health information, as it shows how well an individual is able to function in general areas of life. Along with traditional indicators of a population's health status, such as mortality and morbidity rates, disability has become important in measuring disease burden, in evaluating the effectiveness of health interventions and in planning health policy. Defining and measuring disability, however, has been challenging. The World Health Organization (WHO) has tried to address the problem by establishing an international classification scheme known as the International Classification of Functioning, Disability and Health (ICF) <sup>(8)</sup>.

Conceptual framework for World Health Organization Disability Assessment Schedule (WHODAS) is grounded in the conceptual framework of the ICF and captures an individual's level of functioning in six major life domains: (i) cognition (understanding and communication); (ii) mobility (ability to move and get around); (iii) self-care (ability to attend to personal hygiene, dressing and eating, and to live alone); (iv) getting along (ability to interact with other people); (v) life activities (ability to carry out responsibilities at home, work and school); (vi) participation in society (ability to engage in community, civil and recreational activities). All domains were developed from a comprehensive set of ICF items and made to correspond directly with ICF's "activity and participation" dimension which is applicable to any health condition. For all six domains, the WHODAS provides a profile and a summary measure of functioning and disability that is reliable and applicable across cultures in adult populations <sup>(8)</sup>.

Identifying predictors of successful coping and characteristics of stressors faces by older adults may help the researchers' understanding of this growing population wave and how best to serve it. As people age, they find themselves deal with a new and unfamiliar stressors, obstacles or problems. Chronic illness is one of the most common stressors of older adults. Some people deal with these problems well and others do not. Coping styles play an important role in stress management. It is important to understand the types of these stressors to help them to cope with <sup>(9)</sup>.

Coping is defined as progressive change in cognitive and behavioral ability to control certain external or internal needs considered to have exceeded the resources of the person in question. Coping is also seen to be related to human personality trait and according to the situation itself <sup>(3)</sup>. Ways of dealing with stressors that are associated with aging are not only controlled by corrective measures after finding ourselves in the situation. Preventive measures put in place before the situation occurs help the elderly in reducing the effect of the problems when they eventually occur <sup>(10)</sup>.

Preventive coping is an effort to avert or delay the occurrence of the age related changes / problems in the elderly while corrective is a measure(s) spelt out to put the situation back to normal after the occurrence. In coping with these problems, role of the nurses is very important <sup>(1)</sup>.

Life of the elderly people is supported by direct dependence on the people around them, especially those living in the nursing homes. The main people mostly around them are the health professionals. Also, act of coping is a rehabilitative process that can be better managed by health professionals. Attitude of the nurses towards the elderly and the family members have a significant role in helping the elderly to cope with his stressors <sup>(1)</sup>.

Smooth communication can be initiated by a nurse and is a strong attachment between the nurses and the elderly persons. Communication that welcomes feedback from the elderly helps in diverting attention and reducing the feelings of the pain and stress <sup>(11)</sup>. Therefore, survival of the elderly people through their coping strategies rests on the nurses' attitudes, responses and professional skills. Nurses help the old people in their coping skills in different ways and this must follow a regular pattern as educating them on their state of health, changing their understanding about the situation, giving them hope and teaching them how they can deal with the situation <sup>(12)</sup>.

More specifically, the positive reappraisal and problem solving are associated with better outcomes highlights the value of intervention programs to teach older adults approach of coping skills. Such programs might place special focus on interpersonal problems, since older adults seem to find it difficult to cope with negative social interactions. As well, there were some important commonalities in the associations between life stressors, coping, and outcomes <sup>(13)</sup>.

#### **Aim of the study:**

The aim of this study is to investigate the effect of disability and related stress level of chronically ill elderly on their coping strategy.

**Research questions:**

- 1) What is the disability level of the elderly people with chronic illness?
- 2) What is the level of perceived stress among elderly resulting from chronic illness?
- 3) How elderly populations cope with the stresses that result from functional difficulties?

**II. Subjects and method**

**Study design:** Cross-sectional study was used as a method of data collection.

**Setting:**

The study was conducted at the out-patient clinics in the health insurance hospital in Tanta city and El-Mabarah hospital in El-Mahala Alkobra city, Gharbeia governorate, Egypt.

**Subjects:-**

A convenient sample of 200 elderly was included in this study. One hundred from the health insurance hospital in Tanta city, and the other 100 elderly from El-Mabarah hospital at El-Mahaha Alkobra city.

**Inclusive criteria:** Elderly persons (60 years old or above) who come to the previously mentioned settings and suffering from one or more of chronic physical illness for the duration of at least one year or more.

**Exclusive criteria:** Any elderly who suffers from mental /psychological illness was excluded from this study.

**Tool of data collection:-**

An interview questionnaire sheet was developed by the researchers to collect the necessary data of this study. It included the following five parts:-

**Part (1):**

- **Socio-demographic** data related to the elderly such as: - age, sex, residence, occupation before retirement, and family income.

**Part (2):**

- **Past medical history** of the elderly: it included data of chronic diseases affecting the elderly such as its numbers, name, duration, and the complication resulted from these diseases.

**Part (3):**

- **World Health Organization Disability Assessment Schedule 2.0** (WHODAS 2) <sup>(8)</sup>.

It was used to measure functioning and disability of the elderly in accordance with the International Classification of Functioning (ICF), Disability and Health. The WHODAS 2.0 is grounded in the conceptual framework of the ICF and captures an individual's level of functioning in six major life domains: cognition, mobility, self-care, getting along, life activities, and participation in society.

**Part (4): Chohen Perceived Stress Scale 10:**

It is a 14 items self-reported measure. It was developed by Chohen et al (1983) <sup>(14)</sup> to assess the degree to which individual situations are evaluated as being stressful or more precisely, unpredictable, uncontrollable and intense during the past month. The scale was subsequently revised and now consists of 10 items. Each item is rated on a 5-point scale ranging from never (0) to almost always (4). Positively worded items are reverse scored, and the ratings are summed, with higher scores indicating more perceived stress. Scores around 13 are considered average. Scores of 20 or higher are considered high stress. The researchers translated this scale into Arabic language to introduce it to the elderly persons.

**Part (5): Coping strategies inventory:**

It is 72 items self-reported questionnaire designed by Tobin DL (1984) <sup>(15)</sup> to assess coping thoughts and behaviors in response to certain stressor. It includes eight primary subscales that consist of coping strategies people use in response to stressful events. These subscales include problem solving, cognitive restructuring, social support, express emotion, problem avoidance, wishful thinking, self-criticism and social withdrawal. The researchers adapted coping strategies inventory to 24 items to suit the elderly person, and translate it into Arabic.

**Methods:-**

- Before conducting the study, a written letter was directed from the dean of the Faculty of Nursing, Tanta University to the administrators of mentioned health insurance hospitals to gain their cooperation.
- **Ethical considerations:** - An informed oral consent was obtained from the elderly. The anonymity and confidentiality of the data collected from the elderly were reassured and respected. All elderly were informed about the purpose of this study.
- **Developing the tool:**-The researchers developed part one and two based on the relevant literature to meet the objectives of the study. Part three and four were adopted from WHO <sup>(8)</sup> and Chohen et al (1983) <sup>(14)</sup> respectively, the researchers translated it to Arabic language. Part five was adapted from Tobin DL (1984) <sup>(15)</sup>.

- **Validity and reliability of the tools:** PartIII, IV, and V of the questionnaire was translated into Arabic by the researchers, and then five faculty professors (three from community health nursing department, faculty of nursing and two from public health and preventive medicine, faculty of medicine, Tanta University) reviewed the tool to ensure that the questionnaire design, wording, and measurement scales were appropriate. All recommended modifications were performed. The reliability of the questionnaire was also assessed by calculating the Cronbach’s alpha; it was 0.882 for World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2), 0.844 for Chohen Perceived Stress Scale, and 0.899 for coping strategies inventory.
- **Pilot study:** - A pilot study was conducted on 10% of the total sample (20 elderly) to evaluate the clarity and ease of completion of the questionnaire. The elderly were asked to fill the questionnaire and provide comments about the content of questions. The researchers checked whether all instructions and questions were understood as intended. According to the comments and recommendations, a few minor modifications were made. Those elderly were excluded from the study sample.
- **Data collection.**
  - The collection of the data continued during a period of 3 months starting from September to the end of November 2015.
  - The studied elderly were interviewed in waiting area of the out-patient clinics of the selected settings after obtaining their consent. The data was collected by administering the questionnaire sheet to each literate elderly individually to complete it by himself/ herself with the attendance of the researcher to offer guidance and clarification when needed. Regarding the illiterate elderly, they were asked orally by the researchers and the researchers fill the questionnaire sheet according to their answers.
- **Statistical analysis**

The data were coded, entered and analyzed using SPSS (version 20). Descriptive statistics (frequency numbers and percentages) was used for demographic characteristics and elderly responses to the questionnaire. Comparison between two groups and more of the studied elderly was done using Chi-square test ( $X^2$ ). Statistical significant difference was set at P value <0.05%.

### III. Results

**Table (1) shows distribution of the studied elderly according to their socio-demographic characteristics.** The table illustrated that the age of about two thirds of the studied elderly ranged from 60-69 years. About two thirds (64% and 69%) of the elderly were females and from rural areas respectively. As regard to educational level, 62% of the elderly were illiterate or just read and write compared to only 13% of them who were university educated. In addition, the table revealed that more than half (56% and 59%) of the studied elderly were house wives and had enough income respectively.

**Table (1) Distribution of the studied elderly according to their socio-demographic characteristics:**

Socio-demographic characteristics	Studied elderly (n=200)	
	No	%
<b>Age in years</b>		
• 60-69	130	65.0
• 70-79	52	26.0
• 80 and more	18	9.0
<b>Sex</b>		
• Male	72	36.0
• Female	128	64.0
<b>Residence</b>		69.0
• Rural	138	
• Urban	62	31.0
<b>Educational level</b>		
• Illiterate or just read and write	124	62.0
• Elementary	28	14.0
• Secondary	22	11.0
• University	26	13.0
<b>Occupation</b>		
• Professional	32	16.0
• Semi—professional	18	9.0
• Workers	38	19.0
• House wives	112	56.0
<b>Income</b>		
• Enough and save	70	35.0
• Enough	118	59.0
• Not enough	12	6.0

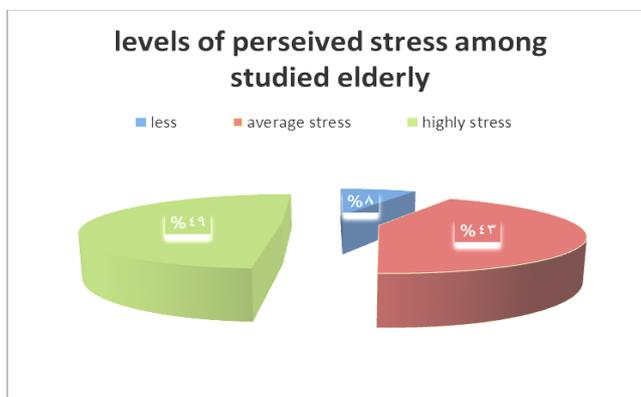
**Table (2) shows distribution of the studied elderly according to their past medical history.** The table demonstrated that slightly less than half (48%) of the studied elderly had two or more chronic illness. Hypertension and diabetes showed the high prevalence among the studied elderly followed by arthritis (69%, 44% and 17% respectively). About one quarter (28%, 23%, and 22%) of the elderly mentioned that they suffer from the chronic illness since 1-5 years, 6-10 years, and 11-15 years respectively. Moreover, about one quarter (24%, 22%) of the elderly stated that they suffer from poor vision & eye complication and difficult mobility as a result from their chronic illness. In addition, 20% and 19% of the studied elderly reported difficulty in activities of daily living and neuritis respectively.

**Table (2): Distribution of the studied elderly according to their past medical history:**

Variables	Studied elderly (n = 200)	
	No	%
<b>Number of chronic illness</b>		
• One	104	52.0
• Two and more	96	48.0
<b>Types of chronic illness</b>		
• Hypertension	138	69.0
• Diabetes	88	44.0
• Arthritis	34	17.0
• Gout	4	2.0
• Renal disease	8	4.0
• Heart disease	14	7.0
• Liver	12	6.0
• Disk	6	3.0
<b>Duration of the chronic illness</b>		
• 1-5 years	56	28.0
• 6-10 years	46	23.0
• 11-15 years	44	22.0
• 16-20 years	34	17.0
• More than 20 years	20	10.0
<b>Presence of complications of chronic illness</b>	130	65.0
<b>Types of complications</b>		
• Difficult mobility	44	22.0
• Difficulty in daily activities	40	20.0
• Headache	22	11.0
• Neuritis	42	19.0
• poor vision & eye complications	48	24.0
• Cardiac complications	24	12.0
• Stroke	8	4.0

**Figure (1) shows distribution of the studied elderly according to their levels of perceived stress.** It was obvious that about half (49%) of the studied elderly had high degree of stress and 43% of them had average stress level. While only 8% of them had low degree of stress.

**Figure (1): Distribution of the studied elderly according to their levels of perceived stress**



**Table (3) shows distribution of the studied elderly according to their degrees of functioning & disability.** The table indicated that slightly less than one half (46%) of the studied elderly had an overall moderate degree of functioning & disability and 39% of them had mild degree compared to only 15% of them

who had sever degree. More than half (61.5%, 67%, 57%, and 53%) of the elderly had mild degree of functioning & disability related to cognition, self-care, getting along, and participation domains respectively. The table also revealed that, slightly less than half (44%) of the studied elderly reported sever degree of functioning & disability related to mobility domain followed by 30% for living activities domain.

**Table (3): Distribution of the studied elderly according to their degrees of functioning & disability.**

Domains of functioning & disability.	Studied elderly (n= 200)					
	degrees of functioning & disability					
	Mild		Moderate		Severe	
	No	%	No	%	No	%
Cognition	123	61.5	56	28.0	21	10.5
Mobility	46	23.0	66	33.0	88	44.0
Self-care	134	67.0	44	22.0	22	11.0
Getting along	114	57.0	62	31.0	24	12.0
Life activities	78	39.0	62	31.0	60	30.0
Participation	106	53.0	68	34.0	26	13.0
Overall functioning & disability	78	39.0	92	46.0	30	15.0

**Table (4) shows distribution of the studied elderly according to the degrees of coping strategies they use.** The table illustrated that, slightly less half (42%, 45%, and 48%) of the studied elderly used problem avoidance, self-criticism, and social withdrawal respectively with a mild degree as coping strategies to functioning & disability that result from their chronic illness. More than half (58%) of the studied elderly expressed their emotions with a moderate degree as a coping strategy to functioning & disability. less than half (42%) used cognitive restructure. Also, the table revealed that, about one third (34%, 36%, 30%, 34%) of the studied elderly used problem solving, social support, problem avoidance, and wishful thinking respectively with a moderate degree as a coping strategy to functioning & disability that result from their chronic illness. On the other hand, about half (49%, 48%, and 47%) of the studied elderly used problem solving, social support, and wishful thinking respectively with a high degree as a coping strategy.

**Table (4): Distribution of the studied elderly according to the degrees of coping strategies they use.**

Coping strategies	Studied elderly (n= 200)					
	Low		Moderate		High	
	No	%	No	%	No	%
Problem solving	34	17.0	68	34.0	98	49.0
Express emotions	42	21.0	116	58.0	42	21.0
Cognitive restructure	32	16.0	84	42.0	84	42.0
Social support	32	16.0	72	36.0	96	48.0
Problem avoidance	84	42.0	60	30.0	56	28.0
Wishful thinking	38	19.0	68	34.0	94	47.0
Self-criticism	90	45.0	58	29.0	52	26.0
Social withdrawal	96	48.0	74	37.0	30	15.0

**Table (5) shows the relationship between the perceived stress levels of the studied elderly and their levels of functioning and disability.** The table illustrated that, about one half (49%) of the studied elderly expressed high degree of stress as a result of high degree of disability related to mobility domain. The table also revealed that, there was a statistical significant relationship between the elderly level of mobility, self-care & participation and their level of stress they expressed ( $P < 0.05$ ).

**Table (5): The relationship between the perceived stress levels of the studied elderly and their levels of functioning and disability**

Levels of functioning and disability	Perceived stress levels						X <sup>2</sup>	P
	Low stress (n=16)		Average stress (n=86)		High stress (n=98)			
	No	%	No	%	No	%		
Cognition							2.455	0.653
• Low	12	75.0	52	60.5	59	60.2		
• Moderate	2	12.5	24	27.9	30	30.6		
• High	2	12.5	10	11.6	9	9.2		
Mobility							22.821	0.000*
• Low	10	62.5	24	27.9	12	12.2		
• Moderate	4	25.0	24	27.9	38	38.8		
• High	2	12.5	38	44.2	48	49.0		

<b>Self-care</b>									
• Low	10	62.5	64	74.4	60	61.2	12.234	0.016*	
• Moderate	4	25.0	20	23.3	20	20.4			
• High	2	12.5	2	2.3	18	18.4			
<b>Getting along</b>								0.301	
• Low	12	75.0	52	60.5	50	51.0	4.871		
• Moderate	2	12.5	26	30.2	34	34.7			
• High	2	12.5	8	9.3	14	14.3			
<b>Life activities</b>								0.214	
• Low	8	50.0	40	46.5	30	30.6	5.804		
• Moderate	4	25.0	24	27.9	34	34.7			
• High	4	25.0	22	25.6	34	34.7			
<b>Participation</b>								0.002*	
• Low	12	75.0	56	65.1	38	38.8	16.718		
• Moderate	2	12.5	22	25.6	44	44.9			
• High	2	12.5	8	9.3	16	16.3			

Table (6) shows the relationship between the perceived stress levels of the studied elderly and levels coping strategies they use. The table revealed that, 53.1%, and 46.9% of the studied elderly experienced a high stress level and used expression of emotion and wishful thinking respectively with a high degree to cope with it. The table also demonstrated that, there was a statistical significant relationship between the elderly level of stress and express emotions, problem avoidance, wishful thinking, and self-criticism as coping strategies to it (P < 0.05).

Table (6): The relationship between the perceived stress levels of the studied elderly and levels of coping strategies they use.

Coping strategies	Perceived stress levels						X <sup>2</sup>	P
	Low stress (n=16)		Average stress (n=86)		High stress (n=98)			
	No	%	No	%	No	%		
<b>Problem solving</b>							4.254	0.373
• Low	2	12.5	12	14.0	18	18.4		
• Moderate	6	37.5	32	37.2	46	46.9		
• High	8	50.	42	48.8	34	34.7		
<b>Express emotions</b>							10.083	0.039*
• Low	2	12.5	14	16.3	18	18.4		
• Moderate	2	12.5	38	44.2	28	28.6		
• High	12	75.0	34	39.5	52	53.1		
<b>Cognitive restructuring</b>							3.754	0.440
• Low	2	14.3	14	16.3	26	26.5		
• Moderate	8	57.1	54	62.8	52	53.1		
• High	4	28.6	18	20.9	20	20.4		
<b>Social support</b>							3.534	0.473
• Low	4	25.0	14	16.3	14	14.3		
• Moderate	6	37.5	26	30.2	40	40.8		
• High	6	37.5	46	53.5	44	44.9		
<b>Problem avoidance</b>							25.614	0.000*
• Low	2	12.5	30	34.9	52	53.1		
• Moderate	2	12.5	30	34.9	28	28.6		
• High	12	75.0	26	30.2	18	18.4		
<b>Wishful thinking</b>							11.864	0.018*
• Low	2	12.5	12	14.0	24	24.5		
• Moderate	2	12.5	38	44.2	28	28.6		
• High	12	75.0	36	41.9	46	46.9		
<b>Self-criticism</b>							26.620	0.000*
• Low	10	62.5	26	30.2	54	55.1		
• Moderate	0	0.0	26	30.2	32	32.7		
• High	6	37.5	34	39.5	12	12.2		
<b>Social withdrawal</b>							9.147	0.058
• Low	4	25.0	42	48.8	50	51.0		
• Moderate	6	37.5	30	34.9	38	38.8		
• High	6	37.5	14	16.3	10	10.2		

Table (7) shows the relationship between the overall levels of functioning & disability of the studied elderly and levels coping strategies they use. The table revealed that the highest percentages among elderly with all levels of functioning & disability tended to use problem solving, express emotions, social support, and wishful thinking with a high degree as coping strategies.

Also, the table illustrated that more than half (51.3%, 60.9%, and 64.3%) of elderly with mild, moderate, and severe levels functioning & disability used cognitive restructure with a moderate degree as a coping strategy. Furthermore, more than half of the studied elderly with mid and moderate levels functioning & disability used to

cope with these disabilities through problem avoidance, self-criticism, and social withdrawal with a low degree as coping strategies.

The table also demonstrated that, there was a statistical significant relationship between the elderly levels of the overall functioning& disability they experienced and problem solving, express emotions, cognitive restructuring, problem avoidance, wishful thinking, self-criticism, and social withdrawal as coping strategies to it (P < 0.05).

**Table (7): Relationship between the overall functioning& disability levels of the studied elderly and the levelsof coping strategies they use.**

Levels of coping strategies	Overall functioning&disability levels						X <sup>2</sup>	P
	Mild (n=78)		Moderate (n=92)		Severe (n=30)			
	No	%	No	%	No	%		
<b>Problem solving</b>								
• Low	10	12.8	10	10.9	12	40.0	17.140	0.002*
• Moderate	34	43.6	38	41.3	12	40.0		
• High	34	43.6	44	47.8	6	20.0		
<b>Express emotions</b>								
• Low	4	5.1	18	19.6	12	40.0	23.450	0.000*
• Moderate	28	35.9	36	39.1	4	13.3		
• High	46	59.0	38	41.3	14	46.7		
<b>Cognitive restructuring</b>								
• Low	26	33.3	12	13.0	4	14.3	12.139	0.016*
• Moderate	40	51.3	56	60.9	18	64.3		
• High	12	15.4	24	26.1	6	21.4		
<b>Social support</b>								
• Low	8	10.3	14	15.2	10	33.3	9.314	0.054
• Moderate	28	35.9	36	39.1	8	26.7		
• High	42	53.8	42	45.7	12	40.0		
<b>Problem avoidance</b>								
• Low	42	53.8	26	28.3	16	53.3	17.106	0.002*
• Moderate	14	17.9	36	39.1	10	33.3		
• High	22	28.2	30	32.6	4	13.3		
<b>Wishful thinking</b>								
• Low	12	15.4	12	13.0	14	46.7	22.128	0.000*
• Moderate	30	38.5	36	39.1	2	6.7		
• High	36	46.2	44	47.8	14	46.7		
<b>Self-criticism</b>								
• Low	44	56.4	30	32.6	16	53.3	20.761	0.000*
• Moderate	26	33.3	26	28.3	6	20.0		
• High	8	10.3	36	39.1	8	26.7		
<b>Social withdrawal</b>								
• Low	44	56.4	34	37.0	18	60.0	17.153	0.002*
• Moderate	24	30.8	46	50.0	4	13.3		
• High	10	12.8	12	13.0	8	26.7		

**Table (8) shows the relationship between the numbers of chronic illness of the studied elderly and levels of coping strategies they use.** The table illustrated that more than half (62.2%, and 62.2%) of elderly with two & more chronic illness used problem solving, social support as coping strategies to it. The table also demonstrated that, there was a statistical significant relationship between the elderly numbers of chronic illness and problem solving, social support, and social withdrawal as coping strategies to it (P < 0.05)

**Table (8): Relationship between the numbers of chronic illness of the studied elderly and levels of coping strategies they use.**

Coping strategies	Elderly with one chronic illness (n=104)		Elderly with two & more chronic illness (n= 96)		X <sup>2</sup>	P
	No	%	No	%		
<b>Problem solving</b>						
• Low	14	13.5	20	20.8	10.246	0.006*
• Moderate	46	44.2	22	22.9		
• High	44	42.3	54	56.2		
<b>Express emotions</b>						
• Low	22	21.2	20	21.3	2.011	0.366
• Moderate	56	53.8	58	61.7		
• High	26	25.0	16	17.0		

<b>Cognitive restructuring</b>						
• Low	22	21.2	10	10.4	5.141	0.077
• Moderate	38	36.5	46	47.9		
• High	44	42.3	40	41.7		
<b>Social support</b>						
• Low	14	13.5	18	18.8	9.696	0.008*
• Moderate	48	46.2	24	25.0		
• High	42	40.4	54	56.2		
<b>Problem avoidance</b>						
• Low	42	40.4	42	43.8	0.2330	0.8900
• Moderate	32	30.8	28	29.2		
• High	30	28.8	26	27.1		
<b>Wishful thinking</b>						
• Low	16	15.4	22	22.9	1.930	0.381
• Moderate	36	34.6	32	33.3		
• High	52	50.0	42	43.8		
<b>Self-criticism</b>						
• Low	48	46.2	42	43.8	0.149	0.9280
• Moderate	30	28.8	28	29.2		
• High	26	25.0	26	27.1		
<b>Social withdrawal</b>						
• Low	50	48.1	46	47.9	7.744	0.021*
• Moderate	32	30.8	42	43.8		
• High	22	21.2	8	8.3		

#### IV. Discussion

There is a considerable interest in how older adults manage severe negative life circumstances as chronic diseases. So, most of the prior work has focused on individuals' responses to these diseases, and in which these diseases can influence on the coping process. Regarding the socio-demographic characteristics of the studied elderly in the current study, the age of about two thirds of the studied elderly was ranged from 60-69 years and more than one quarter of them their age was ranged from 70- 79 years and only 9 % were 80 years or more years old. This is nearly in accordance with Rakesh S and Sharika M (2014), who found in their study that around 70% of the elderly in the home settings were in the age group 60- 69 years followed by 24% were 70-79, then 3% were 80 years and above <sup>(16)</sup>. This may be attributed to the ongoing improvements in the health services to the elderly which is contributed to the longevity of the old people.

Regarding the residence of the studied elderly in the present study, more than two thirds of them were from rural areas. This may be attributed to the nature of geographical location of the selected study settings and because of that health insurance clinics provide the services mainly for those who are lowest socioeconomic status especially from rural areas. Furthermore, the educational levels of the studied elderly revealed that more than three fifths of them were illiterate or just read and write. This could be explained that the lack of attention and awareness regarding the importance of education for those elderly in their childhood and also to the socioeconomic causes.

As people grow old, they are most likely to go through some kind of illnesses <sup>(2)</sup>. The present study revealed that slightly less than one half of the studied elderly had two or more chronic illness. Hypertension, diabetes, and arthritis are the most common types experienced. The duration of chronic illness for more than one quarter of the studied elderly was ranged from (1-5 years). And slightly less than one quarter of them had the duration of illness as (6-10 years) and (11-15 years) respectively. This can put the elderly population under a considerable level of stress.

Chronic stressors play a moderately strong and consistent role in older adults' appraisal and coping with life events. Individuals who experienced more chronic stressors were more likely to appraise events as threatening and they believe that they had insufficient time to prepare for them <sup>(13)</sup>. The results of the present study indicated that there were significant relationships between the number of elderly chronic diseases and coping strategies they use in relation to problem solving, social support, and social withdrawal. This is contradicted with the findings of Moos (2006), who showed that individuals who have more health-related and other life stressors are more likely to rely on avoidance coping, cognitive avoidance and emotional discharge coping <sup>(13)</sup>.

Some authors have argued that stress manifestation during the aging process may be strongly associated with changes in the sources of stress, increasing therefore the vulnerability to a more intensive manifestation of the stress <sup>(17, 18)</sup>. The highly proportion of the elderly with chronic illness in our study experienced highly stress level followed by average level. This may be due to the multiple chronic diseases which the elderly suffered from and the associated physical, emotional, social, and financial burdens as a result of these diseases. This is in accordance with Juliana Nery de Souza-Talarico et al., (2009), who revealed that the majority of elderly assessed in their study presented high levels of stress; this may partially reflect the impact of the several biological, cognitive, functional, social and economic changes as a result from the aging process <sup>(6)</sup>.

Regarding the relationship between stress and coping, theoretically, an effective coping may be reflected in the absence or low occurrence of stress symptoms<sup>(17, 19)</sup>. In this line, the results of the present study revealed that there was a statistical significant relationship between the elderly level of stress they experienced and express emotions, problem avoidance, wishful thinking, and self-criticism, as strategies used to cope with stress ( $P < 0.05$ ).

In the same context, Moos (2006), found in his study that there were some important commonalities in the associations between life stressors, coping, and outcomes across the studied domains. In his domains, (a) chronic stressors were associated with reliance on cognitive avoidance and emotional discharge coping, (b) reliance on positive reappraisal and problem solving<sup>(13)</sup>.

Behavioral stress manifestation represents meaningful symptoms that can influence self-care and daily life maintenance<sup>(17)</sup>. The results of the current study found that there was significant relationship between the elderly stress levels and their levels of functioning and disability in relation to mobility, self care, and participation. Health & Phair (2011), are in the same line as they reported that some kind of illnesses, injuries or stressors have direct impact on the body functionality<sup>(2)</sup>.

William WH, M et al (2012), concluded that over time, the relationship of chronic diseases and impairments with disability were largely unchanged<sup>(20)</sup>. The results of this study revealed that slightly less than one half of the studied elderly had an overall moderate degree of functioning & disability and slightly less than two fifths of them had mild degree compared to only 15% of them who had sever degree of disability associated with chronic illness. According to Galenkamp H et al (2013), this could be explained that over time, people may attach importance to different aspects of health when rating their overall health<sup>(21)</sup>.

This is in agreement with Seeman TE et al (2010) and Freedman VA et al (2008), who revealed that disability prevalence among older adults has declined despite an increase in chronic disease prevalence in the past 20 years<sup>(22, 23)</sup>. On the other hand, Auerbach (2000) reported that individuals who reported health events may have experienced more impaired functioning or more chronic stressors, which are associated with avoidance coping. In addition, there is an increased tendency now for patients to take a more active stance in relation to decision-making about their health problems<sup>(14)</sup>.

The previous idea supports the results of our study regarding the relationship between the body functions and disability of chronically elderly and their strategies they use to cope with their problems. Coping is a proven strategy being used by the old people in managing disabilities or stressors brought about by age related changes. Our study concluded that there was a statistical significant relationship between the elderly levels of the overall functioning & disability they experienced and all coping strategies they used except with social support.

Corrective approach appears to be common practice of coping in the literatures. This is coping with or modifying one's life to adapt to stressors when they have already occurred. Actively engaging in social activities such as exercise keeps the bones and body in good shape. Getting busy, involvement in social interaction and going through physical and psychosocial therapies were found in a number of literatures to have improved health status<sup>(13)</sup>. The high proportions of the studied elderly in the current study used problem solving, social support, and wishful thinking with a high degree as a coping strategy for stressors. This is supported by the results of Juliana Nery de Souza-Talarico et al (2009), who concluded that the problem-focused coping strategies were predominantly reported among the elderly. The participants predominantly reported the confrontive and optimistic styles when they face with an adversity. Those individuals cope with the stressor in a combative manner and confronting the stressful situation<sup>(6)</sup>.

Hossen MA et al (2013), who studied the coping strategies of older rural Bangladeshi women with health problems, also revealed that participants reported that they utilized both emotion-focused and problem-focused strategies, and that many of these were faith-based<sup>(24)</sup>. In the same context, Moos (2006), indicated that more chronic stressors were associated with less likelihood of benefit from negative events in the financial/work domain<sup>(7)</sup>. Also, Lin CC et al, (2013), who studied illness representations and coping processes of Taiwanese patients with early-stage chronic kidney disease (CKD), resulted in that realizing CKD as a long-term disease, believing CKD could be controlled, anticipating the consequences of having CKD, and adopting coping strategies can help in delaying the progress of CKD<sup>(25)</sup>. As well as, Sandmoe A and Hauge S(2014), indicated that victims of abuse use a wide range of coping techniques to manage everyday life stressors<sup>(26)</sup>.

On the other hand, Choi and Jun (2009), pointed out that there is a significant relationship between life regrets and depression. Older adults are less able than young adults to take actions that reach unfulfilled goals and resolve regrettable actions and inactions<sup>(9)</sup>. Isaacowitz & Seligman, (2002), also presented that older adults in their sample did not rely as heavily on positive reappraisal or problem-solving coping with interpersonal events. The specific interpersonal events older adults confront may be more long-standing and intractable and not as amenable to change as those middle-aged and younger adults experience<sup>(15)</sup>. In addition, the results of Wrosch et al (2000), did not support the idea that a problem-focused coping orientation may be maladaptive for older adults, given their limited resources and the intractable nature of their problems<sup>(27)</sup>.

## V. Conclusion

There was a statistical significant relationship between the elderly level of functioning & disability related to mobility, self-care & participation and their level of stress. As well, there was a significant relationship between the elderly level of stress and express emotions, problem avoidance, wishful thinking, and self-criticism as coping strategies to it. Finally, there was a significant relationship between elderly functioning & disability and nearly with all coping strategies.

## Recommendations

- 1) The eight coping styles should be regrouped and classified on the basis of the coping actions which the elderly with chronic illness focus on.
- 2) Health policymakers need to acknowledge these strategies in the delivery of health care for older people. They also are responsible for the health promotion activities and engage with the modern health care system for those elderly.
- 3) Community health nurse should educate elderly with chronic illness proper coping strategies to the disease and its related disability and stress.

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