Original Research Open Access

Comorbidities Accumulation and Subjective Ageing

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Abstract

Background: Ageing is multidimensional (biological, psychological, and social). Each dimension affects the other two and predicts the elderly response to the ageing process.

Aim: to evaluate the self-perception of community dwelling elderly towards aging and determine how can chronic diseases affect the perception of ageing process.

Methods: A cross sectional study was conducted using two questionnaires: **Satisfaction with Life Scale (SWLS)** and **Lawton's Philadelphia Geriatric Center (PGCMS) Morale Scale.**

Results: The study population consisted of Four Hundred of community dwelling elderly. Participants were predominantly married (67.1%), not working (74.3%), and males (61%), with a mean age of 65.9 years +/-5.1. half of the participants (54%) were satisfied with their lives. Males had a higher morale than females. Young age and married group had a higher mean morale score and mean total life satisfaction. Participants who described their health status (fair to very good) had a higher morale and life satisfaction. Participants who had higher than 2 chronic diseases have a lower morale and life satisfaction. Morale and life satisfaction scores were not affected by the type of comorbid condition.

Conclusions: the comorbidities accumulation rather than type of comorbid disease affects self-perception of ageing.

Keywords: subjective ageing, self-perception, Egyptian elderly, comorbidities and ageing perception, morale and life satisfaction in elderly

Background

Ageing is perceived differently by different elderly. The chronological age, the age since birth, measured in terms of years usually doesn't match how the elderly feels.[1,2]

Biological age or physical age is determined by physical status health measures and functioning.[3]

The psychological age (subjective age, self-perception) is how old one feels about his own age, while (social age) is defined in terms of social roles, relations and habits.[3] Positive Perception of aging includes perceptions of happiness, sense of importance, contact with kin, reverence for the elderly, and concerns about political-economic situations. [4]

The effect of self-perceptions of aging on survival is greater than the physiological predictors as systolic blood pressure, cholesterol, body mass index, smoking, and exercise. [5]

Four major factors were identified as contributing to making the elderly feel old: physical changes, declined functions, declined health, and emotional instability.[6]

Aim of the study is to measure how the number and types of comorbidities can affect subjective aging among community dwelling elderly in Egypt.

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Methods

Four Hundred community dwelling elderly were involved in this study. They were selected by stratified random sample, divided into 6 groups including Electoral headquarters. Subjects were aged 60 years or more of Egyptian nationality and birth. We excluded those who refused to participate, Cases with cognitive dysfunction impairing communication and giving

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reliable response to interview, those with severe sensory deprivation, and cases with mental or psychiatric illness.

All subjects underwent:

Mini mental status examination **(MMSE)**[7] for screening of cognitive impairment using the Arabic version [8].Geriatric depression scale (GDS-15)[9] using the Arabic version. [10]

Direct interview by researcher to fulfill a structured battery of questionnaire formed of several subscales from two different questionnaires investigating self-perception of aging:

a. Satisfaction with Life Scale (SWLS) [11]

The SWLS is a short, 5-item instrument designed to measure global cognitive judgments of one's lives.

b. Lawton's Philadelphia Geriatric Center (PGC MS) Morale Scale [12]

The (PGC MS) provides a multidimensional approach to assessing the psychological state of older people. It is formed of Seventeen items. Each high-morale response receives a score of "1". Each low-morale response is a score of "0". So that total score ranges from 0-17.There are three factors which emerge from the morale scale: Agitation Items, Attitude toward Own Aging Items and Lonely Dissatisfaction.

Ethical consideration:

The study methodology was approved by the Research Review Board of the Geriatrics and Gerontology Department, Faculty of Medicine, Ain Shams University. Oral consent was obtained from every subject participating in this study.

Statistical Analysis

The collected data were coded, tabulated, revised and statistical analyzed using SPSS program (version 20). Quantitative variables were presented in the form of means and standard deviation.

Qualitative variables were presented in form of frequency tables. Comparison was made by the Student t-test or chi-square test. P value is considered significant if equal to or less than 0.05

Results

The Median age of the participants was 64 years; participants were predominantly married (67.1%), not working (74.3%), and males (61%), with a mean age of 65.9 years ± 5.1.

Chronic diseases load among cases is shown in [**Table 1]** 85**%** have chronic diseases.

Table 2 showed that half of the participants (54%) were satisfied with their life (to various degrees). While (24.5%) of the participants were not satisfied

Both scales were significantly higher among males, those with better self-reported health status, and those with less comorbidity. Morale scale was higher among married participants while total life satisfaction was not affected by marital status [table 3].

The type of comorbid conditions did not affect the scoring of both scales among studied sample. [Table 4]

Table 5 showed that both scales negatively correlated with age, number of comorbidities, and positively correlated with each other.

Table 1: chronic diseases load among participants

N=400	No.	%
No chronic disease	62	15.5
One chronic disease	112	28.0
Two diseases	154	38.5
Three	57	14.3
Four or more	15	3.8

Table (2): the degree of overall life satisfaction among participants

N=400	No.	%
Highly satisfied	130	32.5
High score	85	21.3
Average	88	22.0
Below average	78	19.5
Dissatisfied	10	2.5
Highly dissatisfied	9	2.3

Highly satisfied score 30-35 total score out of 35. High score 25-29; Average 20-24; below average 15-19; Dissatisfied 10-14; highly dissatisfied 5-9

Table (3): effect of studied variables on the total life satisfaction, and morale scale

		Total life satisfaction	Morale scale
Gender	**Males (243)**	**26.0 ± 3.8**	**9.5 ±5.4**
	Females (156)	**22.9± 2.7**	**7.9 ±4.7**
P value		**0.02***	**0.004***
Marital status	**Single (132)**	**24.6±5.4**	**8.6 ±2.02**
	Married(267)	**25.8±6.3**	**10.± 5.2**
P value		**0.40**	**0.00***
Self -reported Health status	**Fair to very good(351)**	**26.4 ±4.1**	**10.3± 4.3**
	Poor to very poor (49)	**19.7± 4.7**	**5.33 ±4.1**
P value		**0.01***	**0.04***
chronic disease load	**0-2 (327)**	**25.7± 6.3**	**10.18 ±3.5**
	>2 (73)	**20.9± 7.4**	**6.3± 4.1**
P value		**0.004****	**0.001****

Table (4): effect of comorbidity type on the used scales

		Total life satisfaction	Morale Scale
DM	**Yes 130**	**24.19± 7.1**	**9.3±5.2**
	No(270)	**25.35± 6.7**	**8.7±4.9**
P value		**0.299**	**0.233**
HTN	**Yes (169)**	**24±7.3**	**9.82±5.2**
	No (231)	**25± 6.7**	**7.6±4.6**
P value		**0.141**	**0.223**
COPD	**Yes(34)**	**22.67± 5.8**	**9.02±5.2**
	No(366)	**25.19± 6.9**	**7.49±5.1**
P value		**0.067**	**0.7**
IHD	**Yes(55)**	**25.32±6.7**	**9.1±5.1**
	NO(345)	**22.81±7.3**	**7.4±5.4**
P value		**0.124**	**0.423**
CKD	**Yes (18)**	**21.7±6.6**	**9.03±5.1**
	No(382)	**25.18±5.6**	**6.5±4.9**
P value		**0.353**	**0.65**
CLD	**Yes(26)**	**21.3±6.8**	**9.03±5.1**
	No(374)	**25.0±7.2**	**7.23±6.0**
P value		**0.158**	**0.15**
Knee OA	**Yes(97)**	**24.6±6.1**	**8.6±5.1**
	No(303)	**25.8±7.6**	**8.9±5.3**
P value		**0.14**	**0.66**

Table (5): correlation between age, comorbidities load and used scales

	Total life satisfaction		Morale scale	
	r	P value	r	P value
age	-0.148	0.000*	-0.256	0.000*
Number of comorbidities	-0.200	0.000*	-0.262	0.000*
Total life satisfaction	1	------	0.521	0.000*
Morale scale	0.521	0.000*	1	------

Discussion

The current study assessed self-perception of 400 community dwelling elderly toward aging and studied different factors affecting it**.**

The results in current study showed that more than half of the participants are satisfied with their life. Of course their lives are not perfect, but they feel that things are mostly good. If the person is satisfied, it does not mean he is complacent.

This was relatively higher than reported by Chehregosha et al;[13] who studied 250 Iranian elderly. They reported 40% of their participants to be satisfied. They used a different tool (life satisfaction index-A) Assessment of the oldest-old in china revealed that, 17% of the participants rated their life as very good, 46% as good, about a third reported as so-so and only 6% reported as bad or very bad.[14]

We also found that Younger age and those who were married, and those who reported their health from fair to very good and those who had less number of chronic diseases (0-2), had a higher morale and satisfied with their life.

Regarding age, Our results agree with other study by ***Gwozdz et al. 2009*** [15] who found in a research applied to group of elderly in German community, that there is a U-shaped relationship between age and life satisfaction for individuals aged between 16 and approximately 65 years. From this age onwards, however, Life satisfaction declines rapidly and the lowest absolute levels of life satisfaction are recorded for the oldest old. This rapid decline in life satisfaction is primarily attributable to low levels of perceived health.

Concerning marital status, the current results agree with other study by ***Kudo et al. 2007*** [16] who reported that Morale scores in self-care independent older people decreased with age in both women and men. Also reported that older people without a spouse had a lower PGC morale score than those with a spouse and the PGC morale score increased in older people living together with their children's family. Likewise, our results agree with what found in the studies of ***Connidis and McMullin (1993)***[17] and ***Lubben (1989)***[18] who found that unmarried elderly were less satisfied than their married counterparts. Also it has been reported that marital status was positively associated with life Satisfaction among elderly Canadians.[19]

Gender affects morale and life satisfaction scores in the current study. Males had a higher morale (56%) than females. This result agrees with previous research that found that Morale scores of men were higher when they were healthy, had an occupation and took parts in social activities in the community. Family composition, self-care dependency, income and habits for health promotion were the most important factors of morale scores.[16]

The participants who had less comorbidity had a higher morale and life satisfaction scores than participants who had higher than 2 chronic diseases. Our result agrees with previous results indicating that the decline in physical functioning and psychological well-being is a common result of increasing morbidity among elderly people.[20]

Participants who reported their health status (fair to very good) had a higher morale and life satisfaction than participants who reported poor health status the difference is highly significant statistically. In a previous study, the respondents without any known health problems had higher life satisfaction than others with any of the common health problems.[21]Moreover, among the healthy elderly, positive affect may influence perceived health status independent of and even more strongly than negative affect.

Another study reported that decline in physical functioning and psychological well-being is a common result of increasing morbidity among elderly people.[20,22]

Up to our knowledge, this is the first study to address the impact of individual disease (type rather number of comorbidities) on the perceived age. There was no significant effect of each disease on both scales. Which can be justified because assessment was performed in community not hospital settings, suggesting milder disease severities.

Conclusion

Younger age, marriage, less comorbidity, and good self- reported health were associated with higher morale and life satisfaction.

Limitation of our study: other confounders can affect life satisfaction and morale were not assessed e.g.: functional and financial status

Authors' contributions:

Ekramy Eissa Abdul Rahman (corresponding author) was responsible for study design, interpretation of data, and drafted the article.

Abdellah AF was responsible for acquisition of data

MortagyAK , Fahim H , Farid TM were responsible for study design, interpretation of data and revised the manuscript.

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