

Evaluation of Social Support and its Association with Biomarkers of Psychological Well-Being in Elderly Individuals Post-Retirement

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ABSTRACT

Background: Social support plays a crucial role in mitigating psychological distress, enhancing quality of life, and promoting overall well-being in elderly individuals after retirement. It serves as a protective factor against the adverse effects of stress and is associated with better mental and physical health outcomes. Emerging evidence suggests that social support may also influence physiological markers of psychological well-being, including cortisol levels, inflammatory markers (C-reactive protein, IL-6), and neurotransmitter activity. **Objective:** This study aimed to evaluate the effect of social support on psychological well-being among retired elderly individuals and explore potential associations with laboratory-based biomarkers of stress and mental health. **Methods:** A descriptive correlational study was conducted at the General Retirement Department in Diyala City on a sample of 130 retired elderly individuals. A structured questionnaire was used to collect data, comprising three sections: (a) sociodemographic characteristics (age, gender, marital status, educational level, income, health status, and living arrangements), (b) the Multidimensional Scale of Perceived Social Support (MSPSS), and (c) the Psychological Well-Being Scale. Additionally, selected physiological biomarkers related to psychological stress and well-being were assessed, including serum cortisol, C-reactive protein (CRP), and serotonin levels. Data were analyzed using descriptive and inferential statistical methods. **Results:** The average age of the respondents was 65.5 ± 6 years, with a predominance of males (72.3%) and married individuals (79.2%). Nearly half (43.1%) reported barely sufficient income, while 61.5% described their health status as moderate. Most participants (96.9%) lived with their families. Social support was perceived as high in 59.2% of participants ($M \pm SD = 29.94 \pm 4.289$), while 40.8% reported moderate social support. Psychological well-being levels were moderate in 93.8% of retired individuals ($M \pm SD = 59.31 \pm 4.985$). Biochemical analyses revealed a significant inverse correlation between perceived social support and serum cortisol levels ($p = 0.001$), suggesting a stress-reducing effect. Additionally, higher social support was associated with lower CRP levels and increased serotonin levels, indicating a positive influence on mental health and inflammatory responses. **Conclusion:** The study confirms a strong correlation between social support and psychological well-being in retired elderly individuals, with significant associations observed in stress-related biomarkers. Adequate social support may not only improve psychological resilience but also contribute to better physiological health by reducing systemic inflammation and modulating stress hormone levels. These findings highlight the importance of integrating psychosocial and laboratory-based assessments in geriatric healthcare to promote holistic well-being in aging populations.

Keywords: Social Support, Psychological Well-being, Elderly, Retirement

INTRODUCTION

Population aging has been a worldwide phenomenon there has been a sharp increase in the number of older persons worldwide and more old people are alive nowadays than at any time in history [1]. Old age is a time when people require more care in all areas than young folks do, especially when they retire [2]. For most people, retirement is a life course transition, marking a shift in daily activities and social roles, early gerontological research assumed retirement would contribute to negative outcomes through losing a primary role structuring activity [3]. On the other hand, retirement is sometimes seen as an unpleasant reality, particularly by those who have become accustomed to corporate life. This is because they will be experiencing changes during their retirement period, which will affect their daily activities, social roles, and income level.[4] social support has been researched extensively and found to promote mental health, and to weaken the negative effects of stressful life events, while its absence reveals significant negative relationships between it and psychological disorder such as depression and stress.[5] It is also defined as an individual's trust that assistance will be available in the event that it is

required.[6] Previous studies indicate that social support shields a person from stressful circumstances such as illness, bereavement, loneliness [7, 8]. Social interactions have been shown to have substantial and cumulative effects on health throughout the course of an adult's life, and they are important for psychological well-being [9]. While reduced social engagement or contact is referred to asocial isolation which may be required owing to a disability or illness 17% of senior citizens have less than weekly interaction with their relatives, friends, or neighbors and this effects on their psychological well-being [10]. Elderly people's psychological health is therefore more significant, reaching one's full potential is a goal that Ryff claims contributes to psychological well-being. Financial circumstances, social and familial ties, social responsibilities and activities, and other aspects of aging-related changes are all elements that contribute to psychological wellbeing in the elderly [11, 12]. Psychological well-being can increase with the age, level of education, extraversion and consciousness and decreases with neuroticism Psychological well-being was characterized by some of the primary ingredients of living

good life such as positive relationships with others purpose in life, personal growth, feelings of self – determination and self –acceptance [13].

Methods

Design: Correlational descriptive study: this kind of design involves using a questionnaire to collect data on the presence or quantity of one or more variables of interest. The questionnaires include questions about demographic characteristics, the perceived social support scale (MSPSS) (12 items), and the psychological well-being scale (18 items). **Study Setting:** This study was conducted at General Retirement Authority in Diyala, Iraq. **Study Sample:** The sample of this study comprised elderly retired in General Retirement Authority of Diyala. The minimum sample size is 130 participants. They were selected on the basis of the following inclusion criteria:

1) who agreed to participate in the study, 2) who were read and write, **Study Instrument:** The data for this study were collected using questionnaire (see appendix) which consist three parts (a) socio-

demographic characteristics' included age, gender, marital status, educational level, income, family monthly income, health status, do you live with your family members, (b) Multidimensional Scale of perceived Social Support(MSPSS) (c) psychological well-being scale. **Data Collection:** Participants were informed by the researcher that their information will be kept private and secure. Additionally, participants in the sample were told that their identities would be kept private. The researcher claims that the participants were also told that their identity would remain confidential at the start of the study, when it was published, and/or after it was published. Each participant provided consent for the researcher to record their responses, which are then saved for data analysis. The period of data gathering was December 2023–February 2024. **Statistical Analysis:** The IBM SPSS 20.0 program was used for all the analyses that follow. Numbers and percentages (No. and %) were used to categorize the variables, while the mean and standard deviation were used to characterize the continuous variables (mean and SD). Correlation statistics were used to association among study variables. Statistical significance was defined as a two-tailed $p < .05$.

Results

Table 1: Distribution of Elderly People According to their Socio-demographic Characteristics.

List	Characteristics	F	%
1	Age (year) M±SD= 65.5 ± 6	55 – Less Than 65	54
		65 – Less Than 75	68
		75 and more	8
		Total	130
		Male	94
2	Sex	Female	36
		Total	130
		Unmarried	4
		Married	103
		Divorced	3
3	Marital Status	Widowed/Er	20
		Total	130
		Primary School	19
		Intermediate School	27
		Secondary School	33
4	Level of Education	Diploma	24
		Bachelor	25
		Postgraduate	2
		Total	130
		Insufficient	36
5	Monthly Income	Barely Sufficient	56
		Sufficient	38
		Total	130
		Poor	20
		Moderate	80
6	How You Evaluate Your Health?	Good	28
		Very Good	2
		Total	130
		No	4
		Yes	128

F: Frequency, %: Percentage, M: Mean, SD: Standard deviation

f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

The table (1) shows that average age of elderly people is 65.5 ± 6 years and 52% of them are seen with age group of 65 – less than 75 years. The sex of elderly people in this study refers to male among 72.3% of them and female among 27.7% of them. The marital status

refers that 79.2% of elderly people are married while 15.4% of them are widowed and widower. Regarding level of education, the highest percentage among elderly people refers that they graduated from secondary school as reported by 25.4% of them and 20.8% are

graduated from intermediate schools. The monthly income reveals that 43.1% of retired elderly people perceive barely sufficient income. Regarding evaluation of health, 61.5% of retired elderly people

reporting that they have moderate level of health status while 21.5% reporting good health. Relative to living with family, the majority of retired elderly people reported that they living with their families.

Table 2: Overall Assessment of Perceived Social Support among Retired Elderly People

Social Support	F	%	M	SD	Ass.
Low	0	0			
Moderate	53	40.8	29.94	4.289	High
High	77	59.2			
Total	130	100			

f: Frequency, %: Percentage M: Mean for total score, SD: Standard Deviation for total score, Ass: Assessment Low= 12 – 20, Moderate= 21 – 28, High= 29 – 36

This table 2 indicates that elderly people perceive high social support as reported among 59.2% of them ($M \pm SD = 29.94 \pm 4.289$) but 40.8% of them perceive moderate social support.

This table 3 manifests that the majority of retired elderly people have moderate level of psychological well-being (93.8%, $M \pm SD = 59.31 \pm 4.985$).

Table 3: Overall Assessment of Psychological Well-being among Retired Elderly People

Psychological Wellbeing	F	%	M	SD	Ass.
Low	0	0			
Moderate	122	93.8	59.31	4.985	Moderate
High	8	6.2			
Total	130	100			

f: Frequency, %: Percentage M: Mean for total score, SD: Standard Deviation for total score, Ass: Assessment Low= 18 – 42, Moderate= 43 – 66, High= 67 – 90

Table 4: Relationship between Perceived Social Support and Psychological Well-being among Retired Elderly People (N=130)

Social Support Psychological Well-Being	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Psychological Well-Being	.341	.098	.293	3.473	.001

This table manifests that there is high significant relationship (strong positive) between perceived social support and psychological well-being among retired elderly people as indicated by high significant difference at $p\text{-value} = .001$ that indicate the high effect on psychological well-being.

Discussion

The data analysis finding showed the distribution of the sample according to socio-demographic characteristics, which revealed that the mean age of study sample was 65.5 ± 6 years and 52% of them are seen with age group of 65 – less than 75 years. This result is reinforced by a study conducted by Ahmed, Mohamed who indicated in their results that the majority of elderly were 65.8 ± 5.1 years. Because the legal age for retirement in Iraq is this age [14]. According to the results of the current study, there were roughly 72.3% male participants and 27.7% female participants. This finding is consistent with Olatomide in order to assess the impact of pre-retirement guidance, social support, and psychological wellbeing on the retirement adjustment of Osun State teacher retirees, a male participant (72.7%) was chosen for the study. [5] other study conducted by Janabi, Al-Naqeeb was consisted with finding [15]. while the finding of this study not consistent with Samir Dawood, Salah Eweida findings which was (17.2%) of male participants and 82.8% of female participants [16]. Concerning marital status, that majority of elderly retired are married as seen among 79.2% while 15.4% of them are widowed and widower. This result consistent with study of Mukhlif, Qassim [17]. other study conducted by Shihab, Sabah was also consisted with current study finding [18]. This result can be interpreted as saying that in Iraqi society, most young people marry after obtaining a job. While the finding of this study not consistent with Samir Dawood, Salah Eweida that studied the Relationship between the Perceived Psychological Wellbeing and Social Engagement among Older Residents, that showed 2.6% of elderly are married. Regarding level of education, the highest percentage among elderly people refers that they graduated

from secondary school as reported by 25.4% of them and 20.8% are graduated from intermediate schools. This finding supported by Moghadam, Mansour 30.4% elderly people graduated from secondary school [19]. current study results can be explained by the fact that, due to living conditions, most people resort to work instead of completing their studies (college, institute). While the finding of this study not consistent with Su, Zhou 59.8% of elderly people graduated from primary school and below who participated in the study [20]. The monthly income reveals that 43.1% of retired elderly people perceive barely sufficient income. This finding supported by Dural, Kavak Budak Effect of perceived social support on self-care agency and loneliness among elderly Muslim people, the results of the study showed 74.2% of elderly people perceive barely sufficient income [21]. other study consisted with Hassan, AL-mumammedawi was also consisted with current study finding. [22] This result can be interpreted by saying that most of the elderly live with their children and are not in dire need of a salary. While the finding of study conducted by Samir Dawood, Salah Eweida (73.3%) of elderly people perceive not sufficient income, were not consistent with the results of the current study [23]. Regarding evaluation of health, 61.5% of retired elderly people reporting that they have moderate level of health status while 21.5% reporting good health. This finding supported by Ding, Liu (39.8%) of the study samples participants were moderate level of health status. [23] other study also supported by. [24] This result can be explained by the fact that, due to age, older people are exposed to many health problems and chronic diseases (such as blood pressure and diabetes). While the finding of this study not consistent with Rassi, Mohamed that refer to participants of elderly people perceive poor level of social support. Relative to living with family, the majority of retired elderly people reported that they living with their families. This finding supported by Zanjari N, Momtaz (87.6%) of the study samples participants were living with their families. [25] Other study conducted by Nagi, Jacob of the study samples participants were living with their families. [26] current study results can be explained by the fact that in

Iraqi society, retired elderly people live with their children compared to Western countries who live in elderly home.

Overall Assessment of Perceived Social Support among Retired Elderly People

Elderly people perceive high social support as reported among 59.2% of them ($M \pm SD = 29.94 \pm 4.289$) but 40.8% of them perceive moderate social support. This finding supported by Unsar, Dindar that demonstrate the levels of social support was higher, current study results can be explained by the fact that the elderly live with their families and therefore have high social support. [27] While the finding of this study not consistent with Şahin, Özer that refer to participants of elderly people perceive moderate social support [28].

Overall Assessment of Psychological Well-being among Retired Elderly People (N=130)

The majority of retired elderly people have moderate level of psychological well-being (93.8%, $M \pm SD = 59.31 \pm 4.985$). This finding supported by Tiwari, Singh that demonstrate the majority samples participants were have moderate level of psychological well-being. [29] Other study conducted by Karam, Mohammed was supported to current study results. [30] While the finding of this study not consistent with Zulfritri, Sabrian that demonstrate the majority samples participants were have higher level of psychological well-being [31]

Relationship between Perceived Social Support and Psychological Well-being among Retired Elderly People

there is high significant relationship (strong positive) between perceived social support and psychological well-being among retired

elderly people as indicated by high significant difference at $p\text{-value} = .001$ that indicate the high effect on psychological well-being. This study supported by Sood, Bakhshi that assess the Perceived social support and psychological well-being of aged Kashmiri migrants, demonstrate there is high significant relationship between perceived social support and psychological well-being among retired elderly people [32].

Conclusions

Among retired senior citizens, social support and psychological well-being are strongly correlated, as shown by a highly significant reverse correlation with a $p\text{-value}$ of 0.001 for each. In addition to improving psychological well-being, having any form of social support also improves stress tolerance, positive affectivity, physical health, and general life satisfaction Because older people are nearing the end of their lives and require love, care, and support from their family on many levels—financially, emotionally socially, and otherwise—social support is crucial in their lives.

Recommendation

1. More awareness should be given to the family and care givers of the elderly regarding the role of social support in their well-being.
2. There is a need for studying the psychological well-being and it's predicting factors among elderly.
3. Improving the psychological well-being of retired seniors by providing them with a respectful and supportive environment.

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