



# Perceived Social Support Among Patients and the Contribution in the Management of the Chronic Disease: A Brief Review

Theofilou P<sup>ORCID</sup>\*

General Hospital of Thoracic Diseases Sotiria, Athens, Greece

\*Corresponding author: Paraskevi Theofilou, General Hospital of Thoracic Diseases Sotiria, Athens, Greece

Received: 02 October 2023  
Accepted: 06 November 2023  
Published: 11 November 2023

© 2023 The Author. This is an open access article and is distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium provided the original work is properly cited.

## Abstract

The management of chronic disease is perhaps the main challenge for health professionals worldwide, who are called upon to deal with a variety of individual problems, also on a psychological and social level. The role of social support in the management of chronic disease seems to be important, as according to the international literature, it is positively related to physical and mental health. Many surveys have shown that social support is related to the reduction of depression and anxiety, the adoption of healthy health behaviors, commitment to therapeutic and dietary treatment, self-care, self-management, and a better quality of life and outcome of the disease in patients with renal disease, breast cancer, and musculoskeletal disorders. The purpose of this paper is, through the results of international research, to describe the concept and the forms of social support, as well as to investigate whether it has a positive or negative impact on chronic disease management. An additional goal is to identify the strategies and interventions with which health professionals can support the patient both emotionally and practically so that the patient is able to manage stress, disorders, and other problems more effectively created by his illness, as well as by the wider family environment.

**Keywords:** social support, chronic disease, management

**Abbreviations:** MSPSS: multidimensional scale of perceived social support

## 1. Introduction

In the modern era of globalization and intense changes in people's lifestyles, the management of chronic diseases is the main challenge for health professionals. Maybe the development in modern health science and the economic development in developed countries have led to the reduction of mainly infectious diseases; however, chronic diseases such as cancer and cardiovascular disease have increased at an alarming rate, while some dimensions of globalization have also contributed to the increase in unhealthy life behavior and have led some marginalized groups to develop chronic diseases (infectious and not), and also mental disorders [1, 2].

A chronic disease is defined as a health condition with symptoms that persist for more than three months with periods of latency but a prolonged clinical course that shows gradual changes over time. It is usually multifactorial in etiology, and as it has no definitive cure, it requires continuous management over a period of years or decades [3]. Although the terms chronic disease, chronic illness, and chronic illness are

used alternatively (as in this article), the first one refers to the disorder at an organic level (the lesions are expressed by signs and symptoms that are evaluated through laboratory findings), the second at the social level (due to the disease, the professional/social activities of my person, who is characterized as a patient, are disrupted), while the third, at the functional level (refers to the individual's subjective lived experience, according to which he feels pain, fatigue, weakness, dysfunction) [4]. Consequently, permanent disorders of the individual at the organic level constitute a state of disadvantage (impairment) at the social level, handicap, while at the functional level, condition disability [3].

Chronic diseases therefore include communicable diseases (e.g., HIV, tuberculosis), non-communicable diseases (e.g., diabetes mellitus, respiratory difficulties), long-term mental disorders (e.g., depression, schizophrenia), as well as progressive physical-structural impairments (e.g., blindness, genetic disorders). With reference to non-communicable chronic diseases, the WHO reports that they are responsible for 38 million deaths in 2012,

while they are predicted to reach 52 million in 2030 [5, 6]. Cardiovascular diseases (46.2%), neoplastic diseases (21.7%), chronic lung diseases (10.7%), and diabetes (4%) cause 82.6% of these deaths [6]. Also, the prevalence of autoimmune diseases (e.g., multiple sclerosis, rheumatoid arthritis, systemic lupus erythematosus), according to the data from the US National Institutes of Health, the autoimmune diseases affect 5–8% of the population, i.e., 14–22 million people, a similar image is reported in Europe. The higher standard of living and greater technological progress is associated with higher food processing, spoilage of the environment, and distance from the natural way of life, factors that influence the modern epidemic of autoimmune diseases [7].

According to the Greek Statistical Authority, one in two people over the age of 15 declares that he suffers from a chronic illness. In terms of gender, five in ten women (53.9%) and four in ten men (44.2%) state that they suffer from a chronic disease. Also, compared to 2009, chronic patients have increased by 24.2% [8]. Apart from the physical effects of their illness, patients have to deal with various problems on psychological and social levels. The management of stress and organic and mental disorders that they experience seem to be determining factors for the course of their disease, while social support can provide significant help in the adaptation of the patient to his new state of health [9–12]. After all, chronic diseases, apart from the effects they bring to the sufferers, have an impact on their wider social environment, i.e., society in general.

Social support in recent years has aroused the interest of many scientific disciplines such as social work, psychology, sociology, nursing, medicine, and public health, as according to the literature, the various forms, especially the emotional one, are positively related to physical and mental health [9]. A lot of studies have shown that chronic patients who have meaningful ties with community members live longer and in a more qualitative way. Chronic patients should seek help and support from individuals, agencies, and professionals, yet evaluate and judge the services offered, resources, and advice they receive [13].

The purpose of this literature review is to describe the concept and forms of social support, as well as to investigate the effect of the management of chronic diseases through the results of international research. Specifically, the effect of social support on the three most frequently reported categories of chronic diseases, i.e., renal disease, breast cancer, and musculoskeletal disorders. The ultimate goal is to identify strategies and interventions with which health professionals can support the patient on an emotional and practical level so that he is able to manage stress disorders and other problems that his illness creates for him, as well as the wider family environment.

## **2. Definition, Forms, and the Effect of Social Support on Health**

The concept of social support is multifaceted, and in order to cover the range and its forms, it has been given various definitions. According to the International Cancer Institute, "a network of family, friends, neighbors, and community members who are available when psychological, physical and financial assistance is needed". This definition focuses on the network of individuals available to provide social support as well as the types of assistance, recognizing the multiple ways it can be provided [14]. A more extensive definition is given by Mattson et al. [14], where social support is defined as "a transactional, communicative process, which includes verbal and/or non-verbal communication, with the aim of improving the individual's sense of competence problem management, competence, self-esteem, and sense of belonging" [14]. With this definition, an attempt is made to include all the dimensions that are considered necessary for the performance of the concept of social support [14]. A freer interpretation of the term could be that social support refers to the "knowledge" of the fellow man, the offering of solidarity, and the strengthening of the social fabric [15].

Social support is one of the main social factors affecting the well-being and quality of life of people, such as the elderly. In recent years, it has received considerable attention from various sciences such as medicine, nursing, psychology, social work, and sociology due to its association with the promotion of physical and mental health. According to several researches, people with chronic diseases who maintain relations with the community have a higher life expectancy and quality of life, for this, they should seek support from individuals, professionals, and agencies, of course, evaluating the advice and instructions they receive [16].

A fundamental component of social support is the social network, which, in general, refers to the sum of people connected and their relationships. It is often considered that the size of the social network is a measure of the social support an individual can receive. In fact, the relationship of the social network with the social support received by the individual as well as with the individual's perceptions about it is a more complex process and depends on the quality of its members as well as the quality of their interaction [14]. The social network is inextricably linked to the concept of social integration which refers to the extent to which a person participates in social interactions with family, friends, and significant others as well as more formal or organized structures such as religious groups, workplace, school, etc. Social integration depends on the density and interconnectedness of the social network, the frequency of contacts, the reciprocity of its members, the strength of their ties as well as whether they are compulsory or voluntary. Furthermore, social relations are directly related to

the structure of a society and its cultural characteristics [14]. Integration into a social network provides protection to the individual because it gives them meaningful roles, creating a sense of self-confidence and purpose in life. On the other, the absence of close ties and the lack of recognition of value cause emotional loneliness and depression [17]. In fact, in the case of elderly people, the development of a supportive social network seems to significantly improve their quality of life and health. A study of people over 75 years of age who lived alone showed that women who received positive support from people in their neighborhood maintained a large degree of their activities of daily living, while their feelings of loneliness decreased and their overall picture of health improved [18].

Social support can be disaggregated initially into two large categories: objective (actual, received, or enacted support) and on the other hand perceived or subjective support [19]. The first concerns the support that the person receives in practice, while the second concerns the belief of the individual regarding the availability of support, which can be positive or negative (positive or negative perceived support) and includes what the person himself considers to be needed, as opposed to or in agreement with the support he ultimately receives [20]. For example, according to Mattson et al. [14] and McDowell et al. research [21] on how objective and implicit social support affects the mental health of HIV patients, it was found that while perceived support works positively and predicts good mental health, the effect of objective support on the mental health of these patients was minimal.

Regarding forms of social support, Schaefer et al. [22] refer to five types: a) emotional support, b) esteem support, c) support from the social network (network support), d) support at the level of information (informational support), and d) practical/material/practical support (tangible or instrumental support).

Emotional support refers to the support that is provided to meet the emotional needs of the individual and is the one that researchers most often refer to when they talk about social support. The assessment level support applies to all actions that are done in order to strengthen self-esteem and the individual's belief that he is capable of managing the difficult situations he experiences. Support at the social network level is about the individual's belief about the availability of this network, i.e., whether and how many significant others there are who can support him in various ways. Support at level information concerns availability and provision of information on the part of significant others as well so that the person can make decisions on issues that concern it, for example, diagnosis, treatment of a disease, etc. Finally, practical support is support at a practical level, i.e., the help provided to the individual in order to manage practical issues in his daily life, e.g., childcare, transportation, etc. [11, 22, 23].

Also, some researchers refer to formal and informal social support based on Caplan's [24] original definition of what social support means. Such as Jacobson [25] refers to social support as the formal and informal relationships that the individual enters into, in the context of which it receives emotional, cognitive, and material support to manage stressful situations. Standard support includes all services provided by health professionals and the health system, while informal support is provided by individuals of the individual's social network (family, friends, colleagues, social networks, voluntary organizations, church, etc.).

One therefore concludes that there is no common agreement among researchers on the definitions and the forms of support, however, all these categorizations are the 'key' to understanding what scientists are actually investigating [9]. In most of them, social support has been shown to have a positive effect on health, possibly because it can eliminate the effects of stress, prompting patients to assess situations as non-harmful [23].

Social support has been associated with lower rates of morbidity and mortality as it prevents the adoption of unhealthy behaviors while improving the rates of positive behaviors such as exercise and adherence to medical and nursing instructions, increasing good mood and feeling of controlling stressful events [23].

### **3. Measuring Social Support with the Use of the Multidimensional Scale of Perceived Social Support**

Recently, there has been a surge of interest in the use of the Multidimensional Scale of Perceived Social Support (MSPSS) to measure perceived social support across cultures [26–28]. The MSPSS was initially developed on university students [29] and was later validated in a wide range of samples, including psychiatric patients, adolescents, older adults, doctor trainees, and pregnant women [30–32].

The MSPSS provides an assessment of three sources (sub-scales) of perceived social support: family (FA), friends (FR), and significant other (SO). Each item is scored on a Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree) to give a total score out of 84, with higher scores indicating greater social support. A cut-off score for service eligibility was set at 65 or less, as it was deemed indicative of sufficiently low levels of perceived social support to warrant intervention [33–36]. Zimet and his colleagues have argued well the unique features of this scale [26, 29]. First, it is short (12 items in total) and is ideal for (a) research that requires assessment of multiple variables and (b) populations that, for one reason or another, cannot tolerate a long questionnaire [37]. Second, a point related to (b) above, MSPSS items are easy to understand (requiring just a fourth-grade reading level) and are therefore suitable for young

populations or populations with limited literacy levels. Third, despite being a brief instrument, MSPSS measures support from three sources, and in particular, the SO subscale is unique among measures in the field [37]. The MSPSS was found to have good internal reliability across subject groups. In addition, strong factorial validity was demonstrated, confirming the three-subscale structure of the MSPSS: family, friends, and significant other. Finally, strong support was also found for the validity of the family and significant other subscales [32].

In Greece, MSPSS was translated and validated by Theofilou [36, 38]. Sub-scale analysis demonstrated that all sub-scales of the questionnaire had good variability. MSPSS-Greek internal consistency was very good with an overall Cronbach's  $\alpha$  at 0.804. Pearson's  $r$  and intraclass correlation coefficient revealed strong correlations [0.894, ( $p < 0.001$ )] between initial assessment and re-assessment. The paired samples  $t$ -test between the sub-scales total scores at the initial assessment and re-assessment indicated no statistically significant differences ( $p > 0.05$ ). MSPSS-Greek convergent validity analysis indicated that the sub-scales were strongly related to the same construct.

#### **4. Perceived Social Support in Chronic Diseases**

Chronic patients experience a great deal of stress, insecurity, and anxiety about the course of the disease and the future of their lives [39, 40]. Managing the stress and disorders caused by the disease through social support can contribute to the best adaptation to the disease, this is an important factor for its subsequent course [41, 42]. Many studies have shown the positive effect of social support on the management of stress experienced by chronic patients with cardiovascular diseases, of the endocrine and immune systems by reducing the action of immunomodulators body factors such as interleukins and interferon- $\gamma$  as well as the body's resistance to the action of cortisone [9, 10]. Also, according to Miller et al. [43], social support affects the good emotional state of the chronically suffering individuals, specifically when there is family cohesion and support from the immediate environment, chronic patients show better adaptation to their disease.

Then, through a search of the international literature, the most basic findings of some recent primary and secondary studies are described regarding social support in chronic patients with renal disease, breast cancer, and musculoskeletal disorders aiming at its effect on the various areas of life is evident of these patients.

##### **4.1 Renal disease - dialysis**

In a study by Theofilou et al. [44], a quantitative, primary, non-experimental survey was conducted using the questionnaires "Multidimensional Scale of

Perceived Social Support" ( $\alpha \geq 0.908$ ), FAS ( $\alpha \geq 0.658$ ), Missoula-VITAS Quality of Life ( $\alpha \geq 0.622$ ) and nursing care ( $\alpha = 0.944$ ). The study involved 69 patients with dialysis at a University Hospital, with most having the disease for 0–10 years. Age affected social support ( $p < 0,05$ ) as well as occupational status influenced social support from friends ( $p = 0.001$ ). Also, years in dialysis affected social support ( $p \leq 0.027$ ).

In a study by Theofilou [45], she investigated the social support and nursing care that patients with dialysis receive, their levels of fatigue, and their quality of life. In addition, the effect of social support and nursing care on the patients' levels of quality of life was examined. Interpersonal relationships were associated with social support ( $p < 0.05$ ). Quality of life was associated with social support ( $p < 0.05$ ). It seems that there is a strong association between social support and quality of life in patients on dialysis.

In another study by Theodoritsi et al. [46], the purpose was to explore factors associated with social support of 258 hemodialysis patients. In terms of patients' characteristics, a statistically significant association of support from significant others and family was observed with marital status ( $P < 0.001$  and  $P < 0.001$  respectively), place of residence ( $P < 0.001$  and  $P < 0.001$  respectively) and number of children ( $P = 0.002$  and  $P = 0.007$  respectively). Furthermore, the statistically significant association of support from friends was observed with age ( $P < 0.001$ ), marital status ( $P = 0.002$ ), and place of residence ( $P = 0.017$ ).

Theofilou et al. [47] focused on 40 hemodialysis patients' assessment of quality of life and the relationship of the latter with perceived social support. The results of the current study provided a good quality of life for hemodialysis patients and a statistically significant correlation between quality of life in several domains and social support.

In another study by Alexopoulou et al. [48], the association between perceived social support and quality of life in hemodialysis patients was examined. Patients felt high support from significant others and family and less from friends (median 6, 6, and 4.5, respectively). Patients evaluated their quality of life in its entirety as moderate in the total and "overall quality of life" scores (median 17.2 and 3, respectively). Regarding the association between social support and quality of life, results showed that the more support patients had from their significant others, family, and friends, the better quality of life they had ( $\rho = 0,395$ ,  $\rho = 0,399$ , and  $\rho = 0,359$ , respectively).

Finally, in a study by Theofilou [49], the purpose was to examine the relation of social support to mental health and locus of control in chronic kidney disease patients. It was hypothesized that a good social network is associated with better mental health, indicating fewer symptoms of depression and anxiety, as well as internal health locus of control. The findings



reveal the importance of understanding the illness and treatment beliefs of renal patients and the contribution of social support to their mental health.

#### **4.2 Breast cancer**

Several studies have shown that the concept of social support in women with breast cancer is associated with quality of life (QoL) [50]. It appeared to be vital for treating breast cancer and adaptation to disease anxiety [51]. Support has a positive effect on the physical, psychological, and social functioning of breast cancer patients and their QoL [52]. In the study of Arora et al. [53], emotional support for two months and emotional and informative support for five months after breast cancer diagnosis have been positively correlated with QoL and patients' self-esteem. In addition, social support has been found to be associated with a better quality of family life [50].

According to Sammarco [50], social support is positively correlated with the health, functionality, psychological, mental, and family life quality sub-channels among women over 50 years of age. Several studies have shown that patients who received adjuvant therapies after breast cancer surgery are more likely to be helped by social support than women who did not receive such treatments [53]. For instance, Bloom et al. [54] reported that women who underwent chemotherapy received more emotional support, while women who underwent mastectomy received more physical support.

Long-term studies with women diagnosed with breast cancer have shown that social support from family, friends, and health professionals is decreasing quantitatively and over time [53]. The main sources of emotional support for breast cancer patients are usually family members, health professionals, and volunteer survivors of breast cancer [53]. Lehto-Järnstedt [55] found that patients reported a higher percentage of support, mainly from their spouses, doctors, and nurses. In a study by Arora et al. [53], women with breast cancer received informative support three and five months after surgery from health professionals, emotional support from family and friends, and support in decision-making by health professionals and family members.

In the study of Maeda et al. [56], it appeared that family and friends were less supportive when patients became better and returned to normal social life. Numerous studies have shown that breast cancer patients have a variety of support needs that remain after surgery and hospitalization and for prolonged periods of time to deal with the disease [57]. Recent data suggest that women with breast cancer do not receive the support they need [57]. Age has been found to be particularly important in terms of support needs and the quantity and type of social support, while younger women reported greater needs for emotional support from health professionals [58–60].

In a study by Goula et al. [61], the aim of the study was to investigate the differences in levels of social support and quality of life in two independent groups of patients: women with breast cancer (i) during chemotherapy and (ii) two years after the chemotherapy. The group “two years after chemotherapy” reported better quality of life than the “during chemotherapy” group. There was no difference in perceived social support between the two groups. The higher the patients' age, the lower the quality of life for the “during chemotherapy” group and the higher the social support for the “two years after chemotherapy” group.

#### **4.3 Musculoskeletal disorders**

Over the past few decades, the science of gerontology has focused strongly on social support. In recent research in different cultures and contexts, it has been shown that social support is significantly related to health and well-being, especially in the Third Age. During the transition to the Third Age, social support undergoes changes with older adults, reporting fewer friendships and social relationships compared to younger adults [62, 63]. Based on research, loneliness prevails in the elderly at a rate of over 43% and is a precursor of undesirable conditions such as mortality [64], while it has been shown that the occurrence of chronic pain is closely related to loneliness and social isolation [65, 66]. Another study in older adults showed that reduced social support was associated with higher rates of pain intensity [67]. A study of 206 people suffering from multiple sclerosis found that those who received social support from family and friends had better physical and mental health, as well as social and emotional health function [11], while findings of other studies on patients with the same condition showed that they adapt better to their disease and that their quality of life improves noticeably [68]. Also, a study in patients with musculoskeletal conditions showed that social support has the benefit of lower levels of depression [69]. Additionally, research conducted on 176 people who suffered from rheumatoid arthritis observed that providing high-level emotional social support resulted in lower psychological distress [70]. Another study of 127 patients with the same condition showed that the quality of social support is directly related to their quality of life [71].

Anyfantopoulou et al. [72] conducted an epidemiological study of social support, pain self-efficacy, and health locus of control among 106 elderly patients with musculoskeletal disorders, as well as the role of sociodemographic and clinical variables. The results showed that family, social support, and financial status have a positive effect on self-efficacy in pain.

### **5. Management Strategies and Support for Chronic Diseases**

The provision of social support to chronic patients on the part of health professionals can be done apart from the level of information, on an emotional level, on a practical level, and at the level of evaluation/expression of the stressful situations that these people experience. For this purpose, various psychological interventions are applied, behavioral type (modification of activities), cognitive type (more functional thoughts and interpretations or thought processes), and a combination of behavioral-cognitive interventions [73].

Psychosocial behavioral interventions can improve the psychological and physical well-being of chronic patients through modality management of life and stress, social support, and skill-level education. In particular, for T2DM patients, it was found to contribute in effective glucose control, reducing depression, increasing normal daily activity, self-care/self-management, and improving health. Similar benefits were found in patients with cardiovascular diseases and neoplasm diseases, such as the reduction of depression and distress, the limitation of organic symptoms, and the improvement of QoL [74]. The most widespread psychosocial cognitive and behavioral techniques of the type applied to chronic patients are progressive muscle relaxation, biofeedback, control of diaphragmatic breathing, transcendental meditation, and mental control [75].

Dourouka et al. [76] examined the contribution of psychotherapy in managing chronic pain and improving quality of life and treatment compliance among 87 chronic disease patients. The results showed that patients who received psychotherapy had higher scores in the dimensions of mental health, vitality, general health, physical pain, physical functioning, and social functioning compared to patients who did not receive psychotherapy. Statistical analysis confirmed significant differences between the two groups. Additionally, psychotherapy was associated with higher treatment compliance, as indicated by the mean scores of patients receiving psychotherapy compared to those who did not. This suggests that psychotherapy can contribute to increased treatment compliance.

## 6. Discussion

Internationally, chronic diseases are a pandemic for the current era and pose many challenges for health professionals and the families that support people who are sick. The concept of social support is broad and includes many forms with various categorizations, with perceived support dominating at emotional, informational, and practical levels.

Although several ways are reported in the literature to support chronic patients (e.g., psychological interventions, self-care, and disease self-management education, group approaches often of a family type or with patients with the same disease), future investigations could be carried out regarding the

effectiveness of these psychological interventions and ascertaining how each works and has an effect on stress control. The results can lead to choosing the most appropriate method for each case disease and patient so that improvement is possible in the quality of life of the chronic patient. Finally, their caregivers also need training, reinforcement, and support for patients with chronic diseases, as they will for life take care of their humans and will form a network of communication with health professionals.

## References

1. Pang T, Guindon GE. Globalization and risks to health. *EMBO Rep.* 2004;5 Spec No(Suppl 1):S11-S16.
2. Okasha A. Globalization and mental health: a WPA perspective. *World Psychiatry.* 2005;4(1):1-2.
3. Centre for Chronic Disease Prevention and Control . What Are Chronic and Non-Communicable Diseases? Public Health Agency of Canada; Ottawa, ON, Canada: 2006.
4. Walker C. Recognising the changing boundaries of illness in defining terms of chronic illness: a prelude to understanding the changing needs of people with chronic illness. *Aust Health Rev.* 2001;24(2):207-14.
5. Liddy C, Johnston S, Irving H, et al. The Community Connection Model: implementation of best evidence into practice for self-management of chronic diseases. *Public Health.* 2013;127(6):538-45.
6. WHO. Global Status Report on noncommunicable diseases. Geneva. 2014.
7. Autoimmune Diseases Coordinating Committee: Autoimmune Diseases Research Plan. Report No.: 03-5140, National Institutes of Health. 2002.
8. Greek statistical authority. Health Survey: Year 2014. 2015.
9. Uchino BN. Social support and health: a review of physiological processes potentially underlying links to disease outcomes. *J Behav Med.* 2006;29(4):377-87.
10. Mohr DC. Stress and multiple sclerosis. *J Neurol.* 2007;254 Suppl 2:II65-68.
11. Krokavcova M, van Dijk JP, Nagyova I, et al. Social support as a predictor of perceived health status in patients with multiple

- sclerosis. *Patient Educ Couns*. 2008;73(1):159-65.
12. Dennison L, Moss-Morris R, Chalder T. A review of psychological correlates of adjustment in patients with multiple sclerosis. *Clin Psychol Rev*. 2009;29(2):141-53.
  13. Frasure-Smith N, Lespérance F, Gravel G, et al. Social support, depression, and mortality during the first year after myocardial infarction. *Circulation*. 2000;101(16):1919-924.
  14. Mattson M, Hall JG. *Health as communication nexus: a service-learning approach*. Kendall/Hunt Publishing Company. 2011.
  15. Sahban MA, Kumar MD, Ramalu SS. Model Confirmation through Qualitative Research: Social Support System toward Entrepreneurial Desire. *Asian Soc. Sci*. 2014;10(22):17-28.
  16. Pontisidis G, Bellali T. The Concept of Social Support and the Impact on Chronic Diseases Management. *Hellenic Journal of Nursing Science*. 2015;8(4):6-16.
  17. Heikkinen RL, Kauppinen M. Depressive symptoms in late life: a 10-year follow-up. *Arch Gerontol Geriatr*. 2004;38(3):239-50.
  18. Saito T, Kai I, Takizawa A. Effects of a program to prevent social isolation on loneliness, depression, and subjective well-being of older adults: a randomized trial among older migrants in Japan. *Arch Gerontol Geriatr*. 2012;55(3):539-47.
  19. Gurung RAR. *Health psychology: a cultural approach*. Belmont: Thomson Wadsworth; 2006.
  20. Norris FH, Kaniasty K. Received and perceived social support in times of stress: a test of the social support deterioration deterrence model. *J Pers Soc Psychol*. 1996;71(3):498-511.
  21. McDowell TL, Serovich JM. The effect of perceived and actual social support on the mental health of HIV-positive persons. *AIDS Care*. 2007;19(10):1223-229.
  22. Schaefer C, Coyne JC, Lazarus RS. The health-related functions of social support. *J Behav Med*. 1981;4(4):381-406.
  23. Sanderson CA. *Health psychology*. 2nd Ed: John Wiley & Sons Inc. New Jersey. 2013.
  24. Caplan G. *Support systems and community mental health: Lectures on concept development*. New York: Behavioral Publications. 1974.
  25. Jacobson DE. Types and timing of social support. *J Health Soc Behav*. 1986;27(3):250-64.
  26. Canty-Mitchell J, Zimet GD. Psychometric properties of the Multidimensional Scale of Perceived Social Support in urban adolescents. *Am J Community Psychol*. 2000;28(3):391-400.
  27. Chou KL. Assessing Chinese adolescents' social support: The multidimensional scale of perceived social support. *Pers Individ Differ*. 2000;20(2):299-307.
  28. Eker D, Arkar H, Yaldiz H. Generality of support sources and psychometric properties of a scale of perceived social support in Turkey. *Soc Psychiatry Psychiatr Epidemiol*. 2000;35(5):228-33.
  29. Zimet GD, Dahlem NW, Zimet SG, et al. The Multidimensional Scale of Perceived Social Support. *J Pers Assess*. 1988;52:30-41.
  30. Kazarian SS, McCabe SB. Dimensions of social support in the MSPSS: factorial structure, reliability, and theoretical implications. *J Community Psychol*. 1991;19(2):150-60.
  31. Stanley MA, Beck JG, Zebb BJ. Psychometric properties of the MSPSS in older adults. *Aging Ment Health*. 1998;2(3):186-93.
  32. Zimet GD, Powell SS, Farley GK, et al. Psychometric characteristics of the Multidimensional Scale of Perceived Social Support. *J Pers Assess*. 1990;55(3-4):610-17.
  33. Gallegos D. *Managing work and motherhood: Implications for perinatal mental health*. Perth, WA: State Perinatal Reference Group, Department of Health, CSCR and WACRW. 2007.
  34. Husain N, Bevc I, Husain M, et al. Prevalence and social correlates of postnatal depression in a low income country. *Arch Womens Ment Health*. 2006;9(4):197-202.
  35. Roman LA, Lindsay JK, Moore JS, et al. Addressing mental health and stress in Medicaid-insured pregnant women using a

- nurse-community health worker home visiting team. *Public Health Nurs.* 2007;24(3):239-48.
36. Theofilou P. Translation and Cultural Adaptation of the Multidimensional Scale of Perceived Social Support for Greece. *Health Psychol Res.* 2015;3(1):1061.
37. Cheng ST, Chan ACM. The multidimensional scale of perceived social support: dimensionality and age and gender differences in adolescents. *Pers Individ Differ.* 2004;37(7):1359-369.
38. Theofilou P, Zyga S, Tzitzikos G, et al. Assessing social support in Greek patients on maintenance hemodialysis: Psychometric Properties of the Multidimensional Scale of Perceived Social Support. In: Balogun RA, Abdel-Rahman EM, Balogun SA, eds. *Chronic Kidney Disease: Signs/Symptoms, Management Options and Potential Complications.* 1st ed. Virginia: Nova Publishers; 2013. p. 265-279.
39. Thorn BE, Cross TH, Walker BB. Meta-analyses and systematic reviews of psychological treatments for chronic pain: relevance to an evidence-based practice. *Health Psychol.* 2007;26(1):10-12.
40. Irvine H, Davidson C, Hoy K, et al. Psychosocial adjustment to multiple sclerosis: exploration of identity redefinition. *Disabil Rehabil.* 2009;31(8):599-606.
41. Ozbay F, Johnson DC, Dimoulas E, et al. Social support and resilience to stress: from neurobiology to clinical practice. *Psychiatry (Edgmont).* 2007;4(5):35-40.
42. Dennison L, Moss-Morris R, Chalder T. A review of psychological correlates of adjustment in patients with multiple sclerosis. *Clin Psychol Rev.* 2009;29(2):141-53.
43. Miller TA, Dimatteo MR. Importance of family/social support and impact on adherence to diabetic therapy. *Diabetes Metab Syndr Obes.* 2013;6:421-26.
44. Theofilou P, Vassilopoulou C, Tzavella F. Quality of Life, Social Support, Fatigue and Satisfaction from Nursing Care in Dialysis Patients: The Impact of Sociodemographic and Clinical Profile. *Ann Nurs Res Pract.* 2023;8(1):1052.
45. Theofilou P. Evaluation of Quality of Life and Fatigue in Dialysis Patients: The Contribution of Social Support and Satisfaction from Nursing Staff. *World J Nursing Res.* 2022;1(1):38-45.
46. Theodoritsi A, Aravantinou ME, Gravani V, et al. Factors Associated with the Social Support of Hemodialysis Patients. *Iran J Public Health.* 2016;45(10):1261-269.
47. Theofilou P, Stefanidou M, Giannakopoulou N, et al. The effect of perceived social support on the quality of life of hemodialysis patients. A preliminary study. *Prog Health Sci.* 2020;10(1):19-25.
48. Alexopoulou M, Giannakopoulou N, Komna E, et al. The effect of perceived social support on hemodialysis patients' quality of life. *Mater Sociomed.* 2016;28(5):338-42.
49. Theofilou P. The relation of social support to mental health and locus of control. *Journal of Renal Nursing.* 2012;4(1):18-22.
50. Sammarco A. Quality of life of breast cancer survivors: a comparative study of age cohorts. *Cancer Nurs.* 2009;32(5):347-56.
51. Krishnasamy M. Social support and the patient with cancer: a consideration of the literature. *J Adv Nurs.* 1996;23(4):757-62.
52. Arving C, Sjødén PO, Bergh J, et al. Individual psychosocial support for breast cancer patients: a randomized study of nurse versus psychologist interventions and standard care. *Cancer Nurs.* 2007;30(3):E10-9.
53. Arora NK, Finney Rutten LJ, Gustafson DH, et al. Perceived helpfulness and impact of social support provided by family, friends, and health care providers to women newly diagnosed with breast cancer. *Psychooncology.* 2007;16(5):474-86.
54. Bloom JR, Stewart SL, Johnston M, et al. Sources of support and the physical and mental well-being of young women with breast cancer. *Soc Sci Med.* 2001;53(11):1513-524.
55. Lehto-Järnstedt U-S. Social support and psychological stress processes in the early phase of cancer. 2000.
56. Maeda T, Kurihara H, Morishima I, et al. The effect of psychological intervention on personality change, coping, and psychological distress of Japanese primary breast cancer patients. *Cancer Nurs.* 2008;31(4):E27-35.
57. Hodgkinson K, Butow P, Hunt GE, et al. Breast cancer survivors' supportive care



- needs 2-10 years after diagnosis. *Support Care Cancer*. 2007;15(5):515-23.
58. Galloway S, Graydon J, Harrison D, et al. Informational needs of women with a recent diagnosis of breast cancer: development and initial testing of a tool. *J Adv Nurs*. 1997;25(6):1175-183.
59. Thewes B, Butow P, Girgis A, et al. The psychosocial needs of breast cancer survivors: a qualitative study of the shared and unique needs of younger versus older survivors. *Psychooncology*. 2004;13(3):177-89.
60. Wyatt G, Beckrow KC, Gardiner J, et al. Predictors of postsurgical subacute emotional and physical well-being among women with breast cancer. *Cancer Nurs*. 2008;31(2):E28-39.
61. Goula I, Alikari V, Charalampous G, et al. Social support and quality of life in Greek women with breast cancer during chemotherapy and two years later. *Health Psychology Report*. 2020;8(2):97-106.
62. Hung M, Bounsanga J, Voss MW, et al. The relationship between family support, pain and depression in elderly with arthritis. *Psychol Health Med*. 2017;22(1):75-86.
63. Miaskowski C, Blyth F, Nicosia F, et al. A Biopsychosocial Model of Chronic Pain for Older Adults. *Pain Med*. 2020;21(9):1793-805.
64. Perissinotto CM, Stijacic Cenzer I, Covinsky KE. Loneliness in older persons: a predictor of functional decline and death. *Arch Intern Med*. 2012;172(14):1078-083.
65. Emerson K, Boggero I, Ostir G, et al. Pain as a Risk Factor for Loneliness Among Older Adults. *J Aging Health*. 2018;30(9):1450-461.
66. Smith TO, Dainty JR, Williamson E, et al. Association between musculoskeletal pain with social isolation and loneliness: analysis of the English Longitudinal Study of Ageing. *Br J Pain*. 2019;13(2):82-90.
67. Richmond NL, Meyer ML, Hollowell AG, et al. Social Support and Pain Outcomes After Trauma Exposure Among Older Adults: A Multicenter Longitudinal Study. *Clin J Pain*. 2018;34(4):366-74.
68. Jaracz K, Pawlak M, Górna K, et al. Quality of life and social support in patients with multiple sclerosis. *Neurol Neurochir Pol*. 2010;44(4):358-65.
69. Solé E, Racine M, Tomé-Pires C, et al. Social Factors, Disability, and Depressive Symptoms in Adults With Chronic Pain. *Clin J Pain*. 2020;36(5):371-78.
70. Benka J, Nagyova I, Rosenberger J, et al. Social support and psychological distress in rheumatoid arthritis: a 4-year prospective study. *Disabil Rehabil*. 2012;34(9):754-61.
71. Pitsilka DA, Kafetsios K, Niakas D. Social support and quality of life in patients with rheumatoid arthritis in Greece. *Clin Exp Rheumatol*. 2015;33(1):27-33.
72. Anyfantopoulou E, Theofilou P. An epidemiological study of social support, pain self-efficacy, and health locus of control among elderly patients with musculoskeletal disorders: Which is the role of sociodemographic and clinical variables? *Global Health Economics and Sustainability*. 2023; 1(1):1-10.
73. DiMatteo R, Martin L. *Introduction to Health Psychology*. Athens: 2011.
74. Fekete EM, Antoni MH, Schneiderman N. Psychosocial and behavioral interventions for chronic medical conditions. *Curr Opin Psychiatry*. 2007;20(2):152-57.
75. Varvogli L, Darviri C. Stress management techniques: evidence-based procedures that reduce stress and promote health. *Health Sci J*. 2011;5(2):74-89.
76. Dourouka V, Vlastos DD, Theofilou P. Psychotherapy and chronic pain management: a quantitative study evaluating the contribution of psychotherapy to quality of life and treatment compliance in chronic disease patients. *Health Psychology Report*. 2023.

To access the full-text version of this article, please scan the QR code:

