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Review Article

Social support and health of older people in Middle Eastern countries: A systematic review

Maryam Tajvar
Department of Health Management and Economic Sciences, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran; and Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK

Astrid Fletcher and Emily Grundy
Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK

Mohammad Arab
Department of Health Management and Economic Sciences, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran

The aim of this study is to systematically review quantitative studies exploring the association between social support (SS) and the health of older people in Middle Eastern countries. Sixteen electronic databases and other resources were searched to identify studies that met the inclusion criteria of the review. Abstracts of identified papers were screened for relevancy, following which the authors determined eligibility, applied quality criteria and extracted the data. Twenty-two studies met the inclusion criteria. Even allowing for the diversity of the studies included, this review offered strong and consistent evidence for a positive relation between SS and mental health, while there was inconsistent evidence of an association between SS and other health outcomes. The limited evidence for the Middle Eastern region confirms findings from other settings on the importance of SS for mental health in later life. Current evidence is inadequate to assess whether SS is associated with physical health.

Key words: *health, Middle East, older people, social support.*

Introduction

'Social support' (SS) is a complex and multifaceted concept which has been variously conceptualised and defined. The basic definition of SS given by Cohen and Syme [1] is 'resources provided by other persons'. These resources have both objective and subjective aspects. 'Perceived SS' is a subjective feeling of being supported, whereas 'received SS' refers to indicators of what people receive from others, including instrumental SS [2]. Both elements are hypothesised to be health-protective and to act as buffers to stress [2].

Correspondence to: Mrs Maryam Tajvar, Department of Health Management and Economic Sciences, School of Public Health, Tehran University of Medical Sciences.
Email: mtajvar2004@yahoo.com; maryam.tajvar@lshtm.ac.uk

Social support is of particular importance for older people, because later life is associated with stressors, such as increased risk of chronic conditions, loss of function, loss of sources of income and loss of spouse. Older people may also be more vulnerable to certain types of stressor, or may suffer greater negative effects from stress [3,4]. While SS may be particularly important at older ages, sources of SS may diminish as a result of widowhood, mobility of kin and poor health limiting opportunities for social engagement [5,6]. Low SS is especially important as there is evidence that it is associated with poor health.

Research interest in SS began in the 1970s in Western countries and grew rapidly until the end of the 1980s, although thereafter the number of studies on this topic diminished [7]. Three major published reviews [8–10], all conducted in Western countries, generally support the conclusion that SS is beneficial for health and conversely that poor SS leads to ill health, although the evidence for this is less consistent. In the gerontological literature [11–13] a positive and strong relationship between SS and health is also well documented, again for Western populations. However, there are fewer studies in other settings. Differences in cultural attitudes and behaviour, in societal conditions and structures or differences in health-care systems may mean that results from Western studies cannot be generalised to other regions at various levels of development.

In the Middle Eastern (ME) region there are few published studies on this topic. Most ME countries currently have young-age structures but are ageing fast, as a result of their rapid fertility transition [14]. Population ageing, along with social and economic changes in the ME countries, is likely to have profound impacts on the structure and function of the family, traditionally the main source of support for older people. This makes it important to increase our understanding of associations between SS and the health of older people in the region. We conducted the first systematic review of quantitative studies investigating the association between SS and different dimensions of health in the ME region. Our aim was to identify the available research, identify the gaps and consider the implications for future research priorities and for policy.

Methods

Search strategy

For online searching, we first determined appropriate text words and thesaurus terms related to 'health' and 'social support' using MeSH terms or key words. Articles were

identified by searching key words, abstracts and titles in the electronic databases and websites selected. To cover more literature from non-Western countries, databases such as Eldis and IMEMR were included, together with more widely used databases, and hand searching of a number of key regional journals was also undertaken. Manual searches of the grey literature were also conducted using scientific websites, university websites listing research theses and projects, and contact with some informants. Table 1 lists the databases searched and search terms used.

Selection of studies and criteria

As selection criteria, design of studies, geographical place and age group were considered. We restricted the review to original studies conducted in the ME countries. Studies [15–17] that included only people younger than 60 years old were excluded. No restriction was put on the publication year or language. In hand searching of the grey literature, the same inclusion criteria for selection of studies were used.

After applying these criteria, the search retrieved over 418 abstracts and titles which were reviewed electronically. We then added those papers retrieved through hand searching of journals and grey literature. Finally, after omitting duplicates, 350 abstracts and titles remained for the preliminary review.

The abstracts of all studies, when available, were read. The relevance of papers with no abstracts (n = 37) was determined from the title and key words. References that did not meet the inclusion criteria were excluded following abstract or key word review, leaving 89 citations for full-text review.

Table 1: List of sources searched and search terms used for systematic reviews

Electronic databases	Hand searched journals and websites
Embase (since 1974)	Asia-Pacific Population Journal
Medline via Ovid (since 1948)	Eastern Mediterranean Health Journal
Ovid: Full Text Journals	Middle East Journal of Age and Ageing
PubMed	Iran Medical Index
Web of Science	Iranian Information and Documentation Centre (IRANDOC)
PsycEXTRA	Scientific Information Database
PsycINFO	Iranian Journal of Ageing
Global Health	Websites of selected universities
Age Info	
Eldis	
IMEMR	

Search terms
health OR wellbeing OR morbidity OR illness OR disorder OR disease OR disability OR impairment
AND
'social support*'[Mesh] OR support*
AND
'Middle East Countries'[Mesh] OR Armenia OR Azerbaijan OR Bahrain OR Egypt OR Georgia OR Iran OR Iraq OR Palestine OR Israel OR Jordan OR Kuwait OR Lebanon OR Oman OR Qatar OR Saudi-Arabia OR Syria OR Turkey OR Turkmenistan OR Emirates OR Yemen

Excluded and included studies

We excluded the following: studies which measured both SS and health but did not examine the association between them; qualitative studies, commentaries, editorial letters and descriptive discussions.

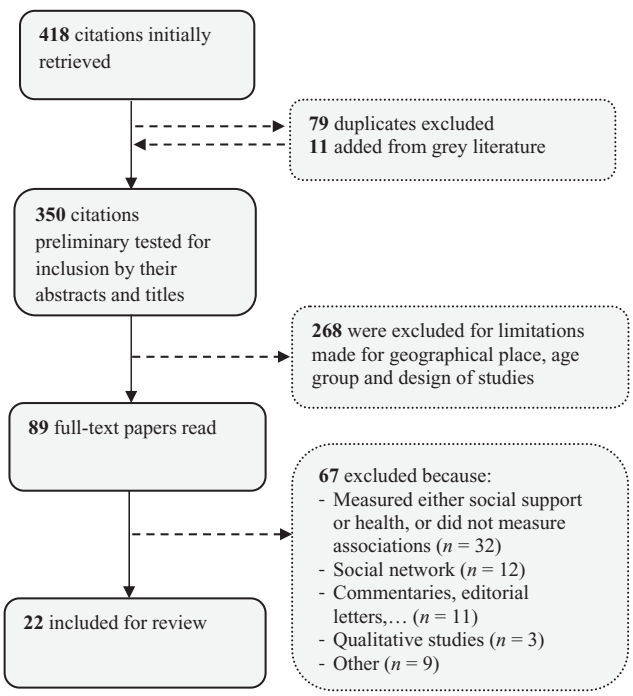
Two further papers [18,19] were excluded as it was not possible to identify the separate effect of SS on health in these studies. Studies were not excluded on grounds of methodological quality, as part of the purpose of this review was to evaluate methodological strengths and limitations of existing research. The criteria for judging quality of papers were mainly based on the *Handbook of Health Research Methods* [20]. In total, 22 studies met criteria for this review. Figure 1 shows the process of selection of studies for this review.

Data extraction and analysis

The name of author(s); main objective; year of publication; setting; study population (age range, sex, sample size, sampling); design and method of data collection; the aspect of SS (perceived or received); measures of SS and health; findings and methodological limitations were extracted from the included studies (see Table A1 in Appendix I).

The studies included were developed for a diversity of objectives, used a variety of methods and measures of SS and health outcomes, used different statistical techniques and included study participants with different characteristics and were distributed widely among countries. This diversity made formal meta-analysis impossible. Instead, we tried to

Figure 1: Selection of studies for systematic review of social support and health.



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group the results based on different health outcomes and summarise the findings and report in this review.

Results

Descriptive results

Of the 22 studies, 12 were conducted since 2009. No study was found in 13 of 19 ME countries, but Israel (n = 4), Turkey (n = 6) and Iran (n = 9) were disproportionately represented among the publications retrieved. Three of the included studies were in Farsi and the rest were in English.

Most studies specifically investigated the influence of SS on health as (one of) their main objective(s). In the remainder of studies (n = 7), SS was included as a covariate so that its association with health could be examined. The main outcome measures of the studies included a variety of health outcomes among which 'mental health' predominated (n = 9). Among the measures of mental health, the General Health Questionnaire was the most frequently used instrument, followed by the Beck Depression Inventory. Health-related quality of life (HRQoL) was the second frequent health outcome of interest (n = 8) and functional health and self-rated health (SRH) were outcomes considered less frequently.

Study populations comprised different age ranges with inclusion of some proportion of older people; in nine studies all participants were older people aged 60+ years. Of 19 studies which reported sex, women comprised most or all the participants in 13 studies. However, in five studies men were the majority.

Participants of eight studies were community residents with no particular diagnosed diseases, but in the rest, the studies focused either on people with a particular illness such as cancer or on caregivers of patients. The study by Pasha et al. [21] included both community residents and those living in public residential institutions and compared these two groups.

Only a few studies in this review [22–25] considered and reported results based on the sources of SS perceived or received by the participants. All of those studies reported that family rather than friends and non-relatives provided the most support for older people. Other studies either neglected sources or measured sources but did not report the results [26,27].

Main results and discussion of findings

Association between social support and mental health

In reviews in Western countries [28–30], and in the present review, there has been a greater focus on mental health than other aspects of health. This review found strong evidence of an inverse association between SS and poor mental health, with eight of nine studies reporting higher levels of SS to be associated with lower risk of mental illness, although three studies [21,24,31] did not control for the effect of potential confounders in their statistical analysis. The similarity of association between SS and mental health in the ME countries to that of Western research, highlights the relevance, applicability and importance of SS concepts in mental health well-being across countries and cultural settings.

'Perceived SS' was the dimension of SS most researched and showed consistent strong associations with mental health; there was no association between 'received SS' and mental health [32] in one study in Iran. A study [33] among Lebanese older people did not find an association between the 'availability of SS' and depression, but in this study 'quality of support' of family and friends was significantly associated with frequency of depressive symptoms of older people. This is consistent with previous research indicating that it is the perception of one's SS and its perceived quality rather than actual SS received that is related to mental health [34–36] and the effectiveness of provision SS on mental health depends more on its qualitative aspects than on its structural or quantitative aspects [37].

Another study in Iran [22] found that emotional support and instrumental support had no direct association with poor physical and mental health, although some indirect associations were found. Recall errors may be relevant in interpreting the result of this study as the measure of SS was 'received SS' during the last year. It may be difficult for older people to remember how often they received different types of SS in the last year.

Association between social support and functional health

Only a few studies identified investigated the association between SS and functional health. Studies in Kuwait [38] and Turkey [39] reported no evidence of a relationship between functional health and SS. In contrast, a significant association between perceived SS and functional health was found among Israeli older people [40], although the relationship between perceived SS and mental health was much stronger than with functional health. The authors argued that a high perception of support may influence better functioning through improving self-efficacy and self-confidence.

A significant reverse association between receiving SS and functional status was described in Iran [22]; the poorer the Activities of Daily Living score, the higher received instrumental and financial SS among older people. A reverse association between SS and functional health is not surprising as functional impairment increases the need for help from family and others [41].

Association between social support and health-related quality of life

Eight studies measured the association between SS and HRQoL in the ME countries. Consistent with the evidence from Western countries, this review also confirmed an association [26,42] or correlation [23,25,43,44] between perceived SS and HRQoL. However, evidence on associations

between other aspects of SS and HRQoL was inconsistent. Zamanzadeh et al. [25] reported an association between HRQoL and emotional SS, but no association with instrumental and informational SS. The association of instrumental SS with HRQoL was also weaker than that with emotional SS in the study by Alipour et al. [42]. Additionally, there was stronger evidence of associations between SS and the Mental Component Score than with the Physical Component Score of the 36-item Short-Form Health Survey (SF-36) in studies undertaken by Pakpour et al. [45] and Filazoglu and Griva [26]. Thus, it seems that the different types of SS have different effects on HRQoL and that associations with perceived SS are more consistent than those with instrumental SS. Perceived SS may help people to strengthen their coping abilities to overcome the stressors of life, which may have a direct effect on their HRQoL.

Apart from the studies reported above ($n = 7$) which all were cross-sectional, one longitudinal study from Israel [46] indicated that SS is an important predictor of HRQoL. Among all predictors of HRQoL, only SS made a stable, significant contribution to the explained variance of HRQoL in all three stages of the study.

Association between social support and self-rated health

Only three studies investigated the relationship between SS and SRH, with variable findings. Auslander and Litwin [40] using path analysis found that perceived SS was not directly associated with the SRH of Israeli older people but was indirectly related to SRH through both functional and psychological health, suggesting the mediating role of health in the relationship between SS and SRH.

The study by Asfar et al. in Syria [47] suggested sex differences in types of SS associated with SRH; having someone who supports the respondent when needed had a significant association with men's SRH, while having someone to share happiness and sorrow with had a significant relationship with women's SRH.

It remains unresolved whether the perceived availability of SS influences SRH or vice versa, although the first alternative seems to be more plausible. In a longitudinal study [27] in Israel, poor perceived SS at baseline was an independent predictor of poor SRH at follow-up after a year supporting the temporality of SS on SRH.

Discussion

Some discussion of the findings of the papers included in this review was given above. In this section, we discuss methodological issues relevant to the papers included and also limitations of this systematic review.

Methodological quality of the studies included in the review

A summary of methods used by studies and their methodological limitations is detailed in Table A1 (Appendix I) and summarised here.

One of the main limitations of studies was around definition of SS: a lack of clear definition of SS; the application of conceptualisations of SS that were not compatible with the common definitions; or use of measures that were not compatible with their definition of SS. Some studies did not justify the measures they selected and some did not use validated assessment instruments specifically for SS [38,47] or gave insufficient information on the validity and reliability of the instruments they used [22,48].

Most studies were cross-sectional. Only two studies [27,46] were conducted longitudinally. In cross-sectional studies, determining the causal relationship between SS and health is particularly problematic. For example, poor health may trigger provision of support, leading to a reverse causation issue [41], and physical functioning status may be influenced by past availability of support not measured in cross-sectional studies.

Another limitation was the small sample size of many studies. Most authors did not give information on their sample size calculations and thus it was difficult to judge statistical power. Also, response rates were not reported in some studies.

Some studies (e.g. [21,23,45]) used convenience sampling, making their results less generalisable. The other studies were either community-based using a wide age range (e.g. [47]) or non-community-based but specifically researching older patient groups (e.g. [24]) or older people living in institutions [21]. Only six studies were both community-based and had older people as their study population. In studies in institutional settings, SS, especially support actually received, may be confounded by the setting because of the necessary provision of support at some level by the institution.

In most studies ($n = 12$) there was limited or no adjustment for potential confounders in the association between SS and health. The statistical analysis in these studies was either bivariate such as correlation (e.g. [24]) or insufficiently multivariate (e.g. [48]), leading to the identification of potentially spurious relationships. Other limitations were lack of information on data collection methods (e.g. [21,42]) and lack of information about missing data and the methods used to deal with this problem (e.g. [26]).

These methodological limitations may limit the validity of the results reported in this review.

Limitations of the review

This review is subject to a number of limitations: firstly, only one review author screened abstracts for relevancy and determined eligibility, applied quality criteria and extracted data which may have biased these processes. Secondly, for practical reasons (language and location of the first author) the unpublished studies included were drawn mainly from Iran and so may underrepresent unpublished research

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from other countries. Thirdly, it is possible that some studies investigating SS and health were not included because they used terms other than 'social support' and 'support' such as 'social participation' or 'social capital' but with a conceptualisation equivalent to SS. Finally, only a moderate number of studies (n = 22) were included, and these studies were quite heterogeneous, so an overall estimation of the influence of SS on health could not be made with confidence.

Conclusion

In this systematic review, diversity in the characteristics of the included studies, in addition to limitations in their sample size and methodology, makes comparisons and the estimation of the effects of SS on health difficult. However, taking account of these limitations, most of the existing evidence in the ME countries, as elsewhere, suggests positive associations between SS and mental health, while there is inconsistent evidence with regard to the association between SS and physical health and other health outcomes. Thus, the findings from this review support the premise that a reduction in the SS of older people, for any reason, might have negative implications for the mental health of older people. However, further evidence, both on the nature of associations between different aspects of SS and the health of older people, particularly on physical health, is needed.

This review highlights the following gaps for further research:

1 First of all, research on this topic in ME countries is sparse and studies of associations among older people even sparser.
2 The association between received SS and health is less researched and understood than with perceived SS.
3 Most studies have been cross-sectional and direction of association has not been identified. Well-designed longitudinal studies need to be developed in the ME countries. Intervention studies are also needed in order to test how findings from observational studies might be translated into actions of benefit to older people.
4 The complexity of SS theories should be matched by the instruments used in the study. The research instruments for SS need to be developed and piloted appropriately for each context and their external validity should be tested in that context.
5 Measures of SS should consider possible sex differences. In the ME literature only one study [47] was found that specifically investigated sex differences in associations between SS and health.
6 Only two studies [33,49] in this review investigated a mechanism whereby SS may influence health outcomes. This is required to increase knowledge of the pathways whereby SS influences health in ME populations.
7 The sources of SS and their association with the health of people (in particular older people) should be studied. Only two studies [22,24] considered and reported results based on the sources of SS perceived or received by the participants.

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Key Points

- This paper systematically reviews quantitative studies exploring the association between social support and health of older people in Middle Eastern countries.
- This review offered strong and consistent evidence for a positive relationship between social support and mental health, while there was inconsistent evidence of an association between social support and other health outcomes.
- Research on this topic in Middle Eastern countries is sparse. Further evidence, both on the nature of associations between different aspects of social support and the health of older people, particularly on physical health, is needed.

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Appendix I

Table A1: Characteristics and findings of studies included in the systematic review of social support (SS) and health in the Middle Eastern countries (ordered chronologically)

Source: year	Setting, sample, sampling	Design and methods	Main outcome, measures of health and SS	Key findings	Main methodological limitations
[40] **(1991)**	**Israel** 200 older people community resident 74 years old, 66% women RR = 70%	XS Multivariate	SRH 5-question SRH (RVT) PSS NSSQ (RVT)	PSS & functional/psychological health associated but no direct association with SRH	1, 2, 3
[32] **(2002)**	**Iran** 200 community resident older people Aged 60+	XS Clustering sampling Multivariate	MH GHQ-12 (RVT) 3-item instrumental support, and 3-item emotional support of Rook & Ituarte scale	Emotional support & mental health disorders associated but instrumental support did not	1, 2, 4, 5, 6, 11
[24] **(2004)**	**Turkey** 30 patients and their spouses Mean age for patients 62 and for spouse 56	XS Convenient sampling Bivariate	MH UCLA Loneliness Scale and BDI-12 (both RVT) PSS Friends and Family scales (RVT)	SS from family was higher than SS from friends in both patients and spouse MH problems were higher with less PSS	1, 2, 3, 4, 7
[38] **(2004)**	**Kuwait** 113 older patients Aged 65+, 70% women	XS Bivariate	PH ADL SS (invalid measure)	No significant correlation of ADL and SS	1, 2, 3, 4, 6, 7, 8
[48] **(2005)**	**Israel** 85 patients diagnosed in the previous year recruited from clinics Aged 18–65, 79% women RR = 93%	XS Convenient sampling Multivariate	MH Multiple Sclerosis QoL Inventory PSS MOS-19 (RVT)	SS contributed in MH beyond all the other variables examined	1, 2, 3, 6, 7
[21] **(2007)**	**Iran** 50 people resident in an institution and 50 community residents Aged 65+, 50% men	XS Bivariate	MH GHQ-28 (RVT) SS Philips Questionnaire (RVT)	Community resident older people reported significantly better mental health status and higher SS compared to older people resident in the institution SS was associated with better mental health in each group	1, 2, 3, 4, 7, 8, 9
[43] **(2007)**	**Iran** 220 cancer patients Aged 18+, 51% women Recruited from 3 hospitals in Tehran	XS Convenient sampling Bivariate	QoL France and Porous QoL scale (RVT) PSS Northouse scale (RVT)	PSS correlated with QoL in total and with all dimensions	1, 2, 3, 4, 5, 7
[22] **(2007)**	**Iran** 526 community resident Aged 60+	XS Multivariate	MH, PH ADL, IADL, GHQ-12 (RVT) RSS Developed by the author	Neither emotional nor instrumental support had direct associations with poor MH and PH Older people who received more financial support had poorer MH	1, 2, 4, 6, 7, 9, 10, 11
[47] **(2007)**	**Syria** 2038 community residents Aged 18–65, 55% women RR = 86%	XS Stratified cluster sampling Multivariate	SRH Single question of SRH Only 2 questions to measure SS	'having someone who supports the respondent when needed' associated with SRH of men only but 'having someone to share with happiness & sorrow' associated with SRH of women only	1, 3, 5, 6, 7, 8
[44] **(2007)**	**Turkey** 66 type 2 diabetic patients refereed to a policlinic Aged 18+, 61% women	XS Convenient sampling Bivariate	HRQoL SF-36 (RVT) PSS MSPSS (Turkish version) (RVT)	PSS and HRQoL of the patients correlated	1, 2, 3, 4, 7
[25] **(2007)**	**Iran** 164 haemodialysis patients referred to hospitals Aged 39–62, 61% men	XS Convenient sampling Multivariate	HRQoL Combined 3 scales of QoL Combined 3 scales of SS (emotional, instrumental and informational) (RVT)	All three dimensions of HRQoL and its total score correlated with SS In multivariable analysis, only emotional support was associated with HRQoL	1, 2, 3, 4, 6, 10
[26] **(2008)**	**Turkey** 188 breast cancer patients referred to three hospitals Aged 33–62 RR = 84%	XS Convenient sampling Multivariate	HRQoL SF-36 (RVT) PSS MSPSS-12 (RVT)	SS and all 8 aspects of SF-36 correlated SS showed strongest association with the MCS and the second strongest association with the PCS among other variables	1, 2, 3, 12

Table A1: ***Continued***

Source: year	Setting, sample, sampling	Design and methods	Main outcome, measures of health and SS	Key findings	Main methodological limitations
[39] **(2008)**	**Turkey** 84 working women with breast cancer interviewed at hospital Aged 30–75	XS Random selection Multivariate	PH IFSA-CA-39 (RVT) PSS MSPSS scale (RVT)	Lack of friend support associated with functional status but family support not Total SS score not associated with the total functional score	1, 2, 3, 4, 9
[42] **(2009)**	**Iran** 100 community residents Aged 60+ years, 70% men	XS Sampling from a sampling frame Multivariate	HRQoL Lipad questionnaire (RVT) PSS NSSQ Scale (RVT)	SS (in particular emotional support) associated with HRQoL Those with emotional support and those with instrumental support had higher HRQoL scores	1, 2, 3, 4, 9
[31] **(2009)**	**Iran** 312 community residents Aged 65+, 55% men RR = 94%	XS Stratified sampling method Bivariate	MH GHQ-12	MH score and SS were correlated	1, 2, 6, 7, 8, 9
[33] **(2009)**	**Lebanon** 490 community residents Aged 60+, 58% women	XS Multivariate	MH GDS-15(RVT) (i) Availability and (ii) quality of support	No significant association between presence of a spouse and lower depression but more children associated with lower depression Quality of relationships associated with fewer depression symptoms	1, 2, 3, 4, 6, 9
[49] **(2009)**	**Turkey** 102 people Aged 60+, 67% women	XS Convenient sampling Multivariate	MH BDI-21, ADL-17 (RVT) PSS MSPSS (RVT)	Higher perceived SS associated with lower depression No interaction of PSS in the association between ADL and depression	1, 2, 3, 4, 7, 9
[50] **(2009)**	**Turkey** 51 caregivers of cancer patients refereed to a clinic Aged 18+, 84% women RR = 70%	XS Convenient sampling Multivariate	MH BDI-II and State–trait Anxiety Inventories (RVT) PSS MSPSS (RVT)	PSS from family associated with depression PSS from significant others associated with trait anxiety	1, 2, 3, 7
[46] **(2009)**	**Israel** 140 caregivers of stroke survivors recruited from a medical centre Mean age 55, 72% women	L Multivariate	QoL WHO QoL-26 instrument, GDS-15 (RVT) Shuval SS scale (14-item types and sources of SS and 7-item perceived SS) (RVT)	SS made a stable, significant contribution to the explained variance of QoL in all stages	2, 3, 4, 5, 9, 10
[27] **(2009)**	**Israel** 668 MI patients Aged 65–, 19% women 12-year follow-up (baseline, 5 and 10 years) Follow-up RR = 98% of alive	L Multilevel Multivariate	SRH SRH questionnaire (RVT) PSS MSPSS-12 (RVT)	Poor PSS a strong predictor of poor SRH Association between baseline SS and poor SRH at follow-up The association between baseline and subsequent SRH was not strong for SS	3
[23] **(2010)**	**Iran** 202 haemodialysis patients referred to hospitals Aged 18+, 52% women	XS Convenience sampling Bivariate	QoL Ferrans and Powers QoL Index–dialysis version (RVT) PSS Personal Resources Questionnaire 85 Part II (RVT)	Correlations between PSS and QoL	1, 4, 7
[45] **(2010)**	**Iran** 250 haemodialysis patients referred to hospitals Aged 18+, 56% men	XS Convenience sampling Multivariate	HRQoL SF-36 (RVT) A single question RSS	RSS associated with MCS but not with PCS	1, 3, 4, 6

Methodological limitations: (1) cross-sectional design; (2) small sample size/no information about sample size calculation; (3) limited generalisability for different reasons; (4) response rate not reported; (5) clustering structure of the data was not taken into account in statistical analysis; (6) no/insufficient information of validity of SS or H scale or to use invalid measure; (7) no/insufficient control for the effects of potential confounders; (8) the conceptualisation of SS not compatible with the common definitions; (9) the method of data collection/sampling/design of study unclear; (10) ORs or Coefs. not reported; (11) no information on sex of participants or sex proportion; (12) self-completion questionnaire but no information on missing data. ADL, Activities of Daily Living; BDI, Beck Depression Inventory; GHQ, General Health Questionnaire; HRQoL, health-related quality of life; IADL, Instrumental Activities of Daily Living; IFSA-CA-39, Inventory of the Functional Status Cancer; L, longitudinal; MCS, Mental Component Score; MH, mental health; MI, myocardial infectious; MSPSS, Multidimensional Scale of Perceived Social Support; NSSQ, Norbeck Social Support Questionnaire; PCS, Physical Component Score; PH, physical health; PSS, perceived social support; QoL, quality of life; RSS, received social support; RVT, reliability and validity tested; SRH, self-rated health; XS, cross-sectional.