Menopause is a natural part of the aging process in women and is defined as occurring 12 months after the last menstrual period marking the end of menstrual cycles. Menopause has a negative impact on the quality of life (QoL). Various generic and specific questionnaires have been used for assessing different dimensions of QoL in menopausal women. The purpose of this systematic review was to identify those general and specific instruments, and to determine the factors that affect QoL in menopausal women. We assessed eight specific and three general tools and found that some general and specific instruments, such as the 36-item short form (SF-36) and the Menopause Specific Quality of Life Questionnaire (MENQOL), were mostly used for assessment. The specific tools available were diverse. Employment status and a high educational level in menopausal women were considered to be protective factors in improving QoL. Identification of predicting factors of QoL, such as body mass index, race, age, duration of menopause, and social and occupational variables can help to improve the QoL of these women allowing planning of psychological consultations and practical interventions.

Menopause is a natural part of the aging process in women and is defined as occurring 12 months after the last menstrual period marking the end of menstrual cycles. Menopause is a universal and physiological event in a woman’s life occurring around the age of 50 years in most developed countries. It is caused by the aging of ovaries leading to a decline in the production of ovarian gonadotrophins estrogen and progesterone. The deficiency of these hormones elicits various somatic, vasomotor, sexual, and psychological symptoms that impair the overall quality of life (QoL) of women.

Fifty to 80% of women complain about menopausal symptoms such as hot flashes, night sweats, sleep disturbances, tiredness, and depression. They are the principal determinants of a reduced health-related quality of life (HRQL), which is detectable soon after the onset of menopause. The World Health Organization (WHO) defines QoL as “an individual’s perception of their position in life, in the context of the culture and value system in which they live, and in relation to their goals, expectations, standards, and concerns.”

QoL is a multidimensional concept that has been used in different fields of knowledge including sociology, occupational functioning, politics, marketing, climate, and health care. Menopause-related symptoms have a negative impact on the QoL of perimenopausal women. Budakoglu et al. showed that the QoL in postmenopausal women is worse than that of premenopausal women.

QoL can be assessed using both general and specific tools employed for specific conditions. General tools have generally no questions for specific conditions and diseases. However, specific tools with the same statements include some certain questions for these. General instruments cannot be used to assess the QoL in diseases since clinical features are not equal. Therefore, specific tools are generally preferable for each condition assessed and menopause is no exception. However, both tool types are used for measuring QoL in the literature.

In this systematic review study, we identified general and specific instruments for assessing QoL and determined the factors related to QoL in menopausal women.

Using the major electronic databases, including PubMed and Scopus, we searched for articles...
with the following key words: "(questionnaire OR scale OR inventory) AND (quality of life) AND (menopause OR menopausal)". Articles published up to November 2014 were included in the search. The reference lists and related scientific conference databases were searched for additional data, and the authors of the studies were contacted for any additional unpublished studies. Studies were included irrespective of age, race, country, and publication status. The studies retrieved were mainly cross-sectional papers written in English and assessed the QoL in a multi-dimensional manner using general or specific questionnaires.

Two authors separately screened the title and abstract of the retrieved studies and then reviewed the full texts to extract the studies that met the inclusion criteria of this systematic review. The variables extracted included the first author’s name, year, country, study design, and study results. Disagreements were resolved by discussion between the two authors.

To identify the tools used for measuring QoL, we used the Medical Outcomes Trust/Scientific Advisory Committee (SAC) criteria to carry out instrument assessment. The SAC defined eight key attributes of health status and QoL instruments including a) conceptual and measurement models, b) reliability, c) validity, d) responsiveness, e) interpretability, f) respondent and administrative burden, g) alternative forms, and h) cultural and language adaptation. In this study, we used the criteria for the conceptual and measurement models.

We retrieved 2712 studies, including 2698 references through electronic databases and 14 references through checking references lists. A total of 481 studies were excluded because of duplication, and a further 2138 studies were excluded after screening the titles and abstracts, and 31 excluded after reviewing the full texts. In total, 62 studies were included [Figure 1].

The frequency of studies on the QoL in menopausal women from various countries was as follows: USA (n=9), Turkey (n=7), Iran (n=6), Spain (n=7), China (n=5), Taiwan (n=5), Colombia (n=4), India (n=4), and Poland (n=2). One study each was published in Greece, Tanzania, France, Canada, Australia, Japan, Poland, Brazil, Pakistan, Korea, Saudi Arabia, Chile, and Ecuador.

In this review, eight specific and three general tools were included for assessment [Table 1].

**MENQOL**

The Menopause Specific Quality of Life Questionnaire (MENQOL) is a validated questionnaire for the assessment of menopausal women’s symptoms and an effective instrument, although most researchers have recommended an investigation of the validity of this tool for use in different cultures and nations.

A study by Nisar et al,11 showed that the scores of physical domain were significantly more in the postmenopausal group and menopause related symptoms had a negative impact on the QoL of postmenopausal women.

In a study by Poomalar,7 menopause related symptoms had a negative impact on the QoL of perimenopausal and postmenopausal women and the scores of physical domain were significantly more in the late postmenopausal group.

Abedzadeh et al,12 also used this tool and found that women who were employed, had a high educational level, a menopause duration of less than five years, and who had income and marriage satisfaction had a better QoL in the menopausal period. In another study by Norozi et al,13 in 2013, the QoL in postmenopausal women correlated with age, educational level, marital status, and employment status.

**SF-36**

The 36-item short-form (SF-36) was designed for use in clinical practice and research, health policy evaluation, and general population surveys. It was
found that natural menopause is an independent predictor of a lower QoL in physical functioning. Budakoglu and colleagues showed that the QoL in postmenopausal women was worse than that of premenopausal women. They also showed that rural populations of women were in need of public health care in the postmenopausal period. In another study, Pan et al. reported an inverse association between weight gain and changes in physical functioning in the dimensions of physical functioning, physical role limitations, bodily pain, general health, and vitality.

**Table 1: The general and specific instruments for assessing the quality of life in menopausal women.**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Type</th>
<th>Number of items</th>
<th>Dimensions covered</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Health Organization Quality of Life (WHO QOL-BREF)</td>
<td>Generic</td>
<td>26</td>
<td>General health; Physical health; Psychological; Health; Social relationship; Environmental</td>
<td>Lima, 2012; Zolnierczuk-Kieliszek, 2012; Ozkan, 2005</td>
</tr>
<tr>
<td>Greene Climacteric Scale</td>
<td>Specific</td>
<td>21</td>
<td>Psychological; Somatic Vasomotor; Probe of sexual dysfunction</td>
<td>Chen, 2012; Giannouli, 2012</td>
</tr>
<tr>
<td>Utian Quality of life scale (UQOL)</td>
<td>Generic</td>
<td>23</td>
<td>Occupational; Health related; Emotional Sexual</td>
<td>Chen, 2012; Giannouli, 2012; Greenblum, 2013</td>
</tr>
<tr>
<td>Woman’s health questionnaire (WHQ)</td>
<td>Specific</td>
<td>36</td>
<td>Depressed mood; Memory/concentration problems; Somatic symptoms; Vasomotor; Anxiety and fears; Sleep problems; Sexual dysfunction; Menstrual symptoms; Attractiveness</td>
<td>Ferrand, 2013; Daley, 2007; Lima, 2012; Shin, 2012; Zolnierczuk-Kieliszek, 2012; Hautamaki, 2014</td>
</tr>
<tr>
<td>The 36-item short-form (SF-36)</td>
<td>Generic</td>
<td>36</td>
<td>Physical functioning; Vitality/energy; Physical role limitation; Bodily pain; Mental health; Change in health; Emotional role limitation; Health perception; Social functioning</td>
<td>Extremera, 2012; Avis, 2003; Anderson, 2007; Budakoglu, 2007; Fuh, 2003; Chen, 2012; Chiu, 2008; Pan, 2014; Laferriere, 2002; Zolnierczuk-Kieliszek, 2012; Shyu, 2012</td>
</tr>
<tr>
<td>Mencav</td>
<td>Specific</td>
<td>37</td>
<td>Physical health; Mental health; Partner relationship; Social support; Sexual relations</td>
<td>Buendia Bermejo, 2008</td>
</tr>
<tr>
<td>Cervantes Scale</td>
<td>Specific</td>
<td>31</td>
<td>Menopause and health; Psychological; Couple relation</td>
<td>Lima, 2012; Calvo-Perez, 2013; Llaneza, 2007</td>
</tr>
<tr>
<td>Cervantes Scale</td>
<td>Specific</td>
<td>10</td>
<td>Menopause and health; Psychological; Couple relation</td>
<td>Chedraui, 2014</td>
</tr>
<tr>
<td>Cervantes Short Form Scale</td>
<td>Specific</td>
<td>16</td>
<td>Menopause and health; Psychological; Couple relation</td>
<td>Coronado, 2014</td>
</tr>
<tr>
<td>Menopause Rating Scale (MRS)</td>
<td>Specific</td>
<td>11</td>
<td>Somatic; Psychological; Urogenital</td>
<td>Monterrosa-castro, 2012; Iavadivala, 2013; Chedraui, 2008; Chou, 2014; Krajewska, 2007; Ornat, 2013; Alquaiz, 2014; Ojenda, 2011</td>
</tr>
</tbody>
</table>

**WHO QOL-BREF**

The World Health Organization Quality of Life (WHOQOL-BREF) instrument comprises 26 items, which measure the following broad domains: physical health, psychological health, social relationships, and environment. The WHOQOL-BREF is a shorter version of the original instrument and can be used for assessing the QoL in different cultures and populations using this instrument. Ozkan et al. showed that the QoL was significantly lower in women with vasomotor complaints. A high
educational level correlated with an improvement in the QoL in menopausal women (years one to five) and women more than 10 years postmenopause had a better QoL.

**Greene Climacteric Scale**
The Greene Climacteric Scale is a self-reported questionnaire that measures 21 physical and psychological symptoms associated with the menopausal transition. Giannouli et al. reported that the presence and identity of climacteric symptoms had a negative impact on QoL.

**Utian Quality of Life Scale (UQOL)**
The Utian Quality of Life Scale (UQOL) assesses how women perceive their life in each dimension independently of somatic or psychological complaints. In a study by Greenblum in 2013, menopausal symptoms commonly associated with the menopausal transition and early postmenopause negatively affected QoL. Giannouli and his colleagues believed that a normal body mass index, married status, higher education, employment, good financial status, physical exercise, and a high calcium diet were associated with a better QoL.

**Woman’s Health Questionnaire (WHQ)**
The Woman’s Health Questionnaire (WHQ) was developed to measure the perceptions of a range of physical and emotional symptoms in middle-aged women. Daley et al. believed that obese women had higher vasomotor and somatic symptom scores than women of normal weight during menopause. In a study by Ferrand, the level of national wealth, human development, cultural constraints, and social inequality were likely to explain how country and class affected QoL.

**MENCAV**
Buendia Bermejo et al. showed that MENCAV is a valid and reliable questionnaire for assessing the QoL in menopausal women. The questionnaire includes 37 items and five dimensions.

**Cervantes Scale**
The 31-item Cervantes Scale is an advanced and validated tool. The scale’s short forms have 16 and 10 items.

Llaneza and his colleagues showed that obesity did not affect the global health-related QoL.

**Menopause Rating Scale (MRS)**
In their study, Monterrosa-Castro et al. showed that age, menopause status, body mass index, race, marital, and working status increased Menopause Rating Scale (MRS) scores. Table 2 shows the different factors related to the QoL in menopausal women in the literature.

This review study shows that both general and specific instruments were used for assessing the QoL in menopausal women with specific instrument such as SF-36 and MENQOL most frequently used. The application of specific tools has significantly increased since 1999. We found several specific tools were used for the assessment of QoL in menopausal women, but in some studies general tools were used.

In a review study, Schneider et al. compared the sum-score of the SF-36 with the score of the somatic and psychological dimension of the MRS. They reported that the severity of menopausal symptoms were the best reflector of the profile of the QoL dimensions. In this review study, employment status and a high educational level in menopausal women were considered to be protective factors in improving QoL.

The main predicting factors of QoL in menopausal women were found to be different in various populations because of differences in age.

<table>
<thead>
<tr>
<th>Related Factors</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body mass index</td>
<td>Williams; Ceylan; Anderson; Monterrosa-Castro; Daley; Fallahzadeh; Giannouli; Ghazanfarpour; Jones</td>
</tr>
<tr>
<td>Marital dimension</td>
<td>Monterrosa-castro; Ceylan; Noroz; Abedzadeh</td>
</tr>
<tr>
<td>Economical dimension</td>
<td>Bal; Ceylan; Giannouli; Zolnierczuk-Kieliszek; Abedzadeh</td>
</tr>
<tr>
<td>Age</td>
<td>Chedraui; Fallahzadeh; Noroz; Abedzadeh</td>
</tr>
<tr>
<td>Educational level</td>
<td>Bal; Ceylan; Giannouli; Noroz; Ozkan; Zolnierczuk-Kieliszek; Abedzadeh</td>
</tr>
<tr>
<td>Working status</td>
<td>Ceylan; Blumel; Monterrosa-Castro; Noroz; Fallahzadeh; Giannouli; Abedzadeh</td>
</tr>
<tr>
<td>Duration of menopause</td>
<td>Abedzadeh; Som</td>
</tr>
<tr>
<td>Parity</td>
<td>Abedzadeh; Monterrosa-Castro</td>
</tr>
</tbody>
</table>

Table 2: Different factors related to the quality of life in menopausal women as given in the literature.
race, body mass index, duration of menopause, as well as social and occupational variables. Thus, identifying these related indicators can help to improve the QoL of these women through planning psychological consultations and practical interventions.

**CONCLUSION**

This review study showed that some general and specific instruments such as SF-36 and MENQOL were the most frequently used tools for assessing QoL in menopausal women. Some studies used general tools for assessing the QoL in menopausal women and the specific tools used were diverse.

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