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Quality of life for people with schizophrenia: a literature review

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Quality of life for people with schizophrenia: a literature review

Abstract
Objective: In recent years, there has been a growing interest in the study and evaluation of the quality of life for people with schizophrenia. The aim of this paper is to provide a comprehensive literature review on the quality of life for people with schizophrenia who are living in the community. Method: An integrative literature review was undertaken to review literature in the field of medical/mental health in relevant databases. Results: A total of 21 studies were reviewed and categorised according to three themes identified from the literature: the quality of life and socio-demographic characteristics of people with schizophrenia; the quality of life of people with schizophrenia internationally; and the quality of life of people with schizophrenia in cross-cultural studies. Conclusion: Quality of life for people with schizophrenia depends on many factors, including cultural and economic factors, homogeneity of the society, traditional role of the family, social support, and availability of the mental health services. Recommendations for further studies, particularly in the Arab world, are made.

Keywords
schizophrenia, quality, life, literature, people, review

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Keywords: schizophrenia, quality of life, literature review

Declaration of interest: None.

Introduction

Schizophrenia is a devastating disorder which fits under the broader heading, psychosis, which is characterized by a loss of contact with reality. The disorder manifests in a variety of ways, including false beliefs (delusions), false perceptions (hallucinations), and irrational thinking and behaviour.1 Worldwide, schizophrenia affects approximately 0.5% to 1.5% of the population, and the annual incidence rate averages between 0.5 and 5.0 per 10,000 people. The most typical age for the onset of schizophrenia is the late teens and early 20s; however, cases of onset at age 5 or 6 have also been reported.2 There is no gender difference in this disorder and both men and women with the disorder are equally affected; however, individuals with an early age of onset (18–25 years old), are most often men who have more signs of structural brain abnormalities and more prominent negative symptoms. (These symptoms are characteristics of psychiatric illness expressed as withdrawn behavior, expressionlessness, a lack of initiative and interest, slow and/or little speech, and slow thoughts and movements.) In contrast, individuals with a later age of onset (25–35 years) are more likely to be women who have less evidence of structural brain abnormalities and generally have better outcomes.2 Quality of life (QoL) is a new view of health from a bio-psycho-social perspective that emerged from a perceived need to balance and supplement the successes of modern medicine to improve QoL in cases of serious, chronic, and debilitating or fatal diseases.3 Social scientists detailed this broad concept by conducting population-based QoL research that contributed significantly to understandings of social indicators such as family and social relationships.4 Generally, QoL has encompassed several domains related to health, although the concept initially also included many other non-health-related issues such as work, family, wealth, religion, and environment.4 While evidence in the literature supports the concept of QoL; so far, no single unanimously accepted definition of QoL has emerged.5 Basu5 focused on the historical evolution of the concept and called it “one of those words like ‘happiness,’ ‘love,’ or ‘peace’ that everybody grasps intuitively, but problems arise the moment one tries to formally define them.” According to Awad and Voruganti,4 many working definitions may be needed, depending on the population under study, the stage of the illness and its treatment, and societal expectations at a particular point in time. Over the past 30 years, several definitions of QoL have been provided, most based on particular theoretical orientations ranging from a focus on psychology (e.g., feelings of well-being and satisfaction) to standards of living (e.g., perceived health, housing, finances, and employment).4 Although there is no consensus definition of QoL, considerable agreement has developed on some central characteristics. First, QoL is subjective in nature and oriented toward the individual experience; moreover, the final authority or assessor of QoL is the individual who lives that life.3 Second, QoL is a multidimensional concept that has physical, psychological, and societal facets that vary according to the conceptual, pragmatic,
and empirical purposes of the particular group developing the assessment instrument. Third, QoL is a dynamic concept that can change from day to day and is characterized by its individuality; each person perceives his or her QoL as different from that of others.

**Method**

An integrative literature review was undertaken to review literature related to this study because it is more flexible and inclusive compared to other types of literature review methods (e.g., systematic and meta-analysis reviews). This method consists of five steps: (1) recognize the problem associated with the research questions, (2) conduct a systematic literature search, (3) appraise the quality of the selected relevant articles, (4) review the articles to identify themes, and (5) organize the themes and critically analyze them.

The following English terms were used as keywords: "quality of life" and "schizophr*." The literature review was conducted using the MEDLINE, CINAHL, Proquest, and ScienceDirect databases. The literature publication years were limited to 1990 to 2010. The literature search identified 3,327 relevant articles (1,672 from MEDLINE, 104 from CINAHL, 921 from Proquest, and 630 from ScienceDirect). However, to narrow the scope of the review, a number of inclusion criteria were applied to select the relevant literature:

- Articles identified as primary sources and peer-reviewed.
- Articles that initially validated or used a previously validated measure of QoL (e.g., QOLI, LQoLP-EU).
- Studies conducted solely on patients diagnosed with schizophrenia, schizoaffective disorder, or schizophreniform disorder.
- Studies that measured the QoL for people with schizophrenia who were outpatients or living in the community.
- Studies on QoL and schizophrenia published in English or Arabic.

Literature exclusion criteria were also employed such as abstracts, proceeding papers, editorials, commentary papers, letters, articles focusing on patients with other mental illnesses, studies on the QoL for inpatients with schizophrenia, and studies on QoL that used relatives or proxies.

**Results**

After the integrative review of the literature, a total of 21 articles were extensively reviewed to identify themes related to QoL for people with schizophrenia. The identified articles were found to investigate the QoL for people with schizophrenia based on their socio-demographic characteristics mainly (e.g., age, marital status), country system (availability of mental health services, family structure), or to compare the QoL for people with schizophrenia between two or more countries (e.g., QoL for people with schizophrenia in Canada, Cuba and the United States). Consequently, three themes were identified: (1) the quality of life and socio-demographic characteristics for people with schizophrenia; (2) the quality of life for people with schizophrenia internationally; and (3) the quality of life for people with schizophrenia in cross-cultural studies. The full details regarding the 21 selected articles are presented in Table 1.
<table>
<thead>
<tr>
<th>Author (year)</th>
<th>Country</th>
<th>Denominator</th>
<th>Instrument(s)</th>
<th>Outcome measures</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xiang et al.1</td>
<td>China</td>
<td>231 men, 254 women</td>
<td>WHOQoL</td>
<td>Gender and QoL</td>
<td>No significant difference between the two genders in the psychological, social, and environmental aspects, but women reported lower scores on the physical aspects of QoL.</td>
</tr>
<tr>
<td>Narvaez et al.2</td>
<td>U.S.A.</td>
<td>48 outpatients</td>
<td>QoL</td>
<td>Predictors of QoL</td>
<td>Female, older, and less educated participants reported lower QoL.</td>
</tr>
<tr>
<td>Cardoso et al.3</td>
<td>Brazil</td>
<td>123 outpatients</td>
<td>QoL</td>
<td>Socio-demographic characteristics and QoL</td>
<td>Male gender, single marital status, low income, and low schooling associated with low QoL.</td>
</tr>
<tr>
<td>Curto et al.4</td>
<td>France</td>
<td>143 patients</td>
<td>BAD, BPRS, BES, FAME, SPMS</td>
<td>Social-demographic characteristics, stressors, social support, and QoL</td>
<td>Social support related to better QoL. However, high level of education, lengths of hospitalization and severity of illness associated with poor QoL.</td>
</tr>
<tr>
<td>Hanson et al.5</td>
<td>Norway</td>
<td>418 patients</td>
<td>LQoL-P, BPRS, Interview Schedule for Social Intervention, CAN</td>
<td>Relation between QoL, living situation, and social network</td>
<td>Independent housing and living with family associated with better QoL.</td>
</tr>
<tr>
<td>Bryant, Lysaker and Bell12</td>
<td>U.S.A.</td>
<td>97 patients</td>
<td>QoL, QoL</td>
<td>Paid work and QoL</td>
<td>Work activities associated with better QoL.</td>
</tr>
<tr>
<td>Salokangas et al.13</td>
<td>Finland</td>
<td>1750 men, 1506 women</td>
<td>GAS</td>
<td>Gender, marital status, and QoL</td>
<td>Female gender and marriage associated with better QoL.</td>
</tr>
<tr>
<td>Adewuya and Makanjuola14</td>
<td>Nigeria</td>
<td>99 patients</td>
<td>BPRS, QoL, PSE, DAI-10, WHOQoL</td>
<td>Study of the QoL for people with schizophrenia in Nigeria.</td>
<td>Unemployment and poor social support related to poor QoL.</td>
</tr>
<tr>
<td>Dimitriou, Anthony and Dyson2</td>
<td>Greece</td>
<td>101 patients</td>
<td>Subjective Quality of Life Profile</td>
<td>Study of the QoL for people with schizophrenia in Greece</td>
<td>Gender, age, education, and marital status not related to QoL.</td>
</tr>
<tr>
<td>Curson et al.15</td>
<td>Canada</td>
<td>181 patients</td>
<td>CaW-QoL</td>
<td>Study of the QoL for people with schizophrenia in Canada</td>
<td>Female, age 40-49, high education, and employment associated with better QoL.</td>
</tr>
<tr>
<td>Chan and Yu22</td>
<td>Hong Kong</td>
<td>172 patients</td>
<td>WHOQoL, BPRS</td>
<td>Study of the QoL for people with schizophrenia in Hong Kong</td>
<td>Female, unemployment, higher levels of mental health problems, and high numbers of previous hospitalizations associated with poor QoL.</td>
</tr>
<tr>
<td>Mabarak et al.16</td>
<td>Malaysia</td>
<td>174 patients</td>
<td>QoL</td>
<td>Study of the QoL for people with schizophrenia in Penang, Malaysia</td>
<td>People with schizophrenia reported problems with living condition, work, finances, housing, social relations, and general health.</td>
</tr>
<tr>
<td>De Souza and Coutinho17</td>
<td>Brazil</td>
<td>135 patients</td>
<td>LQoL-P, BPRS, CDSS</td>
<td>Study of the QoL for people with schizophrenia in Brazil</td>
<td>Female and older patients associated with better QoL. High education associated with poor QoL.</td>
</tr>
<tr>
<td>Dune et al.18</td>
<td>Spain</td>
<td>44 outpatients</td>
<td>QoL</td>
<td>Study of the QoL for people with schizophrenia in Spain</td>
<td>Male, older, and employed participants reported high QoL.</td>
</tr>
<tr>
<td>Benston-Tops and Hansson19</td>
<td>Sweden</td>
<td>120 outpatients</td>
<td>LQoL-P, BPRS, GAF</td>
<td>Study of the QoL for people with schizophrenia in Sweden</td>
<td>No relationship between socio-demographic characteristics and QoL.</td>
</tr>
<tr>
<td>Brown et al.20</td>
<td>Ireland</td>
<td>64 outpatients</td>
<td>QoL</td>
<td>Study of the QoL for people with schizophrenia in Ireland</td>
<td>Patients who lived independently or with their family were more satisfied with their QoL than those residing in hostels or group homes.</td>
</tr>
<tr>
<td>Heider et al.21</td>
<td>France, U.K., and Germany</td>
<td>288 French patients, 618 German patients, 302 British patients</td>
<td>QoL</td>
<td>Study of the QoL for people with schizophrenia in three countries over time</td>
<td>Participants from the U.K. reported significantly lower QoL than those from other countries.</td>
</tr>
<tr>
<td>Daradkeh and Al Habeeb22</td>
<td>Jordan and Saudi Arabia</td>
<td>162 Jordanian patients, 49 Saudi Arabian patients</td>
<td>QoL</td>
<td>Study of the QoL for people with schizophrenia in Jordan and Saudi Arabia</td>
<td>No difference in the QoL for patients in Jordan and Saudi Arabia.</td>
</tr>
<tr>
<td>Prue et al.23</td>
<td>U.S., Germany, and Switzerland</td>
<td>24 American outpatients, 24 German outpatients, 24 Swiss outpatients</td>
<td>LQoL-P, BPRS</td>
<td>Work and QoL in three countries</td>
<td>Generally, employment associated with better QoL in Western nations.</td>
</tr>
<tr>
<td>Vandelies24</td>
<td>Canada, Cuba, and U.S.</td>
<td>102 outpatient men and women</td>
<td>QoL</td>
<td>Gender and QoL in three countries</td>
<td>Canadian women reported a higher QoL for social relationships than men and the opposite in Caba. No gender difference found in the U.S. sample.</td>
</tr>
<tr>
<td>Warren et al.25</td>
<td>U.S.</td>
<td>109 American patients, 70 Italian patients</td>
<td>LQoL-P, BPRS, Cameron Well Needs Measure</td>
<td>To compare the QoL for people with schizophrenia in the U.S. and Italy.</td>
<td>Participants from the U.S. reported significantly lower QoL than those from Italy.</td>
</tr>
</tbody>
</table>

Quality of life for people with schizophrenia

Theme 1: the quality of life and socio-demographic characteristics for people with schizophrenia

Based on the systematic literature review, only seven studies were found that focused mainly on socio-demographic characteristics (e.g., gender, age, marital status, employment, and education) related to the QoL for people with schizophrenia (Table 2.)

Table 2: Studies of the quality of life and socio-demographic characteristics for people with schizophrenia

<table>
<thead>
<tr>
<th>Author/s (year)</th>
<th>Outcomes/measures</th>
<th>Socio-demographic variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xiang et al.7</td>
<td>Gender and QoL</td>
<td>Women reported low QoL in physical aspects (e.g., pain, fatigue)</td>
</tr>
<tr>
<td>Narvaez et al.8</td>
<td>Clinical, functional, and cognitive predictors of subjective and objective QoL</td>
<td>Female, older, and less educated participants reported lower QoL</td>
</tr>
<tr>
<td>Cardoso et al.9</td>
<td>Socio-demographic and clinical factors related to low QoL</td>
<td>Single male participants with low levels of schooling and income reported low QoL</td>
</tr>
<tr>
<td>Caron et al.10</td>
<td>Socio-demographics, clinical characteristics, stressors, coping strategies, social support, and QoL</td>
<td>Patients with higher levels of education reported low QoL</td>
</tr>
<tr>
<td>Hansson et al.11</td>
<td>Relationships between the living situation in the community and QoL</td>
<td>Individuals with independent housing showed better QoL</td>
</tr>
<tr>
<td>Bryson, Lysaker and Bell12</td>
<td>Paid work and QoL</td>
<td>Paid work improved QoL</td>
</tr>
<tr>
<td>Salokangas et al.13</td>
<td>Gender, marital status, and QoL</td>
<td>Single men reported poor QoL</td>
</tr>
</tbody>
</table>

Xiang et al.7 studied the association between gender and QoL in 251 male and 254 female patients with schizophrenia using the World Health Organization Quality of Life (WHOQoL) questionnaire in Hong Kong and Beijing, China. They found no significant difference between the genders in their perceived QoL; however, women reported lower scores on the physical health items of the WHOQoL (e.g., fatigue, pain, and discomfort) with respect to QoL. The authors reported that the lower QoL for women may be due to the relatively more severe discrimination against women with schizophrenia in Chinese society.

In the United States, Narvaez et al.8 examined the predictors of QoL in 88 outpatients with schizophrenia or schizoaffective disorder. They used the Lehman Quality of Life Interview (QoL) to measure the QoL for people with schizophrenia. The results showed that women, older, and less educated participants reported lower QoL. However, the authors failed to investigate the relationship between employment, marital status, and quality of life due to the small number of employed (n=5) and married individuals (n=9).

Cardoso et al.9 studied the socio-demographic characteristics related to the low QoL for people with schizophrenia among 123 outpatients with schizophrenia in Brazil. The patients were interviewed using the Quality of Life Scale—Brazilian version (QLS-BR scale). The results revealed that the socio-demographic characteristics associated with low QoL included male gender, single marital status, and low levels of schooling and income.

In France, Caron et al.10 studied the relationships between socio-demographic characteristics, stressors, coping strategies, social support, and QoL in a cross-sectional design with repeated measures on the same participants after a 6-month interval. In their study, 143 outpatients with schizophrenia or schizoaffective disorder were included, and their QoL was measured using the Satisfaction with Life Domains Scale (SLDS). The study revealed that, in regard to socio-demographic characteristics, participants with higher levels of education scored lower on QoL both times. Overall, the authors of the study suggested that the availability of close personal relationships would enhance emotional integration and have a positive effect on satisfaction with QoL.

The relationships between the living situation in the community and QoL, as well as the social network among community-based individuals with schizophrenia, were studied by Hansson et al.11 in Sweden. A total of 418 outpatients with schizophrenia were interviewed through the use of the Lancashire Quality of Life Profile (LQoLP) to measure their QoL. They found that 70% of the participants were living in a public or privately owned apartment or house; only 26% were living in a sheltered or supported residential setting, and 19% lived...
with their families. Overall, individuals with independent housing showed better QoL and were more satisfied with their privacy and autonomy.

Bryson, Lysaker, and Bell investigated the relationships between paid work and QoL measures in a sample of 97 outpatients with schizophrenia or schizoaffective disorders through the use of the QLS and QoL in the United States of America. The study revealed that paid work improved the QoL for people with schizophrenia. In addition, the results indicated that an increased number of working weeks was related to high total QLS scores.

The association between gender, marital status, and the QoL for people with schizophrenia was examined by Sulokangas et al. in Finland. In the study, interviews were conducted with 1,750 male and 1,506 female outpatients with schizophrenia using the Global Assessment Scale (GAS). The authors found that the female participants tended to be married, older in age, with a long duration of illness, and moved after discharge from the hospital to live alone or with their spouses more often than did men. The results revealed that single men had a poorer QoL than others in almost all areas of measurement, including work life, daily functioning, housing condition, number of confidants, and psychosocial stability. Generally, women were found to be more unaffected by their marital status, were more satisfied with their own lives, had closer interpersonal relationships, and had done useful work more often than men.

**Theme 2: The quality of life for people with schizophrenia internationally**

The systematic literature review identified nine studies that explored the QoL for people with schizophrenia in different countries and related to their cultural context. These studies were undertaken in Western and non-Western nations including Canada, Greece, Sweden, Ireland, Spain, Brazil, Hong Kong, Malaysia, and Nigeria (Table 3.)

<table>
<thead>
<tr>
<th>Author(s) (year)</th>
<th>Country</th>
<th>QoL for people with schizophrenia in relation to the country system.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adewuya and Makanjuola</td>
<td>Nigeria</td>
<td>Patients reported poor QoL due to poor rehabilitation facilities for people with mental illness in Nigeria</td>
</tr>
<tr>
<td>Dimitriou, Anthony and Dyson</td>
<td>Greece</td>
<td>No relationship was found between QoL and socio-demographic characteristics. This can be rationalized by the homogeneity of Greek culture and the high stigmatization of people with schizophrenia</td>
</tr>
<tr>
<td>Caron et al.</td>
<td>Canada</td>
<td>Women enjoyed a better QoL in the area of living activities than men due to traditional and cultural factors that require women to be more involved in household activities and shopping</td>
</tr>
<tr>
<td>Chan and Ye</td>
<td>Hong Kong</td>
<td>Due to cultural factors, women had poor QoL in Hong Kong because women have to take care of children and the elderly</td>
</tr>
<tr>
<td>Mubarak et al.</td>
<td>Malaysia</td>
<td>People with schizophrenia in Malaysia have problems with housing, social functioning, finances, and work due to a lack of community rehabilitation facilities in Malaysia</td>
</tr>
<tr>
<td>De Souza and Coutinho</td>
<td>Brazil</td>
<td>Because the majority of the people live with their families in Brazil, the participants were highly satisfied with their family relationships</td>
</tr>
<tr>
<td>Duno et al.</td>
<td>Spain</td>
<td>Patients were satisfied with their family relationships due to the strong role of the traditional family structure in Spain</td>
</tr>
<tr>
<td>Bengtsson-Tops and Hanson</td>
<td>Sweden</td>
<td>Patients were dissatisfied with their finances due to changes in the state and local community allowance system in Sweden with regard to housing and the costs of medicine</td>
</tr>
<tr>
<td>Browne et al.</td>
<td>Ireland</td>
<td>Patients rated their QoL at less than 50% of the maximum score on the Quality of Life Scale due to the cultural norms in Ireland</td>
</tr>
</tbody>
</table>

In a Nigerian study, Adewuya and Makanjuola examined the relationship between socio-demographic characteristics and subjective QoL among 99 outpatients with schizophrenia using the WHOQoL questionnaire. The study showed that poor subjective QoL was associated with unemployment and poor social support. The same study revealed that Nigerian people with schizophrenia perceived their QoL to be lower than QoLs reported in other world regions. The authors reported that this result could be due to the poor facilities and amenities available for the treatment and rehabilitation of people with mental illness in Nigeria.

In Greece, Dimitriou, Anthony, and Dyson used the Subjective Quality of Life Profile (SQLP) and QoL to explore the QoL for 101 outpatients with schizophrenia. They found that age, gender, and marital status were not related to QoL for people with schizophrenia. They explained the homogeneity of the Greek population and
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the high stigmatization of people with mental illness such that people with schizophrenia have difficulty obtaining employment and finding partners. However, only the level of education was associated with QoL; participants with high levels of education reported better QoL. The authors reported that this result can be explained by the fact that participants with higher educational levels had better expectations of change after receiving medical treatment.

In Canada, Caron et al.\textsuperscript{16} used the Canadian version of the Wisconsin Quality of Life Index (CaW-QLI) to examine the relationships between socio-demographic characteristics and the QoL for 181 outpatients with schizophrenia. They found that women enjoyed a better QoL in the area of living activities (e.g., living arrangements and working status) than men. This could be due to traditional and cultural factors that require women to be more involved in household activities and shopping, which, in turn, allow them to develop abilities in this area that are superior to those of men. However, in the area of education, tertiary-educated participants reported higher psychological well-being than those with only a primary education. In the work domain, employed individuals were found to have greater QoL in the areas of social support, relationships, physical health, and global QoL score.

In a Hong Kong study conducted by Chan and Yu,\textsuperscript{17} the QoL was investigated in 172 outpatients with schizophrenia. The participants were interviewed using the Hong Kong Chinese version of the WHOQoL. The study revealed that the unemployed participants were less satisfied with their QoL than others. Women reported lower QoL than men in the domains of life enjoyment, leisure, and personal safety. The authors explained the difference in QoL between men and women by cultural factors; traditionally, women in Hong Kong must take care of their children as well as older family members, and women still occupy a social position that is substandard compared to that of men. Therefore, women are more susceptible to crimes such as domestic violence, rape, and assault.

In Malaysia, Mubarak et al.\textsuperscript{18} measured the QoL for 174 outpatients with schizophrenia in Penang, Malaysia. The participants were interviewed using the QoLl. The study showed that Malaysian people with chronic schizophrenia who were living in the community faced many challenges in their day-to-day lives in the domains of housing, daily activities, social relations, finance, work, and general health. The authors argued for the creation of community-based rehabilitation facilities, which are crucial for implementing community-based treatment of people with schizophrenia in Malaysia.

In Brazil, using the LQoLP, De Souza and Coutinho\textsuperscript{19} examined the QoL for 136 Brazilian outpatients with schizophrenia. Most of the participants reported that religion was a source of leisure and social support; this was evident in the participants' high level of satisfaction with the religious domain. In addition, participants were very satisfied with their family relations; satisfaction with family relations was the second-highest score after religion. This was explained by the fact that, in Brazil, a great proportion of people with schizophrenia live with their families, which certainly represent a source of informal care for these patients. However, higher levels of education were associated with lower subjective QoL scores, and this could be due to frustration with the ability to achieve goals that are compatible with their educational level.

In Spain, Duno et al.\textsuperscript{20} assessed the subjective QoL for 44 outpatients with schizophrenia living in Catalonia using the QoLl. The results showed that male, older, and employed participants reported a high QoL. The authors found that participants were more satisfied with the areas of housing and family relations compared with respondents in other studies. The authors argued that the high level of satisfaction with the housing and family domains occurred for several reasons: firstly, in Spain, there are no community-based mental health and social services; secondly, the Spanish National Health Service's resources for people with mental illness who live in the community are limited to outpatient clinic visits for medication control; thirdly, as a result of the traditional family structure in Spanish society, the majority of patients live with their original families, who serve as their main support system. In addition, the authors reported that due to very low social adversity and Catalanian persecution, the participants reported higher levels of satisfaction with personal safety than those in some American cities.

In Sweden, Bengtsson-Tops and Hansson\textsuperscript{21} assessed the QoL for 120 outpatients with schizophrenia using the LQoLP. The results of the study showed that the participants were mostly satisfied with religion and mostly dissatisfied with finances and work. The high dissatisfaction with the financial domain may be due to the fact that people with schizophrenia in Sweden have problems handling their personal finances; for others, the high dissatisfaction reflects worries about the future and feelings of dependency, which may be a result of changes in the state and local community allowance system with regard to housing and the costs of medicine. There were no relationships between socio-demographic variables such as age, gender, employment, marital status, social and family relationships, and QoL.
In Ireland, Browne et al. measured the QoL for 64 outpatients with schizophrenia who were attending a rehabilitation center to examine the relationships between socio-demographic characteristics and QoL using the Quality of Life Scale (QLS). The results revealed that the participants rated their QoL at less than 50% of the maximum score of the QLS, which may be due to the local norms of the catchment area, as each item of the QLS is scored relative to local norms. However, the authors did not provide an explanation of those local norms that affected the QoL for people with schizophrenia in Ireland. No relationships were found between QoL and gender. Patients who lived independently or with their families were more satisfied with their QoL than those residing in hostels or group homes.

Theme 3: The quality of life for people with schizophrenia in cross-cultural studies

As described in Table 4, five studies investigated the QoL for people with schizophrenia cross-nationally. Those studies compared the QoL for people with schizophrenia in general or with respect to specific socio-demographic factors between two or more countries.

Table 4: Cross-cultural studies of the quality of life for people with schizophrenia

<table>
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<tr>
<th>Authors</th>
<th>Countries</th>
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<tr>
<td>Heider et al.</td>
<td>France, U.K., and Germany</td>
<td>Participants from the U.K. reported lower QoL than those from the other two countries</td>
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<tr>
<td>Daradkeh and Al Habeeb</td>
<td>Jordan and Saudi Arabia</td>
<td>No difference was found</td>
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<td>Priebe et al.</td>
<td>United States, Germany, and Switzerland</td>
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<tr>
<td>Vandiver</td>
<td>Canada, Cuba, and United States</td>
<td>Canadian women reported a higher QoL for social relationships than men, and the opposite was found in Cuba</td>
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<td>Warner et al.</td>
<td>United States and Italy</td>
<td>Participants from the U.S. reported lower QoL than those from Italy</td>
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Heider et al. investigated factors influencing the subjective QoL for outpatients with schizophrenia in a longitudinal study in three countries: France, the United Kingdom, and Germany. The study sample consisted of 288 French, 302 British, and 618 German patients. Between 1998 and 2002, the patients were interviewed at 6-month intervals for a total of 2 years. The patients' QoLs were measured using the QoLI. The study revealed that participants from the United Kingdom reported significantly lower QoL in housing, daily activities and functioning, family, legal and safety issues, and health in comparison with those from Germany and France.

Daradkeh and Al Habeeb studied the QoL for 211 outpatients with schizophrenia from two outpatient clinics in Irbid, Jordan, and Riyadh, Saudi Arabia. The participants were asked to fill out the modified version of the schizophrenia QLS in which the same authors checked its validity and reliability to the Arab people in a previous study. They found that nearly a quarter of the patients viewed their general health as excellent or good; 30% met their expectations, and their high rating of QoL was explained by the psychosocial support they obtained from relatives. In addition, gender and marital status were found to be unrelated to QoL, while employment and higher education levels were strongly related to better QoL.

Priebe et al. examined and compared the attitudes toward work, work incentives, and the impact of work on the QoL for a total of 72 outpatients with schizophrenia, each cohort comprising 12 employed and 12 unemployed participants, from the USA, Germany, and Switzerland using the LQoLP. The results confirmed that employed people with schizophrenia showed remarkable advantages regarding their financial situation, personal safety, and satisfaction with work, leisure, and finances. In addition, in the Western industrialized countries, the association between employment and QoL seemed to be similar.

Vandiver examined the QoL for 102 outpatient men and women with schizophrenia in Canada, Cuba, and the USA using the QoLI. They found no difference between men and women in the combined sample. However, differences were found between men and women in Canada and Cuba in the social relationship domain. In
Canada, women reported higher QoL for social relationships because they were able to take advantage of the availability of the Canadian healthcare system which allowed interaction with others. In contrast, Cuban women reported lower QoL for social relationships, apparently because the social relationships of the Cuban women were constrained by the multiple roles of caregiver, housewife, and worker. Warner et al.\textsuperscript{28} used the LQoL to compare the QoL for 100 outpatients with schizophrenia from Boulder, Colorado, in the USA and 70 people with schizophrenia from Bologna, Italy. They hypothesized that the dissimilar culture and mental health services in the two countries would lead to differences in the QoL for people with schizophrenia. The results showed that the QoL for people with schizophrenia in Bologna was better than that of the people in Boulder. Several QoL differences favored Bologna over Boulder: higher rates of marriage and partnership, greater length of employment, higher wage rates, greater total earnings, fewer financial obstacles, and more residential stability. Most importantly, more patients in Bologna were living with family, and family living was associated with such advantages as meeting the individual’s basic needs for accommodation, food, home care, and budgeting.

**Discussion**

The literature review identified three main themes: studies of socio-demographic characteristics associated with QoL; studies of QoL in certain countries, and comparisons of the QoL for people with schizophrenia in two or more countries. Based on the literature review of socio-demographic characteristics associated with QoL, it is clear that there have been inconsistencies in the results regarding the association between gender, educational level, and the QoL for people with schizophrenia who live in the community. While women reported low total scores for perceived QoL\textsuperscript{8} and low QoL in the physical domain,\textsuperscript{7} Cardoso et al.\textsuperscript{9} found that being a man is a predictive factor associated with low QoL among people with schizophrenia. The difference in the QoL between men and women was rationalized by cultural factors. For example, in China, women with schizophrenia experience high levels of discrimination, which negatively affects the QoL of Chinese women.\textsuperscript{7} However, Cardoso et al.\textsuperscript{9} rationalized the low QoL found for men by rationalizing that most women are involved in household activities, unlike men, who tend to stay at home without any responsibilities due to their mental illness. Therefore, it is clear that social and cultural factors play a strong role in the perception of QoL for men and women with schizophrenia.

Regarding the association between the level of education and QoL, Narvaez et al.\textsuperscript{8} and Cardoso et al.\textsuperscript{9} found that less educated people tended to report a low QoL. In contrast, Caron et al.\textsuperscript{16} and De Souza and Coutinho\textsuperscript{19} indicated that people with high levels of education reported a poor QoL. However, in all of the studies the authors agreed that being employed, having a high income, having social support, living with family, and being married were related to better QoL.

Studies measuring the QoL for people with schizophrenia in specific countries have revealed that the QoL for people with schizophrenia depends on specific factors related to the geographical area (e.g., the availability of mental health facilities and services),\textsuperscript{16,18} the homogeneity of the community,\textsuperscript{15} and cultural factors.\textsuperscript{16,17,19,20} Several studies favor Bologna over Boulder: higher rates of marriage and partnership, greater length of employment, higher wage rates, greater total earnings, fewer financial obstacles, and more residential stability. Most importantly, more patients in Bologna were living with family, and family living was associated with such advantages as meeting the individual’s basic needs for accommodation, food, home care, and budgeting.

Cross-cultural studies of the QoL for people with schizophrenia should measure QoL using the same inclusion criteria and the same measurement scale. Each country has different cultural, traditional, and economic features; backgrounds; community compositions; healthcare systems; and social support networks. All of these factors were found to influence the QoL for people with schizophrenia living in such surroundings.\textsuperscript{23,27} It can thus be concluded that mental health services and programs must be tailored in accordance with the local culture, lifestyle, community homogeneity, and current availability of mental health services to improve the QoL for people with schizophrenia.

Furthermore, the review of the literature on the QoL for people with schizophrenia identified a limitation in the methodology of the previous studies. The previous studies focused only on socio-demographic factors and did not try to investigate other factors associated with QoL. The limitation of the study’s methodology of the QoL was firstly and only identified by Bengtsson-Tops and Hansson,\textsuperscript{21} who studied the QoL for 120 patients with schizophrenia in Sweden through the use of a well-established QoL instrument (Lancashire Quality of Life...
The use of quantitative and qualitative data will help to view people with mental illness from a holistic standpoint as whole persons involved in daily life. Therefore, while the quantitative studies provide information about how satisfied people with schizophrenia are with their QoL, and about the relationship of their socio-demographic characteristics to their QoL, the qualitative studies show how people with schizophrenia perceive their QoL and thereby add a richness to the quantitative data. The combinations of quantitative and qualitative findings provide a more comprehensive understanding about the QoL for people with schizophrenia rather than the use of either qualitative or quantitative findings alone would have allowed. An extensive literature search showed that no published articles combine quantitative and qualitative data to investigate the QoL for people with schizophrenia. Therefore, based on this literature review mixed-methods studies that investigate the QoL for people with schizophrenia are needed. Further studies that study the QoL for people with schizophrenia through the use of quantitative and qualitative data are needed to fill in the gaps identified in previous studies and to provide a comprehensive view of the QoL for people with schizophrenia who live in the community.

Conclusion
This paper provides a comprehensive picture of the research literature on the QoL for people with schizophrenia. Based on the literature review of studies investigating the socio-demographic characteristics associated with QoL, the results were inconsistent regarding the association between gender, educational level, and the QoL for people with schizophrenia. However, all the studies agreed that being employed, having a high income, having social support, living with family, and being married were related to better QoL. Studies measuring the QoL for people with schizophrenia internationally have revealed that QoL depends on specific factors related to the geographical area such as the availability of mental health facilities and services and traditional and cultural factors. The literature review identified the fact that all the studies used only quantitative methods to measure the QoL for people with schizophrenia. Therefore, these studies reported quantity as opposed to including a qualitative view, which may have allowed individuals to expand on concepts from a subjective viewpoint. This represents a major limitation in the methodology reported in the literature. In addition, it was found that only one study has been undertaken in the Arab world and given the estimated number of individuals (and their families) who are affected by this disorder, it is imperative that further research in this area is conducted.

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References
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The question of quality of life in schizophrenia is now a well-established area of research.

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