Quality of life among parents of children with autistic disorder: A sample from the Arab world

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ABSTRACT

Background: A growing body of research has sought to examine issues associated with the Quality of Life (QoL) of parents of children with Autistic Disorder. However, no studies have examined the QoL of Arab parents whose parenting experience is expected to be substantially different from that of their western counterparts. Therefore, the purposes of this study were: (1) to examine differences in the QoL between fathers and mothers of children with Autistic Disorder in a sample from an Arab country, and (2) to examine the psychosocial correlates of the QoL of Arab parents of children with Autistic Disorder.

Methods: Self-administered questionnaires on parents' QoL, stress, coping strategies, and demographic characteristics were completed by 184 parents of children with Autistic Disorder. The participants were recruited using the convenience sampling design.

Results: Fathers and mothers of children with Autistic Disorder showed no significant differences in their physical, psychological, social, and environmental health. Further, both parents showed almost similar bivariate correlations between the reported QoL levels and their parenting stress, coping strategies, and demographic characteristics.

Conclusion: This is the first study to examine the QoL of parents of children with Autistic Disorder in the Arab world and, in doing so, it highlighted the distinct lack of research in this area. The QoL of Arab parents of children with Autistic Disorder crosses lines with their stress levels, coping strategies, demographic characteristics, and to some extent their cultural context.

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1. Introduction

Throughout life’s transitions, parents are considered the most important part of a person’s life. Parents can play a central role in children's psychological, social, and academic development. For children with chronic disabilities, studies have found that children's welfare and developmental outcomes can be substantially affected by their parents' mental health (Hart & Kelley, 2006; Pesonen et al., 2008). Autistic Disorder is considered one of the most complex childhood developmental disabilities that can devastatingly affect the children's intellectual, social, and linguistic abilities (American Psychiatric Association (APA), 2000). Recognition of children with Autistic Disorder has increased remarkably...
leaving significant numbers of children who, along with their parents, are in need of extensive support services. Indeed, it has been found that parenting a child with Autistic Disorder can disturb the whole family’s life and result in several economic, social, physical and psychological problems (Hartley et al., 2010; Parish, Seltzer, Greenberg, & Floyd, 2004; Shu, 2009). Therefore, it is important to consider the mental health of the parents in the interventions proposed for children with Autistic Disorder.

In response to the wide range of concerns being reported by parents of children with Autistic Disorder, recent research has substantially shifted from the focus on explaining the causality and symptoms of the disorder toward examining issues associated with the experience of parenting children with Autistic Disorder.

The Quality of Life (QoL) has been recently noted as one of the major health concerns for parents following a lifelong complex experience such as raising a child with disability (Mungo, Ruta, Arrigo, & Mazzona, 2007; Shu, 2009; Yamada et al., 2012). Quality of life can be defined as “individuals’ perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (World Health Organization (WHO), 1996, p. 5). The construct of QoL is believed to be a comprehensive outcome measure incorporating an individual’s physical health, psychological state, social relationships, and relationships with salient features of the environment (WHO, 1996). In spite of the growing awareness of the need to use the construct of QoL in shaping, directing, delivering, and evaluating support services, little data are available on the impact of raising children with Autistic Disorder on parents’ QoL as compared to other chronic disorders.

This study adds to the current research literature in several ways. First, the QoL of individuals has many subjective and objective variables influencing and interacting with its core concepts and as such, cannot be studied independently (Summers et al., 2005; Verdugo, Schalock, Keith, & Stancliffe, 2005). Examples of potential variables that have emerged in the literature and can affect an individual’s QoL include perceived stress levels, coping strategies, perceived social support, socio-economic status, and employment status (Lindsay, 2002; Verdugo et al., 2005). However, interactions between these variables for parents of children with Autistic Disorder are not well established, since only a few studies have comprised parental QoL, stress, coping strategies, and demographic characteristics (Manning, Wainwright, & Bennett, 2010; Siman-Tov & Kaniel, 2010). Thus, a better understanding of the interactions between these variables seems essential in order to implement treatments that focus on improving parents’ QoL.

Available studies on the relationship between the coping styles adopted by parents of children with Autistic Disorder and its related health outcomes have generally revealed that parents who use avoidance coping strategies tend to be more stressed (Pisula & Kossakowska, 2010; Shu, 2009) and therefore, are prone to poor QoL levels. On the other hand, approach coping strategies such as confrontive coping and problem solving are associated with lower levels of stress and enhanced sense of well-being of parents (Dabrowska & Pisula, 2010; Pottie & Ingram, 2008). Indeed, Hastings et al. (2005) found that parents of children with Autistic Disorder present different coping strategies to address the stress of raising their children. Gray (2006), for example, found seeking social support and formal support the most important strategy for those parents. King and his colleagues (2006) found that they tend to adopt positive meanings to their experiences and struggle to repossess a sense of control over their lives as means to buffer their parenting stress. A not uncommon coping strategy among those parents also was the reliance on distancing strategies which were found to yield both positive and negative outcomes (Abbeduto et al., 2004; Hastings et al., 2005; Sivberg, 2002). Generally, Gray (2006) argued that coping among parents of children with Autistic Disorder is a complex process incorporating a wide range of strategies that change over time and can have various health outcomes.

A second contribution this paper makes is related to the little comparative data available on the QoL between fathers and mothers of children with Autistic Disorder. To the best of our knowledge, only two studies have examined the difference in QoL between fathers and mothers of children with Autistic Disorder (Mungo et al., 2007; Yamada et al., 2012). The results in these studies indicated that mothers tend to have lower QoL levels compared to fathers.

Third, the definition of QoL may vary according to the socio-cultural contexts in which the concept is being utilized and measured. Quality of life definition involves personal and social judgments about what is normal and worthwhile (Verdugo et al., 2005). Therefore, recognition of diversities among cultures is necessary in order to design and conduct a valid and reliable QoL research, as well as accurate cross-cultural programs. Nevertheless, all the studies that have targeted the QoL of parents of children with Autistic Disorder were conducted in Western countries or developed middle-eastern ones. To date, no studies have investigated this concept among parents of children with Autistic Disorder in the Arab world. Arabs are united in a shared culture that is considered substantially different from that of their western counterparts (Retso, 2002). Many cultural, economic, and educational factors can affect the mental health perceptions and practices in the Arab world (Fakhr El-Islam, 2008). On the other hand, in low- and middle-income countries (as in most of the Arab countries), parents who have a child with Autistic Disorder have limited access to professional support services. Coupled with low socio-economic status, low employment status, and poor household conditions, those parents and their families are at increased risk for poor QoL. It has been also reported by the WHO (2011) in its world report of disability that, one of the main challenges for the provision of effective support services for parents of children with Autistic Disorder in the developing countries is the distinct dearth of studies to inform about the impacts of raising children with Autistic Disorder on their parents. Therefore, the purposes of this study were: (1) to examine differences in the QoL between fathers and mothers of children with Autistic Disorder in a sample from the Arab world, and (2) to examine the psychosocial correlates of the QoL of Arab parents of children with Autistic Disorder.
2. Methods

2.1. Participants

Given the lack of accurate statistics on the number of children with Autistic Disorder in Jordan, a convenience sampling approach was used in this study. However, a wide range of settings across the country were contacted for sampling purposes. Parents were contacted through special education centers where their children had been diagnosed with Autistic Disorder. A total of 426 questionnaires were distributed to the parents. One hundred and ninety five (195) participants completed the questionnaires with a response rate of 45.7%. Of those, 11 questionnaires were discarded (six questionnaires had more than 50% missing data and five questionnaires were completed by relatives other than the parents (e.g., grandmother)). Thus, a total of 184 questionnaires were left for subsequent analysis. According to Salant and Dillman (1994), a response rate between 50% and 60% can be expected from the general public.

The Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR (fourth edition, text revision, APA, 2000) was used to diagnose the children by certified licensed professionals. Only one center adopted the multi-disciplinary diagnostic approach using two assessment tools, the DSM-IV and the Childhood Autism Rating Scale (Schopler, Reichler, & Renner, 1988). The criteria of the DSM-IV were used across the regions from which children were recruited as it is considered a standardized diagnostic procedure for Autistic Disorder in the country.

The mean age for the sample was 37 years (SD = 7.6) ranging from 21 to 57 for mothers and 25 to 69 years for fathers. Because of the high level of skewness in family income, median instead of the mean was used (Table 1). According to the latest report released by the directorate of economic statistics at the Jordanian Department for Statistics, 2010, the poverty line in Jordan has increased dramatically during the last years reaching 800 Jordanian Dinar monthly (1 JD = 1.4 US Dollar). As such, 79.3% (N = 146) of the participants were living under the poverty line.

2.2. Ethical considerations

This study considers strictly ethical issues of the research. The relevant Institutional Review Board (IRB) at the University of Jordan and each of the contacted centers granted the ethical approval for the researchers to conduct the study. The purpose, risks, and benefits of the study were explained to the parents before they decided to participate. Potential participants were told that the method of data collection was a questionnaire that could take 20–30 min to complete. Parents were assured that their participation was completely voluntary and that they could withdraw without affecting their current or future relation with the treating center. An identification number was assigned to each participant to maintain the confidentiality of the data.

2.3. Measures

2.3.1. The World Health Organization Quality of Life Assessment-BREF self-administered instrument (WHOQOL-BREF)

The WHOQOL-BREF contains 26 items that were developed in an attempt to provide a QoL measure (WHO, 1996). The instrument includes four domain scores (physical, psychological, social, and environmental health) and two individual items about an individual’s overall perception of QoL and health. The range of score in each item was between 1 and 5, with higher scores denoting higher QoL levels. Standardized total scores (percentages) for the QoL scale and subscales were used in this study. A validated Arabic version for the WHOQOL-BREF was used after gaining the permission from the WHO permissions and licensing center. The Cronbach’s alphas for the QoL scale and subscales as resulted in this study have ranged between .67 (for the 3 items of social relations) and .93 (for the 24 items total scale). Alpha internal consistency coefficients for the QoL scales as presented by McDowell (2006) have almost similar values to the findings in this study, especially for the ‘Social

Table 1
Demographic characteristics of the participants.

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Fathers (N = 70)</th>
<th>Mothers (N = 114)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age: Mean (SD)</td>
<td>39.9 (7.6)</td>
<td>35.4 (7.03)</td>
</tr>
<tr>
<td>Income: Median (SD)</td>
<td>420 (650)</td>
<td>412 (630)</td>
</tr>
<tr>
<td>Education</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>11th grade or less</td>
<td>13 (18.6)</td>
<td>17 (14.9)</td>
</tr>
<tr>
<td>Tawjih (high school)</td>
<td>19 (27.1)</td>
<td>36 (31.6)</td>
</tr>
<tr>
<td>Diploma</td>
<td>16 (22.9)</td>
<td>28 (24.6)</td>
</tr>
<tr>
<td>BSc and higher</td>
<td>22 (31.4)</td>
<td>33 (28.9)</td>
</tr>
<tr>
<td>Employment</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Employed</td>
<td>59 (84.3)</td>
<td>22 (19.3)</td>
</tr>
<tr>
<td>Not employed</td>
<td>11 (15.7)</td>
<td>92 (80.7)</td>
</tr>
</tbody>
</table>
relations subscale’ which ranged in the literature between .66 and .69. Description of the means, standard deviations and items range are presented in Table 2.

2.3.2. The parenting stress index-short form (PSI-SF)
The PSI-SF is a self-reported questionnaire that aims to measure the stress associated with parenting (Abidin, 1995). The PSI-SF is considered the most commonly used measure across different samples (Dardas & Ahmad, 2013b). The measure includes 36 items divided into three subscales, each comprised from 12 items: Parental Distress (PD); Parent–Child Dysfunctional Interaction (PCDI); and Difficult Child (DC) (Abidin). The PD subscale evaluates parents’ judgment of their own behavior such as marital conflict, perceived competence, and life restrictions due to the parenting demands. The PCDI subscale evaluates the parents’ anticipations and interactions with their child. The DC subscale examines the parents’ perceptions of their child’s compliance, demandingness, and temperament (Abidin). The score of items in all scales range between 1 (strongly disagree) and 5 (strongly agree). Based on guidelines in the PSI-SF scoring manual, the PSI-SF yields scores for each subscale as well as a total score. The total scores can range from 36 to 180 with high scores starting at or above a score of 90. Raw scores above 33 on the PD and DC subscales and above 27 on the PCDI subscale are considered clinically elevated (Abidin, 1995). In this sample, Cronbach’s alpha for the total stress, PD, PCDI, and DC were .91, .91, .85, and .82 respectively.

2.3.3. The Ways of Coping Checklist-Revised (WCC-R)
The revised WCC is a 66-item questionnaire which includes coping strategies used by individuals to deal with stressful encounters (Folkman & Lazarus, 1988). The instrument has eight subscales: Confrontive coping (six items), Distancing (six items), Self-controlling (seven items), Seeking social support (six items), Accepting responsibility (four items), Escape-avoidance (eight items), Planful problem-solving (six items), and Positive reappraisal (seven items) (Folkman & Lazarus, 1988). In this study, Cronbach’s alphas for the eight subscales ranged from moderate to high. The encountered assumed stressor in this study was (raising a child with Autistic Disorder) and parents were asked to indicate their ways of coping to deal with such a stressor. The score of items' responses in all scales ranges between 0 (not used) and 3 (used a great deal). Scores are additively derived from individual items and divided by a total score to provide relative scores for a total of eight scales.

For the purpose of this study, translated Arabic versions for the WCC-R and PSI-SF were used. The translated Arabic version for the PSI-SF was obtained from the PAR publisher of psychological assessment materials. The translated Arabic version for the WCC-R was obtained from one of the authors of the scale. The translated versions went through several procedures to determine its reliability and validity including face validity, content validity, and internal consistency reliability tests. Pilot testing was conducted to endorse the appropriateness of the translation. The piloting yielded reliable and valid results for subsequent work.

3. Results

Comparisons between the fathers and mothers on the QoL scales based on independent sample t-test statistics are presented in Table 3. None of the subscales or total scale of the QoL showed significant differences between fathers and mothers.

In this study, the researchers have used the bootstrapping procedure in the correlation analysis test. Bootstrapping is a method for deriving robust estimates of confidence intervals and standard errors for estimates such as the median, mean, correlation coefficient or regression coefficient (Efron, 1987; Varian, 2005). Bivariate correlation procedures support bootstrapping estimates and significance tests for correlations. The bootstrap bias-corrected and accelerated (BCa) 95% confidence interval adjusts for both bias and skewness in the bootstrap distribution (Politis & Romano, 1994). The resulted sample under bootstrap analysis was 164 participants.

After using Fisher’s r-to-z transformation, both fathers and mothers demonstrated almost similar bivariate correlations between their QoL levels and reported parenting stress level, coping strategies, and the selected demographics. Only fathers showed significant correlations between QoL and distancing and positive reappraisal coping strategies. On the other hand, only mothers reported significant correlations between QoL and income and occupation variables. The highest correlation between QoL and stress scales appeared with mothers’ Parent distress subscale ($r = -.64, P < .001$). (Table 4).
3.1. Moderation effect of coping on the relationship between stress and QoL

In an additional analysis, the researchers examined the possibility of moderation effect of coping on the relationship between stress and QoL among parents of children with Autistic Disorder. Investigating the possibility of having modifying factors in bivariate relationships is of great importance in providing explanations for the outcomes. Moderation was examined through eight hierarchical regression equations that included stress, eight coping strategies, and the interaction between each of the coping strategies and stress. In these equations, a negative beta with significant interaction would propose that a coping strategy is buffering the relationship between stress and QoL. Conversely, a positive beta with a significant interaction would propose that a coping strategy is amplifying the relationship (Aiken & West, 1991; Warner, 2008). The model with the coping strategy ‘escape avoidance’ has accounted for about 40% of the variance, with ‘escape avoidance’ serving as amplifier. Further, the model with the coping strategy ‘seeking social support’ has accounted for about 38% of the variance in QoL, with the interaction between coping and stress indicating that ‘seeking social support’ served also as amplifier.

4. Discussions

Studying parents’ of children with Autistic Disorder QoL is essential for identifying the factors associated with the parents’ psychological adjustment. The integrative definition of QoL includes functioning across various health domains; QoL is therefore a key variable to consider in the evaluation of parents’ adaptation to their child’s disability. The present study has examined the QoL levels and its psychosocial correlates among parent of children with Autistic Disorder in a sample from the Arab world. Further, this study has sought to examine the differences between fathers and mother in regard to their reported QoL levels.

4.1. Quality of Life levels

Given the lack of a control or comparison group in this study, the authors could argue that the mean domain scores for the participants in this study were relatively similar to previous research. A comparison study in more than 20 countries on QoL

Table 3
Comparisons between fathers and mothers on QoL scales.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Fathers N = 70</th>
<th>Mothers N = 114</th>
<th>t</th>
<th>p</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Physical health</td>
<td>67.67</td>
<td>14.38</td>
<td>64.91</td>
<td>13.85</td>
<td>.29 .20</td>
</tr>
<tr>
<td>Psychological health</td>
<td>63.48</td>
<td>14.27</td>
<td>59.68</td>
<td>16.01</td>
<td>.63 .11</td>
</tr>
<tr>
<td>Social relations</td>
<td>69.05</td>
<td>15.77</td>
<td>64.27</td>
<td>17.34</td>
<td>.88 .06</td>
</tr>
<tr>
<td>Environmental health</td>
<td>55.93</td>
<td>13.92</td>
<td>55.79</td>
<td>14.21</td>
<td>.07 .95</td>
</tr>
<tr>
<td>Total QoL</td>
<td>62.88</td>
<td>11.98</td>
<td>60.48</td>
<td>12.89</td>
<td>.26 .21</td>
</tr>
</tbody>
</table>

Table 4
Bootstraping Pearson correlations for fathers and mothers QoL with the major study variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Fathers (N = 64)</th>
<th></th>
<th>Mothers (N = 100)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>BCA</td>
<td>CI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCDI</td>
<td>-.33**</td>
<td>-.55</td>
<td>-.08</td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>-.43**</td>
<td>-.60</td>
<td>-.24</td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td>-.53**</td>
<td>-.88</td>
<td>-.34</td>
<td></td>
</tr>
<tr>
<td>Total stress</td>
<td>-.59**</td>
<td>-.74</td>
<td>-.40</td>
<td></td>
</tr>
<tr>
<td>Accepting responsibility</td>
<td>-.28*</td>
<td>-.48</td>
<td>-.04</td>
<td></td>
</tr>
<tr>
<td>Confrontive coping</td>
<td>-.16</td>
<td>-.39</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>Distancing</td>
<td>.27</td>
<td>-.01</td>
<td>.52</td>
<td></td>
</tr>
<tr>
<td>Escape avoidance</td>
<td>-.38**</td>
<td>-.58</td>
<td>-.15</td>
<td></td>
</tr>
<tr>
<td>Planful problem solving</td>
<td>.36**</td>
<td>.10</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>Positive reappraisal</td>
<td>.24</td>
<td>.03</td>
<td>.45</td>
<td></td>
</tr>
<tr>
<td>Seeking social support</td>
<td>.03</td>
<td>-.24</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>Self-control</td>
<td>.06</td>
<td>-.16</td>
<td>.32</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>.03</td>
<td>-.20</td>
<td>.23</td>
<td></td>
</tr>
<tr>
<td>Family income</td>
<td>.06</td>
<td>-.19</td>
<td>.30</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>.14</td>
<td>-.02</td>
<td>.29</td>
<td></td>
</tr>
</tbody>
</table>

* P ≤ .05.
** P ≤ .01.

a Bias-corrected and accelerated 95% confidence interval.
b Employment and QoL correlation was analyzed using point biserial correlation.
scores using the WHOQOL-BREF measure showed that the means range on the four domains between 51 and 75 (SD: 11.2–17.6) (Skevington, Lotfy, & O’Connell, 2004). Using the score 60 out of 100 as the midpoint where QoL is judged on the WHOQOL-BREF measure to be neither good nor poor (Skevington et al., 2004), examination of the means in our study showed that on average, QoL is acceptable for the physical and social health domains, on the border line for psychological health domain, and is relatively poor for the environmental health domain.

The results of our study are partially consistent with the previous studies that found poor QoL levels among parents of children with Autistic Disorder (Mungo et al., 2007; Shu, 2009; Yamada et al., 2012). The relatively low QoL scores reported in this study may be referred to a variety of factors acting and interacting at the same time. The child with Autistic Disorder is considered the most significant factor in this matrix. Difficulties in dealing with children with Autistic Disorder have the capacity to spill over into various areas of their parents’ life leaving them physically and psychologically exhausted (Hartley et al., 2010; Parish et al., 2004). For example, Davis and Carter (2008) found that deficits in children’s social relatedness were associated with overall parenting stress, parent–child relationship problems, and distress for mothers and fathers. In addition, regulatory problems and externalizing behaviors were associated with maternal and paternal stress respectively. However, it is important to highlight that it is not necessarily the child with Autistic Disorder who negatively affects the parents’ QoL. Parents may encounter a pile-up of other factors that are not necessarily related to the child but can deteriorate the parents’ QoL. Such factors may be related to parents’ educational, occupational, and economic status as will be presented in Section 4.3.

The lowest QoL scores in this study were reported by fathers and mothers in the environmental health domain. On the other hand, the highest QoL scores for the fathers were found in the social health domain, while mothers scored the highest in the physical health domain. The low scores in the environmental health domain can be explained by referring to the parents’ socioeconomic status. Almost 80% of the participants were living under the poverty line. The housing and living conditions are therefore expected to be unsatisfactory for those parents. The highest scores in the social health domain for the fathers can be partially explained by the Jordanian culture. In Jordan, generally women are responsible for all of the house work, care of the children and husband, and fulfillment of work responsibilities if employed outside the home. On the other hand, men are more active than women in social life. Indeed, it has been found that fathers of children with chronic illnesses often view their outside work as an opportunity to “escape” their home-related stressors (George, Vickers, Wilkes, & Barton, 2008). It is also possible that the fathers’ outside responsibilities can explain their lower level of physical health compared to the mothers.

4.2. Differences between fathers and mothers in regard to their QoL levels

The results of this study revealed that fathers and mothers did not differ significantly neither in the perception of their overall QoL nor in the QoL sub-domains. These results are inconsistent with the previous studies that showed significant differences between maternal and parental QoL with mothers reporting relatively lower levels of QoL and wellbeing (Mungo et al., 2007; Yamada et al., 2012). Our results can be explained by the concept of QoL itself. Researchers generally agree that the concept of QoL is comprised of subjective and objective indicators (Summers et al., 2005; Verdugo et al., 2005). In other words, the meaning of QoL may have different connotations to different people and therefore, the uniqueness of each individual is important in evaluating QoL. Thus, although there were no significant differences between fathers and mothers in their perceptions to their QoL, this does not necessarily entail they both perceived the concept similarly. In this study, QoL is understood as “individuals’ perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (WHO, 1996, p. 5). As such, it is generally considered that the responses of the parents of children with Autistic Disorder in regard to their QoL reflect the evaluation of one’s subjective experience.

However, it should be also considered that perhaps in the context of parenting a child with Autistic Disorder, the QoL of both fathers and mothers does not differ. The results warrant further investigations using nested design with which fathers and mothers of the same children will be recruited. In addition, parents should be individually interviewed to assure unbiased answers.

4.3. Quality of life correlates

In regard to the correlations between parents’ of children with Autistic Disorder QoL and their parenting stress levels, coping strategies, and selected demographics, both fathers and mothers demonstrated almost similar results. The following sections discuss the bivariate correlations between the parents’ QoL and each of the selected variables.

4.3.1. Parenting stress

The results revealed that for both fathers and mothers of children with Autistic Disorder, QoL scores were significantly and negatively correlated with the reported parenting stress scores. According to Abidin (1995), parenting stress stems from a complex combination related to the parent, the child, and the child-parent interactions. Those three factors are represented through the PSI-SF three subscales that were used in this study (PD; PCDI; and DC). According to Abidin (1995), the total stress score represents the stresses the parents are experiencing specifically due to their role as parents. Parental distress scores reflect to what extent parents’ stress can affect their sense of parenting competence, while PCDI scores reflect the
extent to which those parents are not satisfying with their children's interactions, and DC scores reflect how difficult the parents perceive their children with Autistic Disorder.

Based on the guidelines provided by Abidin (1995) in the PSI-SF scoring manual, the results in this study indicate that parents who reported high total stress scores are in need for appropriate referrals to mental health professionals who can help parents address their psychological distress and as a result improve their QoL levels. In regard to the PD scores, the significant negative correlation with the parents' QoL scores among both fathers and mothers indicate that in order to improve the QoL of those parents, the focus need to be on providing activities and education aimed at raising the parents' self-esteem and/or sense of parental competency. On the other hand, the significant negative correlation between the parents' PCDI scores and their QoL levels indicate that strategies aiming at enhancing the parents' QoL need to consider the importance of training parents on how to enhance their confidence in their ability to interact and warmly bond with their child. The results also showed that parents' DC scores were negatively associated with the parents' QoL levels. It can be inferred from this result that enhancing the parents' QoL may benefit greatly from strategies aim at helping parents handle their child's challenging behaviors.

4.3.2. Parents' coping strategies

With regard to the relationship between coping strategies and QoL levels among both the fathers and mothers, the results revealed significant negative correlations between accepting responsibility and escape avoidance strategies and the parents' QoL levels. ‘Accepting responsibility’ concedes one’s own duty toward the problem and attempting to correct things (Folkman & Lazarus, 1988). This strategy allows individuals to accept the problematic situation and then try to put it behind them by acknowledging their role and ensuring that it will not happen again. Apparently, the negative impact of this coping style on parents’ QoL does not indicate that this strategy is to be discouraged rather; parents may need appropriate support services that can help them adapt with their responsibilities and develop positive outcomes for their acceptance (Dardas & Ahmad, 2013a, 2014).

‘Escape avoidance’ involves disengaging or staying away from a stressful situation and its behavioral and cognitive/emotional consequences. It should be noted in this study that escape avoidance coping was found as a moderator in the relationship between parents' stress and QoL. Moderator variables answer why a weak or strong association between two variables occurs (Lindley & Walker, 1993). Further, moderators affect the direction, strength, or both of the relation between the independent and dependent variables (Baron & Kenny, 1986). Thus, it can be inferred from this study that parents of children with Autistic Disorder who use avoidant strategies to alter stressful encounters may be able to improve significantly their QoL. However, this interpretation should be considered with caution. Avoidance is not harmful when coping with the first wave of stressors. However, if used habitually to address chronic stressors such as raising a child with pervasive disability, avoidance coping can adversely affect the parents' mental health and consequently their QoL (Hastings et al., 2005).

Consistent with the previous findings, ‘planful problem solving’, which explains intentional problem-focused efforts to modify a condition using a logical manner (Folkman & Lazarus, 1988), was significantly and positively associated with parents' QoL. This indicates that parents who focus on solving the problem in order to contain the situation and generate possible solutions are more likely to have better QoL.

On the other hand, ‘distancing’ and ‘positive reappraisal’ coping showed significant positive correlations with fathers' QoL levels. Distancing coping was defined by Folkman and Lazarus (1988) as undertaking cognitive efforts to detach oneself from a stressful situation and diminish its significance. Though this style of coping was generally associated with adverse health outcomes (Abbeduto et al., 2004), it has been embraced by some researchers that distancing is considered a significant moderator in the relationship between stressors and mental health (Sivberg, 2002). The use of adaptive distancing might help fathers getting their minds off their problems for a while. Such self-distraction could give them some healthy new perspectives instead of dwelling on the past and provoking the encountered stressful situation. For the mothers however, distancing appears to be less beneficial. This may be due to the larger role that mothers play in daily care for children with disabilities.

It is also important here to highlight the difference between avoidance and distancing coping. According to Folkman and Moskowitz (2004), distancing involves a form of coping in which the person recognizes a problem but deliberately makes efforts to put it out of his or her mind. On the other hand, escape avoidance is more of an escapist flight. Importantly, although these avoidant forms of coping are usually grouped together under ‘emotion-focused coping’; Folkman and Moskowitz maintained that distancing is often adaptive when nothing can be done whereas escape avoidance is usually a maladaptive way of coping with the same kind of situation.

‘Positive reappraisal’ can be defined as efforts to create positive meaning by focusing on aspects like personal growth, finding new faith, rediscovering the important things in life, and being inspired to be creative (Folkman & Lazarus, 1988). In this study, the positive correlation between positive reappraisal coping and parents’ QoL can be partially explained by the Jordanian Arab culture where one needs to believe in God’s will and pray to bring comfort and calm. Arabs usually believe that God is the direct and ultimate control of all that happens (Retso, 2002). This is consistent with the purport of positive reappraisal; changing something within self but not losing faith when exposed with difficulties. This can be also supported by the scale's convictions that include items like “I pray”.

Confrontive coping, seeking social support, and self-control coping strategies did not show any significant relationships with the parents' QoL. These findings call for further investigation for the actual meaning that these strategies have for the
parents. For example, as the sample of this study is in part from the Arab world, the result in regard to seeking social support was against the expectation. In contrast to the self-reliant and ‘individual-centered’ approach to life found in Western countries, social life in the Arab region is characterized by ‘situation-centeredness’, in which loyalty to one’s extended family takes precedence over individual needs and goals (Nydell, 2005). The extended Arab families provide for possible economic benefits and help in raising children and elderly caregiving. The nonsignificant effect of seeking social support coping on the parents’ QoL warrants investigating the quality of the parents’ social involvements. This is also supported by the results of our moderational analysis where seeking social support worked as a moderator in the relationship between parenting stress and QoL.

4.3.3. Parents’ socioeconomic status

In this study, parents’ socio-economic status was assessed using two variables: education and income. Socio-economic status and the resulting resource availability are reported to have an impact on individuals’ health and wellbeing (Hatton & Emerson, 2009). Socio-economic status has been found to act as a moderator between QoL for caregivers and problematic behaviors in their children (Emerson, 2003; Hatton & Emerson, 2009).

The results in this study did not reveal a significant correlation between the parents’ level of education and their QoL levels. Although the logical expectation was that higher levels of education can broaden individuals’ knowledge and equip them with better support services, our study did not support that. The results warrant further investigations regarding the content of educational curricula and whether it addresses discussions regarding the meaning and experience of disabilities.

In regard to parents’ income, the results revealed that only mothers’ QoL levels were significantly and positively correlated with their income. In a study that is considered the first in the developing countries that aimed at investigating the economic costs of Autism Spectrum Disorders in Egypt (Mendoza, 2010), it has been found that care and support for Egyptian children and adults with Autism Disorder are typically based on a household-provider model, in contrast to western, institution-based models. Therefore, parents’ income can play a significant role in helping parents providing care to their children. Our results in regard to the mothers’ income are also consistent with the logical interpretation that higher levels of income can equip parents with better support services to deal with their stressors. In addition, this finding is supported by Hatton and Emerson (2009) who linked higher incomes with better QoL. Thus, it can be inferred that mothers who do not receive any economic support will meet economic problems and accordingly their QoL will be jeopardized.

4.3.4. Parents’ occupational status

This study revealed that working mothers tend to have significant higher levels of QoL compared to nonworking mothers. It is well established in the literature that for working adults, work and family can have profound effects upon each other. In particular, the work domain can dramatically affect many aspects of the parents’ life such as stress and QoL (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Greenhaus, Allen, & Spector, 2006). However, few studies have examined work effect on working parents of children with special needs. Among those, the results revealed that the interaction between job and caring demands can significantly exacerbate one another (George et al., 2008). The results of this study were inconsistent with the previous findings in that working mothers reported higher QoL levels. This may be explained by referring to the parents’ economical status which was found relatively low. Mothers who were working might have been able to improve their socioeconomic status and therefore, tended to report better QoL. It is worth-noting here that only 19.3% of the mothers were working. Considering that the level of education was higher among mothers than fathers, the low percentage of non-working mothers may be related to their children’s disturbing and disruptive behaviors that mandate consistent caregiving. Indeed, one of the most significant effects of raising a child with chronic disability on mothers was found to be on their job stability. Many mothers reported that their child’s problems had caused them to give up their job and stay at home (Parish et al., 2004).

5. Conclusion

What may be the most important conclusion that can be drawn from this discussion is that, regardless of cultural backgrounds, parenting a child with Autistic Disorder can have significant impacts on the parents’ QoL. The QoL of parents of children with Autistic Disorder is contingent upon their stress levels, coping strategies, demographical characteristics, and to some extent their cultural context.

6. Implications and recommendations

Improving individuals’ QoL is now considered a main objective of service providers for children with disability and their families. Indeed, it has been asserted by some researchers that enhanced QoL for individuals and their families may be the only acceptable outcome of services and policies (Lindsay, 2002; Verdugo et al., 2005). Health professionals working with children with Autistic Disorder should recognize parents’ QoL as an integral component of the treatment plans proposed for their children. In particular, professionals are required to implement comprehensive assessment for the parents to identify potential problems, needs, resources, and strengths to help parents maintain their health and well-being.

Professionals also need to consider the factors that can potentially affect parents’ QoL through adopting a holistic approach that reflects culturally competent practice. Specifically, the focus needs to be on buffering parents’ stress levels
through equipping them with the needed knowledge and skills on how to cope effectively and adapt with a lifelong endeavor such as raising a child with Autistic Disorder. Further, parents need appropriate counseling programs to help them become more confident and competent providers as they engage in the health care process.

Policy makers are required to consider seriously the importance of providing financial support to alleviate the economic stress for parents from low socioeconomic status whose resources may be limited. The provision of such support may be of special importance in developing countries where resources are scarce and parents have little opportunity to get support due to financial strains.

7. Limitations

Individuals' perceived stress, coping styles, and QoL are dynamic processes that can change over time. The results of this study may be therefore limited, as it has utilized cross-sectional data. It is recommended to replicate this study using a cohort design to be able to detect developments or changes in the characteristics of the parents at both the group and the individual levels. Other methodological issues that should be considered when interpreting the results of this study include the lack of a comparison or control group and gaining no verification of the children's autistic diagnosis.

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