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# Can a psychosocial intervention programme teaching coping strategies improve the quality of life of Iranian women? A non-randomised quasi-experimental study

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## ABSTRACT

**Objectives:** To assess whether a psychosocial intervention teaching coping strategies to women can improve quality of life (QOL) in groups of Iranian women exposed to social pressures.

**Design:** Quasi-experimental non-randomised group design involving two categories of Iranian women, each category represented by non-equivalent intervention and comparison groups.

**Setting:** A large urban area in Iran.

**Participants:** 44 women; 25 single mothers and 19 newly married women.

**Interventions:** Seventh-month psychosocial intervention aimed at providing coping strategies.

**Primary outcome measures:** Effect sizes in four specific health-related domains and two overall perceptions of QOL and health measured by the WHOQOL-BREF instrument.

**Results:** Large effect sizes were observed among the women exposed to the intervention in the WHOQOL-BREF subdomains measuring physical health ( $r=0.68$ ;  $p<0.001$ ), psychological health ( $r=0.72$ ;  $p<0.001$ ), social relationships ( $r=0.52$ ;  $p<0.01$ ), environmental health ( $r=0.55$ ;  $p<0.01$ ) and in the overall perception of QOL ( $r=0.72$ ;  $p<0.001$ ); the effect size regarding overall perception of health was between small and medium ( $r=0.20$ ; not significant). Small and not statistically significant effect sizes were observed in the women provided with traditional social welfare services.

**Conclusions:** Teaching coping strategies can improve the QOL of women in societies where gender discrimination is prevalent. The findings require reproduction in studies with a more rigorous design before the intervention model can be recommended for widespread distribution.

## INTRODUCTION

Coping strategies help people to deal more effectively with stressful life events and persistent problems, and can eventually increase the quality of their lives.<sup>1–3</sup> According to

## ARTICLE SUMMARY

### Article focus

- To assess whether a psychosocial intervention teaching coping strategies to women exposed to social pressures can improve their health-related quality of life (QOL).

### Key message

- Teaching coping strategies can be a means to improve the QOL of women in societies where gender discrimination is prevalent.

### Strengths and limitations of this study

- This one of few studies addressing empowerment of women performed within a society where gender discrimination is prevalent.
- The non-randomised design requires that multiple comparisons (between groups, within groups, effect sizes) must be taken into account while interpreting the results.

Kristenson,<sup>4</sup> women generally have lower coping abilities compared with men. She explains this finding by referring to the fact that the socioeconomic position of women is less advantageous than that of men, which leads indirectly to fewer possibilities for adopting coping strategies. The position of Iranian women in society is particularly affected by the nature of patriarchal power and economic circumstances. There are many employment challenges and social inequalities in Iran affecting women's opportunities to access suitable jobs.<sup>5–7</sup> Socioeconomic disadvantages are known to affect a wide range of aspects of health and mental well-being.<sup>8</sup> Unsurprisingly, the health status of Iranian women is poorer than that of men.<sup>9</sup> The prevalence of general psychiatric disorders has been found to be particularly high among women

## Quality-of-life effects from a psychosocial intervention among Iranian women

compared with men.<sup>10</sup> It has also been noted that the prevalence of mental disorders is higher among Iranian women than women in Western countries, which has been explained by both biological factors and social inconveniences.<sup>11</sup> For example, depression rates are higher among women compared with men in Iran (4.3% vs 1.5%).<sup>12</sup> In addition, between 70% and 80% of self-immolation patients in Iran are women and marital conflict with a spouse or conflict with other family members are important causal factors in the process.<sup>13</sup> Marriage is considered as an important source of both support and stress. Poor marital quality is associated with poor physical and psychological health.<sup>14 15</sup> The women are also at a higher risk for suicide compared with men in Iran; this has been explained by the fact that the social situation for Iranian women (ie, family problems, marriage and love, social stigma, pressure of high expectations and poverty and unemployment) creates more psychosocial pressures compared with men.<sup>16</sup> The limited career possibilities outside the home also affect women's visions, and influence the woman's position in the family.<sup>17 18</sup>

From a general health perspective, there are reasons for strengthening the coping capacities of Iranian women. We organised psychosocial interventions aimed at teaching Iranian women coping strategies. Problem-focused coping strategies have been found to be more effective in situations where people have greater control (such as marriage and family); emotion-focused and meaning-focused strategies are more valuable when people have to deal with situations in which they have less control (eg, a national financial crisis).<sup>19</sup> In line with Lazarus and Lazarus,<sup>20</sup> our interventions were planned with the understanding that most problematic situations need these two strategies in parallel (ie, change problematic situations and regulate emotions simultaneously). Quality of life (QOL) was chosen as the primary end point for the interventions. The WHO Quality of Life (WHOQOL) Group defines QOL as 'individuals' perceptions 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' (ref. <sup>21</sup>, p.5). The aim of the present study was to assess whether a psychosocial intervention teaching coping strategies to women can improve QOL in groups of Iranian women exposed to social pressures, represented by single mothers and newly married women.

### METHODS

We used a quasi-experimental non-randomised groups design<sup>22</sup> involving two categories of Iranian women, each category represented by non-equivalent intervention and comparison groups. The intervention groups were invited to participate in a 7-month psychosocial intervention; the comparison groups were provided with treatment as usual by the social welfare services. QOL was used as the primary outcome measure in the

analyses. Owing to lack of possibilities to control a randomised sampling procedure extended in time, the study had to rely on convenience samples. The study participants were recruited from programmes supplied by social welfare service organisations to single mothers and newly married women, respectively (figure 1). The WHOQOL-BREF instrument was used to measure QOL, comparing the scores for each intervention group before and after the intervention and with respect to their comparison group. The research design received ethical clearance according to the Helsinki declaration of research ethics from the research ethics board for social services (the single mothers' project ref. number 13870327 and the newly married women project ref. number 13870613).

### Participants

#### Single mothers

Inclusion criteria were being a single mother, living in poverty, and having requested social assistance. The exclusion criteria were defined as having significant medical, mental or substance-abuse problems. A social welfare service organisation agreed to identify 26 single mothers contacting their offices and fulfilling the study inclusion and exclusion criteria. The first author arranged a meeting with these women, and explained the procedure and aims of the study. The first 16 of the women identified were invited to participate in an intervention group and the 10 remaining women were invited to participate in a comparison group provided traditional social welfare services. One woman invited to the intervention group declined participation in the study. All women signed a consent form (table 1).

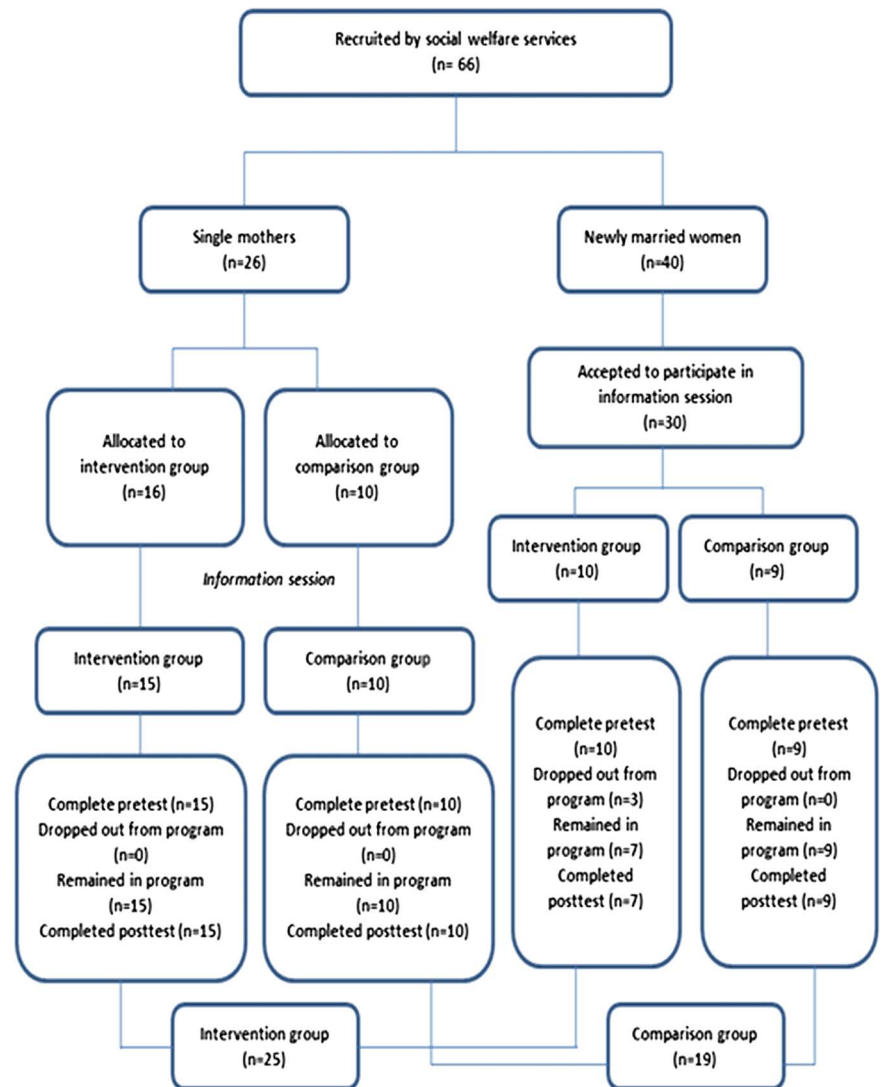
#### Newly married women

The inclusion criteria for this group were to be newly married (first marriage, less than 5 years married, and no children) and having contacted a social work office. Exclusion criteria included having significant medical, mental or substance-abuse problems. In Iran, financial support from the social welfare services is available to newly married couples in need. To access such support, it is necessary to participate in at least one family educational programme. A social welfare service organisation agreed to identify 40 women eligible for the study. Thirty of these women agreed to participate in an information session. Having been informed about the study, 10 women agreed to participate in an intervention group and 9 women agreed to participate in a comparison group provided with traditional social welfare services. All women signed a consent form (table 1).

### Intervention procedure

The single mother project started in May 2008 and ended in November 2008 and the newly married women project started in July 2008 and ended in February 2009. The intervention included private and group sessions. The Rahyab problem-solving model<sup>23</sup> was used in both

**Figure 1** Flowchart for recruitment of participants to intervention and comparison groups.



types of sessions. The Rahyab model is summarised in a conceptual chart (see online supplementary table S1), which is used in interactions with clients, linking the development of specific personal capacities with different problem-solving approaches and means for mobilising resources in the environment. Group sessions were arranged aimed at teaching the clients coping strategies by cognitive problem solving and emotion regulation. These sessions were offered once a week. In total, 19 group sessions were provided for each of the projects. In these sessions, the participants used the Rahyab model to solve fictional problems and scenarios that were suggested by the participants. Examples of topics addressed during the sessions include life skills; decision-making and problem-solving, creative and critical thinking, effective communication, interpersonal relationship, self-awareness and coping with emotion and stress. A form was distributed at the beginning of each group session, and participants had 15–20 min to write down what they thought about that problem or scenario. The participants then presented their ideas, based on what each had written, and a discussion took place.

Private sessions were devoted to discussion of the participants' private lives and problems. The Rahyab model was systematically applied in steps in a dialogue between the social worker and the participant, focusing on a concrete problem that the participant chose to discuss. Each step addressed a specific coping ability. In these sessions, the participant learned to organise her feelings and thoughts through storytelling and discussing desirable changes (steps 1 and 2). The dialogue continued with the aim of finding several possible alternatives for action (step 3). In this step, the social worker provided suggestions but the participant had to choose the best possible option. A plan of action was then formulated on the basis of that option. Participants were encouraged to take a paper and pen and continue to think and write through the steps of the model at home.

### Data collection

The primary outcome measure was the participants' level of QOL as measured by the WHOQOL-BREF, the short form of the WHOQOL-100 instrument developed by the WHO. The Iranian version of the

## Quality-of-life effects from a psychosocial intervention among Iranian women

**Table 1** Sociodemographic characteristics of participants

Sociodemographic characteristics	Single mothers		Newly married women		Total	
	Intervention group (n=15)	Comparison group (n=10)	Intervention group (n=10)	Comparison group (n=9)	Intervention group (n=25)	Comparison group (n=19)
Age (years)						
20–29	4	2	10	9	14	11
30–39	7	6	0	0	7	6
40–49	4	2	0	0	4	2
Education						
Primary school ≤5 years	5	3	0	0	5	3
Primary school 7–8 years	5	3	0	0	5	3
High school diploma	5	4	1	0	6	4
Undergraduate study	0	0	9	9	9	9
Work situation						
No employment	6	6	5	4	11	10
Part-time or temporary employment	9	4	0	0	9	4
Full employment	0	0	5	5	5	5
Number of children						
0	0	0	10	9	10	9
1–2	8	7	0	0	8	7
3	7	3	0	0	7	3

WHOQOL-BREF has recently been validated.<sup>24 25</sup> The WHOQOL-BREF is a 26-item instrument consisting of four domains: physical health (7 items), psychological health (6 items), social relationships (3 items), environmental health (8 items) as well as two overall ratings of QOL and general health. There is no overall score. The physical health domain includes items on mobility, daily activities, functional capacity and energy, pain and sleep. The psychological domain measures self-image, negative thoughts, positive attitudes, self-esteem, mentality, learning ability, memory and concentration, religion and mental status. The social relationships domain contains questions on personal relationships, social support and sex life. The environmental health domain covers issues related to financial resources, safety, health and social services, living in the physical environment, opportunities to acquire new skills and knowledge, recreation, general environment (noise, air pollution, etc) and transportation. All scores were transformed to reflect 4–20 for each domain with higher scores corresponding to a better QOL.<sup>21</sup>

We distributed the WHOQOL-BREF questionnaire to the intervention and comparison groups before starting the project (preintervention) and immediately after the project (postintervention). The women scored the instrument by themselves.

### Data analysis

We used SPSS statistics V.19.0 to apply non-parametric tests for comparing results in WHOQOL scores between groups and within each group (95% CI). The analyses were initially performed separately for each project and thereafter on the data from both projects combined.

Only the data from women who had completed the prescribed treatments were included in the analysis. First, we used the Mann-Whitney test to compare results between the intervention and comparison groups, then we used the Wilcoxon test and compared the pretest and post-test WHOQOL scores within each group. In addition to significance tests, we calculated effect sizes for non-parametric data according to Cohen's formula  $r = z / \sqrt{N}$ .<sup>26</sup> We computed effect size calculations in the four specific domains, and for the two overall perceptions of self-rated health and QOL in the intervention and comparison groups. Cohen's guidelines for interpretation of  $r$  suggest that the limit for a large effect size is 0.5, for a medium effect is 0.3 and for a small effect is 0.1. Effect sizes create a more generally interpretable, quantitative description of the size of an effect.<sup>27</sup>

## RESULTS

### Single mothers

The study completion rate was 100% in the single mother category. At the pretest stage, the intervention group scored higher on overall self-rated health than the comparison group ( $p < 0.05$ ). At the post-test stage, the scores in the intervention group on overall self-rated QOL were higher than those in the comparison group ( $p < 0.05$ ; table 2).

After the intervention, there were statistically significant increases in WHOQOL-BREF scores measuring physical health ( $p < 0.05$ ), psychological health ( $p < 0.01$ ), social relationships ( $p < 0.05$ ) and overall perception of QOL ( $p < 0.01$ ) in the intervention group. No statistically significant difference was found for environmental health and overall self-rated health. In the comparison



Table 2 Preintervention and postintervention scores for the single mothers

Domains of health	Preintervention			Postintervention			Effect size, r	
	Intervention group (n=15), mean (SD)	Comparison group (n=10), mean (SD)	Between-group score difference	Intervention group (n=15), mean (SD)	Comparison group (n=10), mean (SD)	Between-group score difference	Intervention group (n=15)	Comparison group (n=10)
	1. Physical	12.86 (3.56)	13.30 (3.62)	-0.44 <sup>n.s.</sup>	14.40 (2.55)	12.60 (3.33)	1.80 <sup>n.s.</sup>	0.60*
2. Psychological	10.46 (3.02)	10.70 (4.37)	-0.24 <sup>n.s.</sup>	12.73 (2.18)	10.60 (4.57)	2.13 <sup>n.s.</sup>	0.70**	0.10 <sup>n.s.</sup>
3. Social relationships	10.13 (3.56)	10.70 (2.58)	-0.57 <sup>n.s.</sup>	12.33 (3.43)	10.10 (4.01)	1.73 <sup>n.s.</sup>	0.51*	0.30 <sup>n.s.</sup>
4. Environment	10.26 (2.21)	10.40 (2.83)	-0.14 <sup>n.s.</sup>	11.40 (1.84)	10.10 (3.44)	1.30 <sup>n.s.</sup>	0.50 <sup>n.s.</sup>	0.11 <sup>n.s.</sup>
Overall perception of quality of life	2.60 (0.98)	2.70 (0.82)	-0.10 <sup>n.s.</sup>	3.66 (0.61)	2.90 (0.73)	0.76*	0.80**	0.45 <sup>n.s.</sup>
Overall perception of health	3.20 (1.20)	2.10 (0.99)	1.10*	3.33 (0.89)	2.60 (0.96)	0.73 <sup>n.s.</sup>	0.10 <sup>n.s.</sup>	0.60 <sup>n.s.</sup>

\*p&lt;0.05.

\*\*p&lt;0.01.

n.s., Not statistically significant.

group, no statistically significant change was observed for any domain or overall perception. Large and statistically significant effect sizes were observed in most WHOQOL-BREF domains except environmental health and overall self-rated health. In the comparison group, the effect sizes were not statistically significant (table 2).

### Newly married women

Seventy per cent of the newly married women completed the study. Owing to personal issues (eg, health problems during pregnancy), three of the women in the intervention group did not complete their participation in the individual and group sessions. The data for these women were excluded from further analysis.

At the pretest stage, the scores for the participants in the intervention group for the physical health ( $p<0.05$ ) and social relationship ( $p<0.05$ ) domains were lower compared with those of the comparison group (table 3). At the post-test stage, the intervention group had higher scores in the environmental health domain ( $p<0.01$ ) than the comparison group.

In the intervention group, there were statistically significant increases in postintervention scores in the physical health ( $p<0.05$ ), psychological health ( $p<0.05$ ) and environmental health ( $p<0.05$ ) domains. No statistically significant difference was found in the social relationships domain or regarding overall perceptions of QOL or health. No statistically significant changes were observed in the comparison group. Large and statistically significant effect sizes were observed in the intervention group in the physical health, psychological health and environmental health domains. Large but not statistically significant effect sizes were observed in the social relationships domain and for overall perceptions of QOL and health. In the comparison group, the effect sizes were small or medium and not statistically significant (table 3).

### Aggregated intervention and comparison groups

On aggregate, 88% of the women having agreed to participate completed the study. At the pretest and post-test stages, no statistically significant differences were observed between the aggregated intervention and comparison groups (table 4). In the aggregated intervention group, statistically significant increases in scores were observed after the intervention for all WHOQOL-BREF domains (physical health ( $p\leq 0.001$ ), psychological health ( $p\leq 0.001$ ), social relationships ( $p\leq 0.01$ ), environmental health ( $p\leq 0.01$ ) and the overall perception of QOL ( $p\leq 0.001$ ). No statistically significant change was found in overall self-rated health in this group. In the aggregated comparison group, no statistically significant changes were observed. Large and statistically significant effect sizes were observed in the intervention group in all WHOQOL-BREF domains and the overall perception of QOL (table 4). The effect size for overall self-rated health was between small and medium and not statistically significant. In

**Table 3** Preintervention and postintervention scores for the newly married women

Domains of health	Preintervention			Postintervention			Effect size, r	
	Intervention group (n=7), mean (SD)	Comparison group (n=9), mean (SD)	Between-group score difference	Intervention group (n=7), mean (SD)	Comparison group (n=9), mean (SD)	Between-group score difference	Intervention group (n=7)	Comparison group (n=9)
1. Physical	12.85 (1.95)	15.55 (2.24)	-2.70*	16.57 (1.39)	15.33 (2.73)	1.24 <sup>n.s.</sup>	0.90*	0.19 <sup>n.s.</sup>
2. Psychological	13.14 (1.95)	14.66 (1.32)	-1.52 <sup>n.s.</sup>	14.57 (1.39)	14.22 (2.22)	0.35 <sup>n.s.</sup>	0.86*	0.29 <sup>n.s.</sup>
3. Social relationships	13.28 (1.70)	16.00 (1.73)	-2.72*	14.71 (2.05)	16.33 (1.58)	-1.62 <sup>n.s.</sup>	0.57 <sup>n.s.</sup>	0.32 <sup>n.s.</sup>
4. Environment	13.85 (1.77)	13.33 (2.44)	0.52 <sup>n.s.</sup>	15.85 (1.06)	13.55 (1.66)	2.30**	0.78*	0.17 <sup>n.s.</sup>
Overall perception of quality of life	3.57 (0.97)	4.11 (0.60)	-0.54 <sup>n.s.</sup>	4.28 (0.48)	3.88 (0.60)	0.40 <sup>n.s.</sup>	0.62 <sup>n.s.</sup>	0.33 <sup>n.s.</sup>
Overall perception of health	3.28 (1.25)	4.11 (0.33)	-0.83 <sup>n.s.</sup>	4.00 (0.57)	4.11 (0.60)	-0.11 <sup>n.s.</sup>	0.62 <sup>n.s.</sup>	0.00 <sup>n.s.</sup>

\*p&lt;0.05.

\*\*p&lt;0.01.

n.s., Not statistically significant.

**Table 4** Preintervention and postintervention scores for the aggregated intervention and comparison groups

Domains of health	Preintervention			Postintervention			Effect size, r	
	Intervention group (n=22), mean (SD)	Comparison group (n=19), mean (SD)	Between-group score difference	Intervention group (n=22), mean (SD)	Comparison group (n=19), mean (SD)	Between-group score difference	Intervention group (n=22)	Comparison group (n=19)
1. Physical	12.86 (3.09)	14.36 (3.18)	-1.50 <sup>n.s.</sup>	15.09 (2.44)	13.89 (3.29)	1.20 <sup>n.s.</sup>	0.68***	0.20 <sup>n.s.</sup>
2. Psychological	11.31 (2.96)	12.57 (3.80)	-1.25 <sup>n.s.</sup>	13.31 (2.12)	12.31 (4.01)	1.00 <sup>n.s.</sup>	0.72***	0.17 <sup>n.s.</sup>
3. Social relationships	11.13 (3.39)	13.21 (3.47)	-2.08 <sup>n.s.</sup>	13.09 (3.22)	13.05 (4.40)	0.04 <sup>n.s.</sup>	0.52**	0.07 <sup>n.s.</sup>
4. Environment	11.40 (2.66)	11.78 (2.99)	-0.38 <sup>n.s.</sup>	12.81 (2.66)	11.73 (3.21)	1.08 <sup>n.s.</sup>	0.55**	0.02 <sup>n.s.</sup>
Overall perception of quality of life	2.90 (1.06)	3.36 (1.01)	-0.46 <sup>n.s.</sup>	3.86 (0.63)	3.36 (0.83)	0.50 <sup>n.s.</sup>	0.72***	0.00 <sup>n.s.</sup>
Overall perception of health	3.22 (1.19)	3.05 (1.26)	0.17 <sup>n.s.</sup>	3.54 (0.85)	3.31 (1.10)	0.23 <sup>n.s.</sup>	0.20 <sup>n.s.</sup>	0.38 <sup>n.s.</sup>

\*p&lt;0.05.

\*\*p≤0.01.

\*\*\*p≤0.001.

n.s., Not statistically significant.

the aggregated comparison group, the effect sizes were small or medium and not statistically significant.

## DISCUSSION

This study provides provisional support for that teaching of coping strategies can be a means to improve the QOL of women in societies where gender discrimination is prevalent. The aggregated data from the two categories of Iranian women provided with the intervention showed significant improvement in overall self-rated QOL and in the particular domain of self-rated health. The effect size on overall self-rated health in the aggregated intervention group was not statistically significant. One explanation for this finding could be that as a result of the non-randomised study design, already healthy women by various selection mechanisms were allocated to the more demanding intervention groups. This interpretation is supported by the fact that the pretest scores on overall self-rated health in the aggregated intervention group were higher than in comparison group and higher than in the other WHOQOL-BREF domains. When the categories of women and instrument domains were considered separately, we found no statistically significant postintervention change in the social relationships domain among the newly married women in the intervention group and no change in the environment domain among the single mothers. Recent re-evaluation of the Iranian version of the WHOQOL-BREF has shown an unsatisfactory reliability of the social relationship domain, which may explain why no change was recorded in this domain. According to the Iranian researchers, re-evaluation studies from other countries have reported similar results, implying that this domain of the WHOQOL-BREF requires a general revision.<sup>24 25</sup> Regarding the scores for the single mothers in the environmental domain, a positive trend not reaching statistical significance could be observed. However, single mothers may be more likely to face structural and environmental problems that are resistant to change efforts.

One possible explanation for the study outcomes is that both problem-solving and emotion-control coping strategies were supported in the intervention model. Pearlin *et al*<sup>28</sup> (p.340) refer to the role of mastery in the stress-coping process, defining it as 'the extent to which people see themselves as being in control of the forces that importantly affect their lives'. However, not all problems in life can be mastered, but the problems can often be managed, that is, people can learn to accept and live with existing troubling circumstances.<sup>20</sup> This standpoint applies to the situation for Iranian women in the present study. These women, particularly in the single mothers' project, faced severe structural problems in their day-to-day lives. Although there were few opportunities to realise several of the desirable changes in their life situations, the women still used the intervention to increase their QOL and influence several aspects of their self-rated health. This may be

because they gained insight and personal empowerment despite persisting hardships.<sup>29 30</sup> From this aspect, the findings of this study conducted in Iran correspond with results from previous studies of coping in relation to QOL and health.<sup>1 4 13 19 31</sup> The observations in our study are also understandable in light of Antonovsky's salutogenic health model based on a sense of coherence,<sup>32-34</sup> that is, that individuals accomplish resilience by using general psychological resources to conceptualise the world as organised and understandable. Further research is necessary to evaluate the association between coping strategies with health and QOL in applying the psychosocial interventions.

From an intervention design perspective, the model used in this study is similar to Frisch's model for QOL therapy.<sup>35</sup> The latter model is based on the CASIO framework for QOL and involves both problem-solving and emotional support components, that is, steps and methods ranging from influencing circumstances to changing priorities and boosting satisfaction in other areas not previously considered. The role of emotional control in improvement of QOL among individuals who face difficult circumstances that they are not able to change in specific areas of life has been demonstrated in other contexts, such as management of chronic disease. For instance, from a study of patients with kidney failure,<sup>36</sup> it was reported that central mediators of effect in QOL therapy were improvement in social intimacy and reduction of psychological distress. Both QOL therapy and the present intervention based on the Rahyab model emphasise the individual's perceptions and interpretations, goal-setting and value clarifications. However, in contrast to QOL therapy, group sessions were a central part of the study intervention. Group sessions are important in interventions aimed at improving women's life situations and creating learning spaces where women can gather insight into feelings of sympathy and empathy while dealing with difficult structural problems.<sup>29 30</sup> The group sessions probably also mediated effects in domains other than that of social relationships. Nonetheless, the design of interventions for maintenance of QOL in pressing life situations remains an important area for future studies in health promotion.

There are several factors that must be taken into account when interpreting the results of this study. A fully randomised study design could not be realised because only a limited number of participants could be included in the intervention programme owing to scarcity of resources and because distribution of information about a study addressing strengthening of coping capacities of women was sensitive in the implementation context. The number of participants invited could therefore not be predetermined using power calculations and the women in the newly married category could not be randomly allocated to the intervention and comparison groups. This implies that neither type 2 errors based on insufficient power nor type 1 biases owing to participant's self-selection can be ruled out. The analyses of the pretest ratings in the intervention and comparison groups in the two projects also showed some statistically



## Quality-of-life effects from a psychosocial intervention among Iranian women

significant differences (in the single mothers' project regarding overall self-rated health and in the newly married women project in the physical health and the social relationships domains). Also, non-participation was higher among the newly married women than in the single mothers' category. This difference can be explained by that the latter group was burdened by more severe problems and was more willing to participate in a programme that they envisioned could supply them with more extensive support. The quasi-experimental non-equivalent groups design therefore requires that multiple comparisons (between groups, within groups, effect sizes) must be taken into account when interpreting the results of the study. In addition, the study end point was defined as the end of the intervention period, implying that the lasting effects of the intervention were not recorded. Furthermore, it is important to take into account both participants' and therapists' personal characteristics in the evaluation of therapeutic interventions.<sup>37</sup> The women who agreed to participate might have been more amenable to QOL interventions, so they may have been more likely to report therapeutic gains than those who chose not to participate. Kendall<sup>38</sup> (p. 4) expands on this point when he writes that 'empirical evaluation of therapy is a step in the right direction, but it does not guarantee that empirically evaluated treatments will be effective when applied by different therapists'. It must also be taken into account that neither the practitioners nor women, for logical reasons, were blinded for the intervention. However, the women scored the instruments by themselves, which should have reduced, although not eliminated, the non-blinding influence from the therapists. Therefore, before wider distribution, the intervention model should be evaluated in studies involving social workers with different training and backgrounds.

### CONCLUSIONS

This quasi-experimental study of an intervention teaching a combined problem-solving and emotional-control coping strategy to Iranian women showed large post-intervention effect sizes on QOL scores among women provided with the intervention. The scores in a comparison group provided with treatment as usual showed no statistically significant changes. The results are encouraging but require reproduction in larger studies with a more rigorous design and longer time frame for follow-up before the intervention model can be recommended for widespread distribution.

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