Comparison of quality of life in women with hysterectomy and hormonal therapy due to abnormal uterine bleeding

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Abstract

Introduction:
Abnormal uterine bleeding (AUB) is a common disorder in reproductive age in women and its treatment can promote the quality of life in women, but the characteristics and side effects of each therapeutic method based on cultural context of the society may affect the quality of life. Therefore, the objective of this study was comparison of quality of life in physical, emotional and social dimensions in two groups of women with hysterectomy and hormonal therapy.

Materials and Methods:
In this comparative study, quality of life in 54 women with hysterectomy and 54 women with hormonal therapy in reproductive age due to AUB in selected clinical centers in Isfahan was compared. Random classification sampling was used. The data collection tool was the standard questionnaire of quality of life which was completed six months after treatment.

Results:
Findings showed that mean scores of quality of life in total and in physical and emotional dimensions in hormonal therapy were higher than those of the hysterectomy group significantly (p<0.05), but the mean scores of quality of life in social dimension in the study groups was not different.

Conclusion:
The findings showed that quality of life in physical and emotional dimensions following hormonal therapy group was better than the hysterectomy group.

Keywords: Quality of Life, Dysfunctional Uterine Bleeding, Hysterectomy, Hormone Replacement Therapy
behavior is influenced by the subjective impressions and conceptions they have of reality. A fundamental health challenge posed to the 21st century is thus the improvement of the quality of life and lifestyle. In fact, quality of life consists of a set of physical, psychological and social well-being, which individuals perceive in their encounters with physiological and pathological phenomena (1-2).

In the process of a woman’s life, menstruation is a physiological phenomenon that is the most crucial sign of reproduction during the reproductive ages with deep effects on their lives (3). Any kind of disorder in this phenomenon demands the use of pharmaceutical treatment, medical intrauterine devices, curettage and hysterectomy (4).

Hysterectomy is the most common gynecological surgery; more than 802 cases of hysterectomy were performed from 1993 to 1997 at Shahid Beheshti Hospital of Isfahan alone (5). Studies conducted in the USA showed that 75% of women who had hysterectomy were aged 20-49 years (6).

The uterus is of the most important organs related to reproduction in women, which forms an important part of their self-image. Removing the uterus might result in different changes in in the woman’s mental image of her health (7) and might change her quality of life. Hormone therapies such as synthetic androgens (like danazol), progestins (like medroxyprogesterone acetate) or a combination of estrogen and progesterone (like the contraceptive pill) can control abnormal uterine bleeding; however, they are accompanied with complications such as headache, depression, mood change, hot flushes, vaginal dryness, decreased libido and spotting (4,8). These complications can in turn negatively affect the quality of life in women.

Some studies have shown that a large number of women imagine that hysterectomy will make them lose their feminine power and will interfere with their sexual satisfaction (6). It is also reported that hysterectomy can lead to undesirable psychological consequences, increased visits to the psychiatrist and the consumption of antidepressants, which ultimately face women with a critical situation in the family (8-9). On the other hand, some other studies show that hysterectomy improves the quality of life in certain aspects. In this regard, Kupperman et al. compared the physical health, psychological health, mental image and sleep patterns of women afflicted with abnormal uterine bleeding who were hysterectomized with women who were under other kinds of treatments and reported that the hysterectomized women enjoyed a higher level of satisfaction regarding the resolution of the symptoms, their self-image, psychological health and sleep patterns and also had positive feelings about their physical health (10).

In their study in Finland, Hurskainen et al. compared the quality of life in hysterectomized women with women undergoing other kinds of treatments for abnormal uterine bleeding and demonstrated that sexual problems in the hysterectomy group and the lack of sexual satisfaction in the non-hysterectomy group were remarkable 12 months after the treatment (11).

The difference in results of studies conducted on the effect of different methods of treatment on the quality of life stems from the individuals’ perception of concepts based on their cultural form and beliefs so that this phenomenon affects the quality of life in the cultural context of the society (12). Becoming acquainted with and growing sensitive towards the effect of different treatment methods on the patients’ quality of life assists healthcare providers in taking measures for improving actual life conditions and realities. Patients with uterine bleeding in this research are not exempt from this issue in the cultural context of their given society either. They live in quite different cultural, social and religious conditions.
compared to women in European countries, which affects their notion of health. Therefore, regardless of the complications each treatment method might have, the effect of the two common methods for the treatment of abnormal uterine bleeding on the quality of life depends on the individuals’ notion of health.

Since a health objective of the 21st century is to promote the quality of life, mere clinical research for finding the best treatment method for medical problems is not sufficient; rather, evaluating the consequences of the type of treatment on the quality of life is also of great importance (13). The present study thus compares the quality of life in hysterectomized women and in women receiving other kinds of treatments for abnormal uterine bleeding in an effort to identify the positive and negative effects of the two methods of treating the disorder on the quality of life.

Materials and Methods
This research was a comparative descriptive study. The data collection was performed cross-sectionally on women in their reproductive age (15-45 years old) visiting selected hospitals and specialized clinics in Isfahan (Alzahra, Beheshti and Shariati Hospitals) for the treatment of their abnormal uterine bleeding by hysterectomy or common hormone therapy methods.

The hysterectomy group consisted of women who had undergone hysterectomy at least 6 months and at most 2 years prior to the study and had not used hormone therapies for abnormal uterine bleeding prior to hysterectomy. The hormone therapy group comprised women who had been under hormone therapy for at least 6 months at the time of the study.

Women with severe uncontrollable bleeding, or those whose abnormal bleeding was caused by malignant and premalignant factors or had both ovaries removed during hysterectomy or those for whom the specialist practitioner diagnosed early menopause or those who were considering another pregnancy were all excluded from the study. None of the subjects used herbal or other non-hormonal medicines and did not suffer from systematic diseases.

Sample size was estimated at 54 for each group with a confidence interval of 95% and statistical power of 80%. Data collection instrument was a two-section questionnaire. The first section addressed the personal information of the subjects including age, level of education, monthly income and occupation. The second section comprised the World Health Organization Quality of Life Questionnaire that assesses the physical, psychological and social dimensions of the quality of life on a four-point Likert scale with 8, 7 and 9 questions respectively (14).

To assess the validity of the content, the questionnaire was presented to 10 faculty members at the Medical University; once their suggestions regarding sentence revising were implemented in a way that would allow a better cultural adaptability and thus better comprehensibility, the questionnaire’s validity was confirmed.

Reliability of the questionnaire was assessed using a pilot study conducted on two groups of 10 patients each (one group with hysterectomy and another with hormone therapy). The responses’ correlation value was assessed using the Cronbach’s alpha correlation coefficient and its reliability coefficient of 75% was confirmed.

The proportional stratified random sampling technique used in this research determined the portion of patients allocated to each hospital based on the number of qualified hysterectomized women in 2008. Of a total of 61 hysterectomized women across the three hospitals, 24 were selected from Alzahra Hospital, 21 from Beheshti Hospital and 9 from Shariati Hospital. To select samples for the hysterectomy group, a list of patients was first prepared by computer
and the file of one out of every five patients was assessed, and if qualified, the patient would enter the study; otherwise, the next fifth person’s file would be examined. The selected patients were then contacted by the phone and briefed on the objectives of the research; provided they were willing to participate, an appointment was set for the future at their home.

Regarding the hormone therapy group, women having this treatment performed on them for abnormal uterine bleeding were interviewed upon visiting the hospital; then, an appointment was made with the qualified candidates interested in participating in the study. It was announced to all participants that participation in the research was completely voluntary and that their information would be kept confidential. The participants could remain anonymous if they desired and could withdraw from the research at any point they wished. In the sessions held in participants’ home, objectives of the research were explained once again, written consent was obtained and the questionnaire was filled out by the individual. If the participants were illiterate, the interviewer would read the questions to them and write down their answers.

Once the questionnaire was completed, the scores of all the analysis units in the different dimensions were separately added together and calculated in the 100-point system. Descriptive and inferential statistical methods were used to analyze the data. The error rate was estimated at 0.05. The t-test was used in both groups to compare the contextual factors of age and the number of children while the Mann-Whitney test was used in both groups to compare their income and level of education. An analysis of covariance was used for eliminating the contextual factors of age, level of education and income.

**Results**

The results of the t-test analysis of the data of the 54 women in the hysterectomized group with the mean age of 41.93 (±3.4) and the 54 women in the hormone therapy group with the mean age of 38 (±5.97) showed a significant difference between the two groups in terms of age. The Mann-Whitney test also showed that the two groups differ in terms of family income and level of education (table 1).

In the hormone therapy group, 83.3% of the 54 cases had used medroxyprogesterone acetate and 16.6% had used hormone pills; in the hysterectomy group, 91% were hysterectomized abdominally and 9% vaginally. The average interval after the treatment was 10 months in the hysterectomy group and 14 months in the hormone therapy group.

The subjects’ status regarding the quality of life scores is presented in table 2. The results showed that, in the hysterectomy group, the highest frequency pertained to individuals who scored 40.1-60 in the physical dimension of the quality of life. In the hormone therapy group, however, the highest frequency pertained to individuals who had scored about 60.1-80 in this aspect. The t-test also showed a significant difference between the two groups with respect to their scores in the physical dimension of the quality of life. The covariance test showed that, irrespective of age, income and level of education, the score of the physical dimension of the quality of life was higher in the women receiving hormone therapy compared to the hysterectomized women.

The results of the comparison of groups in terms of the psychological dimension of the quality of life showed that, in the hysterectomy group, the highest frequency pertained to individuals with scores of 40.1-60 while in the hormone therapy group, the highest frequency pertained to individuals with scores of 80.1-100. Comparison of the mean scores of the psychological dimension of the quality of life using the t-test irrespective of
contextual factors showed that the two groups do not differ significantly. With the effect of the factors of age, income status and level of education eliminated, the covariance test showed that the hormone therapy group scored higher than the hysterectomy group regarding the psychological dimension of the quality of life.

Table 1: Comparison of the Demographic Specifications of the subjects of the Two Groups

<table>
<thead>
<tr>
<th>Demographic Specifications</th>
<th>Hormone therapy Number (%)</th>
<th>Hysterectomyized Number (%)</th>
<th>Statistical Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>&gt; 30</td>
<td>7 (13)</td>
<td>0 (0)</td>
</tr>
<tr>
<td></td>
<td>30-39</td>
<td>16 (29.6)</td>
<td>17 (31.5)</td>
</tr>
<tr>
<td></td>
<td>&gt; 39</td>
<td>31 (57)</td>
<td>37 (68.5)</td>
</tr>
<tr>
<td>Level of Education</td>
<td>Illiterate</td>
<td>1 (19)</td>
<td>10 (18.5)</td>
</tr>
<tr>
<td></td>
<td>Elementary</td>
<td>26 (48.1)</td>
<td>27 (50)</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>22 (40.7)</td>
<td>15 (27.8)</td>
</tr>
<tr>
<td></td>
<td>Higher Education</td>
<td>5 (9.3)</td>
<td>2 (3.7)</td>
</tr>
<tr>
<td>Income (× 10000 Rials)</td>
<td>&lt; 500</td>
<td>9 (16.7)</td>
<td>22 (40.7)</td>
</tr>
<tr>
<td></td>
<td>500-1000</td>
<td>27 (50)</td>
<td>18 (33.4)</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>18 (33.3)</td>
<td>14 (25.9)</td>
</tr>
</tbody>
</table>

Table 2: Comparison of Quality of Life Dimensions in the Two Groups Studied

<table>
<thead>
<tr>
<th>Quality of Life Score</th>
<th>Physical Dimension</th>
<th>Psychological Dimension</th>
<th>Social Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hormone therapy Number (%)</td>
<td>Hysterectomy Number (%)</td>
<td>Hormone therapy Number (%)</td>
</tr>
<tr>
<td>&lt; 40</td>
<td>1 (1.9)</td>
<td>6 (11.1)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>40-60</td>
<td>13 (24)</td>
<td>21 (38.9)</td>
<td>2 (3.7)</td>
</tr>
<tr>
<td>60-80</td>
<td>34 (63)</td>
<td>17 (31.5)</td>
<td>20 (37)</td>
</tr>
<tr>
<td>80-100</td>
<td>6 (11.1)</td>
<td>10 (18.5)</td>
<td>32 (59.3)</td>
</tr>
<tr>
<td>Mean (Standard Deviation)</td>
<td>67.6 (12.4)</td>
<td>61.3 (9)</td>
<td>80.1 (10.4)</td>
</tr>
<tr>
<td>T-test</td>
<td>T=2.05</td>
<td>P=0.044</td>
<td>T=10.93</td>
</tr>
<tr>
<td>Covariance test</td>
<td>F=3.26</td>
<td>P=0.046</td>
<td>F=5.7</td>
</tr>
</tbody>
</table>

The results showed that the majority of the subjects in the hysterectomy group scored 60.1-80 in the social dimension of their quality of life while in the hormone therapy group, the majority scored 60.1-80. Comparison of the groups’ scores in the social dimension of the quality of life using the t-test irrespective of contextual factors showed that the two groups did not differ significantly. With the effect of the factors of age, income status and level of education eliminated, the covariance analysis still showed no significant variance between the two groups with respect to the social dimension of their quality of life.

Comparison of the mean total scores of the quality of life using the t-test showed that women in the hormone therapy group, with a mean of 72.48 (±8.62), scored significantly higher than women in the hysterectomy group, with a mean of 60.9 (±6.2), (p=0.001, t=6.29). In addition, with the effect of the factors of age, income status and level of education eliminated, results of the covariance test did not alter.
the variance between the two groups’ total scores of the quality of life ($t=4.2$, $p=0.001$).

**Discussion**

This research was conducted in order to compare the quality of life in hysterectomized women with those under hormone therapy for abnormal uterine bleeding and shows that the quality of life in the physical and psychological dimensions was higher in women of the hormone therapy group compared to the hysterectomized group and is not affected by demographic factors of age, income and level of education. On the other hand, a study conducted in the USA by Kupperman et al. indicates that the physical dimension of the quality of life is higher in the hysterectomized group compared to the hormone therapy group (15). Furthermore, Varner et al. concluded that the physical dimension of the quality of life is of a better standing in the hysterectomy group (15). Following their research in Finland, Hurskainen et al. reported that 12 months post-hysterectomy-treatment, the physical dimension of the quality of life is of a better standing than in the group under treatment with a levonorgestrel releasing intrauterine device (11).

It appears that sociocultural factors contribute significantly to the difference of understandings regarding the notion of health in different societies. The removal of the uterus as a reproductive organ might have caused negative attitudes toward one’s physical health among the research population of the present study. In addition, most women take menstrual periods as a criterion of physical health and preservation of fertility. Unlike hysterectomized women, menstrual periods continue to occur in women under the hormone therapy, which can affect the physical and/or psychological dimensions of the quality of life. On the other hand, continuance of the hormone therapy might imply to the groups studied that the treatment is effective and that they do not suffer an acute physical problem; however, the mentality that a health threatening problem has led to the surgical treatment can itself be a cause for the lower perception of physical health in the hysterectomized group.

None of the subjects in the current study, however, lacked severe uncontrollable uterine bleeding and acute health threatening problems. It can therefore be concluded that such an attitude is the result of their subjective perceptions of their own situation; it is thus necessary to provide adequate information and explanation to the couples about the type of surgery and its health effects prior to its operation.

Comparison of the psychological dimension of the quality of life in the two groups showed that the women receiving hormone therapy were in a better condition compared to the hysterectomized women, even though an important complication of hormone therapy is mood swings that can affect the psychological dimension of the quality of life (4). A study by M. C. Ferson et al. in England showed that 5 years after the treatment, the hysterectomy group had more problems in the psychological dimension of their quality of life compared to the group under endometrial ablation; however, Kupperman et al. reported that the psychological dimension of the quality of life in the hysterectomized group is higher than in the women receiving pharmaceutical treatment (10, 16). In their study conducted in Finland, however, Hurskainen et al. concluded that the psychological dimension of the quality of life did not vary between the hysterectomy group and the pharmaceutical treatment group (11). Comparison of results of these studies with the present research indicates that, in the cultural context of the present research, sociocultural factors affect the psychological dimension of the quality of life more than pathological factors and complications of the treatment method.

Studies conducted in Iran demonstrate the high degree of depression in women
undergone gynecological surgeries. According to Shadloei, since the reproductive organ is related to both sexual identity and the broader concept of feminine identity, gynecological surgeries result in heavy doses of stress in women, this psychological pressure is most evident when uterine removal is prescribed (17). The results of the present study regarding the lowness of the psychological dimension of the quality of life in hysterectomized women, compared with the hormone therapy group, might be related to their mentality about their own physical situation. Therefore, the discovery of individuals’ mentality about the removal of an organ such as the uterus thus helps the medical team reduce the negative effects on the psychological dimension of the quality of life by selecting the best treatment method available. Undoubtedly, selecting a treatment method is only possible when the patient’s condition has not ruled out the possibility of a choice and is not possible when the patient and her relatives admit that the disease factor is far more acute than they had imagined and that accepting is inevitable. In fact, uterine removal with its effects on the patient’s mental image of her own body renders her psychologically vulnerable; as a result, the reason for choosing hysterectomy and the individuals’ perception of their own disease are highly important and patients should thus be educated with an awareness of the issues surrounding the treatment.

Women under the hormone therapy enjoyed a better quality of life in the psychological health dimension compared to the other group; however, it seems that the lack of a definitive treatment in this group might affect their social relationships and reduce the quality of life in its social dimension even though results did not reveal any differences in the social dimension of the quality of life between the two groups. The study conducted by Hurskainen et al. also showed that the social dimension of the quality of life did not vary between the group that had been treated with a levonorgestrel releasing intrauterine device for its menorrhagia and the group that was hysterectomized (11). It can thus be inferred that the type of treatment does not affect the individuals’ social relationships. These results indicate that both types of treatment affect the social dimension of the quality of life equally despite their different effects on the individuals’ conditions.

Overall, comparison of the quality of life without considering the intervening factors of age, level of education and income show that the hormone therapy group enjoys a better quality of life compared to the other group. Contrary to results of the present study, the research conducted by Varner demonstrated that the quality of life did not vary significantly between the hysterectomy group and the hormone therapy group (15). In the end, it is important to note that even though the quality of life was evaluated in both groups at least 6 months within the beginning of the treatment, the abnormal bleeding factor might have affected the spirit and mentality of the patients in such a way that their quality of life still remains altered within 6 months of the treatment. The lack of information about the exact cause of abnormal uterine bleeding in both groups is a limitation of the present study and should be taken into account in the interpretation of results.

**Conclusion**

Results of the study show that the physical and psychological dimensions of the quality of life are of a better standing in the hormone therapy group compared to the hysterectomized group; and whenever selection from the two treatment methods is an option, the hormone therapy should be considered with its fewer negative impacts on the quality of life. It is therefore recommended that the type of treatment be selected only after considering and assessing its possible effects on the individual’s quality of life.
Also, providing consultation to the candidates of hysterectomy can moderate the possible effects of this type of treatment on the physical dimension of their quality of life by adjusting their perspectives.

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Conflicts of Interest
The authors declare to have no conflicts of interest in this study.

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