Comparison of the effect of Vitamin B₁ and Acupuncture on Treatment of Primary Dysmenorrhea

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Available online at: www.isca.in
(Received 25th April 2012, revised 27th April 2012, accepted, 2nd May 2012)

Abstract

Dysmenorrhea is a common gynecological disorder as the most common pelvis cyclic pain through that more than half of the women in the age would experience it. It is divided in to two groups of primary and secondary. The aim of this study is to compare the acupuncture effect, vitamin B₁ and Ibuprofen on pain treatment of Primary dysmenorrhea. This study is a kind of clinical trial study which students have done is 2010 on the students of Islamic Azad University Sari Branch. The provided definite multi-dimensional speech system of collecting data using Spss version software, Fisher's tests k, Duncan's test and variation analysis. The results showed that there was significant difference related to pain tension before and after treatment (P=0.000). There is also equal need for extra pain reliever only in ibuprofen and vitamin B group (P=0.000). Vitamin B is a medicine with similar effect to ibuprofen with much less complication and more acceptability and the acupuncture has less acceptability and efficiency comparing with these two.

Keywords: Primary dysmenorrhea, ibuprofen, vitamin B₁, acupuncture, pain tension.

Introduction

One of the most common problems in fertility period is pelvis pain. Dysmenorrhea is the most common cyclic pain of pelvis¹ and it means the pain in menstruation period². Dysmenorrhea is divided in to two groups of primary and secondary. The primary Dysmenorrhea means painful menstruation in lack of pelvis diseases such as³. Nearly one percent of women would be stopped from their daily activities because of serious Dysmenorrhea for 1 to 3 days. Although this trouble is not usually dangerous, it can undertake the person's daily life². As a matter of fact, in 10 percent it can stop the person's work and activity and make financial or social harms⁴. The pain mechanism in primary Dysmenorrhea would be related to prostaglandins which causes the uterus contraction⁷. The total prevalence of primary Dysmenorrhea is reported 40-95% in western countries and 70-86% in Iran. On the other hand, the young girls are almost 13% of the country total population and this number shows the high prevalence in our country. Dysmenorrheal not only causes economical harms but also affect badly on person's soul and can make serious anxiety in person in the menstruation period. It can also make the base of high labor pain. The primary dysmenorrheal can effect the life quality of young people who are the country huge resources⁶.

There are Different Suggestions to cure the Primary Dysmenorrhea: The pain relievers like aspirin and acetaminophen⁷,⁸, non-steroid anti-inflammation medicines like ibuprofen, naproxen and mephenamic acid⁹,¹⁰, contraception pills and dilatation cervix in serious levels⁸,¹¹ using progesterone IUD¹² Exercise and keeping back and stomach warm and warm bag¹³, electrical stimulation of waist, stomach and back nerves, using food compliments like calcium, vitamin E, vitamin B₁ and vitamin C and abstaining of having salt and smoking¹³. Ibuprofen is one of non-steroid anti-inflammation medicines which has more efficiency and less side effects in comparison with the other⁶ and this medicine include digestive and Kinney complications¹⁴.

This vitamin is the first discovered vitamin which is soluble in water. In different body actives like blood making, carbohydrate metabolism, central nervous system activities and nervous muscle system and so on his almost negative troubles because it has a role in nervous activity and muscles tonus and can be effective on basic dysmenorrhea but its long usage can cause headache and sometimes heart beat¹⁴. It wouldn't be used as a routine treatment because of lack of enough study at the moment but because it is solvable in water its extra usage wards off through urine¹⁵. Acupuncture is actually using the touching technique to balance the human body energy flow¹⁶, saninjao or the three canal connection between spleen, kidney and liver is one of the most important points used in needle medicine which is located in 3 (4 figures) upper than internal ankle under the back edge of Tibia. This point is vastly used in gynecological disorders, genital, urinal disorders, digestive problems, weakness, blood pressure decline, making insensible during the pelvis surgeries and painless labor¹⁷. The aim of this study is to study the vitamin B₁ effect and acupuncture on painful cramps of menstruation and its comparing with Ibuprofen pill in order to substitute vitamin B₁ in the case of being effective cause this
medicine has less troubles in contrast with Ibuprofen which has a lot of complications.

**Material and methods**

This study is done in the method of case study and based on goals. Through 500 students of nursing and midwifery faculty, 196 people suffered from average and serious primary dysmenorrhea were divided in to three groups. As Vit B1 medicine was given to the first group (76 people) and ibuprofen was prescribed to the second group (16 people) and the third group came under the treatment by acupuncture. The acceptance standard in this study include: age between 18-22 years, being single, a regular menstruation period, being single, a regular menstruation period (between 26-30 days), having the basic menstruation pains in most of the menstruation cycles in 6 recent months and server and average pain according to multi dimensional criterion of sample also include: allergy to non-steroid anti-inflammational medicine, using the medicine and non- medicine treatment for pain relieving , special kinds of diet (water treatment, dietet, raw eating diet and …), doing of every kind of regular exercises and professional classes (sport classes, fitness classes and …), doing the body relaxation techniques during the recent 6 months , having every kind of physical and psychological disease which are diagnosed and having every kind of genital disease, abdominal surgery back ground or pelvis surgery , smoking, using alcohol, harmonic medicines and contraception pills existing the serious mental tensions during the study.

Every person was evaluated for 3 menstruation cycles in the first cycle (control cycle), there was no method presented. It was only asked of the people to complete their characteristics related to menstruation (according to pain tension) during their menstruation period.

In this way that they define their pain tension using multidimensional speech leveling system as according to this system the people were suffered from a slight pain (zero degree) have painful menstruation, no limitation in natural activities and a little pain. The people suffered from slight form (first degree) have painful menstruation, very slight pain but the people's natural activities are foot 2-5 minutes). It must be mentioned that the accuracy and exact using of the medicines and also the way of presentation in 3 groups was controlled in weekly visits with samples.

The medicine boxes were given to the people each month and the existence of probable medical complications were described to both groups and it was asked them to be in contact in the case of any complication. After 2 months of treatment, both groups were studied according to pain tension. After collecting the data, it was coded and they were analyzed using statistics software of SPSS, Fisher test, Duncan test and version analysis.

**Results and Discussion**

All the 196 patients suffered from dysmenorrhea who studied in 3 groups, didn't have any significant difference because of age average in vitamin B1 group (20/14±1/1) , in ibuprofen group (14/7±1/2) and in acupuncture (14/76 ± 8/99) with (P=0/091), the average of bleeding duration before interfering in vitamin B1 group (6/6±1/1) , in ibuprofen group (6/5± 1/1) and in pressure medicine (6/18±1/44) with (p=9095), the average of pain tension before interfering in vitamin B1 group (2/4± 0/49) in ibuprofen group (2/3±949) and in acupuncture (2/8±0/45) with (p=9276)

According to pain tension before and after interfering there is statistical meaningful difference in vitamin B1 using group (P=0/000) and in ibuprofen using group (P=0/000) and in the group under treatment with acupuncture (P=0/000) (table 1).

<table>
<thead>
<tr>
<th>Vitamin B1 Intensity Dysmenorrhea</th>
<th>After</th>
<th>Before</th>
<th>After</th>
<th>Before</th>
<th>After</th>
<th>Before</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Mild</td>
<td>43(6/56%)</td>
<td>0(0%)</td>
<td>14(18/4)</td>
<td>0( 0%)</td>
<td>0( 0%)</td>
<td>0(0%)</td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>15(7/19)</td>
<td>0(0%)</td>
<td>37(48/7)</td>
<td>0(0%)</td>
<td>22(66/36%)</td>
<td>0(0%)</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>18 (7/23%)</td>
<td>45(2/59)</td>
<td>25 (32/9)</td>
<td>46 (5/60%)</td>
<td>38(33/63%)</td>
<td>43(71/6%)</td>
<td></td>
</tr>
<tr>
<td>Severe</td>
<td>0(100%)</td>
<td>31(8/40)</td>
<td>0(0%)</td>
<td>30(5/39%)</td>
<td>0(0%)</td>
<td>17(28/33%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>76(100%)</td>
<td>76(100%)</td>
<td>76(100%)</td>
<td>76(100%)</td>
<td>60(100%)</td>
<td>60(100%)</td>
<td></td>
</tr>
<tr>
<td>Mean and Standard Deviation</td>
<td>8/0+76/0</td>
<td>41+0/49/2</td>
<td>1/14+0/706</td>
<td>2/28+0/45</td>
<td>1/63+0/48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P Value</td>
<td>0/000</td>
<td>0/000</td>
<td>0/000</td>
<td>0/000</td>
<td>0/000</td>
<td>0/000</td>
<td></td>
</tr>
</tbody>
</table>

**Table 1**

Comparison of the frequency, mean and standard deviation Intensity Dysmenorrhea before and after treatment with vitamin B1, Ibuprofen and Acupuncture
Also, in comparison of need to extra pain deliver (P=0/827) and the satisfaction rate (P=0/401) of the sample, there was no meaningful difference in two groups. In relation with complications of using medicine, in vitamin B1 using group 2 people (2/6%) were suffered from high heart beat, 3 people (3/9%) became anxious and 71 people (93/4%) didn't report any complication. But in ibuprofen using groups 8 people (10/15%) suffered from digestion complications and 2 people (2/6%) got nervous complications and 66 people (86/8%) did not report any complications. Then there was no meaningful difference.

**Discussion**

The study done is comparing the medical effect of vitamin B1 and acupuncture in curing the pain tension of basic dysmenorrhea in girls. Because of almost serious digestive problems of non-steroid anti-anflamator medicines which cause 80-90% improvement of dysmenorrhea by prostaglandin control, these medicines had less acceptability even with having a high efficiency and being in the first level of treatment so far. But there were various studies to get less trouble making medicine with the similar effect to cure this disease. Using different types of sports, sauna, hot water bag, giving up smoking and alcohol and also using food complements like calcium, sodium and using nail medicine which has done recently, there has been the signs of dysmenorrhea improvement. In relationship with vitamin B1 effect on menstruation pain tension after and before using vitamin B1, there was a meaningful difference, as the average percentage of treatment was 49% during 2 months. In the study done by Jafari in year 2003, the effect of vitamin B1 on dysmenorrhea was evaluated in which the progress percentage was 20% in the first month, 55/6% in the second month and 84/4% in the third month but there was no comparison with Ibuprofen in this study.18

Also, the study of Gekhal (et al) showed the complete improve of people in the first month 18/8% in the second month 57/6% and in the third month 87%19 which is in balance with the presented study. In 1996, there was a similar study in India. In this research, vitamin B1 was prescribed to 556 women who suffered from primary dysmenorrhea. In 87% of them, the progress was observed but there was no medical comparison with this study19. Also in 1999, vitamin B1 was given to 106 women suffered from basic dysmenorrhea as 100 mg daily for 6 month constantly and there was 80% improvement observed20. In comparison with the pain tension before and after using Ibuprofen, the average percentage of complete improvement was 18% during 2 treatment months. In the studies done by sekhavat (et all), the improvement percentage was reported 88/4% after using Ibuprofen21.

In this study the progress percentage was more than the presented study in the way of medicine use in sekhavat study as the Ibuprofen. The reason is the difference in the way of medicine use in sekhavat study as the Ibuprofen pill was used 3 times a day for 5 days in a month (3 days before and 2 days after starting the menstruation but there was the similar results reported with the other study in which the medicine using method was the same as the presented study. In 2000, wilson claimed that vitamin B1 was effective in basic dysmenorrhea cure, although the percentage of improvement was not mentioned in this study22. There was a study done by ziyai (et al) in 2001 on comparison of vitamin E and B1 effect on basic dysmenorrheal they compared using 500mg vitamin E daily for 5 days (3 days before and 2 day after starting menstruation) with using 100 mg vit B1 dialy for 15 days before menstruation and 82% progress was observed by using vit B1 and 51%by using vitamin E23.

In 2002, the medical effect of vit B1 was compared with Acupuncture that vit B1 caused about 79% progress24. In the other study done by Bostani, vitamin E effect in declining. Pain caused by dysmenorrhea was less than pressure medicine effect, in comparison and two groups showed a meaningful difference after interfering25.

In another research done by sohrabi (et al) the average of pain tension after interference did not show a meaningful difference in first and second month in two groups of pressure medicine and Ibuprofen26.

To compare the results of present study with the other studies, it can be said that the treatment effect of vit B1 is similar to ibuprofen. Although the vit B1 trouble is almost zero , the medical troubles of ibuprofen is very high and sometimes causes cutting the medicine usage by the same improvement effect can be caught by using the medicine low dosage and less time (Luteal phases). In related to comparing the pain tension after interfering in 3 groups, this difference was meaningful after treatment (P=0/000) so it can be resulted that the pain tension was equal in vit B1 group in comparison with Ibuprofen and this decline was less in the group under the treatment of acupuncture (P=0/003).

In other study had this result according to the research they did that all three cure methods of Acupuncture, Placebo and ibuprofen are effective in declining the basic dysmenorrhea medicine and Ibuprofen were so similar and significantly more than Placebo27.

In Rakhshayi study in 2004, with the title of comparing the medical effect of vitamin E and ibuprofen it was reported that this difference was not meaningful in the first month (P=0/124) and in the second month (P=0/703) and the reason of difference with the present study result is the comparison of Ibuprofen with body relaxing during 2 months study of Rakhshayi28.

To compare the present study result with the other studies, it can be said that the medical effect of vit B1 trouble is rare and
almost zero but the medical troubles of Ibuprofen is very high and sometimes causes to cut the medicine usage by the patient.

Also, this study shows that the same progress can be achieved by using less dose of medicine and less time (half cycle). Considering the present results, acupuncture can be presented as a non-medical, cheap, simple, effective and without any side effects treatment and the most important of all this is in every place and every time which can be substituted by pain reliever medicines.

**Conclusion**

Acupuncture and vitamin B1 are less complication and effective with high acceptability and stand ability which can be substituted instead of high complication medicines of non-steroid anti-inflammator to cure this disease for the people suffered from it. Also, it is recommended to have later researches by prescribing different amount of vitamin and its prescription during the cycle.

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