



## Comparison of the effect of Vitamin B<sub>1</sub> and Acupuncture on Treatment of Primary Dysmenorrhea

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### 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 B<sub>1</sub> 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 B<sub>1</sub>, acupuncture, pain tension.

### Introduction

One of the most common problems in fertility period is pelvis pain. Dysmenorrhea is the most common cyclic pain of pelvis<sup>1</sup> and it means the pain in menstruation period<sup>2</sup>. Dysmenorrhea is divided in to two groups of primary and secondary. The primary Dysmenorrhea means painful menstruation in lack of pelvis diseases such as<sup>3</sup>. 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 life<sup>4</sup>. As a matter of fact, in 10 percent it can stop the person's work and activity and make financial or social harms<sup>5</sup>. The pain mechanism in primary Dysmenorrhea would be related to prostaglandins which causes the uterus contraction<sup>2</sup>. 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 resources<sup>6</sup>.

**There are Different Suggestions to cure the Primary Dysmenorrhea:** The pain relievers like aspirin and acetaminophen<sup>7,8</sup>, non-steroid anti- inflammation medicines like ibuprofen, naproxen and mephenamic acid<sup>9,10</sup>, contraception pills and dilatation cervix in serious levels<sup>8,1</sup>, using progesterone IUD<sup>11</sup> Exercise and keeping back and stomach warm and warm bag<sup>12</sup> electrical stimulation of waist, stomach and back nerves,

using food compliments like calcium, vitamin E, vitamin B<sub>1</sub> and vitamin C and abstaining of having salt and smoking<sup>13</sup>. Ibuprofen is one of non-steroid anti-inflammatory medicines which has more efficiency and less side effects in comparison with the other<sup>6</sup> kinds the decline in forming the prostaglandin premarkers and trompoxsan from arashidonic by preventing of prostaglandin making and control of cyclooxygenase making. The side effect of this medicine include digestive and Kinney complications<sup>14</sup>.

This vitamin is the first discovered vitamin which is solvable 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<sup>5</sup> but its long usage can cause headache and sometimes heart beat<sup>14</sup>. 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 urine<sup>15</sup>. Acupuncture is actually using the touching technique to balance the human body energy flow<sup>16</sup>. 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, digestional problems, weakness, blood pressure decline, making insensible during the pelvis surgeries and painless labor<sup>17</sup>. The aim of this study is to study the vitamin B<sub>1</sub> effect and acupuncture on painful cramps of menstruation and its comparing with Ibuprofen pill in order to substitute vitamin B<sub>1</sub> 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-inflammatory medicine, using the medicine and non- medicine treatment for pain relieving , special kinds of diet (water treatment, vegetation diet, 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<sup>13</sup> existing the serious mental tensions during the study<sup>15</sup>.

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 multi-dimensional 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 B<sub>1</sub> group (20/14±1/1) , in ibuprofen group (14/7±1/2) and in acupuncture (14/76 ± 0/89) with (P=0/091) , the average of bleeding duration before interfering in vitamin B<sub>1</sub> 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 B<sub>1</sub> group (2/4± 0/49) in ibuprofen group (2/3±949) and in acupuncture (2/28±0/45) with (p=9276)

According to pain tension before and after interfering there is statistical meaningful difference in vitamin B<sub>1</sub> 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 -1**  
**Comparison of the frequency, mean and standard deviation Intensity Dysmenorrhea before and after treatment with vitamin B1, Ibuprofen and Acupuncture**

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

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 B<sub>1</sub> 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 B<sub>1</sub> and acupuncture in curing the pain tension of basic dysmenorrhea in girls. Because of almost serious digestive problems of non-steroid anti-anfolamator 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 B<sub>1</sub> effect on menstruation pain tension after and before using vitamin B<sub>1</sub>, 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 B<sub>1</sub> 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<sup>18</sup>.

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%<sup>19</sup> which is in balance with the presented study. In 1996, there was a similar study in India. In this research, vitamin B<sub>1</sub> 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 study<sup>19</sup>. Also in 1999, vitamin B<sub>1</sub> was given to 106 women suffered from basic dysmenorrhea as 100 mg daily for 6 month constantly and there was 80% improvement observed<sup>20</sup>. 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 Ibuprofen<sup>21</sup>.

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, wilkson claimed that vitamin B<sub>1</sub> was effective in basic dysmenorrhea cure, although the percentage of improvement was not mentioned in this study<sup>22</sup>. There was a study done by ziyai (et al) in 2001 on comparison of vitamin E and B<sub>1</sub> 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 B<sub>1</sub>dialy for 15 days before menstruation and 82% progress was observed by using vit B<sub>1</sub> and 51% by using vitamin E<sup>23</sup>.

In 2002, the medical effect of vi B<sub>1</sub> was compared with Acupuncture that vit B<sub>1</sub> caused about 79% progress<sup>24</sup>. In the other study done by Bostani, vitamin E effect in declining. Pain caused by dysmenorrheal was less than pressure medicine effect, in comparison and two groups showed a meaningful difference after interfering<sup>25</sup>.

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 Ibuprofen<sup>26</sup>.

To compare the results of present study with the other studies, it can be said that the treatment effect of vit B<sub>1</sub> is similar to ibuprofen. Although the vit B<sub>1</sub> 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 B<sub>1</sub> group in comparison with Ibuprofen and this decline was less in the group under the treatment of acupuncture ( $P=0/008$ ).

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 Placebo<sup>24</sup>.

In Rakhshayi study in 2004, with the title of comparing the pain tension after interfering in 2 groups of body relaxing 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 Rakhshayi<sup>27</sup>.

To compare the present study result with the other studies, it can be said that the medical effect of vit B<sub>1</sub> 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 B<sub>1</sub> are less complication and effective with high acceptability and stand ability which can be substituted instead of high complication medicines of non-steroid anti-anflamators 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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