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The Effectiveness of SINTA RAMA (Singing Bowl Chakra Massage Therapy) in Alleviating Premenstrual Syndrome in Adolescents

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ABSTRACT

Background: 65% of female adolescents experience premenstrual syndrome. Premenstrual syndrome is a syndrome or collection of symptoms (somatic and affective) that occur in women 2-14 days before menstruation. Management to relieve premenstrual syndrome can be done pharmacologically and non-pharmacologically. Non-pharmacological methods that can be provided with complementary services that can stimulate the production of endorphin hormones. Endorphin hormones have a very large role in improving physical and emotional conditions in women and one technique that can be done to stimulate their production is singing bowls.
Objectives: The purpose of this study was to determine the effectiveness of SINTA RAMA (Singing Bowl Chakra Massage Therapy) in Alleviating Premenstrual Syndrome in Adolescent Girls.
Methods: This study used a quasi-experiment with a Non-Equivalent Control Group Design, with purposive sampling involving 64 female adolescents, 32 as the intervention group and 32 as the control group who met the inclusion criteria.
Result: This study found that the average score before the intervention was 25.79 in the intervention group and 20.06 in the control group. In the intervention group, there was a significant difference before and after the intervention with a p value of 0.014 (from an average before 25.79 to 18.34), while the results of the posttest difference test of the intervention and control groups obtained a p value of 0.000 (with an average score of 18.34 in the intervention group and 21.44 in the control group). Effect sizes indicated a moderate-to-large difference at pretest (d = 0.69) and a moderate difference at posttest (d = -0.51), suggesting the intervention meaningfully influenced the outcomes.
Conclusions: Singing Bowl Chakra Massage Therapy (SINTA RAMA) is effective in reducing Premenstrual Syndrome in Adolescents.

Keywords: ***Singing Bowl Chakra Therapy Massage, Pre Menstrual Syndrome, Teenagers***

INTRODUCTION

Adolescence is a unique transition phase of life from childhood to adulthood that occurs between the ages of 10 and 19 years and is an important time to lay the foundations for good health. Adolescents experience rapid physical, cognitive, and psychosocial growth and development [1]. In female adolescents, reproductive organ maturity as a form of growth and development is marked by the onset of menstruation (menarche)[2]. Disorders that occur during menstruation are important problems to pay attention to because they affect the reproductive health of women who experience them. In primary health care facilities, menstrual disorders are a fairly common problem [3]. According to the World Health Organization, the prevalence of dysmenorrhea among nonpregnant women varies widely, from 8.8% in hospitalized women aged 19–41 years to 94% in adolescents aged 10–20 years, based on a global sample of 124,259 women [4]. Approximately 65% of female adolescents in Indonesia experience premenstrual syndrome [5]. Premenstrual syndrome is a collection of physical and emotional symptoms that occur in women 2–14 days before menstruation [5]. The symptoms experienced include somatic and affective symptoms. The most common symptoms were irritability (91.21%), breast tenderness (77.62%), depression (68.31%), abdominal bloating (63.70%) and angry outbursts (59.62%) [6].

Premenstrual syndrome has a high level of morbidity. Severe premenstrual syndrome can interfere with aspects of life both at home, school and the environment. In Indonesia, 12% of adolescents cannot go to school and 32% avoid social activities [5].

Management to relieve premenstrual syndrome can be done pharmacologically and non-pharmacologically. Pharmacologically, what can be given is drug therapy to reduce the symptoms of premenstrual syndrome, which can be in the form of symptomatic analgesics, Chasteberry extract, antidepressants and combined oral contraceptive pills [7]. While non-pharmacological methods that can be given are cognitive behavioral therapy and changing lifestyle to a healthy lifestyle by avoiding things that can trigger stress, improving sleep patterns, consuming nutritious and healthy foods, and exercising. In a study, doing regular and vigorous exercise for at least 4-6 weeks reduced premenstrual syndrome [7]. Exercise can release several neurotransmitters such as serotonin, dopamine, noradrenergic, and endorphin hormones [8]. Endorphin hormones play a very large role in improving physical and emotional conditions in women [9]. Therapy that can also be done to stimulate the release of dopamine and endorphins so that it can reduce feelings of tension, anxiety and depression is the singing bowl [10]. Singing bowls are one of the Tibetan cultures that are often used for meditation by rubbing or hitting the edge of a bowl made of a combination of copper and tin with a wooden mallet wrapped in a layer of cloth made of leather [11]. Therapy with Singing Bowl Cakra Massage combines elements of meditation, music therapy, vibration therapy which are effective in reducing symptoms of diseases related to a person's physical and psychological [11]. Listening to and feeling the sound and vibration of a singing bowl with low-frequency vibrations in sound compression can cause a deep relaxation response and positively affect mood and well-being [10]. Singing bowls have a positive effect on a person's psychology, including reducing anxiety, depression, fatigue, tension, anger, and confusion, based on several research results that have been carried out, however the recorded evidence is still limited. In addition, they also have a positive effect on physical health, namely affecting blood pressure, heart rate, and increasing oxygen saturation [11]. The purpose of this study

was to determine the effectiveness of SINTA RAMA (Singing Bowl Chakra Massage Therapy) in Alleviating Premenstrual Syndrome in Adolescent Girls

METHODS

The type of research used in this study is quasi-experimental with a Non-Equivalent Control Group Design. This research design involves two groups, namely the treatment group given SINTA RAMA (Singing Bowl Therapy Cakra Massage), while the control group is given counseling on balanced nutrition, activity and good rest patterns for adolescents. The sampling technique used is purposive sampling involving 64 female adolescents, who are divided into 2 groups, namely 32 people in the intervention group and 32 people in the control group. Inclusion criteria: Female adolescents who are willing to be respondents/sign the consent, regular menstrual cycles every month, female adolescents who have experienced menstruation for at least the last three months and feel symptoms of premenstrual syndrome in each menstrual period. Exclusion criteria: female adolescents who experience tumors or malignancies in the reproductive organs. Drop out criteria: Respondents who are not willing to follow the procedure until the end. In the treatment group, researchers provided singing bowl Cakra Massage therapy by placing and hitting the singing bowl on the seven chakras (*muladara, svadistana, manipura, anahata, visudhi, ajna, and sahasrara chakras*) alternately. At each chakra point, the singing bowl was hit 4 times, this intervention was given once a week for 2 weeks before menstruation (in one menstrual cycle). One intervention will take approximately 15 minutes. interventions are carried out by researchers who have been certified as therapists. In the control group, counseling was given about balanced nutrition, activity and good rest patterns for adolescents once a week for 2 weeks.

RESULT

1) Characteristics of Research Subjects

Table 1. Characteristics of Research Subjects

Characteristics	**Mean±SD**	**Intervention group**		**Mean±SD**	**Control group**		**p *value***
		f	**%**		**f**	**%**	
Age of menarche	11,78±0,870			11,75±0,718			0,918*
10-11		11	34,4		11	34,4	
12-13		20	62,5		21	65,6	
14-15		1	3,1		0	0	
Total		**32**	**100**		**32**	**100**	
Menstrual Regularity	1,41±0,499			1,53±0,507			0,320*
Regular		19	59,4		15	46,9	
Irregular		13	40,6		17	53,1	
Total		**32**	**100**		**32**	**100**	

Duration of menstruation	6,06±1,813			5,28±1,670		0,173*
Normal		31	96,9	31	96,9	
Abnormal		1	3,1	1	3,1	
Total		**32**	**100**	**32**	**100**	

*Mann Whitney

Based on Table 1 on the characteristics of the respondents above, in the characteristics of the age of first menstruation (menarche) it can be seen that most respondents in both the intervention and control groups experienced their first menstruation at the age of 12-13 years, namely 62.5% with an average age of 11.78 years in the intervention group and 65.6% in the control group with an average age of menstruation of 11.75. Based on the characteristics of menstrual regularity, most respondents in the intervention group had regular menstruation of 59.4%, while in the control group most were irregular, namely 53.1%. Based on the characteristics of menstrual duration, both in the intervention and treatment groups had a normal menstrual duration of 3-7 days of 96.9% with an average menstrual duration of 6 days. In Table 1, it can be seen that there was no significant difference in either the intervention or control groups based on the characteristics of menarche age, menstrual regularity, and menstrual duration as seen from the p value> 0.05.

2) Differences in Premenstrual Syndrome Before Intervention in the Intervention and Control Groups

Table 2. Premenstrual Syndrome Before Intervention in the Intervention and Control Groups

Premenstrual Syndrome	**Mean±SD**	**Intervention group**		**Mean**	**Mean±SD**		**p *value***
		f	**%**		**f**	**%**	
Not Experiencing	25,97±10,563			20,06±5,978	1	3,1	0,214*
Mild symptoms		9	28,1		11	34,4	
Moderate symptoms		12	37,5		18	56,3	
Severe symptoms		11	34,4		2	6,3	
Total		**32**	**100**		**32**	**100**	

**independent sample t test*

In table 2, it can be seen that most respondents in both the respondent and control groups, most experienced moderate symptoms, namely 37.5% (intervention group) and 56.3% (control group), even in the intervention group, 34.4% experienced severe symptoms. And after a different test was carried out with an independent t-test because the results of the data normality test showed that the data was normally distributed, a p value of 0.214 was obtained.

3) Differences in Premenstrual Syndrome Before and After Intervention in the Intervention Group

Table 3. Premenstrual Syndrome Before and After Intervention in the Intervention Group

Premenstrual Syndrome	Mean	Before		Mean	Ater		*p value*
		f	%		f	%	
Not Experiencing	25,97±10,563			18,34±5,75	3	9,4	0,000*
Mild symptoms		9	28,1		14	43,8	
Moderate symptoms		12	37,5		14	43,8	
Severe symptoms		11	34,4		1	3,1	
Total		**32**	**100**		**32**	**100**	

*Wilcoxon

Table 3 shows that most of the respondents in the intervention group experienced moderate premenstrual syndrome symptoms of 37.5% or 12 people, even 34.4% experienced severe symptoms (11 people), with an average score of 25.97. After being given the intervention, there was a decrease in the average score to 18.34, with most respondents experiencing mild and moderate symptoms in the same proportion of 43.8%. A bivariate test was conducted to test the difference in premenstrual syndrome in the intervention group before and after being given the intervention in the form of the Singing Bowl Chakra Massage Therapy with the Wilcoxon test because after the data normality test was conducted, the data was not normally distributed, the p value was obtained 0.000.

4) Differences in Premenstrual Syndrome Before and After Intervention in the Control Group

Table 4. Differences in Premenstrual Syndrome Before and After Intervention in the Control Group

Premenstrual Syndrome	Mean	Before		Mean	Ater		*p value*
		f	%		f	%	
Not Experiencing	20,06±5,978	1	3,1	21,44±6,339	1	3,1	0,040*
Mild symptoms		11	34,4		7	21,9	
Moderate symptoms		18	56,3		20	62,5	
Severe symptoms		2	6,3		4	12,5	
Total		**32**	**100**		**32**	**100**	

* Wilcoxon

Based on the results of this study listed in table 4, it was found that most respondents experienced moderate premenstrual syndrome symptoms of 56.3% with an average score of 20.06 and after the intervention given in the form of routine

care, namely counseling on balanced nutrition, good activity and rest for adolescents, most respondents still experienced moderate premenstrual syndrome symptoms of 56.3% with an average score of 21.44. A bivariate test was conducted to test the difference in premenstrual syndrome in the control group before and after being given an intervention in the form of routine care, namely counseling on balanced nutrition, good activity and rest for adolescents with the Wilcoxon test because after the data normality test was carried out, the data was not normally distributed, the p value was obtained 0.040.

5) Differences in Premenstrual Syndrome After Intervention in the Intervention and Control Groups

Table 5. Premenstrual Syndrome After Intervention in the Intervention and Control Groups

Premenstrual Syndrome	Mean	Intervention group		Mean	Control group		*p value*
		f	%		f	%	
Not Experiencing	18,34±5,756	3	9,4	21,44±6,339	1	3,1	0,014*
Mild symptoms		14	43,8		7	21,9	
Moderate symptoms		14	43,8		20	62,5	
Severe symptoms		1	3,1		4	12,5	
Total		**32**	**100**		**32**	**100**	

*Mann Whitney

Based on the results of this study as stated in Table 5, the results after the intervention showed that most respondents in both the intervention and control groups experienced moderate premenstrual syndrome symptoms, namely 43.8% in the intervention group and 62.5% in the control group, but there was a difference in the average score of premenstrual syndrome in the intervention and control groups, where the intervention group had a lower average score compared to the control group, namely 18.34 (intervention group) and 21.44 (control group). And after a different test was carried out with the Mann Whitney test because the results of the data normality test showed that the data was not normally distributed, a p value of 0.014 was obtained.

DISCUSSION

In the results of this study, most of the respondents in both the intervention and control groups were mostly in the age range of 12-13 years, namely 65.6% in the intervention group and 62.5% in the control group. This is the same as the results of previous studies [12], which found that 60.6% of adolescents experienced menarche in the age range of 12-13 years. Menarche is the first menstruation experienced by adolescent girls or the first blood that comes out of the vagina in adolescent girls when they are in healthy conditions, not caused by trauma/injury or the childbirth process.

The normal age range for adolescent girls to experience premenstrual syndrome is in the age range of 10-16 years with an average of first menstruation occurring at the age of

12 years [13]. The age factor of menarche is one of the factors that influences the incidence of premenstrual syndrome [12,14]. Several research results have found that the younger the age of menarche (less than 12 years), the greater the risk of experiencing premenstrual syndrome. This is related to the possibility that the maturation of the reproductive organs, especially the ovaries, affects the function of the reproductive organs and the psychological maturity of adolescents who experience it [12,15].

This study found that most respondents in the intervention group regularly experienced menstruation, namely 59.4%, and the control group mostly experienced irregular menstruation (53.1%). However, the results of the Mann Whitney difference test showed that there was no significant difference between the intervention group and the control group. The results of this study are in line with the results of previous studies which found that 59% of adolescents experienced regular menstrual cycles [16]. Menstrual regularity is defined by the variation in cycle length from one cycle to the next. The average length of the menstrual cycle is 28 days [17]. However, the cycle length can range from 21 days to around 35 days and is still normal.

The length of a cycle is defined as the number of days between menstrual periods, counted from the first day of one period to the day before the next period begins – the average is 28 days across the adult population [18]. In adolescents, menstrual cycle irregularities are a common condition that occurs naturally. In a study conducted in Australia, almost 25% of women have menstrual disorders that significantly affect daily life and have an impact on productivity at school. Regularity in the menstrual cycle is influenced by several factors including lifestyle, hormonal disorders, nutritional status, can also be influenced by social and environmental factors, relationships with coworkers, family, friends, school and psychological factors including stress, depression, anxiety, and age of menarche [17,19].

Changes in hormone levels during the menstrual cycle may play a role in the occurrence of premenstrual syndrome. As far as the author's online search has been carried out, there have been no studies explaining the relationship between menstrual cycle regularity and the incidence of premenstrual syndrome. The duration of menstruation in this study was found to be mostly in the normal menstrual duration category in both the intervention and control groups, namely 96.9%, which was in the range of 3-7 days. Only 1 person in both the intervention and control groups had an abnormal menstrual duration, namely more than 7 days. The results of this study are in line with the results of previous studies which found that 83% of adolescents experience menstruation for less than or equal to 6 days [16]. Although there are many theories about the causes of Premenstrual Syndrome, none of the causes are fully responsible.

The results of this study are in accordance with the results of previous studies which found that most experienced moderate symptoms, namely 37% [15]. The results of other studies also obtained results in line with around 30-40% of women reported symptoms of premenstrual syndrome that required treatment [7]. Premenstrual syndrome (PMS) consists of some symptoms: physical, cognitive, affective or behavioral that occur cyclically during the luteal phase of the menstrual cycle and disappear quickly on or within a few days after the start of menstruation. Premenstrual disorders consist of psychiatric or somatic symptoms that develop in the luteal phase of the menstrual cycle, affect the patient's normal daily functioning, and resolve soon after menstruation. The luteal phase begins after ovulation and ends with the

onset of menstruation [20]. This premenstrual syndrome generally occurs in women who are more sensitive to hormones in the menstrual cycle.

Premenstrual syndrome can be influenced by several factors including: age (especially aged 30-45 years), family income, family history of Premenstrual Syndrome [15,21] age of menarche, stress, dietary factors (foods high in sugar, salt, coffee, tea, chocolate, carbonated drinks, dairy products, processed foods can worsen the premenstrual syndrome experienced), lack of micronutrients such as vitamin B (especially B6), vitamin E, vitamin C, magnesium, iron, zinc, manganese, linoleic acid, smoking and drinking habits, lack of physical activity [14,22,23]. Meanwhile, based on psychological predictors related to the occurrence of premenstrual syndrome, including alexithymia, social support (the risk of premenstrual syndrome increases 2.7 times higher in women who lack social support), neurotic character (the risk of experiencing premenstrual syndrome increases 1.3 times), and anxiety (increases 1.2 times) [24,25]. Based on the results of the studies above, it can be concluded that the management that can be done to reduce the symptoms of premenstrual syndrome must be able to provide both physical and psychological impacts on adolescents who experience it.

A singing bowl is a type of bell made of quartz crystal, brass or alloy metal that produces a soothing tone when struck with a leather or wooden hammer. Singing bowls are known as Tibetan or Himalayan singing bowls which were originally widely used for religious activities in Tibet and Nepal [15,26]. Based on the results of an online search, the author did not find any research examining the provision of singing bowl therapy for premenstrual syndrome. Several studies have shown that the sound from a singing bowl can produce physiological and psychological responses, reduce negative effects and increase positive affects [27], have an effect on reducing brain waves towards a more attentive and meditative consciousness, increase feelings of integration, more balanced and more enthusiastic [28], the vibroacoustic effect of the singing bowl improves emotional states, reduces depression, and increases parasympathetic activity (autonomic nervous system) [29]. The provision of singing bowl therapy, chakra massage therapy, which is carried out not only utilizes the sound produced by the singing bowl, but also provides vibrations that provide a gentle massage effect on the seven chakra points. The sound waves and vibrations produced by the bowls are believed to interact with the body's energy centers, commonly known as chakras, which are considered vital points in the subtle energy system. Chakras are believed to be connected to various aspects of physical, emotional, and spiritual well-being. By using specific techniques and playing the bowls near or on the body, the resonating sounds and gentle vibrations are thought to influence the flow of energy within the chakras, promoting balance and harmony. Furthermore, the calming effects of the sounds and vibrations can induce a state of deep relaxation, reducing stress and tension in the body. This relaxed state supports the healing process, as it allows the body's natural healing mechanisms to function more effectively. Overall, the sound healing technique with metal bowls combines the power of sound, vibration, and energy to facilitate the restoration of harmony and well-being. It is believed to have a profound impact on the body, mind, and spirit, encouraging self-healing and supporting holistic health. During a singing bowl sound meditation session, individuals typically assume a comfortable position and focus on their breathing while listening to the sounds of the singing bowls. As the sounds and vibrations of the singing bowls fill the room, the mind and body gradually relax, and the practitioner can enter a meditative state [27].

Premenstrual syndrome (PMS) is a condition where a number of symptoms occur routinely and are related to the menstrual cycle, symptoms usually appear 7-10 days before menstruation and end when menstruation begins. Symptoms that can be found in premenstrual syndrome are physical changes, mood swings, and mental changes. The symptoms that arise in each individual are different, but the symptoms that often occur are fatigue, irritability, abdominal swelling, chest pain, unstable moods between alternating sadness and anger, and depression. Adolescent knowledge about Premenstrual syndrome and prevention efforts are stimuli that are expected to shape better adolescent behavior. By recognizing the symptoms of menstrual syndrome, it is hoped that adolescents will try to overcome them properly rather than letting them be. Lack of knowledge, experience, and also lack of information possessed by women, especially adolescent girls, about premenstrual syndrome can worsen the symptoms that arise. Sometimes adolescent girls try to overcome premenstrual syndrome and are experimental without sufficient and correct knowledge [30]. The results of this study are in line with the results of previous studies which found that education cannot significantly reduce premenstrual dysphoric disorder (PMDD) [31]. Premenstrual dysphoric disorder (PMDD) is a stage of premenstrual syndrome that is at a severe level. The results of the study [32], obtained different results, namely health education can reduce the signs, symptoms and severity of premenstrual syndrome. The difference in the results of this study can be influenced by several factors, including the condition of adolescents when receiving counseling and the regularity of adolescents in implementing the things recommended during counseling, namely to implement balanced nutrition, pay attention to and practice optimal physical activity and rest for adolescents. This is reinforced by the results of previous studies that examined the nutritional status of adolescents and physical activity which found that 53% of female adolescents had poor nutritional status, and 63.6% lacked physical activity [33]. The results of this study are supported by other studies which found that 98.9% of adolescents often consume fast food, with a frequency of more than 3x/week with a greater amount [34].

In Indonesia, premenstrual syndrome is a common menstrual disorder among high school students (75.8%) (5). In the United States, the incidence is greater, namely around 70-90%. This difference is influenced by some factors, such as: dietary factors and culture. Premenstrual syndrome is defined as a disorder of ovarian function related to a woman's menstrual cycle. This syndrome affects women's physical and emotional conditions, and sometimes interferes with daily activities due to hormonal fluctuations. This syndrome occurs one to two weeks before menstruation and then subsides when menstruation begins [32].

Management to reduce premenstrual syndrome can be done through pharmacotherapy and alternative therapy. Several studies of medical treatment (pharmacotherapy) that have been proven to show significant improvements in premenstrual syndrome symptoms include drosperinone and ethinylestradiol [35], while to reduce psychological symptoms of premenstrual syndrome include Serotonergic Antidepressants, Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs), oral contraceptives and calcium supplementation [20].

Alternative therapies that have been proven to reduce premenstrual syndrome include Chinese herbal medicine, acupuncture, Cognitive Behavior Therapy [20], meditation [36,37], yoga, relaxation music [38]. Singing bowls are bowl-shaped percussion instruments used in meditation programs, water and food containers, to make offerings to gods and spirits,

religious ceremonies and healing. The beats produced by the singing bowl activate brain waves produced by the brain when a person is meditating [38]. Singing bowl therapy has a vibroacoustic effect on tissues, organs, and the human body in general (including psycho-emotional states) and is carried out through contact or non-contact methods using singing bowls. The effect of the singing bowl provides good benefits for teenagers who experience premenstrual syndrome who often experience physical and psychological disorders, such as: reduce stress, emotional swings, and muscle tension. Singing bowls have certain physical characteristics that have an impact on the physical body, central and peripheral nervous systems, tissues and organs, and organ systems. Singing bowl chakra massage therapy is one of the applications of singing bowls whose procedure uses a square singing bowl directly on the chakra points (except for the anahata chakra, visudh chakra and ajna chakra).

Singing bowls have several aspects that have an impact on people who receive therapy [39]. 1. Physical (mechanical) aspects. Singing bowls have certain physical properties, namely when producing sound by hitting the bowl with a hammer, the walls of the bowl begin to vibrate and thus have a mechanical effect on the surrounding environment when in contact with the body, the bowl has a physical effect on the tissues and body fluids. This physical effect is like giving a massage. Massage is an active therapy method, the essence of which is to cause a number of physical stimuli on the surface of the patient's naked body by applying various techniques carried out by the hands of the masseur or with the help of special massage tools. The vibration effect of the singing bowl has a strong neuro-reflexological effect, causing an increase and sometimes restoration of lost reflexes, a pronounced analgesic and even anesthetic effect, improves the contractile function of muscles, improves tissue trophism, activates regenerative processes, significantly reduces the time of formation of thickened skin, depending on the frequency, strength and amplitude of vibrations, vibrations have a great influence on the cardiovascular system, causing rapid expansion or constriction of blood vessels.

2. Musical Aspect. Singing bowl is one of the music therapies which is one of the complementary and alternative methods. Music therapy can be used as an anti-stress therapy if there is an adaptation disorder caused by emotional stress that is psychosomatic. Singing bowl therapy combines the influence of sound waves and mechanical vibrations on the human body which can produce a relaxation effect like the method used in a spa.
3. Psychosomatic Aspect. In addition to providing physical effects, singing bowl therapy can have an effect on psychosomatic problems. Psychosomatic is a somatic (body) disease that is influenced by psychological factors. Singing bowl therapy can touch the physical and psychological body protectors. So that it can release excessive and unwanted tension in the body. Singing bowl has a strong anti-stress and relaxation effect.
4. Brain biorhythm. Singing bowl therapy can affect a person, stimulating their brain activity in certain biorhythms. This assumption is based on the theory of the effects of binaural beats on humans. Binaural beats are an important function of brain activity, an auditory illusion or imaginary musical sound perceived by the brain.
5. Resonance aspect. There is a hypothesis that each organ in the human body has a certain frequency property, meaning that it vibrates at a certain frequency. A healthy organ vibrates at a frequency different from that of an organ in a pathological condition. It can be assumed that if the frequency characteristics produced by the singing bowl are within

the range of vibration frequencies of a healthy body, then the TSB frequency will have a positive effect on the pathological organ, namely, raising unhealthy vibrations to the level of healthy vibrations. The human body, with all its diversity of structures, characteristics and functions, has common features inherent in various levels of a single integrated body function system: atomic-molecular level; molecular level; cellular level; intercellular level, tissue level; organ level; system level. The interaction between all levels is carried out through electromagnetic radiation, which has its own structural-functional characteristics and frequency response, which largely correspond to the frequencies of water and its compounds, and which therefore depend on the structure of the human body and its water-containing organs.

The results of the study from Walter N and Hinterberger T (28), obtained results regarding the subjective effects of Singing bowl massage therapy:

- 91.2% felt more integrated,
- 97.1% more balanced
- 76.5% more energetic
- 85.3% body feelings were rated as broader
- 91,2% more intense
- 91.2% more relaxed
- 88.2% more comfortable
- 82,4 % The emotional state seemed calmer
- 79,4% being happier
- 88.2% satisfied
- 82,4% safer
- 88,2% connected
- 73,5% felt clearer

Feelings like these are very much needed for young women who experience premenstrual syndrome so that complaints that arise due to premenstrual syndrome discomfort can be reduced.

CONCLUSIONS

This study found that the average score before the intervention was 25.79 in the intervention group and 20.06 in the control group. In the intervention group, there was a significant difference before and after the intervention with a p value of 0.014 (from an average before 25.79 to 18.34), while the results of the posttest difference test of the intervention and control groups obtained a p value of 0.000 (with an average score of 18.34 in the intervention group and 21.44 in the control group). Singing Bowl Chakra Massage Therapy (SINTA RAMA) is effective in reducing Premenstrual Syndrome in Adolescents.

This research can provide implications for knowledge as a reference for several non-pharmacological techniques to reduce premenstrual syndrome in adolescents.

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