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The Effects of Dysmenorrhea to Lifestyle: A Case Study on Female Students in Malaysia

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Abstract

A survey was carried out in 2017, to analyze the occurrence of dysmenorrhea among female students. A cross-sectional descriptive study was conducted on 201 female subjects, with the questionnaire contained the general information of the participants and questions related to menstruation. The survey were conducted through face-to-face and online approaches. The results indicated that the occurrence of dysmenorrhea among female students was 80 %, with majority of them had biased body constitution. The top three biased constitutions in the dysmenorrhea group were qi deficiency constitution, qi stagnation constitution and yin deficiency constitution. The main trigger factors to the occurrence of dysmenorrhea and causing the severity of dysmenorrhea were the stress and dietary biased.

Keywords

Dysmenorrhea, Menstruation, Chinese medicine constitution, Healthcare

Introduction

Dysmenorrhea is a common gynecology disorder among adult females, which brings negative impact to the females' life quality and health condition. Serious dysmenorrhea will cause restriction on certain activities and disability to carry out daily routines. Lifestyles might affect the occurrence of dysmenorrhea include the preference to cold drinks and food and lack of physical exercise (Sun, Wang, & Li, 2009). Relatively humid living environment might affect the occurrence of dysmenorrhea as well. In another way round, dysmenorrhea might change the lifestyles and habits of the affected subjects, which including the change in physical activities, eating habits, stress, and seeking for treatments (Bavil, Dolatian, Mahmoodi, & Baghban, 2016; Chen, Lin, Heitkemper, & Wu, 2006).

Around 61 - 85 % of the female students found affected by dysmenorrhea (Ibrahim et al., 2015; Seven, Güvenç, Akyüz, & Eski, 2014; Sukalingam & Ganesan, 2016; Sun et al., 2009). Despite high prevalence, the percentage of those who seek for medical advices as low. Some of

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the subjects took rest, consumption of pain-killers, heat treatments, exercises, and traditional herbs as intervention to dysmenorrhea (Cheng & Lin, 2011). The self-management methods e.g. took rest and the consumption of pain-killers were deemed to be effective to reduce the pain.

From Traditional Chinese Medicine perspective, the development of dysmenorrhea is due to imbalance of *yin* and *yang*, Qi and Blood, as well as the malfunction of the Organs (*zang fu*) (Wen ZhengYin et al. 1996). The imbalance will lead to the obstruction and conception of vessel and stasis of the uterus, which later will cause the 'pain due to obstruction' and 'pain due to lack of nourishment' (Shen Zilang 2008). The occurrence, development, symptoms, and evolution trends in gynecological menstrual pain, are closely related with the classification of constitution as well (Chong, Ser, Ooi, & Wong, 2018). The subjects with biased constitutions had higher occurrence of dysmenorrhea.

In this study, the lifestyle of the subjects with dysmenorrhea, including stress, sleeping quality, diet and eating preference were determined. The relation between the lifestyle and dysmenorrhea was explained from the perspective of Traditional Chinese Medicine.

Methodology

Subject of study

This study consists of two sections - dysmenorrhea and TCM body constitutions. This is a cross-sectional descriptive study was conducted on 201 female students from INTI International University, Malaysia. The information was acquired from both online and offline questionnaires, with prior consent from the respondents.

Determination of the lifestyle

In this study, lifestyle was probed through online and offline questionnaires. Three areas were studied, namely stress, sleep quality, and diet. A total of 201 valid respondents that fulfil the inclusion criteria was involved in this study. The inclusion criteria were the respondents should be in between 16 to 30 years old, and they should be voluntarily involve in this study.

Determination of dysmenorrhea

The Numeric Pain Rating Scale (NPRS) was used to determine the different degree of pain that felt by the respondents. It was used to transform the severity of menstrual pain to numerical number for analysis. The respondents were required to select a number (integer from 0 – 10) that best reflects the intensity of their pain as stated in Table 1. The pain indicated by this method might be varied due to the tolerance by each respondent. Thus in some part if this study, the subjects were put into two categories only- with dysmenorrhea and without dysmenorrhea, or by comparing the subjects with no pain and with severe pain.

Table 1. The relation between the numerical value to the intensity of the pain.

Number	Pain scale	Description
0	No pain	Pain free
1 – 3	Mild pain	Lower abdominal pain before, during or after menstruation, accompanied by lumbar soreness and pain. The pain is not affecting the normal daily activities, not affecting other part of the body, and doesn't need to take pain killer.
4 – 6	Moderate pain	Obvious lower abdominal pain before, during and after menstruation, accompanied with lumbar soreness and pain. The pain causes nausea and vomit. The pain affects the normal daily activities, however, it can be relieved by using pain killer.
7 – 10	Severe pain	Obvious lower abdominal pain before, during and after menstruation. The pain accompanied with lumbar soreness and pain, spontaneous sweating, extreme cold, vomiting, diarrhoea, or anus prolapse, which affects normal activities like working, studying. It cannot be relieved by pain killer.

Results and Discussion

A total of 203 respondents submitted their questionnaires. Excluding 2 invalid submission, there were a total of 201 valid responses. There are 160 female students (79.6 %) with biased constitutions, while the other 41 female students (20.4 %) with neutral constitution (Table 2). The eldest among the participants is 26 years old, while the youngest participants are 18 years old, with the average mean of 20.63 years old.

Table 2. General distribution of TCM constitutions

	No of cases (n)	Percentage (%)
Neutral constitution	41	20.4
Biased constitution	160	79.6
Total	201	100%

Stress

Menstruation pain might cause serious stress to females. The results show the subjects with low stress, moderate stress and high stress with no pain were 20.5 %, 20.3 %, and 11.1 % respectively, while the subjects with severe pain were 2.3 %, 15.5 %, and 33.3 % respectively. Stress might not be the sole contributor to the menstruation pain, but it might be one of the factors that lead to dysmenorrhea (Dehkordi, 2017; Kumar, Kala, Sushil, & Gita, 2017). The results from this study showed that the higher the level of menstruation pain experienced by a subject, the higher level of stress that the subject might suffer due to the pain (Table 3).

There are seven emotions included the happy, angry, sad, thinking, melancholy, fearful, and frighten which are caused by the physiological and psychological activities of the human body that changed by the environment. Human body is like holism and the five viscera organs are as the

center, so the emotions are related to the five viscera organs. “Emotional injury is related to five viscera organs, but it is also related to heart as we discussed deeper.”

Table 3. The relationship of different degree of stress with level of menstruation pain

Stress	No pain	Mild pain	Moderate pain	Severe pain	Total
Low	9	21	13	1	44
Moderate	30	56	39	23	148
High	1	4	1	3	9

Sleeping Quality

The study showed majority of the subjects had normal sleeping quality (Table 4). The subjects with good to normal sleeping quality and poor to insomnia with no pain were 19.9 % and 20 % respectively, while the subjects with severe pain were 12.9 % and 16.7 % respectively. Statistical analysis confirmed that menstruation pain affected sleeping quality of the subjects.

Table 4. The effect of sleeping quality to the level of menstruation pain.

Sleeping quality	No pain	Mild pain	Moderate pain	Severe pain	Total
Good to normal	34	71	44	22	171
Poor to insomnia	6	10	9	5	30

In the < Ling Shu. Ying Wei Sheng Hui> said that: “people get into sleep when yang enters and with exuberance of yin; when yang increases and yin deficiency in the morning, people wake up and starting with a new day.” <Ling Shu. Kou Wen> discussed deeper and explained: “yang deficiency with yin exuberance lead to sleeping; in the morning, yin deficiency and yang qi in exuberance, people wake up.” (Huang Di Internal Medicine Ling Shu 1963) There must have some pressure on the female students who suffered from dysmenorrhea, as it will affect their sleeping quality and lead to the disharmony of the yin and yang, caused the dysmenorrhea condition to become severe.

Diet

The results showed that majority of the subjects (94.5 %) had imbalance diet (Table 5). The percentage of subjects who were taking balance diet with dysmenorrhea was 54.5 %, while the percentage of subjects with imbalance diet was 81.6 %. The results suggested that the occurrence of dysmenorrhea might not affects the diet habits of the subjects.

Table 5. The effect of diet on the occurrence of dysmenorrhea

Diet	No pain	With menstruation pain	Total
Balance	5	6	11
Imbalance	35	155	190

The comparison between the preference of cold food and cold drinks (80.0 % experience dysmenorrhea) to warm food and warm drinks (81.3 % experience dysmenorrhea) reveals that the occurrence of dysmenorrhea might not affect the preference on the temperature of food and drinks

(Table 6). There were a high number of subjects with dysmenorrhea preferred to take spicy and sweet food (Table 7), compared to the subjects who preferred fried, sour, and salty food.

TCM believed that improper diet included the irregular diet and dietary biased. <Ling Shu. Five flavors> said that: "People did not consume foods for half day caused decreasing of qi, while for a day caused deficiency of qi." This shows that prolonged deficiency of foods causing insufficiency of nutrition and decreasing transformation of qi and blood, lead to decline of the action of viscera organs.

If consume with the foods with hot and cold biased can lead to imbalanced of yin and yang and caused illnesses. Five flavors included the sour, bitter, sweet, acrid, and salty flavors, and all have its own function, biased to any flavors can lead to disease.

Table 5. The effect of dysmenorrhea to the preference on the temperature of food and drinks

Type of food and drinks	No dysmenorrhea	Dysmenorrhea	Total
Cold food and cold drinks	10	40	50
Warm food and warm drinks	14	61	75
Mixture of warm and cold	3	21	24
No special preference	13	39	52

Table 6. The effect of dysmenorrhea to the preference on flavors of food. The subject could choose more than one type of food.

Preference on flavor	No dysmenorrhea	Dysmenorrhea
Spicy	19	73
Sweet	15	54
Fried foods	7	47
Sour	3	43
Salty	6	40

Eittah (2014) found that the occurrence of dysmenorrhea was effected by eating habits. The subjects from the group without taking breakfast had higher percentage of experiencing dysmenorrhea. The factors causing dysmenorrhea include eating cool foods and drinks during menstruation, often ingesting spicy and acrid stuffs, usually bathing with cold water and other poor living lifestyle which caused the uterine pain and spasm lead to ischemic of the uterus, unsmooth flow of the menstruation lead to pain during menstruation.

Conclusions

Dysmenorrhea in Chinese Medicine is belonged to "abdominal pain during menstruation". The causes and pathogenesis include the qi stagnation and blood stasis, wind cold and attacking by dampness, deficiency of qi and blood, deficiency of liver and kidney. The location of the disease is at uterus, thoroughfare, and conception vessels. The therapeutic method on treating dysmenorrhea is usually take the Chinese medicine based on their body constitution before

menstruation to regulate the qi and blood circulation in order to relieve the pain during menstruation. It is important in taking a good care of their menstruation among female students to improve their quality of life.

In TCM, liver can regulate qi movements and balance emotions. When individuals are under stress, it can easily disturb the liver's regulatory functions and then affects qi activities in the body and lead to qi stagnation. Most of the INTI female students are encountered with moderate and severe stress, thus they can ingest foods which can activating qi, sooth liver, relieve stagnation, resolve retention of foods, and inducing resuscitation. Prevent consuming of cold foods, and drinking coffee and tea before going to bed need to avoid. A healthy lifestyle by having a regular sleeping time is importance for them.

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