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STUDY OF DISCOMFORT DURING PERIMENOPAUSE AND THE USE OF SOY AND ITS PROCESSED PRODUCTS AS A NATURAL SOLUTION

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ABSTRAK: KAJIAN KETIDAKNYAMANAN PADA MASA PERIMENOPAUSE DAN PEMANFAATAN KEDELAI SERTA PRODUK OLAHANNYA SEBAGAI SOLUSI ALAMI

Latar Belakang: Jumlah wanita di dunia yang memasuki klimakteium diperkirakan mengalami peningkatan. Wanita menopause akan mengalami penurunan jumlah estrogen sehingga menimbulkan berbagai ketidaknyamanan. Salah satu solusi untuk mengatasi keluhan tersebut adalah TSH, tetapi memiliki kontraindikasi absolut. Oleh karena itu, perlu ada alternatif lain, yaitu dengan pemanfaatan kedelai dan produk olahannya

Tujuan: Tujuan penelitian ini adalah untuk memperoleh gambaran tentang pemanfaatan kedelai dan produk olahannya sebagai upaya mengurangi ketidaknyaman pada wanita perimenopause.

Metode: Metode penelitian ini adalah kuantitatif (deskriprif). Sampel yang digunakan adalah semua wanita yang memasuki masa perimenopause di Kelurahan Jempong Baru sebanyak 123 orang. Data dianalisis secara univariat.

Hasil: Hasil penelitian menunjukkan sebagian besar (80,5%) wanita perimenopause tidak memanfaatkan kedelai sebagai upaya mengurangi ketidaknyamanan pada masa perimenopause dan mayoritas responden (39,1%) menyukai biskuit selama masa perimenopause

Kesimpulan: Kesimpulan dalam penelitian ini adalah kebanyakan wanita perimenopause tidak menggunakan kedelai dan produk olahannya sebagai tata laksana keluhan masa perimenopause.

Saran: Disarankan kepada wanita yang memasuki usia perimenopause untuk mengonsumsi kedelai dan produk olahannya seperti susu kedelai, tahu, dan tempe sebagai upaya mengurangi ketidaknyamanan pada masa perimenopause.

Kata Kunci : Kedelai, Ketidaknyamanan, Perimenopause

ABSTRACT

Background: The number of women in the world entering the climax is expected to increase. Menopausal women will experience a decrease in the amount of estrogen, causing various discomforts. One solution to overcome these complaints is TSH, but it has absolute contraindications. Therefore, there needs to be another alternative, namely the use of soybeans and their processed products.

Purpose: The purpose of this study was to obtain an overview of the use of soy and its processed products as an effort to reduce discomfort in perimenopausal women

Methods: The sample used was all women who entered the perimenopause period in Jempong Baru Village as many as 123 people. Data were analyzed univariately.

Results: The results showed that most (80.5%) perimenopausal women did not use soy as an effort to reduce discomfort during perimenopause and the majority of respondents (39.1%) liked biscuits during perimenopause.

Conclusion: The conclusion in this study is that most perimenopausal women do not use soy and its processed products as a treatment for perimenopausal complaints.

Suggestions: It is recommended to women who enter the age of perimenopause to consume soy and its processed products such as soy milk, tofu, and tempeh as an effort to reduce discomfort during perimenopause.

Keywords: Soy, Discomfort, Perimenopause

INTRODUCTION

According to data from the World Health Organization (WHO), the number of women entering the climacteric phase is estimated to increase to more than one billion by 2030. In Indonesia, the number of women entering this phase each year reaches 5.3 million out of a total female population of 118,010,413. Data from the Indonesian Demographic and Health Survey (IDHS) shows that 16.1% of women aged 30-49 experience menopause. The proportion of women aged 30-49 who experience menopause increases with age, from 10 percent among women aged 30-34, to 17 percent among women aged 44-45, and 43 percent among women aged 48-49 (Kemenkes RI, 2017).

Menopausal women will experience a decrease in estrogen levels. This decrease can cause various discomforts, both short-term and long-term. Short-term symptoms include vasomotor instability, psychological symptoms, urogenital issues, skin and eye problems. Vasomotor symptoms include a burning sensation in the face and neck accompanied by shortness of breath, palpitations, and night sweats. Psychological symptoms include irritability, fatigue, emotional instability, forgetfulness, decreased libido, and depression. Urogenital symptoms include vaginal dryness, painful intercourse, and urinary incontinence. Skin complaints include dry skin, brittle and dull hair, and fragile nails. Meanwhile, long-term symptoms consist of osteoporosis, cardiovascular disease, and Alzheimer's dementia (Kepmenkes RI, 2010).

One solution to reduce complaints in women is to undergo Hormone Replacement Therapy (HRT), which involves administering estrogen to women who are experiencing menopause (Qamariah, 2013). The use of TSH has absolute contraindications, including breast cancer, uterine cancer, severe liver function disorders, vaginal bleeding, thromboembolism, coronary heart disease, angina, myocardial infarction, and meningioma. Menopausal women who are found to have absolute contraindications can be offered an alternative therapy in the form of phytoestrogens (HIFERI POGI, 2010).

The use of natural materials is highly necessary as one of the alternative substitutes for TSH. One of these natural materials is phytoestrogen. Phytoestrogens are a group of natural compounds from leguminous plants that have biological activities similar to estrogen. One of the most popular types of edible leguminous plants in the world is soybeans. (Koswara, 2013).

The compound phytoestrogen that is abundant in soybeans is isoflavone. Isoflavones have been proven to bind to estrogen receptors. The isoflavone content in soybean seeds varies between 128 and 380 mg/100 g (Li & Beta, 2013), depending on the soybean variety/genotype, environmental conditions and the plant's growing conditions, cultivation, and post-harvest handling (Hasanah et al., 2015). The isoflavone content in food form differs from its original content in the seeds due to the effects of processing, such as fermentation and heating (Zaheer & Humayoun Akhtar, 2017).

In Indonesia, about 83.7% of soybeans are used as food ingredients, mainly in the form of tempeh and tofu with a consumption rate of 14.13 kg per capita per year, 14.7% for soy sauce and fermented soybean paste, and the rest for soy milk, sprouts, and others (Pusdatin, 2015). The study results showed that consuming 500 ml of soy milk (VivoSoy) per day for 6-12 weeks was able to reduce menopausal symptoms by 20.4% and reduce urogenital symptoms by 21.3% (Tranche et al., 2016). Research on the effects of soy milk consumption on menopausal symptoms shows that soy milk can reduce menopausal complaints (Anggrahini & Handayani, 2014).

The final process of making tofu produces waste in the form of tofu pulp. Tofu pulp is widely used by farmers as livestock feed, such as feed for cattle, pigs, rabbits, and other livestock commodities, or sold to oncom and tempe gembus traders at relatively low prices (Sunu, 2020). Currently, the utilization of tofu dregs is beginning to be explored for making fiber- and protein-rich flour, as a substitute for flour in food products such as prebiotic drinks, cookies, nuggets, sausages, and others. Tofu dregs have high protein and phytoestrogen content, making them useful for osteoporosis prevention efforts (Hidayah, 2017).

On Lombok Island, there are many tofu factories, especially in Mataram City. Tofu dregs are rarely processed and are considered waste. Based on the above, the researcher is interested in conducting a study entitled “Study of Discomfort During Perimenopause and the Use of Soy and Its Processed Products as A Natural Solution”.

RESEARCH METHODS

The method used in this research is quantitative (descriptive). This research was conducted in Jempong Baru Village, Sekarbela District, Mataram City, West Nusa Tenggara (NTB). The study was carried out in August 2022. The population of the study includes all women in the

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perimenopausal stage in Jempong Baru Village, Sekarbela District, Mataram City, West Nusa Tenggara (NTB). This research was conducted on the entire population, totaling 123 respondents.

Data collection was conducted using a questionnaire. The questionnaire consists of two parts. The first part contains information about respondent characteristics. The second part concerns the use of soybeans and their processed products as an effort to reduce discomfort in perimenopausal women, which includes 4 questions: question number 1 about the main complaints during perimenopause, number 2 about handling the main complaints, number 3 about the use of soybeans and their processed products, and question number 4 about favorite snacks during perimenopause. The collected data will be analyzed univariately using statistical software and presented in the form of frequency and percentage distributions.

RESEARCH RESULTS

Characteristics of Respondents

The characteristics of respondents in this study consist of age, education, occupation, and number of children. The frequency distribution of respondents' characteristics can be seen in Table 1.

Table 1
Frequency Distribution Based on Respondent Characteristics

Characteristics	n	%
Age		
35 – 40 years	19	15,4
41 – 50 years	62	50,4
51 – 56 years	42	34,1
Education		
Elementary school	21	17,1
Junior high school	18	14,6
Senior High School	57	46,4
College	27	21,9
Job		
Civil Servants	15	12,2
Private employment	21	17,1
self-employed	24	19,5
Housewife	63	51,2
Number of Child		
Don't have children yet	12	9,8
≤2 children	39	31,7
3 – 4 children	72	58,5
>4 children	0	0

Based on the table above, most respondents experienced perimenopause in the age range of 41 - 50 years, namely 62 (50.4%) people and a small portion in the age range of 35 - 40 years as many as 19 (15.4%) people, the level of education of the respondents was mostly high school as many as 57 (46.4%) people and a small portion had junior high school education as many as 18 (14.6%) people, the majority of respondents were housewives (IRT) as many as 63 (51.6%) people and a small portion worked as civil servants / ASN as many as 15 (12.2%) people, and most respondents had 3 - 4 children as many as 72 (58.5%) people and a small portion did not have more than 4 children.

Utilization of Soybeans and Processed Products

The frequency distribution of discomfort during perimenopause, treatment of main complaints, use of soy and its processed products, and favorite snacks during perimenopause can be seen in the following tables:

Discomfort in Perimenopausal Women

The frequency distribution of discomfort during perimenopause can be seen in table 2.

Table 2
Chief Complaints/Discomforts of Perimenopausal Women

Main Complaint	n	%
Hot flushes	60	48,8
Difficulty sleeping	33	26,8
Pain during intercourse	21	17,1
Difficulty concentrating	6	4,9
No other complaints	3	2,4

Based on the table above, the majority of respondents had a main complaint of feeling hot (hot flushes) of 60 (48.8%) people and a small proportion had no complaints, namely 3 (2.4%) people.

Handling When There Are Complaints

The frequency distribution of treatment for discomfort during perimenopause can be seen in Table 3.

Table 3
Handling When Respondents Have Complaints During Perimenopause

Complaint handling	n	%
Health Facilities	66	53,6
Self-Care	57	46,4

Based on the table above, the majority of respondents went to health facilities if they felt there were complaints during perimenopause, namely 60 (48.8%), and a small number handled it themselves, namely 3 (2.4%) people.

Utilization of Soybeans and Processed Products

The frequency distribution of the use of soybeans and their processed products as an effort to reduce discomfort during perimenopause can be seen in Table 4.

Table 4
Utilization of Soybeans and Processed Products to Reduce Discomfort in Perimenopausal Women

Utilization of Soybeans	n	%
Utilizing soybeans and their processed products	24	19,5
Not utilizing soybeans and their processed products	99	80,5

Based on the table above, the majority of respondents did not use soy as an effort to reduce discomfort during perimenopause, namely 99 (80.5%) people and a small portion used soy and processed products as an effort to reduce complaints in perimenopausal women, namely 24 (19.5%) people.

Perimenopausal Women's Favorite Snacks

The frequency distribution of preferred snacks during perimenopause can be seen in table 5.

Table 5
Favorite Snacks of Perimenopausal Women

Types of Snacks	n	%
Biscuits	48	39,1
Cookies	9	7,3
Chips	36	29,2
Cilok	21	17,1
Nuggets	9	7,3

Based on the table above, most perimenopausal women chose biscuits as snacks during perimenopause, namely 48 (39.1%) and a small number chose cookies and nuggets, namely 9 (7.3%) people each.

DISCUSSION

Respondent Characteristics

The characteristics of the respondents in this study were age, education, occupation, and number of children. The results showed that the majority of respondents experienced perimenopause between the ages of 41 and 50, and a small proportion between the ages of 35 and 40. According to the Indonesian Demographic and Health Survey (IDHS) data, the proportion of women aged 30 to 49 who experienced menopause increased with age, from 10 percent in women aged 30 to 34, to 17 percent in women aged 44 to 45, and 43 percent in women aged 48 to 49 (Kemenkes RI, 2017). Age characteristics influence perimenopausal symptoms. The older a woman is, the more prepared she is to cope with perimenopausal symptoms (Maita et al., 2013).

Judging from educational characteristics, the majority of perimenopausal women's education level is high school. The level of education is related to a woman's readiness to face perimenopause. Women who are highly educated tend to have high levels of knowledge so it will be easier for them to understand the importance of health (Estiani, 2015).

The study found that most perimenopausal women are housewives. Occupation influences the quality of life of menopausal women. Employment determines a person's income, which influences the necessary facilities, such as the media used to obtain information (Tarigan et al., 2019).

Univariate testing revealed that most perimenopausal women have 3-4 children. Parity influences the age of perimenopause. The more frequently a woman gives birth, the later she will experience perimenopause (Gorga et al., 2016).

Utilization of Soybeans and Processed Products

Univariate testing of complaints in perimenopausal women revealed that most women experience hot flushes. Data also shows that 70–80% of women worldwide experience hot flushes during perimenopause (Ganis Siregar, 2014). Hot flushes are a vasomotor complaint in perimenopausal women caused by decreased estrogen levels. These hot flushes are felt in the face, causing sweating and a burning sensation, often accompanied by palpitations and anxiety, and sometimes even chills (Kepmenkes RI, 2010).

The research found that most respondents went to health facilities when experiencing perimenopausal discomfort. Other research indicates that knowledge, attitudes, individual assessment of the disease, service facilities, doctor

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services, accessibility, and ease of information are associated with utilization of health services at community health centers (Basith, 2019).

Based on the use of soybeans and their processed products, such as soy milk, tofu, and tempeh, data shows that most perimenopausal women do not use soybeans or their processed products to reduce perimenopausal discomfort. Soybeans are a source of phytoestrogens that can bind to estrogen receptors. Soybeans contain isoflavones, a type of phytoestrogen. The isoflavone content in soybean seeds ranges from 128 to 380 mg per 100 g (Li & Beta, 2013).

The results of the study stated that giving 100 mg/day of soy isoflavones was effective in reducing somatic and psychological symptoms in menopausal women (Ahsan & Mallick, 2017). Giving steamed tempeh can also reduce the symptoms of hot flushes (Hasnita et al., 2019).

Other research also states that consuming 500 ml of soy drink (VivoSoy) per day for 6-12 weeks can reduce climacteric symptoms by 20.4% and reduce urogenital symptoms by 21.3% (Tranche et al., 2016). Giving soy milk caused a decrease in menopausal complaints, namely 14 respondents (46.7%) (Anggrahini & Handayani, 2014).

Judging from the types of snacks preferred, most perimenopausal women choose biscuits during their perimenopause. Other research suggests that soy flour and tofu dregs can be added to various food products, such as biscuits (Puspita et al., 2021), Cookies (Rahmawati et al., 2020), nugget (Indang & Dwiyana, 2016), and soy milk (Kepmenkes RI, 2010).

CONCLUSION

Based on the research results, the majority of perimenopausal women have the main complaint of hot flushes, go to health facilities if they feel any complaints during perimenopause, perimenopausal women do not use soy and its processed products as an effort to reduce discomfort during perimenopause, and most perimenopausal women choose biscuits as snacks during perimenopause.

SUGGESTION

It is recommended for women entering perimenopause to consume soybeans and processed soybean products such as soy milk, tofu, and tempeh as an effort to reduce discomfort in perimenopausal women.

REFERENCES

Ahsan, M., & Mallick, A. K. (2017). The effect of soy isoflavones on the menopause rating scale scoring in perimenopausal and postmenopausal women: A pilot study. *Journal of Clinical and Diagnostic Research*, *11*(9), FC13–FC16. https://doi.org/10.7860/JCDR/2017/26034.10654

Anggrahini, K., & Handayani, S. (2014). Pengaruh Konsumsi Susu Kedelai terhadap Keluhan Menopause. *Jurnal Kebidanan*, *VI*(02), 1–7.

Basith, Z. A. (2019). Faktor - faktor yang Berhubungan dengan Pemanfaatan Pelayanan Kesehatan di Puskesmas Gayamsari Kota Semarang. *Ilmu Kesehatan Masyarakat Fakultas Ilmu Keolahragaan Universitas Negeri Semarang*.

Estiani, D. (2015). hubungan pendidikan dan pengetahuan wanita pramenopause terhadap sikap menghadapi menopause di desa sekarjaya kabupaten ogan komering ulu. *Jurnal Keperawatan Sriwijaya*, *2*(2), 101–107.

Ganis Siregar, M. F. (2014). Perimenopausal and Postmenopausal Complaints in Paramedics Assesed by Menopause Rating Scale in Indonesia. *IOSR Journal of Dental and Medical Sciences*, *13*(12), 38–42. https://doi.org/10.9790/0853-131213842

Gorga, H., Sri Lasmini, P., & Amir, A. (2016). Hubungan Jumlah Paritas dengan Usia Menopause. *Jurnal Kesehatan Andalas*, *5*(2), 395–401. https://doi.org/10.25077/jka.v5i2.529

Hasanah, Y., Chairun Nisa, T., Armidin, H., & Hanum, H. (2015). Isoflavone content of soybean [Glycine max (L). Merr.] cultivars with different nitrogen souces and growing season under dry land conditions. *Journal of Agriculture and Environment for International Development-JAEID*, *2015*(1), 5–17. https://doi.org/10.12895/jaeid.20151.216

Hasnita, E., Sulung, N., & Novradayanti, N. (2019). Pengaruh Pemberian Olahan Tempe Kukus Terhadap Gejala Hot Flashes Pada Ibu Menopause. *Jurnal Endurance*, *4*(3), 496. https://doi.org/10.22216/jen.v4i3.4581

Hidayah. (2017). *Pengaruh Pemberian Ampas Tahu dan susu Kambing Etawa terhadap Ekspresi TNF Alpha dan Jumlah Sel Osteoklast tulang Mandibula sebagai pencegahan Osteoporosis pada Tikus (Rattus norvegicus) pasca (Skripsi) Ovariektomi*. https://repository.ub.ac.id/id/eprint/12818/

HIFERI POGI. (2010). *Konsensus penatalaksanaan menopause*. POGI.

Indang, N. M., & Dwiyana, P. (2016). Pemanfaatan limbah ampas tahu pada pembuatan nugget. *Artikel Ilmu Kesehatan*, *8*(1), 92–98. http://lp3m.thamrin.ac.id/upload/jurnal/JURNAL-1519703063.pdf

Kemenkes RI. (2017). Survei Demografi dan Kesehatan Indonesia. In *Kemenkes RI*. Kemenkes RI.

Kepmenkes RI. (2010). *Keputusan Menteri Kesehatan Republik Indonesia Nomor 229/Menkes/SK/II/2010 Tentang Pedoman Asuhan Kebidanan Masa Perimenopause*.

Koswara, S. (2013). Isoflavon, Senyawa Multi-Manfaat dalam Kedelai. *Ebook Pangan Institut Pertanian Bogor*, 1–7.

Li, W., & Beta, T. (2013). Food sources of phenolics compounds. In *Natural Products: Phytochemistry, Botany and Metabolism of Alkaloids, Phenolics and Terpenes* (pp. 2527–2558). https://doi.org/10.1007/978-3-642-22144-6_68

Maita, L., Nurlisis, N., & Pitriani, R. (2013). Karakteristik Wanita dengan Keluhan Masa Menopause di Wilayah Kerja Puskesmas Rejosari. *Jurnal Kesehatan Komunitas*, *2*(3), 128–131. https://doi.org/10.25311/keskom.vol2.iss3.59

Pusdatin. (2015). *Konsumsi Pangan* (pp. 9–18). Buletin Konsumsi Pangan 5.

Puspita, D., Harini, N., & Winarsih, S. (2021). Karakteristik Kimia dan Organoleptik Biskuit dengan Penambahan Tepung Kacang Kedelai (Glycine max) dan Tepung Kulit Buah Naga Merah (Hylocereus costaricensis). *Food Technology and Halal Science Journal*, *4*(1), 52–65. https://doi.org/10.22219/fths.v4i1.15627

Qamariah, S. (2013). Kualitas Hidup Wanita Menopause yang Menggunakan Terapi Sulih Hormon Dinilai dengan Menqol di RSU Prof. Dr. R. D Kandou Manado. *E-CliniC*, *1*(1). https://doi.org/10.35790/ecl.1.1.2013.3287

Rahmawati, L., Asmawati, A., & Saputrayadi, A. (2020). Inovasi Pembuatan Cookies Kaya Gizi Dengan Proporsi Tepung Bekatul dan Tepung Kedelai. *Jurnal Agrotek Ummat*, *7*(1), 30. https://doi.org/10.31764/agrotek.v7i1.1906

Sunu, P. (2020). Aplikasi Pakan Ternak Dari Limbah Ampas Tahu Untuk Peningkatan Budidaya Lele di Desa Sampali, Kecamatan Percut Sei Tuan, Kabupaten Deli Serdang. *JPKMI (Jurnal Pengabdian Kepada Masyarakat Indonesia)*, *1*(1), 20–26. https://doi.org/10.36596/jpkmi.v1i1.6

Tarigan, I., Sinuhaji, L. N. br, & Sembiring, M. (2019). Hubungan Pendidikan, Paritas, Pekerjaan, dan Lama Menopause dengan Kualitas Hidup Perempuan Menopause di Puskesmas Kabanjahe Kabupaten Karo. *Jurnal Mutiara Ners*, *2*(1), 158–167. http://114.7.97.221/index.php/NERS/article/view/597

Tranche, S., Brotons, C., Pascual de la Pisa, B., Macías, R., Hevia, E., & Marzo-Castillejo, M. (2016). Impact of a soy drink on climacteric symptoms: an open-label, crossover, randomized clinical trial. *Gynecological Endocrinology*, *32*(6), 477–482. https://doi.org/10.3109/09513590.2015.1132305

Zaheer, K., & Humayoun Akhtar, M. (2017). An updated review of dietary isoflavones: Nutrition, processing, bioavailability and impacts on human health. *Critical Reviews in Food Science and Nutrition*, *57*(6), 1280–1293. https://doi.org/10.1080/10408398.2014.989958