

WOMEN AND ESSENTIAL OIL USAGE: A LITERATURE REVIEW

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ABSTRACT

Essential oil (EO) is a natural oil typically obtained through the process of distillation of plant and natural sources. Recently, the use of EOs has gained popularity, particularly among women as a result of renewed interest in the art of aromatherapy. In this paper, the researchers review the literature on EO usage across cultures in two ways: 1) describing the experience of using EOs and 2) defining factors that encourage women to use EOs. Searches of both social sciences and physical sciences databases were performed on relevant articles and empirical studies. Data from 30 articles were reviewed in this paper. The researchers conducted a summative content analysis to see variations in EO usage among women from different cultures. The study suggests that EO usage is common among women. EO is chosen to improve women's physical and emotional well-being. It also shows considerable variations in outcome of EO usage like reducing agitation, relieving pain, improving sleep quality and mood, treating depression and also functioning as an antioxidant. Although this study found agreement among all cultures on the preference of using EOs, much of the evidence has put less emphasis on the importance of variables like different age group, racial/ethnic composition, social status, education and media exposure which explain women's overall experience of using EOs. These socio-economic variations must also be taken into consideration. Finally, the study also indicates that researchers attempting cross-cultural studies need to holistically address in detail the social and cultural aspects surrounding EO usage. This paper also suggests for more interdisciplinary studies which will improve the understanding of this scenario in the future.

Keywords: aromatherapy, CAM, essential oil, health, women

WANITA DAN PENGGUNAAN MINYAK PATI: SATU SOROTAN LITERATUR

ABSTRAK

Minyak pati adalah minyak semulajadi yang biasanya diperolehi melalui proses penyulingan dari tumbuhan dan sumber semula jadi. Mutakhir ini, penggunaan minyak pati semakin mendapat populariti, terutamanya dalam kalangan wanita selepas pengenalan baru dalam seni aromaterapi. Dalam artikel ini, para penyelidik mengkaji literatur mengenai penggunaan minyak pati merentasi budaya dalam dua cara: 1) menerangkan pengalaman menggunakan minyak pati dan 2) faktor yang mendorong wanita menggunakan minyak pati. Carian informasi dari sudut pandang sains sosial dan sains fizikal telah dilakukan bagi mendapatkan artikel dan kajian empirikal yang berkaitan. Data daripada tiga puluh artikel dianalisis dalam kajian ini. Para penyelidik menjalankan analisis kandungan summatif untuk melihat variasi penggunaan minyak pati dalam kalangan wanita melalui budaya yang berbeza. Kajian menunjukkan bahawa penggunaan minyak pati merupakan perkara yang tidak asing lagi dalam kalangan wanita. Minyak pati dipilih untuk meningkatkan kesejahteraan fizikal dan emosi wanita. Selain itu, variasi minyak pati yang pelbagai terbukti berkesan bagi mengurangkan ketidakselesaan, melegakan kesakitan, meningkatkan kualiti tidur dan mood, merawat kemurungan dan juga berfungsi sebagai agen antioksidan. Walaupun kajian ini telah mendapat kesepakatan dalam kalangan pelbagai kebudayaan mengenai keutamaan penggunaan minyak pati, kebanyakan bukti telah memberi penekanan yang kurang pada kepentingan pembolehubah seperti kumpulan umur yang berbeza, komposisi kaum / etnik, status sosial, pendidikan dan pendedahan media yang menceritakan pengalaman keseluruhan wanita yang menggunakan minyak pati. Variasi sosioekonomi ini juga harus dipertimbangkan. Akhir sekali, kajian ini juga menunjukkan bahawa para penyelidik yang mengkaji aspek silang budaya perlu menekankan aspek sosio-budaya yang mendalam mengenai penggunaan minyak pati secara holistik. Artikel ini turut mencadangkan kajian antara disiplin yang akan meningkatkan pemahaman tentang senario ini pada masa akan datang.

Kata kunci: aromaterapi, rawatan alternatif (CAM), minyak pati, kesihatan, wanita

INTRODUCTION

EO is used widely to enhance the quality of life and treat symptoms in patients. However, the scientific evaluation of how the oil itself works for the human body is rather scarce (Hongratanaworakit, 2011). It is widely believed that EO can be absorbed through the skin due to its microparticle properties and it also penetrates into the bloodstream which eventually promotes health wellness. Thus, in terms of anti-microbial and antioxidant properties of EOs, a number of research has been conducted and resulted in similar outcomes (Tepe, Daferera, Sokmen, Sokmen, & Polissiou, 2005). Many past studies in Italy and France, for instance, have offered very little in the way of scientific evidence on the efficacy of essential oils on patients and the findings have been reported in a rather less scientific way (Lis-Balchin, 1997).

The literature specifically on EO and aromatherapy has dominated largely due to the interest in physical science. Most of the studies have been conducted to investigate the methods of extracting EOs from plant sources and their applications on human beings in all sort of areas. Interestingly, despite the lack of clinical data, the use of EOs for rejuvenating women's health and wellness is acceptable and applicable across the different societies and cultures. Therefore, the purpose of this review is to identify and evaluate the published literature to answer a specific research question: "What socio-cultural findings have been associated with the usage of EO among women?" We identify several reasons why EO is commonly used and look for existing evidence to support whether socio-cultural aspects like ethnic group, educational background, occupation and certain age group correlate with EO usage among women in various societies. This paper further attempts to describe patterns of EO studies globally. Recommendations for future research are also provided.

MATERIALS AND METHODS

The review focuses on papers related to EO usage among women. It attempts to identify scientific studies on the topic, describe the contents, summarize them and identify gaps for further research. A systematic literature review of EO usage among women was conducted in the field of social sciences and physical sciences. Data were collected between March-June 2017. Computerized searches using on-line databases such as SCOPUS, EBSCOhost, PubMed, Science Direct, ProQuest, SAGE and JSTOR were performed. Keywords were used to search for topics on well-being. The researchers focused on articles that had been published in English and involved women. Screening of titles and abstracts was conducted, followed by full-text screening of 30 articles on EO while articles on women were selected and thematically analysed.

FINDINGS

Variations in Complementary Alternative Medicine (CAM)

Nowadays, Complementary Alternative Medicine (CAM) is gaining popularity and is practised all around the world. Eisenberg et al. (1998) stated that CAM, as an alternative and unconventional therapy which is applied as medical intervention is not taught widely at faculties of medicine, especially in his country under study, the United States. Besides, he also claimed that CAM is unavailable at hospitals in the US and is not covered by most insurance policies. However, as we can see today, medical schools worldwide already offer CAM as one of their taught courses and individuals from various social classes turn out to be aromatherapists, acupuncturists and other professions that use all sorts of alternative medicine.

The National Centre for Complementary and Alternative Medicine (NCCAM, 2009) has emphasized the need for better quality control of herbal or botanical products mainly from selected goods or practices which are important in CAM research. In order to ensure an effective CAM approach, preliminary studies need to be conducted involving doing research to identify optimal doses and appropriate subject populations before investing in major clinical trials.

Table 1. CAM used among women according to CAM category

Category	Total	Percentage,%
Alternative medical systems	25	42
Mind–body interventions	24	40
Biologically based therapies	51	85
Manipulative and body-based methods	35	58

Source: NCCAM (2011)

According to the centre (NCCAM, 2011), biologically based therapies are among the most popular complementary therapies in the United States. Snyder and Lindquist (2009) have placed aromatherapy in the biologically based therapy category as it deals with EO, which is naturally derived from plant substances. Aromatherapy means the usage of EO for therapeutic purposes that comprehend the spirit, mind and body. Clinical aromatherapy, on the other hand, is the controlled use of EO for specific health outcomes that are measurable (Buckel, 2000). The selection of suitable aromatherapy treatment effects will depend on the problem for which EO is used and the targeted results.

Among those studies, there is one that examines the impact of aromatherapy massage on dysmenorrhea or period pain among Turkish students. Each participant was required to apply both aromatherapy massage using lavender oil and non-aromatherapy massage or placebo massage using soft paraffin. Out of the 438 nursing and midwifery students, 150 students suffered from dysmenorrhea. To measure their level of pain, they were asked to complete a visual analog scale. Forty-four out of 150 students had agreed to participate as volunteers for the study. When the lavender massage and the placebo massage results were compared, it shows that aromatherapy or

lavender massage was more effective in reducing dysmenorrhea (Apay, Arslan, Akpinar, & Celebioglu, 2012).

Jimbo et al. (2009) studied the effect of aromatherapy on Alzheimer's patients in Japan. Dementia is one of the common symptoms suffered by Alzheimer's patients. In the study, they investigated the healing effects of aromatherapy treatment for dementia on 28 old people. Seventeen of them were diagnosed with having Alzheimer's disease. In the duration of 28 days, lemon and rosemary essential oils were applied in the morning while orange and lavender were used in the evening. The study reveals that there was a significant improvement in personal orientation related to cognitive function for all patients. The result from routine laboratory tests suggests that no side-effects had arisen from the use of essential oil and aromatherapy. In conclusion, they found that aromatherapy is an effective alternative for non-pharmacological therapy for people who are suffering from dementia. They also concluded that aromatherapy might have some significant potential for improving cognitive function, especially in Alzheimer's patients.

Therapeutic Elements of EOs

Sointu (2006) reported an increasing number of people have been engaging in different therapeutic practices in the past decades. Eisenberg et al. (1998) mention that alternative therapies are being used at a rate greater than that of traditional medical care. This finding demonstrates the changing concepts of health care in the United States, as awareness and integration of mind, body and spirit rise to the forefront of satisfaction in the provision of healthcare. Healthcare providers would find it prudent to increase their knowledge of many of these treatment modalities to provide quality care that reflects an understanding of the holistic approach to healthcare that is sought by society at this time.

Hur, Yang and Lee (2008) conducted a study to investigate the effects of aromatherapy massage on reducing menopausal symptoms among Korean women. An experimental group of 25 women and a control group of 27 women were involved. EO was applied to menopausal women in the experimental group in the form of massage of the back, arms and abdomen once a week for the next eight weeks. The experimental group reported a significantly lower total menopausal index than the control group. As a conclusion, the study suggests that aromatherapy massage is an effective alternative treatment for reducing menopausal symptoms such as depression, pain and hot flushes.

Choi et al. (2014) explicitly conducted a study on the effect of EO inhalation on menopausal symptoms such as stress among climacteric women in Korea. Overall results show that the inhalation of neroli oil can affect the endocrine system in reducing menopausal symptoms and at the same time, improving their life quality, increasing sexual desire and also decreasing blood pressure. Furthermore, inhalation of neroli oil can also reduce stress levels. Tang and Tse (2014), in another study, have examined the effectiveness of aromatherapy and EOs to reduce pain, stress, depression and anxiety among older people with chronic pain in Hong Kong. Both studies proved that aromatherapy programme can be a useful alternative tool to relieve anxiety, pain, stress levels and depression among older community-dwelling adults.

Anxiety is the most common psychological response of women to labour. Namazi et al. (2014) have studied the effect of aromatherapy on anxiety during the first stage of labour by applying citrus aurantium oil. The clinical trials were randomly conducted on two different groups of pregnant women. The sample size consisted of 63 subjects in each cluster. Before the intervention, both groups had shown the same levels of anxiety. However, the anxiety level at dilations of 3-4 cm and 6-8 cm were significantly lower in the group given aromatherapy compared with the control group. The study reveals that using citrus aurantium blossom oil can be an efficient and non-invasive intervention to reduce anxiety during labour.

The Motivation of EO Usage

Grzywacz et al. (2007) conducted a study to understand the differences in ethnic and age in the use of alternative and complementary medicine. By illustrating on models of health self-management, the study found that ethnicity and age will influence the choice of deprived health in the use of complementary and alternative medicine (see Tables 2 and 3). Data for this analysis were garnered from 31,044 adults who completed the 2002 National Health Interview Survey (NHIS), a representative, population-based survey of the civilian, non-institutionalized US population. Equally important is the level of education. A study by Chao and Wade (2008) shows that African American college graduate women were three times more likely to choose and utilize CAM compared to those with less than high school education. The same study also proves that the socio-economic effects of using CAM varied and deviated across racial and ethnic populations. The results also highlight the importance of social and cultural factors in understanding the configurations of complementary and alternative medicine use among the people of the United States. Also, a biologically based method of therapy including EO and aromatherapy still dominate the chart.

Table 2. Descriptive Statistics of Complementary Medicine by Age Group

	< 45 n = 15,571 %/ Mean	45-64 n = 9,394 %/ Mean	65+ n = 5,837 %/ Mean
Alternative medical system	2.85	3.24	1.41
Biologically based method	21.76	25.70	15.59
Manipulative and body-based	11.37	11.85	7.57
Mind-body	18.95	21.05	11.68
Energy therapy	0.73	0.95	0.34
Self-prayer	37.12	45.57	56.20

Source: Adapted from Grzywacz et al. (2007)

Table 3. Descriptive Statistics of Complementary Medicine by Race/Ethnicity

	Black n = 4,185 %/ Mean	Hispanic n = 5,273 %/ Mean	Asian n = 902 %/ Mean	Non-Hispanic White n = 20,442 %/ Mean
Alternative medical system	1.42	2.41	4.71	2.90
Biologically based method	16.81	19.24	29.40	22.87
Manipulative and body-based	4.60	5.78	8.14	1.04
Mind-body	17.72	13.11	22.17	19.19
Energy therapy	0.5	0.50	1.39	0.77
Self-prayer	60.86	46.30	32.84	39.99

Source: Adapted from Grzywacz et al. (2007)

The benefits of EO and aromatherapy are very much documented nowadays. However, little is known about EO consumption and exposure within the general public as what has been conducted for CAM. Thus, Dornic et al. (2016) have conducted a study which aimed to explore the

usage of patterns in aromatherapy among the French general population and dermal exposure as the first step in assessing human exposure to essential oil molecules. After comparing between males and females, the analysis reveals that men were significantly less frequent users of EOs than women in the general population. Concerning socio-professional status, the prevalence of users among students is statistically lower than those of working groups.

The purpose for an EO and aromatherapy massage is more into the relaxing and the healing of the body and mind. They are unlikely used to work out all the kinks and sore spots in the body (Patin, Kanlayavattanukul, & Lourith, 2010). EOs and aromatherapy encourage the process of healing through relaxation and stress relief especially among people who experience some stress-related disorder (Lis-Balchin, 1997). The combination of massage and counselling makes aromatherapy one of the most actively growing forms of alternative healing. Although EO is showing an increasing trend of being used to promote the improvement in the quality of life and for the relief of various symptoms suffered by patients, the scientific evaluation of aroma-therapeutic effects of EO in humans is rather rare (Hongratanaworakit, 2011). For instance, a study shows that aromatherapy massage was the high demand treatment at spas in Thailand (see Figure 1).

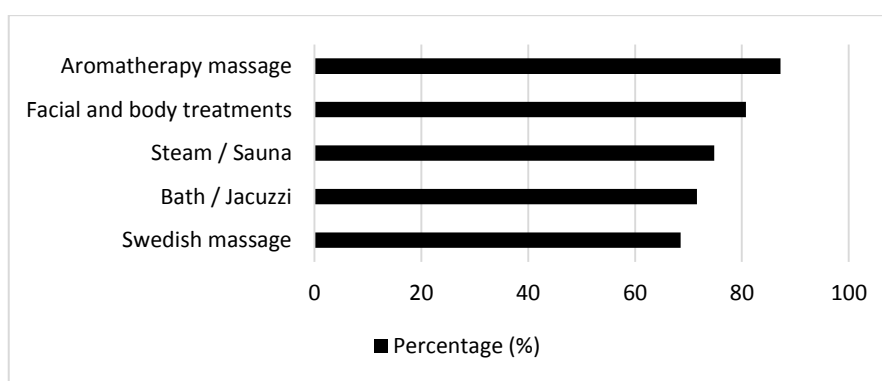


Figure 1. Top five services mostly offered in Thai spas
Source: Patin, Kanlayavattanukul & Lourith (2010)

Studies have shown that EO can alter behaviour because it carries the effect on brainwaves. The human olfactory system is the one responsible for transmitting the EO effect to the brain (Lis-Balchin, 1997). Lis-Balchin (1997) also comes up with the idea that alternative therapy and healing mostly depend on belief compared to scientific evidence. In the past, healing was achieved by priests who gave people spiritual guidance and a feeling of peace and security. Many studies have examined the effectiveness of aromatherapy in relieving pain and anxiety (Lakhan, Sheaffer, & Tepper, 2016).

Hongratanaworakit (2009) did a study on the effect of aromatherapy massage on humans using rosemary oil. The researcher examines the effect of rosemary oil on individual emotional and autonomic parameters responses in healthy subjects after the absorption of EO through the skin. Four autonomic parameters were measured; breathing rate, blood pressure, skin temperature and pulse rate of 35 healthy volunteers who participated in the study. Besides, the emotional responses were also evaluated using rating scales. From the study, it shows that rosemary oil caused a significant increase in systolic blood pressure, diastolic blood pressure and breathing rate which subsequently indicate an increase of autonomic arousal. At the emotional level, subjects felt more attentive, more vigorous, more cheerful and more alert than before the application of the oil. In conclusion, her analysis validates the stimulating effect as well as show evidence that rosemary oil can relieve stress and depression in humans.

The above finding supports the statement that people used aromatherapy to relieve the symptoms of psychological and physical stress (Liu, Lin, & Chang, 2013). A study by Liu, Lin, and Chang (2013) has provided an alternative for work stress problem among elementary school teachers in Taiwan. The result of the study presented that the usage of natural bergamot essential

oil had shown a significant change in the response of the automatic nervous system and at the same time reduced work stress. As a result, the application of bergamot essential oil indirectly improved their quality of life and well-being.

Kamkaen et al. (2015) have conducted a study to examine the physiological effects of lemongrass massage oil on the vital signs of 29 volunteers in Thailand. Blood pressure and pulse rate were measured. In conclusion, each subject who received one of the three forms of massage once a week for three weeks showed a greater reduction in diastolic blood pressure (DBP) than those in the control group. However, there were no significant variations in systolic blood pressure (SBP) or pulse rate. These results suggest that lemongrass oil has the capability to harmonize the nervous system. Interestingly, massage with lemongrass essential oil might also affect the sensation and emotional states.

At the emotional level, blended EO generates calm and relaxing emotional response and synchronically decreases subjective behavioral arousal. From the above studies, it is clear that most findings support the claim that EOs and aromatherapy regulate the physiological, spiritual and psychological elevation in humans. It is not only symptoms which are eradicated, but the whole body is rejuvenated through the use of aroma (Ali et al., 2015). In short, this therapy is not only preventive but can also be utilised in acute and chronic stages of certain diseases.

DISCUSSION

The discussion on health, wellness and well-being mostly concentrates on medical and health aspects. In terms of the medical field itself, it is safely concluded that the most accepted worldwide is biomedical practice. Since hundreds of years ago, thousands of research have been done to testify the use of biomedical practice. Since early human history, people had already started to use several remedies to cure diseases and illnesses. The tradition was passed from one generation to the next. In conjunction with the lack of clinical evidence to prove efficacy, nearly all those cultures utilising EO now recognise it as complementary alternative medicine (CAM) or alternative therapy.

Another significant portion of research has been conducted to study the description and understanding of wellness. The concept of wellness is applied to human beings, narrowed down to the specialization of gender and also setting or place. Fewer research has been done in the local context on understanding health and wellness across age group, gender specification and ethnicity. Krahn-Stella (2006) investigated what wellness means to female employees and how organizations can use this concept of wellness to create employee wellness programmes that support the wellness needs of female employees.

According to Sointu (2006), the number of people engaging in different therapeutic practices has been rising rapidly in past decades. He conducted the study to understand the notion of well-being among users and practitioners of alternative medicine to answer the question on what kind of 'health' is produced through alternative and complementary medicines. Many quantitative and qualitative studies on CAM identify the perception and preference of people who opt for alternative rather than conventional method of healing. Those studies reveal that gender, socio-economic status, race or ethnic and also society culture play prominent roles in the inclination towards CAM and also alternative therapy. Meurk et al. (2012) concluded that women are the most dominant users of CAM. They also explain that women highly negotiate and can manage different therapeutic practices.

The pattern of EO usage is highly related to consumerism. Humans have used EOs for centuries. However, the idea is hardly accepted as the mainstream clinical science approach today follows a particular procedure before it can be implemented in society. First, it will involve testing in the laboratory, then on animals and lastly on humans. Thus, if researchers propose testing EOs on humans in the first place, then it might be impossible. Research review boards are inclined to approve research studies that follow the more usual scientific research path compared to those which do not (Maher, n.d.). On the other hand, pharmaceutical companies will fund many general drug studies. Unfortunately, there is little motivation for these companies to fund research on natural plant substances because they are not meant to be patented, thus limiting the potential for profit for the funding company (Hunt, 2016). Thus, it is a challenging task to find a sponsor to fund

the research for EOs. In the meantime, clinical studies on EOs are gradually increasing (see Figure 2) as consumers nowadays are extremely selective of what they consume.

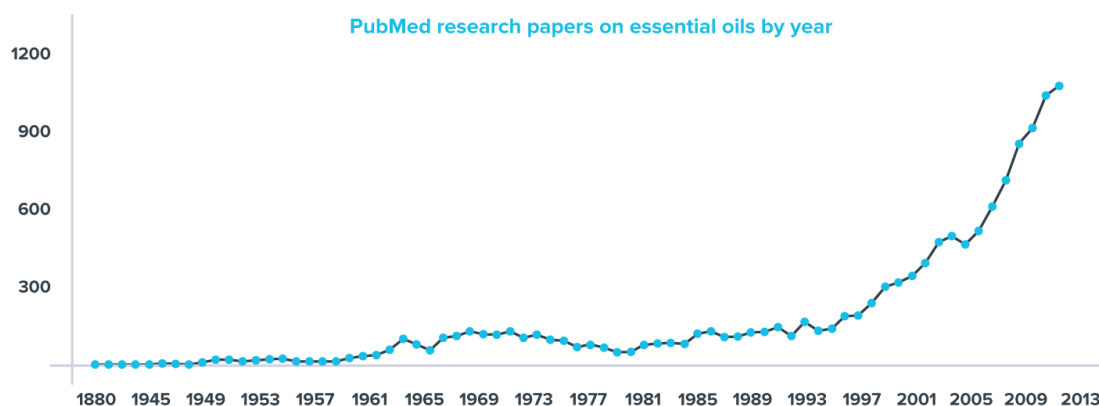


Figure 2. PubMed research papers on essential oils (Berardi & Nikkola, n.d.)

EOs and aromatherapy are frequently recommended for women and children regardless of the age group and ethnicity all around the world. Research in understanding EO usage from the socio-cultural aspect is not well documented. Thus, differences in EO usage may reflect variation in socio-cultural factors influencing reasons, motivations and attitudes. Although there is increase in the number of research on the socio-cultural aspects affecting CAM usage, the same research theme specifically on EO usage, at present, is poorly documented.

CONCLUSION

The evidence for the efficacy of aromatherapy in treating medical conditions is still scarce. Nevertheless, there are still some findings from empirical researches that prove that EOs may have therapeutic potentials for humans. Aromatherapy which involves the practice of using EOs is widely believed to possess the ability to enhance psychological and physical well-being. Indeed, aromatherapy nowadays is used for a variety of applications, including pain relief, mood enhancement and increased cognitive function. As alternative and complementary medicines are becoming popular, they challenge both physical and social researchers to prove their effective usage on the human body. Today, more scientific studies on EOs are conducted around the world. Clinical studies, either from Western or Eastern society are currently under-way to verify the significance of EO usage for many purposes.

The researchers again emphasise that social and cultural aspects need to be addressed in future studies about EOs so that a holistic understanding is achieved. Although the physical sciences approach mostly dominates most of the studies on EOs, this study shows that EO usage can also contribute significantly in the social and cultural contexts. Further multidisciplinary research should be conducted to understand why EOs and aromatherapy have become accepted as such. Furthermore, the researchers are also interested in who uses EOs and how they are applied. All those social and cultural aspects such as ethnic group, educational background, occupation, customary law, social media and certain age group seem to correlate with EO usage among women in various societies.

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