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Clinical efficacy of *Paribhadradi Pralepa* on *Sandhigata Vata* (Osteoarthritis)

Kumara GUA¹, Wadimuna WMDRW², Pushpakumari WLARS³

¹MD Scholar, Postgraduate Department of Dravyaguna, Dr. BRKR Government Ayurvedic College, KNR University of Health Sciences, Hyderabad, India.

²Registered Ayurvedic Medical Practitioner, Department of Ayurveda, Sri Lanka.

³Senior Lecturer, Gampaha Wickramarachchi University of Indigenous Medicine, Sri Lanka.

ABSTRACT

On the basis of symptomatology *Sandhigata Vata* has resemblance with osteoarthritis (OA) in modern medical science. In *Ayurveda*, symptoms of *Sandhigata Vata* are described as *Hanti Sandhigati* (restricted movements), *Sandhi Shoola* (joint pain), *Sandhi Shotha* (joint swelling or oedema), and *Prasarana Akumcana Janya Vedana* (pain in flexion and extension of the joints). It mainly affects weight bearing joints of the body especially hip and knee joints and mainly associated with aging, physical occupational activities and obesity. *Paribhadradi Pralepa* is a traditional preparation practiced at Gampaha Wickramarachchi Ayurveda Teaching Hospital, Yakkala, Sri Lanka in treatment of *Sandhigata Vata* with successful results. So far, no known scientific study has conducted to evaluate the effect of *Paribhadradi Pralepa* in *Sandhigata Vata*. Hence, the present study was carried out. The clinical trial was conducted on 60 patients belonging to the age group of 35 to 60 years old. The prepared *Pralepa* was recommended to apply in the night for a period of fourteen days continuously. Severity of signs and symptoms were assessed before, during and after completion of the treatment using specially prepared grading scale. The reduction of clinical features was also assessed after two weeks of follow up period. Results were analyzed statistically and reduction of symptoms was statistically significant. It is concluded that *Paribhadradi Pralepa* is effective in management of *Sandhigata Vata*.

Key words: *Sandhigata Vata*, *Osteoarthritis*, *Vatavyadhi*, *Paribhadradi Pralepa*.

INTRODUCTION

Sandhigata Vata is a major cause of disability in industrialized countries. The changes in the joints by *Prakupita Vata* (provoked *Vata Dosha*) are the main phenomena of *Samprapti* (pathogenesis) of *Sandhigata Vata*.^[1] Joints are included under *Madhyama Roga Marga*. *Sandhigata Vata* is *Kashtasadhya Roga* due to the involvement of *Vata*

Dosha and *Dhatukshaya*.

Sandhigata Vata can be correlated with Osteoarthritis (OA). It is the second commonest problem in the world population.^[2] The major risk factors associated with osteoarthritis in knee joint are age, gender (female), obesity and occupation (especially with knee bending). Osteoarthritis makes an important cause of disability. It is the most common articular disease begins asymptotically in the second and third decades and is common over the age of 70 years. Almost all persons by age 40 have some pathologic changes in weight bearing joints. 25% females and 16% males have symptomatic OA.

Ayurveda medicine recommends *Snehana* (oleation therapy), *Swedana* (fomentation), *Mrudu Samshodhana* (mild purification therapy) and *Vasti* (enema) as therapeutic measures which can be used in treatment of *Sandhigata Vata*. In modern medicine, mainly analgesics, anti-inflammatory drugs or surgery are the the treatment procedures use to treat OA.

Address for correspondence:

Dr. Kumara GUA

MD Scholar, PG Dept of Dravyaguna, Dr. BRKR Government Ayurvedic College, KNR University of Health Sciences, Hyderabad, India.

E-mail: drupul.ayusl@gmail.com

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These treatments do not give satisfactory relief and cause great adverse effects.

Acharya Charaka has described the disease first by the name of *Sandhigata Anila* under the chapter of *Vatavyadhi*.^[3] No separate etiological factors are mentioned for *Sandhigata Vata*. Two main causes of *Vata Prakopa* are *Dhatukshaya* (depletion of tissues) and *Margawarodha* (obstruction of channel).^[4] In case of *Sandhigata Vata*, *Kshaya* is the main cause. *Acharya Charaka* defined it as a disease, which occurs due to indulgence of *Vata Prakopa Ahara* and *Viharaṇa*, with the symptoms of *Vata Purna Druti Sparsha* (oedema, which is palpable as air filled bag) and *Prasarana Akumcana Janya Vedana* (pain in flexion and extension of the joints).

Acharya Sushruta has described *Sandhi Shoola* (pain in joints), *Sandhi Shotha* (swelling in joints) and *Hanti Sandhigati* (diminution of the movements in joints) as symptoms of *Sandhigata Vata*.^[5] *Acharya Madhavakara* is in the opinion of *Sushruta*. *Acharya Vagbhata* and other *Acharyas* have described that the disease, *Sandhigata Vata* as same as in *Charaka Samhita* and *Sushruta Samhita*.

Sandhigata Vata is *Kashtasadhya* due to the involvement of *Marma* and *Vata Dosha*, situated in *Madhyama Roga Marga* and mainly occurs in *Vrudhavadha* (*Dhatukshaya Janya Kala*). *Acharya Charaka* has mentioned repeated use of *Snehana*, *Swedana*, *Vasti* and *Mrudu Virecana* as treatment modalities for *Vatavyadhi*. *Acharya Sushruta* has mentioned therapeutic measures like *Snehana*, *Upanaha*, *Agnikarma*, *Bandhana* and *Mardana* for the same.^[6] Along with these therapeutic measures, *Rasayana* therapy may also effective in managing the degenerative joint disorders like *Sandhigata Vata*.^[7] It slows down the process of destruction (ageing) in the body and helps in rejuvenation of *Navya Dhatu* (new tissues).

Paribhadradi Pralepa is a Sri Lankan traditional preparation widely practiced at Gampaha Wickramarachchi Ayurveda Teaching Hospital, Yakkala, Sri Lanka in treatment of *Sandhigata Vata*

(Osteoarthritis), *Gambheera Vatarakta* (Gout), and *Amavata Sandhi Shotha* (Rheumatoid arthritis)

The present study was carried out to evaluate the effectiveness of *Paribhadradi Pralepa* in management of *Sandhigata Vata*.

MATERIALS AND METHODS

Selection of Patients

Sixty patients aged between 35 to 60 years, diagnosed as *Sandhigata Vata* were recruited in this study. *Hanti Sandhigati* (restricted movements), *Sandhi Shoola* (joint pain), *Sandhi Shotha* (joint swelling or oedema), and *Prasarana Akumcana Janya Vedana* (pain in flexion and extension of the joints) were the subjective parameters for the assessment of improvement of *Sandhigata Vata*. The patients suffering from *Amavata Sandhi Shotha*, *Gambheera Vatarakta* and *Asthigata Vata* and patients who are on any other oral or external medications for the last 7 days were also excluded from the study. After collecting details of the patients' history, the selected patients were thoroughly examined. The patients who gave written consent were included in the study.

Severity of signs and symptoms were recorded before, during and after completion of treatment and also at the end of follow up period using a specially prepared five point grading scale. Grading scale is given below.

Sandhi Shoola (joint pain)

- 0 = absent = no pain in joints
- 1 = minimal = occasionally feels pain in joints
- 2 = moderate = intermittently feels pain in joints
- 3 = intense = often feels pain in joints
- 4 = severe = always feels pain in joints

Sandhi Shotha (joint swelling or oedema)

- 0 = absent = no swelling in joints
- 1 = minimal = slight swelling in joints
- 2 = moderate = moderate swelling in joints
- 3 = intense = severe swelling in joints
- 4 = severe = very severe swelling in joints

Hanti Sandhigati (restricted movements)

- 0 = absent = no restricted movements in joints
 1 = minimal = stiffness lasting for 5-15 minutes
 2 = moderate = stiffness lasting for 30 minutes
 3 = intense = stiffness lasting for more than 30 minutes
 4 = severe = unable to move the joints

Prasarana Akumcana Janya Vedana (pain in flexion and extension of the joints)

- 0 = absent = no pain in flexion and extension of the joints
 1 = minimal = pain without wincing of face
 2 = moderate = pain with wincing of face
 3 = intense = shouts or prevents complete flexion
 4 = severe = doesn't allow the passive movement

Overall responses to therapy were rated as excellent, good, fairly good and poor.

- Excellent : Complete relief in all symptoms of *Sandhigata Vata* (100%)
- Good : Substantial relief of *Sandhigata Vata* (76 - 99%).
- Fair : Partial relief of *Sandhigata Vata* (51 - 75%).
- Poor : Poor relief of deterioration of *Sandhigata Vata* (0 - 50%).

Method and duration of drug administration

Patients were advised to apply the *Paribhadradi Pralepa* only in the night and made to keep it till following morning (approximately eight hours). Before application of *Pralepa*, affected area was oiled (*Snehana*) by application of sesame oil. This treatment was carried out for a period of fourteen (14) days continuously.

Preparation of Paribhadradi Pralepa

40g each of fresh leaves and stem bark of *Erythrina variegata* Linn (Family: Fabaceae; Sanskrit name: *Paribhadra*)^[7], fresh leaves of *Plumeria apiculata* Linn (Family: Apocynaceae; Sanskrit name: *Shweta Champaka*)^[8] and tender inflorescence of King Coconut

(*Cocos nucifera* Linn, Family: Arecaceae; Sanskrit name: *Narikela*)^[9] were taken. 4g each of fresh rhizome of *Curcuma longa* Linn (Family: Zingiberaceae; Sanskrit name: *Haridra*)^[10] and *Samudra Lavana* (Sodium Chloride, common salt)^[11] and 1g of latex of *Ferula asafoetida* Linn (Family: Apiaceae; Sanskrit name: *Hingu Nirayasa*)^[12] were also taken. Aforesaid all the ingredients were mixed together and grounded well. Then the mixture was mixed with 20ml of sesame oil (*Sesamum indicum* Linn, Family: Pedaliaceae; Sanskrit name: *Tila Taila*)^[13] and heated on a pan to prepare *Paribhadradi Pralepa*.

*Erythrina variegata**Plumeria apiculata**Cocos nucifera*



Common salt



Curcuma longa



Ferula asafoetida

Statistical Analysis

Statistical analysis was carried out using the paired samples t-test of Microsoft Excel.

OBSERVATIONS AND RESULTS

In the present study, it was observed that 16% - 25% patient showed excellent response (complete relief) in symptoms such as *Sandhi Shotha*, *Hanti Sandhigati*, *Sandhi Shoola* and *Prasarana Akumcana Janya Vedana* and poor response was observed in 5- 13% patients. Good response (substantial relief) in above mentioned

symptoms were observed in 55% -58% patients and fair response (partial relief) were observed in 15% - 27% patients (table 1 and figure 1).

Table 1: Overall improvement of signs and symptoms (patients' overall response to therapy)

Sign and Symptom	Response to therapy			
	Excellent	Good	Fair	Poor
<i>Sandhi Shotha</i>	21.67 %	56.67 %	16.6 %	5 %
<i>Hanti Sandhigati</i>	18.33 %	53.33 %	15 %	13.3 %
<i>Sandhi Shoola</i>	25 %	58.33 %	13.33 %	3.3 %
<i>Prasarana Akumcana Janya Vedana</i>	16.67 %	55 %	21.67 %	6.67%

Figure 1: Overall improvement of signs and symptoms (patients' overall response to therapy)

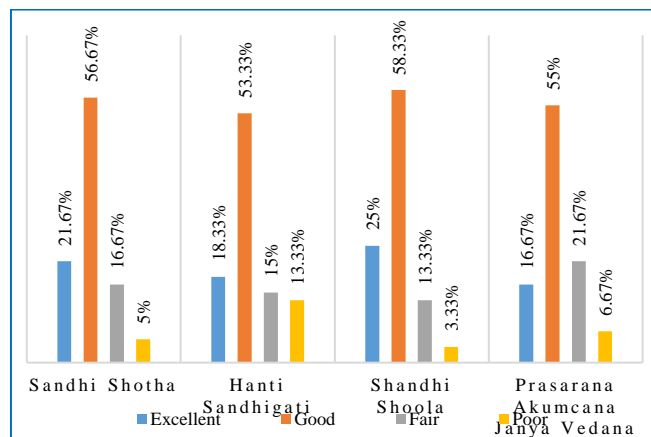


Table 2: Symptomatic relief with the treatment Erabadu Pothu Melluma in Sandhigata Vata

Clinical feature	Before treatment Mean ± SE	After treatment Mean ± SE	P value
<i>Sandhi Shotha</i> (joint swelling / oedema)	2.73 ± 0.66	0.45 ± 0.62	0.0000
<i>Hanti Sandhigati</i> (restricted movement in the joints)	2.37 ± 0.82	0.23 ± 0.5	0.0000

Sandhi Shoola (joint pain)	1.75 ± 0.7	0.32 ± 0.47	0.0000
Prasarana Akumcana Janya Vedana (pain in flexion and extension of joints)	1.87 ± 0.81	0.55 ± 0.62	0.0000
P < 0.05 significant			

Table 2 represents the symptomatic relief with the treatment *Erabadu Pothu Melluma* in *Sandhigata Vata* and reduction of symptoms after treatment is statistically significant (P < 0.05).

Figure 2: Symptomatic relief with the treatment *Paribhadradi Pralepa* in *Sandhigata Vata*

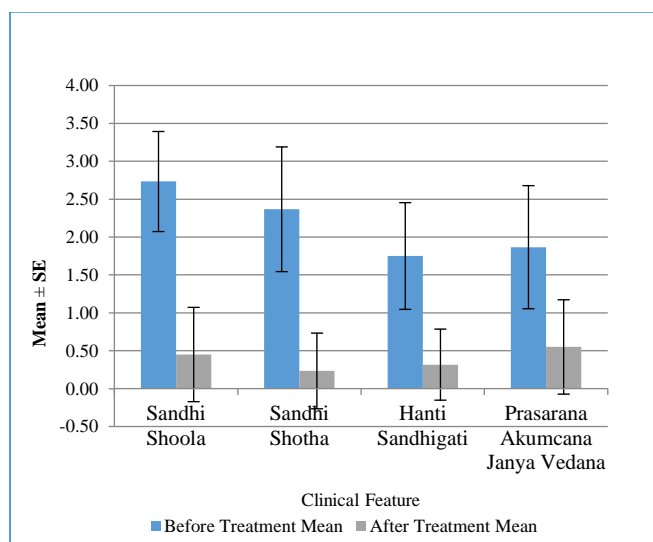
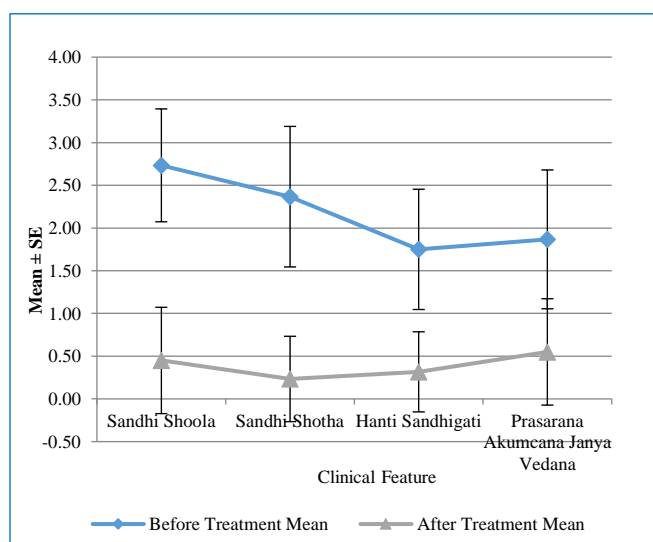


Figure 3: Symptomatic relief with the treatment *Paribhadradi Pralepa* in *Sandhigata Vata*



DISCUSSION

According to the *Ayurveda Acharyas*, *Sneha* (oleation) and *Swedana* (fomentation) are highly effective treatment techniques in management of joint diseases. *Ayurveda* Pharmacodynamical properties of ingredients of *Paribhadradi Pralepa* are tabulated below (Table 3).

Table 3: *Ayurveda* Pharmacodynamical properties of ingredients of *Erabadu Pothu Melluma*

Name of ingredient	Rasa	Guna	Veer ya	Vipaka	Prabhava / Karma
Narikela (Cocos nucifera Linn)	Madhura	Guru, Snigdha	Sheeta	Madhura	Pittahara, Vrishya, Vrimhana
Haridra (Curcuma longa Linn)	Katu, Tikta	Ruksha,	Ushna	Katu	Kandhugna Shophahara, Kaphapittahara, Varnya
Paribhadra (Erythrina variegata Linn)	Katu	-	Ushna	-	Vatakaphahara, Shophahara, Deepana
Hingu Niryasa (Ferula asafetida Linn.)	Katu	Laghu Snigdha, Sara	Ushna	Katu	Deepana, Pacana, Vatakaphahara
Shweta Champa (Plumeria apiculata Linn.)	Katu, Tikta	Sara,	Ushna	-	Kandughna Shoolahara Kaphavatahara
Tila taila (Sesamum indicum Linn.)	Katu, Tikta, Madhura, Kashaya	Guru, Snigdha, Grahi	Ushna	Katu (Madhura)	Vataghna, Balya, Keshya
Samudra lavana (Sodium Chloride)	Lavana Tikta, Madhura	Guru	Sama Sheetana	Madhura	Anulomana, Deepana, Bhedana

Sandhigata Vata is a disease occurred by vitiation of *Vata Dosha*. Most of ingredients of *Paribhadradi Pralepa* having *Kaphavata Shamaka* properties as these ingredients possess *Madhura, Katu* and *Tikta Rasa, Guru* and *Snigdha Guna, Ushna Veerya* and *Madhura* and *Katu Vipaka*. Further, these ingredients contain *Shophahara* and *Shoolahara* properties which help to reduce oedema and pain occurred in *Sandhigata Vata*. Due to these properties *Paribhadradi Pralepa* is beneficial in treatment of *Sandhigata Vata*.

Analgesic action of *Cocos nucifera* Linn^[14], *Erythrina variegata* Linn^[15] and *Curcuma longa* Linn^[16] are scientifically proven. Anti-inflammatory action of *Erythrina variegata* Linn^[17], *Plumeria apiculata* Linn^[18], *Cocos nucifera* Linn^[14], *Curcuma longa* Linn^[19], *Sesamum indicum* Linn^[20] and *Ferula asafoetida* Linn^[21] are scientifically proven. Due to analgesic and anti-inflammatory properties *Paribhadradi Pralepa* helps to reduce pain and swelling in *Sandhigata Vata*.

Antioxidant property of *Erythrina variegata* Linn^[22], *Plumeria apiculata* Linn^[23], *Cocos nucifera* Linn^[24], *Curcuma longa* Linn^[19], *Sesamum indicum* Linn^[25], *Ferula asafoetida* Linn^[26] and Sodium chloride^[27] are scientifically proven. *Sandhigata Vata* is described as *Jara Vata* in *Ayurveda*. Osteoarthritis is a degenerative disease. *Paribhadradi Pralepa* helps to regenerate tissues due to antioxidant property of its ingredients.

CONCLUSION

Paribhadradi Pralepa is effective traditional formulation in reducing the signs and symptoms of *Sandhigata Vata*. It is concluded that, *Paribhadradi Pralepa* is significant in the management of *Sandhigata Vata*.

REFERENCES

1. Vagbhata, Ashtanga Hridayam, *Sutrasthana, Ayushkameeya Adhyaya*, 1/7, Murthy, S. K. R., 2nd edition, Chaukhamba Sanskrit Sansthan, India, 2009, 6.
2. Agnivesha, Carakasamhita, *Cikitsasthana, Vatavyadhi Cikitsitadhyaya* 28/37, Vaidya Jadavji Trikamji Acarya, 1st edition, Chaukhamba Sanskrit Sansthan, India, 2004, 783.
3. Agnivesha, Carakasamhita, *Cikitsasthana, Vatavyadhi Cikitsitadhyaya* 28/46, Vaidya Jadavji Trikamji Acarya, 1st edition, Chaukhamba Sanskrit Sansthan, India, 2004, 784.

4. Sushruta, Sushruta Samhita, *Nidanasthana, Vatavyadhi Nidanadhyaya* 1/28, Vaidya Jadavji Trikamji Acarya, 1st edition, Chaukhamba Sanskrit Sansthan, India, 2008, 230.
5. Sushruta, Sushruta Samhita, *Cikitsasthana, Vatavyadhi Cikitsitadhyaya* 4/8, Vaidya Jadavji Trikamji Acarya, 1st edition, Chaukhamba Sanskrit Sansthan, India, 2008, 420.
6. Agnivesha, Carakasamhita, *Cikitsasthana, Abhayamalakeeya Rasayanadhyaya* 1/6, Vaidya Jadavji Trikamji Acarya, 1st edition, Chaukhamba Sanskrit Sansthan, India, 2004, 379.
7. Sala, A.V., Indian Medicinal Plants (a compendium of 500 species), Vol. 2, Orient Longman Private Limited, Chennai, India, 1997, 379-381.
8. Sala, A.V., Indian Medicinal Plants (a compendium of 500 species), Vol. 4, Orient Longman Private Limited, Chennai, India, 1997, 329.
9. Sala, A.V., Indian Medicinal Plants (a compendium of 500 species), Vol. 2, Orient Longman Private Limited, Chennai, India, 1997, 146-152.
10. Sala, A.V., Indian Medicinal Plants (a compendium of 500 species), Vol. 2, Orient Longman Private Limited, Chennai, India, 1997, 259-261.
11. Department of Ayurveda, Ayurveda Pharmacopoeia, Vol. I, Part 3, Tharnji Prints, Sri Lanka, 1985, 384.
12. Sala, A.V., Indian Medicinal Plants (a compendium of 500 species), Volume 3, Orient Longman Private Limited, Chennai, India, 2004, 13-16.
13. Sala, A.V., Indian Medicinal Plants (a compendium of 500 species), Volume 5, Orient Longman Private Limited, Chennai, India, 2004, 104-114.
14. Kamal, D., Ravi, S., Teck, Y. L., Shiao, H. L. and Adinarayana, G., Anti-inflammatory, antibacterial and analgesic potential of *Cocos nucifera* Linn: A review, Bentham Science publishers, 2013, 12(2): 1-7.
15. Mahal, M. J., Khatun, Z., Hossain, T., Mamun, A. A., Hossain, M. S. and Das, A. K., Analgesic effects of *Erythrina variegata* Linn leaves and soft stems in mice, Journal of Phytomedicine and Therapeutics, 2009, 14(1): 694-695.
16. Neha, S., Ranvir, G. D. and Jangade, C. R., Analgesic and antipyretic activities of *Curcuma longa* rhizome extracts in Wister rats, Journal of Veterinary World, 2009, 2(8): 304-306.
17. Balamurugan, G., Sajja, S., Balakrishnan, D. and Selverajan, S., In vitro anti-inflammatory action of *Erythrina variegata* (L.) leaves by HRBC membrane stabilization, International Journal of Drug Development and Research, 2010, 2(3): 665-668.
18. Amogh, R., Altamash, J. M., Shaijesh, W. and Jyoti, B. S., Anti-inflammatory activity of an ornamental plant *Plumeria obtusa* Advances in Pharmacology and Pharmacy, 2016, 4(3): 23-26.

19. Ramadan, G., Al-Kahtani, M. A. and El-Sayed, W. M., Anti-inflammatory and antioxidant properties of *Curcuma longa* (turmeric) versus *Zingiber officinale* (ginger) rhizomes in rat adjuvant induced arthritis, PubMed, 2011, 3(4): 291-301.
20. Narasimhulu, C. A., Selvarajan, K., Litvinov, D. and Parthasarathy, S., Anti-atherosclerotic and anti-inflammatory actions of Sesame oil, Journal of Medicinal Food, 2015, 18(1): 11-20.
21. Abo-EL-Sooud, K., Goudah, A. and Yousef, M. M. A., The antinociceptive and anti-inflammatory activities of *ferula asafoetida* gum in rodent model, Indian Journal of Natural Products, 2014, 10(1): 22-26.
22. Baskar, N., Devi, B. P. and Jayakar, B., Evaluation of antioxidant activity of ethanol extract of *Erythrina variegata* and *impatiens balsamina* on Chromium (vi) induced oxidative stress in Albino rats, International Journal of Research in Pharmacology and Pharmaceuticotherapeutics, 2014, 1(1): 30-33.
23. Dogra, N. K., Phytochemical analysis and in vitro antioxidant studies of *Plumeria obtusa* L. leaves, Indian Journal of Pharmaceutical Sciences, 2016, 78(1): 169-171.
24. Mantena, S. K., Jagadish, Badduri, S. R., Siripurapu, K. B. and Unnikrishnan, M. K., In vitro evaluation of antioxidant properties of *Cocos nucifera* Linn water, PubMed, 2013, 47(2): 126-131.
25. Qihui Hu, Juan Hu, Shubing, Chen, Fangmei Yang, Antioxidant activity of extracts of Black Sesame Seed (*Sesamum indicum* Linn) by supercritical Carbo Dioxide extraction, Journal of Agricultural and Food Chemistry, 2004, 52(4): 943-947.
26. Dehpour, A. A., Ebrahimzadeh, M. A., Fazel, N. S. and Mohammad, N. S., Antioxidant activity of the methanol extract *Ferula asafoetida* and its essential oil composition, Journal of Grasas Y Aceites, 2009, 60(4): 405-412.
27. Miyashita, K., Nura, E., Kubouchi, H. and Suzuki, T., Antioxidant activity of electrolyzed Sodium chloride, Journal of Food Factors in Health Promotion and Disease Prevention, 2009, 851: 274-288.

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