Research Article

Traditional phytoremedies used by the midwives for the treatment of uterine prolapse in district Kathua, JKUT, India

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Uterine prolapse occurs when uterus protrudes into the vaginal canal due to weakening of uterine ligaments and fascial support tissues. Traditional remedies are more effective when the prolapse is mild. The aim of the study was to document traditional knowledge used by the midwives to cure the prolapsed uterus in Billawar and Basohli tehsils of Kathua district. Information was gathered from 25 traditional midwives (*Dai*), selected using the snowball sampling method. Data was collected through semi-structured interviews. Uses narrated by the informants were recorded as use-reports and further analysed for use-values. A total of seven plants from seven families, along with cinnabar (HgS) were used to cure a prolapsed uterus. Herbs and trees, with 42.9% contribution each, were the most commonly used life-forms, and seeds and leaves were the most preferred plant parts. The chief mode of medicine intake was the insertion of medicine into the uterus through vagina. Midwives suggested four treatments for uterine prolapse, primarily utilizing *Quercus infectoria* Oliver, *Myristica fragrans* Houtt., and *Trigonella foenum-graecum* L., along with massage and exercise. According to midwives, the time taken to recover varies with the age of the patient, her day-to-day activities, diet, and body setup. Use of *Syzygium aromaticum* (L.) Merr. & L.M. Perry, *Papaver somniferum* L., and *Vitex negundo* L. is new for the treatment of prolapsed uterus. The study of phytochemistry and pharmacological efficacy of these species with respect to uterine prolapse, as well as the toxic effects of external use of cinnabar can be done in future.

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1. Introduction

Uterine prolapse occurs when the uterus protrudes into the vaginal canal due to uterine ligament and fascial support tissue weakening (Esaivani et al., 2020). It is classified into four stages, indicating how far the vagina has descended (Persu et al., 2011). For first two stages, various outpatient therapies, such as vaginal pessaries, may be offered, but surgery is usually required for the third and fourth stages (Hansom et al., 2006; Shivanandaiah and Indudhar, 2010). Up to half of all parous women in the world have some degree of clinical prolapse, with 10-20% of these women experiencing symptoms (Gyhagen et al., 2012). Possible risk factors associated with it include ageing, childbirth, genetic or acquired connective tissue disorders, menopause, pelvic floor denervation or weakening, pregnancy, and conditions linked to chronically elevated intra-abdominal pressure (Hagen et al., 2006). Vaginal childbirth thought to be the primary factor for pelvic organ prolapsed (Esaivani et al., 2020). Other reasons may be anal sphincter injury, epidural analgesia, episiotomy, prolonged second stage of labour, and the use of forceps and oxytocin (Doshani et al., 2007).

The major non-surgical procedure in the traditional system is to place a pessary in the vaginal canal to support the pelvic organs, and the surgical therapy is hysterectomy (Esaivani et al., 2020). It has been reported that hysterectomy can harm nerve supply and affect pelvic floor support structures. As a result, after a vaginal hysterectomy, women may be more susceptible to bladder dysfunction and the onset of new stress incontinence (Surendran et al., 2018). A woman's lifetime risk of Pelvic organ

prolapse surgery is estimated to be 19 %, with a reoperation risk of around 30 % even following optimal surgery (Aytan et al., 2014). Modern alternatives include attempts to repair organ walls with porcine skin collagen implant (David-Montefiore et al., 2005) or polypropylene (Chibelean, 2009) or vaginal tape (de Tayrac et al., 2004) or laparoscopic methods of ligament repair (Schwartz et al., 2007; Margulies et al., 2010).

In both modern and traditional practices (like *Ayurvedic* and *Unani* systems), the primary line of treatment is repositioning the prolapsed portion. When the prolapse is modest, traditional treatments are more successful and relieve the patient's anxiety about surgery (Devi and Goni, 2019). While *Ayurvedic* treatment is mainly comprised of cleansing the vagina with medicinal decoctions and massage with medicinal oils. These treatments have bactericidal, pain reliving, and pH restoring properties (Bilade and Bhalgat, 2020). Besides, the medicinal oils give strength to the muscles and organs, and removes laxity that is the main cause of prolapse (Khan and Dalvi, 2017). *Unani* system of medicine uses different methods for the treatment of uterine prolapse, such as cupping, external wash, ointment, oral drug, suppository, and various drug regimens (Ali et al., 2019). The enormous cost of hysterectomy and other surgical procedures, as well as the associated pain and hazards, make herbal option particularly appealing, both to the patient and to the healthcare system.

Dais or traditional midwives are an important component of the rural birthing experience in India since time immemorial. Traditional midwives, who are mostly illiterate and without formal training, have depended on decades of experience as women, daughters, sisters, and most crucially, moms and mothers-in-law to serve the women of their villages. Although they were the most popular and important part of villages previously throughout South Asia, the traditional midwifery profession is dying in most of rural India as a result of a healthcare development movement that emphasises the need of "modernising" facilities (Ghoshal, 2014; Azher, 2017). However, in the hilly regions of the Union Territory (UT) of Jammu and Kashmir (J&K) traditional midwives are still actively serving the community, and the present study, first of its kind, was carried out in these regions to record the various treatments or therapies used by them to cure uterine prolapse.

2. Methodology

2.1. Study area

Kathua district is positioned between 32° 14' and 32° 55' N latitude and 75° 70' and 76° 16' E longitude with altitudinal range of 253 to 4162 m (Fig. 1). Yearly rainfall ranges from 912 to 1801 mm, and temperatures ranging between 0 and 47 °C (Rao et al., 2015).

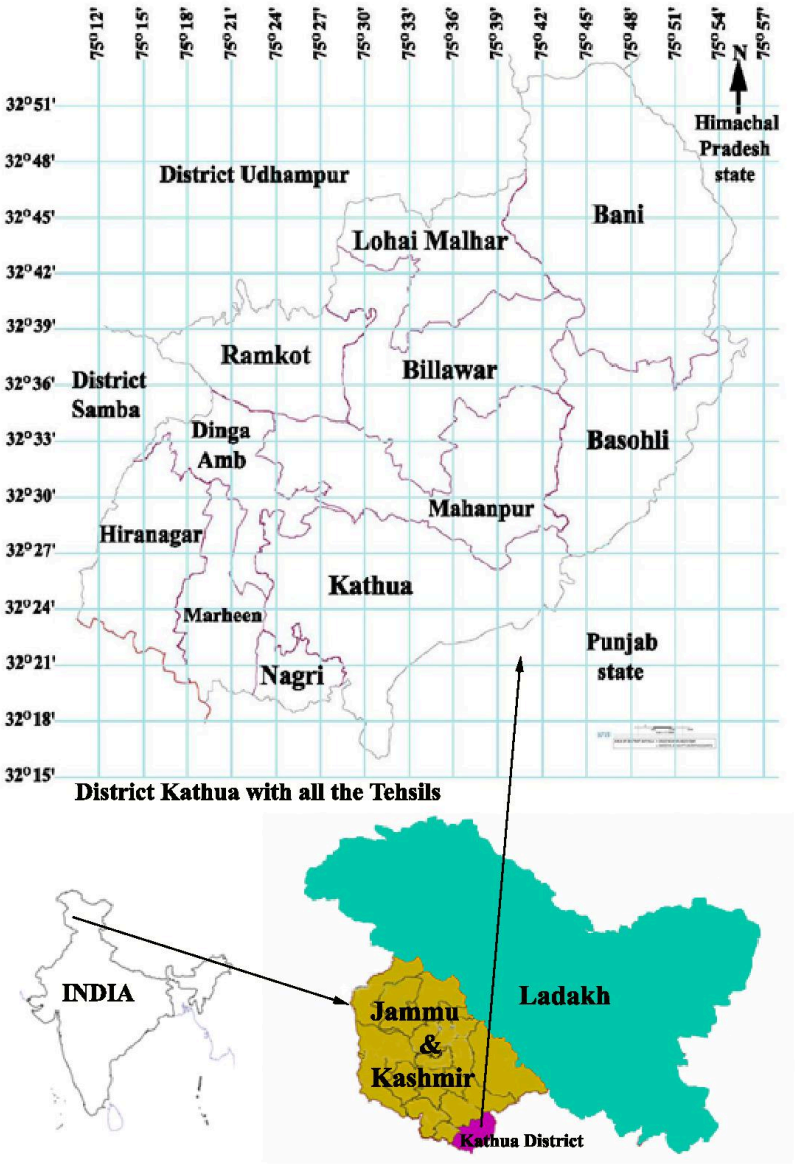

Fig. 1. *Location map of Billawar and Basohli tehsils of Kathua district of Union Terrirory of Jammu and Kashmir*

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Ethnically, residents of Billawar and Basohli tehsils are Dogras. They mainly speak Dogri language. Billawar has a total population of 150882, mostly following Hinduism (84.7 %) and Islam (15.0 %). Basohli has a total population of 70810 out of which 86.2 % are Hindu and 13.7 % are Muslims. Majority of the residents (more than 60%) of these tehsils have small land holdings and the source of earning for nearly 33.0 % inhabitants is labour and 66.0 % of the population dependents on agriculture.

2.2. Prior Informed Consent

Informants were briefed about the objectives of the study and Prior Informed Consent (PIC) was taken as per Convention on Biological Diversity (CBD).

2.3. Data collection

A systematic exploration was carried out in different villages of Billawar and Basohli tehsils of Kathua district during January 2019 to January 2022. Semi-structured interviews were conducted to collect the data from a total 25 informants known as *Dai* or midwives, who are expert in child delivery and gynaecological problems. Interviews were taken in the native language for the convenience of the informants so that they could easily express themselves. Snowball sampling method was used for the collection of data, as this technique is considered best when the number of informants is less or their category is specific (Naderifar et al., 2017).

Uses narrated by the informants were recorded as use-reports and further analysed for use-values as per the formula, , where UR is use-reports and n is total number of informants.

3. Results

A total of 25 informants were interviewed for the information (Table 1). All informants were female and most of them (96 %) have never attended a school. Age of informants ranged from 42 to 79 years and all were expert in the child delivery and gynaecological problems. They generally follow traditional *Ayurveda* and *Unani* systems for treatments.

Age Group (years)	Number of Informants	Education Level	
		Illiterate	Literate
41-50	3	2	1
51-60	6	6	-
61-70	8	8	-
71-80	3	3	-

Table 1. Details of informants (all females).

The midwives in the study site use a total of four treatments and two therapies (Table 2). The most common cure was treatment-1, prescribed by 80% of the informants, and using *Trigonella foenum-graecum* L., *Quercus infectoria* Oliver, and *Myristica fragrans* Houtt. Treatment-2 was suggested by 56% of the informants. In this treatment *Vitex negundo* L. and cinnabar (*Sangarph*) are used. The massage treatment was mandatory and exercise was also recommended by the midwives.

Type	Ingredients	Preparation/procedure	Use-reports
Treatment-1	*Trigonella foenum-graecum* L., *Quercus infectoria* Oliver, and *Myristica fragrans* Houtt	Take 110gm seeds of *Trigonella foenum-graecum*, 3 numbers of *Quercus infectoria* and 3 numbers of *Myristica fragrans*, and grind them all in a grinder as fine powder. Take 10 gm of powder in muslin cloth and make a small pouch (*potli*). Lubricate the pouch with cow fat (*Desi Ghee*), and put it in the vagina. Push it into the uterus with the middle finger as much as possible. Do it at night and remove it on the next evening. Repeat it alternatively for 11 times.	20
Treatment-2	*Vitex negundo* L. and cinnabar (HgS)	Take 200gm fresh leaves of *Vitex negundo*, wash them, then dry in shade, and make paste. Make 11 equal sized small balls from paste. Spread a thin layer of cinnabar on each ball. Lubricate a ball with coconut oil or cow fat and put it into vagina at bedtime daily. The next morning it comes out itself. Do it for 6 days, and repeat the process after 3 days for 5 days.	14
Treatment-3	*Cannabis sativa* L.	Take branches of *Cannabis sativa* that contain leaves and make their roll. Then take a brick and heat it to tolerable level, and then place that roll on the brick and sit on it for 30 minutes before going to bed. Do it for 5 days daily. Then repeat it on 3^{rd} or 4^{th} day for 21 days.	9
Treatment-4	*Quercus infectoria* Oliver, *Vitex negundo* L., *Syzygium aromaticum* (L.) Merr. & L.M. Perry, *Papaver somniferum* L., and egg	Take 100gm leaves of *Vitex negundo*, 3 numbers of *Quercus infectoria* and 3 numbers of *Syzygium aromaticum*, one egg white and 1 gm *Papaver somniferum* and make paste of all in a mixer. Take 10-15gm of this paste and make balls, and dry in shade. Put a ball daily into the uterus with the middle finger. Keep the rest ball in a clean and dry	9

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Type	Ingredients	Preparation/procedure	Use-reports
		box for further use. Do it at bedtime. Repeat it for 7 days.	
Massage therapy	*Desi ghee*	In this case, fingers and palm are used to push the uterus upward. Massage is given to patients regularly for seven days, and then after 3rd or 4th day for 21 days. After that, once or twice in a month for next six months. This is obligatory treatment given to patients with one or two abovementioned treatments.	25
Exercise	-	Put a mat on the ground and lie down on it with your face upward. Keep a pillow below the lower abdomen and tight pelvic muscles and hold it as you can and then relax. Repeat it again for 10 to 20 minutes daily in the morning and evening. In serious cases, sleep with pillow below the lower back was recommended.	23

Table 2. Preparations of medicines and procedure of prescribed exercises

As per midwives, young women were more responsive than older ones, and a patient who works in the field or does physical work daily responds best to the treatment. In addition to good diet and physical setup of body of the patient were other important characteristics that respond well to the treatment. They also stated that treatment just after the delivery gives best results. The midwives also regulate diet of the patient during the treatment.

The midwives utilize altogether seven plant species belonging to seven families and seven genera to cure uterine prolapse (Table 3). Herbs and trees were the main life form used with 42.9% contribution each. Seeds and leaves (with 28.6% contribution each) were the most used plant parts. Values of use-report (UR) and use value (UV) shows that *Quercus infectoria* was the most used plant species followed by *Myristica fragrans* and *Trigonella foenum-graecum* (Table 3). *Quercus infectoria*, *Myristica*

fragrans, *Papaver somniferum*, and *Syzygium aromaticum* (L.) Merr. & L.M. Perry along with cinnabar (*Sangarph*) are procured from local *pansari* (a local shop where herbs are sold) whereas *Trigonella foenum-graecum* is cultivated, and *Vitex negundo* and *Cannabis sativa* L. are available locally.

Botanical Name	Family	Local name	Habit	Plant Part Used	UV
Cannabis sativa L.	Cannabaceae	*Bhang*	Herb	Leaves	0.72
Myristica fragrans Houtt	Myristicaceae	*Jaifal*	Tree	Seeds	0.80
Papaver somniferum L.	Papaveraceae	*Afim*	Herb	Latex extracted from the fruit walls	0.36
Quercus infectoria Oliver	Fagaceae	*Maju*	Tree	Gall arising in the branches of tree	1.16
Syzygium aromaticum (L.) Merr. & L.M. Perry	Myrtaceae	*Long*	Tree	Flower buds	0.36
Trigonella foenum-graecum L.	Fabaceae	*Methray*	Herb	Seeds	0.80
Vitex negundo L.	Verbenaceae	*Bana*	Shrub	Leaves	0.56

Table 3. Characteristics of plants used to cure uterine prolapse.

4. Discussion

Midwives are integral part of traditional health care system in India since time immemorial. They are mostly illiterate and more associated with childbirth and postpartum care of the mother. Their main jobs after childbirth includes massage and prescribe remedy, if the newborn baby gets ill, and massage and diet of the mother. They were preferred over the doctors because, being women, the mother can share her problems easily with the traditional midwives. Traditional midwives can do massage without hesitation as they belong to the same or nearby village. However, with the introduction of educated ASHAs (Accredited Social Health Activists) and ANMs (Auxillary Nurse Midwives) by the

governments, these traditional midwives are slowly but steadily losing their place in the society (Ashtekar, 2008).

In the present study, altogether 25 midwives were interviewed. They were well versed with the uterus prolapse and its treatment. According to them, they have treated all of their patients although the time taken to recover varied with the age of the women (patient), her day-to-day activities, diet, and body setup. Swift et al. (2005) has also stated that uterus prolapse is a recurring disease, and age, constipation, family history, high body mass index, race, and vaginal delivery are the risk factors for its development. According to midwives, all the four methods were effective for the treatment of uterus prolapse but the success of these cures depend upon the massage and exercise carried out by or in presence of the traditional midwives. The exercise recommended by the midwives for prolapsed uterus patients in the present study resembles with the *Kegel* exercise suggested by Piya-Anant et al. (2003).

A total of seven plants were reported for the treatment of uterus prolapse in the present study. These results are within the range of 4 and 13 plants reported respectively, by Nahua women in Northern Veracruz, Mexico (Smith-Oka, 2008), and midwives of Kry ethnic group in Lao People's Democratic Republic (Lamxay et al., 2011). Midwives of Trinidad and Tobago use *Eupatorium macrophyllum* L. (Lans, 2007), and tribal communities of Mohmand Agency near the Pak-Afghan border area apply *Hypericum perforatum* L. for the treatment of uterus prolapse (Aziz et al., 2018).

Quercus infectoria, *Myristica fragrans* and *Trigonella foenum-graecum* were the most utilized plants against uterus prolapse in the present study. *Quercus infectoria* is also used to treat utero-vaginal prolapse in traditional Iranian (Askari et al., 2019; Mahboubi, 2020) and *Unani* system (Naim and Begum, 2017). It has anti-bacterial (Basri et al., 2012), anti-inflammatory (Jalalpure et al., 2002), antifungal (Vanga et al., 2017) and astringent (Naim and Begum, 2017) properties, and thus having good healing abilities. Naim and Begum (2017) have also confirmed the efficacy of *Quercus infectoria* decoction in the management of utero-vaginal prolapse. They treated first and second degrees of utero-vaginal prolapse through the administration of *Quercus infectoria* decoction for 8 weeks. According to them the tannins present in *Quercus infectoria* constricts the ligaments of uterus, absorb the excessive fluids and provide strength to pelvic muscles.

Myristica fragrans is consumed in soups as postpartum medication in Africa (Iwu, 1993), healing of various muscular maladies after childbirth in Rajasthan , India (Grover et al., 2002; Kumawat et al., 2021), and in Tanane Province of Southwest Morocco, people use seed powder in the treatment of

problems related to digestive system, genital, respiratory system, skeleton (Ouhaddou et al., 2014). In *Ayurveda*, it is used as an ingredient of medicinal oil used for massage as a cure of uterus prolapse (Sharma et al., 2017). The fruit is anti-inflammatory, analgesic (Olajide et al., 2000), astringent, and antifungal (Abourashed and El-Alfy, 2016). Najeeya and Sultana (2018) have studied the efficacy of *Myristica fragrans* for urinary prolapse and incontinence, and found it effective against these problems without any side effect.

Trigonella foenum-graecum is one of the most ancient medicinal plants (Mallik and Bhattacharjee, 2019). Abbasi et al. (2013), Rai et al. (2019), Khan et al. (2021) have reported the use of *Trigonella foenum-graecum* for the treatment of uterus prolapse in livestock. In the traditional Persian medicine it is used to relieve post-partum pain (Ali, 2009).

Usage of seeds of *Cannabis sativa* for the treatment of uterine prolapse and as an aid at the time of birth has also been reported from China and Southeast Asia (Perry and Metzger, 1980). In Nepal, the patient with prolapsed uterus is asked to sit on the warm leaves of *Cannabis sativa* (Puri and Odland, 2011). *Cannabis sativa* has healing and pain relieving properties (Marinelli et al., 2020).

Cinnabar, which is a highly poisonous heavy metal containing 96 percent HgS, is also used in the present study to cure prolapsed uterus. It has been employed in traditional Indian and Chinese medicines for the last 2000 yrs despite its toxicity (Kumar et al., 2006). The degree of toxicity of mercurial compounds in their many chemical forms (organic and inorganic) varies, with side effects including hearing loss, eye disruption, motor deficiencies, and delayed or altered walking ability (Elansekaran et al., 2016). In the traditional *Ayurvedic* system, cinnabar is treated before use by absorbing sulphur into mercury six times to reduce toxicity and make it therapeutically potent. In *Unani* system, cow milk and clarified butter (*ghee*) are used as an antidote against cinnabar poisoning (CCRUM, 2007). Moreover, in the present study its external use is suggested that has little toxicity and side effects.

Novelty

The literature survey shows that *Syzygium aromaticum*, *Papaver somniferum*, and *Vitex negundo* are reported for the first time to cure prolapsed uterine. These species may be used in the treatment of uterine prolapse due to antimicrobial, anti-inflammatory, antidepressant, antiulcer properties of *Syzygium aromaticum* (Batiha, 2020), antimicrobial, muscle relaxant, analgesic properties of *Papaver*

somniferum (Labanca et al., 2018), and anti-inflammatory, analgesic, nervine stimulant, febrifuge properties of *Vitex negundo* (Basri et al., 2014).

5. Conclusion

A good number of plants are utilized by midwives of Billawar and Basohli tehsils of Kathua to cure uterine prolapse. They were primarily applying the medicine into the uterus through the vagina. Total four treatments, comprising of plants, were suggested by midwives, along with obligatory massage therapy. They were treating first two stages of uterine prolapsed and according to them the time taken to cure varies with patient's age, nature of job, body build-up and diet. The literature survey suggests that use of *Syzygium aromaticum*, *Papaver somniferum*, and *Vitex negundo* is new for the treatment of uterine prolapse. In future, phytochemistry of these species and pharmacological efficacy with respect to uterine prolapse can be done. Moreover, the toxic effects of external usage of cinnabar may also be studied.

Declaration of conflict of interest

The authors disclose that they do not have any competing interests.

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Authors' contributions

YP and RKM designed the work; YP collected the information from the field and arranged the data; RKM analyzed the data; YP wrote the manuscript along with RKM; YD and RKM reviewed and revised the manuscript.

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References

- Abbasi, A.M., Khan, S.M., Ahmad, M., Khan, M.A., Quave, C.L., Pieroni, A., 2013. Botanical ethnoveterinary therapies in three districts of the Lesser Himalayas of Pakistan. Journal of Ethnobiology and Ethnomedicine 9, 84.
- Abourashed, E.A., El-Alfy, A.T., 2016. Chemical diversity and pharmacological significance of the secondary metabolites of nutmeg (*Myristica fragrans* Houtt.). Phytochemistry Reviews 15(6), 1035-56.
- Ali ibn al-Abbas al-Majusi, 2009. Kitab al-Maleki. Tehran University Press.
- Ali, F.M., Ali, H.A., Chaudhary, A., Chaudhary, R.A., 2019. Nutu-e-Rahm (Uterine Prolapse) and its Management in Modern and Unani System of Medicine: a Review. Research & Reviews: A Journal of Unani, Siddha and Homeopathy 6(3), 15-20.
- Ashtekar, S., 2008. The National Rural Health Mission: A Stocktaking. Economic and Political Weekly 43(37), 23-26.
- Askari, S.F., Azadi, A., Jahromi, B.N., Tansaz, M., Nasiri, A.M., Mohagheghzadeh, A., Badr, P., 2019. A Comprehensive Review about *Quercus infectoria* G. Olivier Gall. Research Journal of Pharmacognosy (RJP) 7(1), 67-75.
- Aytan, H., Ertun D., Tok, E.C., Yaşa, O., Nazik, H., 2014. Prevalence of pelvic organ prolapse and related factors in a general female population. Turkish Journal of Obstetrics and Gynecology 3 (2014), 176-180.
- Azher, S., 2017. Professional Niche Differentiation: Understanding *Dai* (Traditional Midwife) Survival in Rural Rajasthan. ASIA Network Exchange, 24(1), 132-150, DOI: https://doi.org/10.16995/ane.240
- Aziz, M.A., Khan,A.H., Adnan, M., Ullah, H., 2018. Traditional uses of medicinal plants used by indigenous communities for veterinary practices at Bajaur Agency, Pakistan. Journal of Ethnobiology and Ethnomedicines, 14(1), 11. https://doi.org/10.1186/s13002-018-0212-0
- Basri, D.F., Tan, L.S., Shafiei, Z., Zin, N.M., 2012. *In-vitro* antibacterial activity of galls of *Quercus infectoria* Olivier against oral pathogens. Evidence Based Complement and Alternative Medicine, Article ID 632796.

- Basri, F., Sharma, H.P., Firdaus, S., Jain, P., Ranjan, A., 2014. A review of ethnomedicinal plant-*Vitex negundo* L. International Journal of Advanced Research 2(3), 882-894.
- Batiha, G.E.S., Alkazmi, L.M., Wasef, L.G., Beshbishy, A.M., Nadwa, E.H., Rashwan, E.K. 2020. *Syzygium aromaticum* L. (Myrtaceae): Traditional Uses, Bioactive Chemical Constituents, Pharmacological and Toxicological Activities. Biomolecules 10(2), 202, doi: 10.3390/biom10020202.
- Bilade, K., Bhalgat, M., 2020. Yonidhawan Karma in Kaphaj Yonivyapda: Literature Review. World Journal of Pharmaceutical and Medical Research 6(10), 195-197.
- Central Council for Research on Unani Medicine (CCRUM), 2007. National Formulary of Unani Medicine, Part II, Vol. I. New Delhi: Government of India, Ministry of Health (Department of AYUSH).
- Chibelean, B., 2009. Minimally invasive surgical treatment of complex genital prolapse in elderly women: Impact on quality of life. European Urology Supplements 8, 664.
- David-Montefiore, E., Barranger, E., Dubernard, G., Detchev, R., Nizard, V., Darai, E., 2005. Treatment of genital prolapse by hammock using porcine skin collagen implant (Pelvicol). Urology 66, 1314-1318.
- de Tayrac, R., Gervaise, A., Cheauvaud-Lambling, A., Fernandez, H., 2004. Combined genital prolapse repair reinforced with a polypropylene mesh and tension-free vaginal tape in women with genital prolapse and stress urinary incontinence: A retrospective case-control study with short-term follow-up. Acta Obstetricia et Gynecologica Scandinavica 83, 950-54.
- Devi, M., Goni, J.M., 2019. Ayurvedic Management of Prasramsini Yonivyapat with respect to Uterine Prolapse: A Case Study. European Journal of Pharmaceutical and Medical Research, 6(3), 547-550.
- Doshani, A., Teo, R.E.C., Mayne, C.J., Tincello, D.G., 2007. Uterine prolapsed. Clinical Review 335, 819-823.
- Elansekaran, S., Thanigavelan, V., Logamanian, M., 2016. Acute and sub-acute toxicity studies of a *Siddha* sastric formulation Linga chendhuram in wistar rats. International Journal of Ayurveda and Pharma Research 4(5), 22-28.
- Esaivani, S., Susila, R., Kavitha, T., Usha, A., Sathiyarajeswaran, P., 2020. Management of Prolapsed Uterus-Grade I with Siddha External Therapy *Aloe vera* and Tripala Bandage: A Case Study. Archives of Clinical and Medical Case Reports 4(2), 266-272.
- Ghoshal, R., 2014. Death of a *Dai*. Economic & Political Weekly 49(42), 27.

- Grover, J.K., Khandkar, S., Vats, V., Dhunnoo, Y., Das, D., 2002. Pharmacological studies on *Myristica fragrans* - antidiarrheal, hypnotic, analgesic and haemodynamic (blood pressure) parameters. Methods and Findings in Experimental and Clinical Pharmacology 24, 675-80.
- Gyhagen, M., Bullarbo, M., Nielsen, T.F., Milsom, I., 2012. Prevalence and risk factors for pelvic organ prolapse 20 years after childbirth: A national cohort study in singleton primiparae after vaginal or caesarean delivery. British Journal of Obstetrics and Gynaecology 120, 152-160.
- Hagen, S., Stark, D., Maher, C., Adams, E.J., 2006. Conservative management of pelvic organ prolapsed in women. Cochrane Database of Systematic Reviews. doi:10.1002/14651858.cd003882.pub3
- Hansom, L.A., Schulz, J.A., Flood, C.G., Cooley, B., Tam, F., 2006. Vaginal pessaries in managing women with pelvic organ prolapsed and urinary incontinence: Patient characteristics and factors contributing to success. International Urogynecological Journal of Pelvic Floor Dysfunction 17, 155-59.
- Iwu, M., 1993. Handbook of African Medicinal Plants. CRC Press, Boca Raton, Florida, USA.
- Jalalpure, S., Patil, M., Alagawadi, K., 2002. Wound healing activity of the galls of *Quercus infectoria* Olivier. Journal of Natural Remedies 2(1), 54-58.
- Khan, S.M.R., Akhter, T. Hussain, M., 2021. Ethno-veterinary practice for the treatment of animal diseases in Neelum Valley, Kashmir Himalaya, Pakistan. PLoS ONE 16(4), e0250114. https://doi.org/10.1371/journal.pone.0250114.
- Khan, T.N., Dalvi, P.N., 2017. Ayurvedic measures to minimize need of Hysterectomy. Journal of Ayurveda and Integrated Medical Sciences 1, 136-138.
- Kumar, A., Nair, A.G., Reddy, A.V., Garg, A.N., 2006. Bhasmas: unique ayurvedic metallic-herbal preparations, chemical characterization. Biological Trace Element Research 109, 231-254.
- Kumawat, K., Jain, S., Arora, A., 2021. Ethnomedicinal studies of postpartum recipes used by rural and tribal women of Southern Rajasthan, India. Annals of Plant Sciences 10(2), 4151-4161.
- Labanca, F., Ovesna`, J., Milella, L., 2018. *Papaver somniferum* L. taxonomy, uses and new insight in poppy alkaloid pathways. Phytochemistry Review 17, 853-871.
- Lamxay, V., J de Boer, H., Björk, L., 2011. Traditions and plant use during pregnancy, childbirth and postpartum recovery by the Kry ethnic group in Lao PDR. Journal of Ethnobiology and Ethnomedicine 7, 14.
- Lans, C., Brown, G., 1998. Observations on ethnoveterinary medicines in Trinidad and Tobago. Journal of Preventive Veterinary Medicine 35(2), 125-142. https://doi.org/10.1016/s0167-

5877(97)00055-x

- Mahboubi, M., 2020. Quercus infectoria fruit hulls and galls and female genital disorders. Mahboubi Clinical Phytoscience 6, 44 https://doi.org/10.1186/s40816-020-00194-9
- Mallik, A., Bhattacharjee, C., 2019. *Trigonella foenum-graecum*: A review on its traditional uses, phytochemistry and pharmacology. International Journal of Advances in Scientific Research 5(5), e5217. Doi:10.7439/ijasr.v5i5.5217
- Margulies, R.U., Rogers, M.A., Morgan, D.M., 2010. Outcomes of transvaginal uterosacral ligament suspension: Systematic review and meta-analysis. American Journal of Obstetrics and Gynecology 202, 124-34.
- Marinelli, O., Morelli, M.B., Annibali, D., Aguzzi, C., Zeppa, L., Tuyaerts, S., Amantini, C. Amant, F., Ferretti, B., Maggi, F., Santoni, G., Nabissi, M., 2020. The Effects of Cannabidiol and Prognostic Role of TRPV2 in Human Endometrial Cancer. International Journal of Molecular Sciences 21, 5409; doi:10.3390/ijms21155409.
- Naderifar, M., Goli, H., Ghaljaie, H., 2017. Snowball Sampling: A Purposeful Method of Sampling in Qualitative Research. Strides in Development of Medical Education 14(3), e67670. doi: 10.5812/sdme.67670.
- Naim, M., Begum, W., 2017. Efficacy of Quercus infectoria Oliv. Galls in the Management of Uterovaginal Prolapse: A Randomized Clinical Trial International Journal of Science and Research 6(7), 1690-94.
- Najeeya, A.G.F., Sultana, A., 2018. Efficacy of mace (Arils of *Myristica fragrans* Houtt) plus PFMT on symptoms in mixed urinary incontinence: a randomized placebo-controlled trial. Integrative Medicine Research 7, 3017-315.
- Olajide, O.A., Makinde, J.M., Awe, S.O., 2000. Evaluation of the pharmacological properties of nutmeg oil in rats and mice. Pharmaceutical Biology 38(5), 385-390.
- Ouhaddou, H., Boubaker, H., Msanda, F., El Mousadik, A., 2014. An ethnobotanical study of medicinal plants of the Agadir Ida Ou Tanane province (southwest Morocco). Journal of Applied Biosciences 84, 7707-22.
- Perry, L.M., Metzger, J., 1980. Medicinal plants of East and Southeast Asia: Attributed Properties and Uses (Vol. 620). MIT Press, Cambridge, London; http://kbd.kew.org/kbd/detailedresult.do?id=63960.
- Persu, C., Chapple, C.R., Cauni, V., Gutue, S., Geavlete, P., 2011. Pelvic Organ Prolapse Quantification System (POP-Q) – a new era in pelvic prolapse staging. Journal of Medicine and Life 4(1), 75-81.

- Piya-Anant, M., Therasakvichya, S., Leelaphatanadit, C., Techatrisak, K., 2003. Integrated health research program for the Thai elderly: Prevalence of genital prolapse and effectiveness of pelvic floor exercise to prevent worsening of genital prolapse in elderly women. Journal of Medical Association of Thailand 86, 509-15.
- Puri, R., Odland, J.O., 2011. Prevalence, risk factors and traditional treatments of genital prolapse in Manma, Kalikot District, Nepal: A community based population study. Thesis for Master of Public Health submitted at the University of Tromso, Norway.
- Rai, C., Singh, K., Lal, S., Arti, Azad, A., 2019. Adoption and Perceived Effectiveness of Indigenous Technical Knowledge among Tribal Farmers for Bovine Management: An Exploratory Study. International Journal of Livestock Research, 9(2), 243-253. doi: 10.5455/ijlr.20180921074902
- Rao, P.K., Hasan, S.S., Bhellum, B.L., Manhas, R.K., 2015. Ethnomedicinal plants of Kathua district, J&K, India. Journal of Ethnopharmacology 171, 12–27.
- Schwartz, M., Abbott, K.R., Glazerman, L., Sobolewski, C., Jarnagin, B., Ailawadi, R., Lucente, V., 2007. Positive symptom improvement with laparscopic uterosacral ligament repair for uterine or vaginal vault prolapsed: Interim results from an active multicenter trial. Journal of Minimally Invasive Gynecology 14, 570-76.
- Shivanandaiah, T.M., Indudhar, T.M., 2010. Lajjalu treatment of uterine prolapsed. Journal of Ayurveda and Integrative Medicine 1(1), 125-128.
- Smith-Oka, V., 2008. Plants Used for Reproductive Health by Nahua Women in Northern Veracruz, Mexico. Economic Botany 62(4), 604-614.
- Surendran, E.S., Lal, M.A., Shankar, K.M.P., Deep, V.C., 2018. Conservative Management of Young Age Onset Pelvic Organ Prolapse through Ayurvedic Management: A Case Report. Journal of Research in Ayurvedic Sciences 2, 254-258.
- Swift, S.E., Woodman, P., O'Boyle, A., Kahn, M., Valley, M., Bland, D., Wang, W., Schaffer, J. 2005. Pelvic organ support study (POSST): the distribution, clinical definition and epidemiology of pelvic organ support defects. American Journal of Obstetrics and Gynecology 192, 795-806.
- Vanga, S., Pingili, M., Tharigoppula, S., 2017. Phytochemical screening and evaluation of antifungal activity of gall extracts of *Quercus infectoria*. International Journal of Pharmaceutical Science and Research 8(7), 3010-3013.

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