



Chapter 3

Plants useful in treatment of reproductive issues

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Abstract: Present study explores the potential of medicinal plants in addressing reproductive health issues, highlighting their traditional use along with plant parts used, and active compounds. Various plants, such as shatavari (*Asparagus racemosus*), ashwagandha (*Withania somnifera*), and guduchi (*Tinospora cordifolia*), have been found to possess properties that may support fertility, menstrual health, and hormonal balance. These plants may help regulate menstrual cycles, improve sperm quality, and alleviate symptoms associated with menopause and other reproductive disorders. While traditional knowledge and preliminary literature studies suggest benefits, further research is needed to fully understand their efficacy and safety in treating reproductive issues, emphasizing the importance of integrating plant-based remedies with conventional medical practices.

Keywords: Immunity, indigenous knowledge, medicinal plants, therapeutic

Introduction

Reproductive health is an essential aspect of human well-being, and the ability to conceive and bear children is a significant concern for many individuals and couples. However, reproductive issues such as infertility, menstrual disorders, erectile dysfunction, and other related complications are increasingly prevalent, affecting millions worldwide. Reproductive issues include a wide range of



challenges affecting both men and women, often impacting fertility, sexual health, and overall well-being. Common reproductive health problems in women include polycystic ovary syndrome (PCOS), endometriosis, menstrual irregularities, and infertility (Sharma and Sharma, 2023; Singh and Rose, 2024). Men also experience issues like erectile dysfunction, low sperm count, varicocele, or hormonal imbalances that affect sperm production and quality (Roozbeh et al., 2021; Kyarimpa et al., 2023). Additionally, both men and women can face challenges related to sexual health, such as decreased libido or painful intercourse. These issues can stem from various factors, including genetics, hormonal imbalances, infections, lifestyle choices, and environmental influences, often requiring a comprehensive approach to diagnosis and treatment. Addressing these reproductive health concerns typically involves a combination of medical interventions, lifestyle modifications, and sometimes alternative therapies like herbal remedies or acupuncture (Singh and Rose, 2024; Masjedi et al., 2024). While conventional medical treatments offer various solutions, traditional medicine and herbal remedies have gained attention for their potential in addressing these sensitive health concerns. Plants have been used for centuries in different cultures to enhance fertility, regulate menstrual cycles, and improve overall reproductive health, offering a natural and often more accessible alternative or complement to modern medical interventions. Henceforth, the use of plants in treating reproductive issues is supported by their rich content of bioactive compounds, such as flavonoids, alkaloids, and terpenoids, which can modulate hormonal balance, improve reproductive organ function, and enhance fertility. Herbs like ashwagandha (*Withania somnifera*) and shatavari (*Asparagus racemosus*) are traditionally known for their adaptogenic and fertility-enhancing properties and are used for ancient times (Masjedi et al., 2024). These plants may offer a promising avenue for individuals seeking natural solutions to reproductive challenges, though their efficacy and safety should be evaluated through rigorous scientific research to ensure their appropriate use in clinical practice. Present study focuses to explore the various plants recognized for their potential benefits in addressing reproductive problems, highlighting their traditional uses, active compounds, and scientific evidence supporting their efficacy. By delving into the world of herbal medicine, we can better understand how these natural remedies might offer support for those



facing reproductive challenges, providing insights into their potential role in modern healthcare.

Methodology

Through a literature survey it was revealed that many plants are used in treating reproductive problems. Literature data was gathered from Scopus, Web of Science, Springer, PubMed, Chem Spider, Elsevier, BioMed Central Google Scholar, using the search terms “Plants used for reproductive problems”, “Reproductive problems”, “bioactive compounds”, “mode of uses”, MDPI, Science Direct, SciFinder, Scirus, and Scientific Electronic Library Online (SciELO) from 2022-2025 (Jena et al., 2025; Kumar, 2025).

Results and discussion

Reproductive and sexual health issues include a range of conditions impacting both male and female reproductive systems, including sexually transmitted infections (STIs) like syphilis, gonorrhea, chlamydia, and trichomoniasis. Effective management of these issues is vital for overall health. Herbal remedies are commonly used to support reproductive well-being, with some acting as abortifacients (inducing abortion), anti-abortifacients (preventing miscarriage), fertility enhancers, or menstrual regulators. These natural approaches can complement conventional treatments, promoting holistic reproductive health. Herbal remedies offer a diverse range of applications for reproductive and sexual health, as evidenced by a variety of plants used for specific conditions. Through literature survey it revealed that 60 common medicinal plants used to cure reproductive problems (Table 1). Many of these botanicals, such as *Abutilon indicum*, *Acacia leucophloea*, and *Achyranthes aspera*, are employed to manage amenorrhoea and other menstrual problems (*Aristolochia indica*, *Saraca asoca*). Similarly, several species like *Acacia farnesiana*, *Azadirachta indica*, and *Ficus benghalensis* are utilized for treating leucorrhoea (white discharge). Furthermore, herbal preparations are reported for their roles in pregnancy and childbirth, with some noted for inducing or speeding up labor (*Allium sativum*, *Chenopodium incisum*, *Crescentia cujete*) and others for postpartum care (*Adiantum poiretii*, *Chromolaena odorata*). Some, like *Prosopis cineraria*, are used to prevent

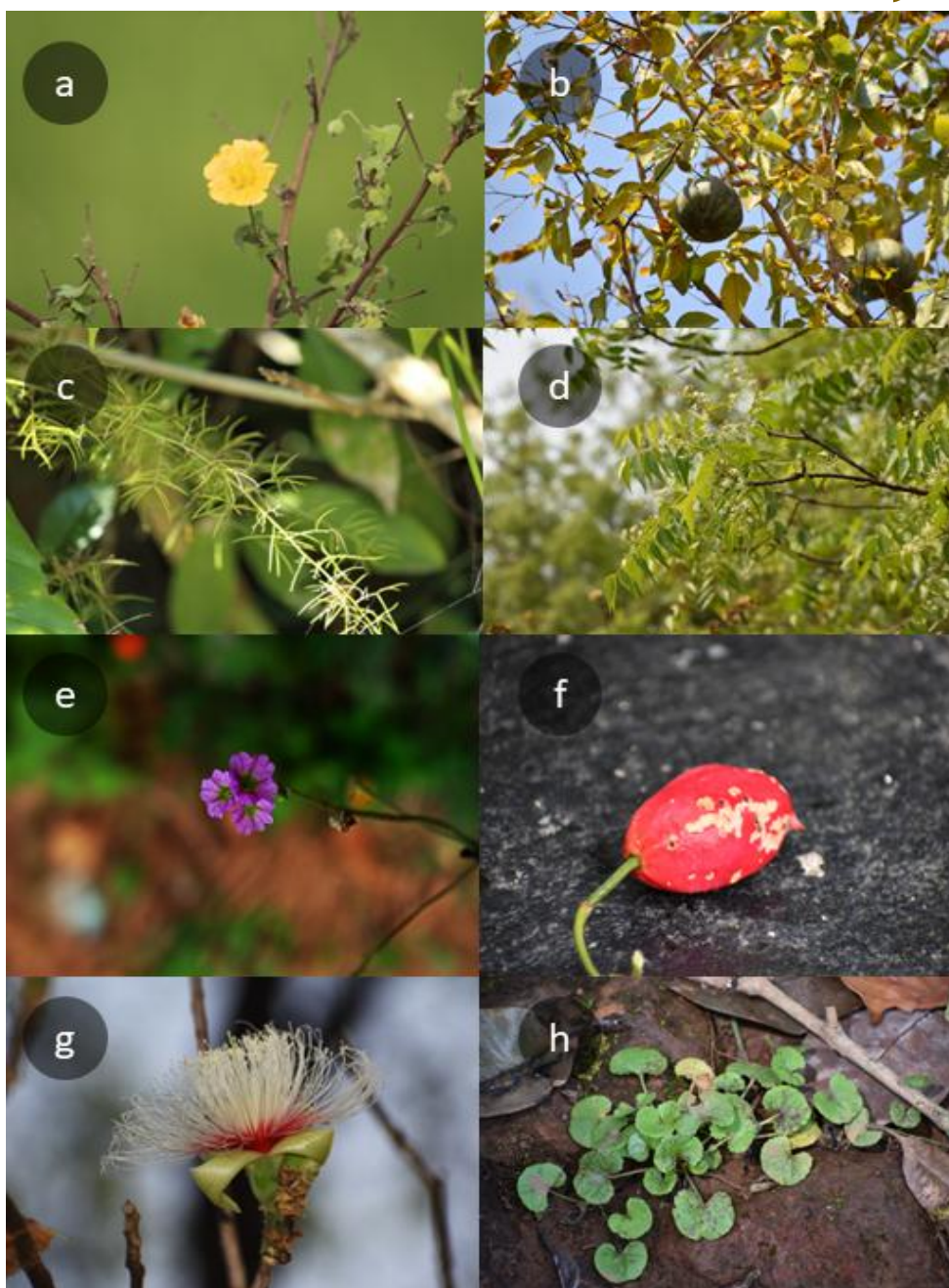


Figure 1: Some plants used to cure reproductive problems; a) *Abutilon indicum*, b) *Aegle marmelos*, c) *Asparagus racemosus*, d) *Azadirachta indica*, e) *Boerhavia diffusa*, f) *Capparis zeylanica*, g) *Careya arborea*, h) *Centella asiatica*



miscarriage, while others, like *Aegle marmelos* and *Ficus racemosa*, are noted for their anti-fertility or contraceptive properties. Beyond addressing specific disorders, these plants are also used to regulate hormonal balance and enhance reproductive functions. For instance, *Asparagus racemosus* and *Euphorbia hirta* are highlighted for supporting lactation, while *Vitex agnus-castus* is used to stimulate progesterone secretion and regulate the cycle. *Bidens pilosa* and *Curculigo orchioideis* are cited for promoting fertility and sexual desire, respectively. Conversely, some herbs show potential in managing complex endocrine conditions, with *Glycyrrhiza glabra*, *Cinnamomum verum*, and *Punica granatum* all being investigated for symptoms related to Polycystic Ovary Syndrome (PCOS). According to figure 2, it revealed that the dominant plant parts are leaves, fruit, bark, seed, and flowers (Figure 2). The wide array of bioactive compounds, including saponins, flavonoids, alkaloids, and terpenes, present in these plants underscore the chemical basis for their reported traditional uses in achieving holistic reproductive health (Table 1).

Table 1: Some common plants used to treat reproductive problems

Botanical name	Parts used	Major compounds	Reproductive diseases	Sources
<i>Abutilon indicum</i> (L.) Sweet (Figure 1a)	Seed	Alkaloids, saponins, amino acids, flavonoids, glycosides and steroids	Amenorrhoea	Sharma and Sharma, (2023); Chaurasia and Sakya, (2025)
<i>Acacia farnesiana</i> (L.) Willd.	Bark	Terpenes, phenolic acids, flavonoids, tannins, alkaloids fatty acids	Leucorrhoea	Balamurugan et al., (2017); Chekchaki et al., (2025)
<i>Acacia leucophloea</i> (Roxb.) Willd.	Leaves and bark	Alkaloids, tannins, saponins, glycosides, phenolic compounds and flavonoids.	Amenorrhoea	Batiha et al., (2022); Sharma and Sharma, (2023)
<i>Achyranthes aspera</i> L.	Root	Alkaloids, flavonoids, saponins and triterpenoids	Amenorrhoe; menstrual problem	Sharma and Sharma, (2023); Talreja and Tiwari, (2023)



<i>Adiantum poiretii</i> Wikstr.	Leaves	Triterpenoids, flavonoids, phenyl propanoids, steroids, alicyclic acids and lipids	Postpartum care	Pan et al., (2011); Singh et al., (2024)
<i>Adiantum tenerum</i> Sw.	Leaves	Triterpenoids, flavonoids, phenyl propanoids, steroids, alicyclic acids and lipids	Postpartum care	Pan et al., (2011); Singh et al., (2024)
<i>Aegle marmelos</i> (L.) Corrêa (Figure 1b)	Fruit and leaves	Skimianinc, sterol, aegelin, marmolosin, alkaloids and coumarins	Anti-fertility	Yadav et al., (2023)
<i>Allium sativum</i> L.	Fruit	Diallyl disulfide, diallyl trisulfide, diallyl sulfide, dipropyl disulfide and dipropyl trisulfide	Induces labour or speed birth	Devi, (2021); Singh et al., (2024)
<i>Aloe vera</i> (L.) Burm.f.	Leaves	Tannin, saponin, flavonoids and terpenoids	Unspecified obstetric problems	Raksha et al., (2014); Singh et al., (2024);
<i>Annona squamosa</i> L.	Root	Acetogenins and flavonoids	Abortion	Balamurugan et al., (2017); Kumar et al., (2021)
<i>Aristolochia indica</i> L.	Root	Diterpenoids and phenolic compounds	Menstrual disorders	Balamurugan et al., (2017); Dar et al., (2021)
<i>Arundo donax</i> L.	Leaves	Flavonoids, Alkaloids, Tannins, Terpenoids and Phenolic compounds	Postpartum care	Singh et al., (2024); Tripathi and Kumar, (2025)
<i>Asparagus racemosus</i> Willd. (Figure 1c)	Tuber, root and stem	Steroidal saponins, isoflavones, asparagine and racemosol	Lactation, uterine disorders, excess bleeding	Balamurugan et al., (2017); Mishra and Verma, (2017)
<i>Azadirachta indica</i> A.Juss.	Fruit and bark	Azadirachtin, nimbin, nimbidin,	Leucorrhoea	Balamurugan et al., (2017);



(Figure 1d)		nimbolide and nimbic acid		Tripathi et al., (2018)
<i>Bidens pilosa</i> L.	Whole plant	Astragalene, squalene and luteolin and quercetin	Promotes fertility	Singh et al., (2024); Adeniyi et al., (2025)
<i>Boerhavia diffusa</i> L. (Figure 1e)	Whole plant and root	Alkaloids, flavonoids, glycosides, phenolics and saponins	Leucorrhoea	Balamurugan et al., (2017); Patel et al., (2025)
<i>Borassus flabellifer</i> L.	Root	Thiamine, riboflavin, pyridoxine and pantothenic acid	Contraceptive	Balamurugan et al., (2017); Joshua et al., (2023)
<i>Camellia sinensis</i> (L.) Kuntze	Flower	Galloylquinic acid, epigallocatechin, epicatechin, succinic acid, gallocatechin, strictinin, apigenin glucosyl arabinoside, quercetin, myricetin and genistein	Late pregnancy period and found improvements in the implantation index	Akbaribazm et al., (2021)
<i>Capparis zeylanica</i> L. (Figure 1f)	Leaves	Anthraquinones, alkaloids, carbohydrates, polyphenols, flavonoids, saponins, steroids, tannins and triterpenoids	Used for treatment of Syphilis	Mishra et al., (2022); Venkataswamy et al., (2023)
<i>Capsicum annuum</i> L.	Fruit	Polyphenols and flavonoids	Used as sex stimulant	Akhtar et al., (2021); Mishra et al., (2022)
<i>Cardiospermum halicacabum</i> L.	Leaves	Terpenoids, flavonoids, tannins, proteins, saponin and glycosides	To avoid high risk delivery pain	Balamurugan et al., (2017); Suresh et al., (2023)



<i>Careya arborea</i> Roxb. (Figure 1g)	Flower	Tannins, sterols and terpenes	After childbirth to heal injury	Nadekar et al., (2021); Mishra et al., (2022)
<i>Carica papaya</i> L.	Seed	Alkaloids, glycosides, tannins, saponins and flavonoids	Reduce menstrual pain	Nagarathna et al., (2021); Mishra et al., (2022)
<i>Catharanthus roseus</i> (L.) G. Don	Leaves	Flavonoids, phenolics, vinblastine and terpenoids	Leucorrhoea and menorrhagia	Balamurugan et al., (2017); Khan et al., (2024)
<i>Centella asiatica</i> (L.) Urb. (Figure 1h)	Leaves	Asiaticoside, brahmoside and madecassic acid	Irregular menstrual cycle	Balamurugan et al., (2017); Sun et al., (2020)
<i>Chenopodium incisum</i> Poir.	Leaves	Flavonoid	Oxytocic and induces labour or speeds birth	Singh et al., (2024); Sangeetha et al., (2024)
<i>Chromolaena odorata</i> (L.) R.M.King & H.Rob.	Leaves	Sesquiterpene lactones and flavonoids	Postpartum care	Singh et al., (2024); Akter and Begum, (2024)
<i>Cinnamomum verum</i> J.Presl	Bark	Eugenol, pyrogallol, cinnamic acid, ferulic acid, caffeic acid, gallic acid, protocatechuic acid and oleic acid	Development of PCOS symptoms	Akbaribazm et al., (2021)
<i>Cinnamomum verum</i> J.Presl	Bark	Cinnamaldehyde, eugenol, caryophyllene, cinnamyl acetate and cinnamic acid	Prevent premature ejaculation	Singh et al., (2021); Mishra et al., (2022)
<i>Cissus quadrangularis</i> L.	Stem	Alkaloids, flavonoids, terpenoids, glycosides and saponins	Irregular menstruation	Balamurugan et al., (2017); Bafna et al., (2021)



<i>Clitoria ternatea</i> L.	Root	Alkaloids, anthraquinone, anthocyanins and cardiac glycosides	Leucorrhoea and urinal disorders	Balamurugan et al., (2017); Raza et al., (2024)
<i>Coccinia indica</i> Wight & Arn.	Leaves	β -carotene, complex carbohydrates and fibre	Urinary obstruction	Balamurugan et al., (2017); Padma and Kumar, (2022)
<i>Cocos nucifera</i> L.	Fruit	Triterpenoids, flavonoids, phytosterols and phenolic compounds	Stops haemorrhage during labour	Yong et al., (2009); Singh et al., (2024);
<i>Commelina benghalensis</i> L.	Leaves	Alkaloids, phenolics, flavonoids, glycosides, tannins, saponins, sterols and anthocyanins	Control the painful urination and white discharge	Balamurugan et al., (2017); Dagne et al., (2024)
<i>Crescentia cujete</i> L.	Fruits	Alkaloid, flavonoid, phenol and saponin	Oxytotic and induces labour or speeds birth	Singh et al., (2024); Dasgupta and Mehta, (2023)
<i>Curculigo orchioides</i> Gaertn.	Tuber	Glycosides, alkaloids, saponins and polysaccharides,	Promoting sexual desire	Balamurugan et al., (2017); Kushalan et al., (2022)
<i>Cynodon dactylon</i> (L.) Pers.	Leaves, rhizome	Flavonoids, carotenoids, minerals, alkaloids, glycosides and triterpenoids.	Irregular menstrual cycle	Balamurugan et al., (2017); Vishwakarma et al., (2024)
<i>Euphorbia hirta</i> L.	Leaves	Alkanes, triterpenes, phytosterols, tannins, polyphenols and flavonoids	Lactation	Balamurugan et al., (2017); Kumar et al., (2010)
<i>Euphorbia tithymaloides</i> L.	Sap	Steroids, tannins, coumarins and saponins.	Uterine prolapse	Singh et al., (2024); Parvin et al., (2025)
<i>Ficus benghalensis</i> L.	Stem, bark and seed	Isoflavonoids, triterpenes, sterols,	Leucorrhoea, menorrhagia and lactation	Balamurugan et al., (2017);



		fatty acids and cyclic peptides		
<i>Ficus racemosa</i> L.	Bark and fruit	Kaempferol and coumarin	Contraceptive	Balamurugan et al., (2017); Yadav et al., (2015)
<i>Ficus religiosa</i> L.	Bark	Phytosterols, amino acids, furanocoumarins and phenolic components	To induce sterility in women, gonorrhea	Balamurugan et al., (2017); Singh et al., (2011)
<i>Foeniculum vulgare</i> Mill.	Seed	Sabinene, limonene, thymol and tricosane	Breast feeding and menopause	Singh et al., (2024); Yavangi et al., (2020)
<i>Glycyrrhiza glabra</i> L.	Whole plant	Matrine, oxymatrine, ferulic acid, mangiferin, glycyrrhizin, licuraside, licochalcon A/B, licoflavon, glycyrol and formonetin	Breast cancer, endometriosis, PCOS and POF	Akbaribazm et al., (2021)
<i>Guazuma ulmifolia</i> Lam.	Leaves	Alkaloids, tannins, saponins and flavonoids	Expel placenta	Singh et al., (2024); Kumar and Gurunani, (2019)
<i>Hibiscus rosa-sinensis</i> L.	Flower	Tannins, anthraquinones, quinines, phenols, flavonoids, alkaloids, terpenoids and saponins	Menopause	Singh et al., (2024); Snafi, (2018)
<i>Leucas aspera</i> (Willd.) Link	Leaves and flower	Steroids, alkaloids, phenols, flavonoids, galactose, tannins, saponins and amino acids	Dysmenorrhea	Balamurugan et al., (2017); Fazeela and Sankarram, (2024)
<i>Madhuca longifolia</i> (J.Koenig ex L.)	Leaves	sapogenins, carbohydrates, triterpenoids,	Lactation	Balamurugan et al., (2017);



		steroids, saponins and flavonoids		Ramadan et al., (2015)
<i>Mangifera indica</i> L.	Bark and seed	Phenolic acids, terpenoids, carotenoids and fatty acids	To stop bleeding from uterus and leucorrhea	Balamurugan et al., (2017); Quintana et al., (2021)
<i>Matricaria chamomilla</i> L.	Flower	Flavonoid, gallic acid, camazelin, farnesene, matricin, coumarin derivatives, apigenin and choline	Labor pain and contraction duration decreased	Akbaribazm et al., (2021); Snafi and Hasham, (2023)
<i>Nigella sativa</i> L.	Seed	Polyphenols, flavonoids, apigenin, catechin, epicatechin, p-coumaric acid, syringic acid and chlorogenic acid	Reduce testosterone levels	Akbaribazm et al., (2021)
<i>Phoenix dactylifera</i> L.	Fruit	Polyphenolic compounds, gallic acid and biochanin A-7-glucoside	Reduce PCOS symptoms	Akbaribazm et al., (2021)
<i>Piper nigrum</i> L.	Seed	Piperine, essential oils and flavonoids	Used as sex stimulant	Mishra et al., (2022); Patane et al., (2024)
<i>Prosopis cineraria</i> (L.) Druce	Flower	Alkaloids, flavonoids, steroids and terpenoids	Used to prevent miscarriage	Mishra et al., (2022); Gupta, (2024)
<i>Punica granatum</i> L.	Fruit	Anthocyanins, punicalagin, ellagic and gallic acids	Reduce PCOS symptoms	Akbaribazm et al., (2021)
<i>Saraca asoca</i> (Roxb.) W.J.de Wilde	Leaves	Catechin, epicatechin, leucocyanidin and oleic acid	Used to treat menstrual problem	Mishra et al., (2022); Salvi et al., (2022)



<i>Syzygium aromaticum</i> (L.) Merr. & L.M.Perry	Flower	Saponins, alkaloids, flavonoids, glycosides tannins and steroids	Used as sex stimulant	Mishra et al., (2022); Kaur and Kaushal, (2018)
<i>Trifolium pratense</i> L.	Seed	Cinnamic acid, epigallocatechin and caffeic acid	Postmenopausal	Akbaribazm et al., (2021)
<i>Vitex agnus-castus</i> L.	Fruit	Orientin, casticin, rutin, rosmarinic acid glycoside, quercetagenin trimethyl ether, biochanin A and genistein	Stimulates the secretion of corpus luteum after ovulation to produce progesterone	Akbaribazm et al., (2021)
<i>Withania somnifera</i> (L.) Dunal	Flower, leaves and fruit	Anaferin, anahygrine, hygrine, cuscohygrine tropine, pseudotropine, withananine, pseudowithanine and somnin	Breast cancer	Akbaribazm et al., (2021)

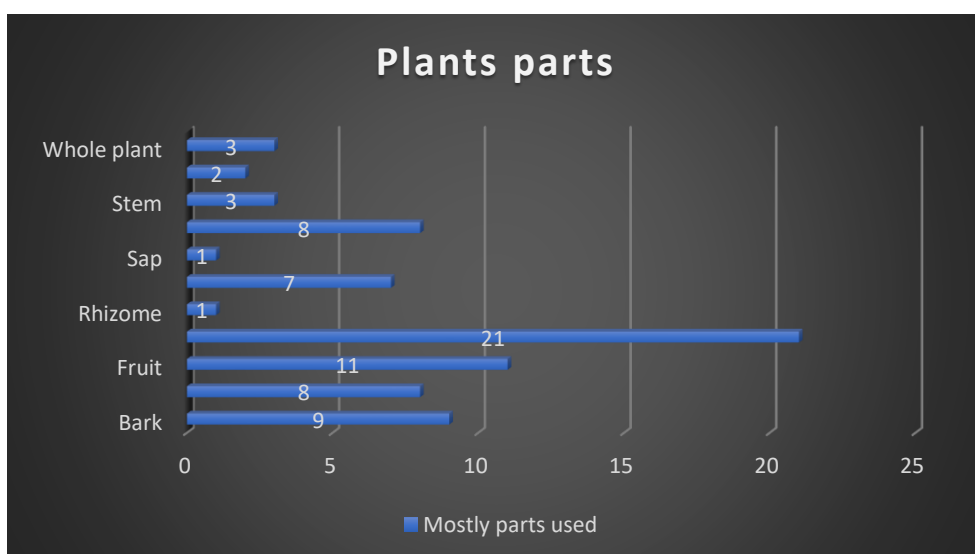


Figure 2: Illustration of plant parts used to treat reproductive problems



Conclusion

The exploration of plants in traditional medicine reveals a vast array of species with potential benefits for reproductive health. In this chapter 60 common plants are listed with bioactive compounds and specific reproductive problems. From managing menstrual disorders to supporting lactation and addressing fertility issues, these plants offer a wealth of therapeutic options. The diversity of bioactive compounds identified in these plants, including alkaloids, flavonoids, saponins, and terpenoids, underscores their potential as sources of novel therapeutic agents. By integrating traditional knowledge with modern scientific research, these plants can contribute significantly to the development of effective and sustainable solutions for reproductive health issues, ultimately enhancing the well-being of individuals and communities.

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