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ETHNOMEDICINAL USES OF PLANTS FOR CHILD BIRTH AND POSTPARTUM RECOVERY IN DISTRICT PISHIN, NORTHERN BALOCHISTAN, PAKISTAN

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ABSTRACT

This investigation was intended to report the therapeutic employments of plants for postpartum aids from local women of district Pishin, Northern Balochistan, Pakistan. The ethnobotanical information was gathered from 168 informants through semi organized, open ended interviews, personal discussions and individual perceptions, and were assessed through quantitative indices i.e. Disease Consensus Index (DCI), Frequency citation (FC), relative frequency citation (RFC), family importance value (FIV) and use value (UV). The outcomes demonstrated that about 46 plant species belonging 43 genera and 28 plant families were utilized for postpartum recuperation in the examination region. The most widely recognized plant families in term of the quantity of the species were Apiaceae and Lamiaceae. Seeds were the most regularly utilized plant parts (33%). Plants were frequently utilized as decoction (31%) and powder (30%). Most noteworthy utilized esteem reference and Disease Consensus Index was accounted for *Plantagociliata* (UVC=0.76, DCI=0.71). Most astounding RFC was computed for *Oligomeris linifolia* (0.18). Most astounding use report was figured for *Linumperenne* (4UR). This report is

the principal which presents experiences into customary practices identified with postpartum period among the ladies of District Pishin, Balochistan, Pakistan. This investigation gives critical data on therapeutic plants utilized as a part of postpartum period. A total of 46 plant species were utilized for postpartum aids from which eighteen species, *Amygdalusbrahuica Berberisbalo chistanica, Bunium persicum, Calotropis procera, Dorema ammoniacum, Ephedra intermedia, Hertia intermedia, Hyoscya musniger, Juglans regia, Microcephala Lamellata Oligomeris linifolia, Onosma hispida, Peganum harmala, Pistacia khinjuk, Prunus amygdalus, Psammogeton biternatum, Seriphidium quettense* and *Ziziphor ateniour* were first time reported to be utilized for postpartum issues in this investigation. It was noticed that these species don't have references on their dynamic chemicals constituents in charge of postpartum infections in past writing. The viability and wellbeing of these new revealed species for postpartum utilize should be assessed for future phytochemical, pharmacological and harmfulness ponders.

Key words: Balochistan, Medicinal plants, Pishin, Postpartum, Use value

INTRODUCTION

The traditional medicine play an important role in people's lives in developing countries where more than one third of population lack access to essential medicines and these remedies have long been used since thousands of years with the great contributions made by the primary healthcare providers at the community level [1]. About an estimation of WHO [2] that 65-80% of the world's population in the developing countries are dependent on medicinal plants for primary health care due to lack of access to modern medicine and poverty [3].

The information about ethnomedicinal uses of plants has gained considerable attention in scientific societies, in recent years [4,5]. When it comes to the women's healthcare especially that are used in pregnancy and postpartum period, many cultures have special practices related to this [6, 7]. In most of the cultures childbirth, pregnancy and peuperium are the critical periods of human life [8].

A number of Asian countries are introducing, developing and strengthening the use of traditional medicine into primary healthcare [9, 10] due to easily accessible, inexpensive as compared to their pharmaceutical alternatives [11]. The herbal medicines including herbal products, herbal preparations and raw herbs are most widespread of traditional medicines [12]. The women are the most frequent users of the herbal medicines [13, 14], they use the

traditional medicine for the cure of number of disorders like: to regulate the menstrual cycle, fertility, abortifacients, labor, menopause and postpartum aids [15, 16].

In many Asian cultures, the postpartum period is very important and is considered as a period of recovery and confinement ranging from 10 up to 45 days. Pregnancy is seen as a hot state in accordance with humoral medicine; the woman comes into a state of excess cold with parturition heat lost, so especial care should be taken to restore the mother to equilibrium during postpartum period [20]. In many Asian countries, the cultural practices during postpartum period such as herbal steam baths, dietary restrictions, body messages are common [21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31] and number of medicinal plants are incorporated into those practices. The same is true for Balochistani people who use medicinal plants during postpartum period for the recovery of postpartum.

Complications related to women reproductive health remain the leading cause of morbidity and mortality for women in childbearing age [32, 33]. The WHO Director-General, Dr Margaret Chan [34], calls for squeezing movement from the prosperity portions to "free women" by ensuring that they have they have the access to all the healthcare facilities they need, including sexual and reproductive health services. According WHO, 80% of human administrations on the planet is frequently given by the women in their homes and generally as traditional medicine/cures. The [35] describes the traditional medicine (TM) as "the data, capacities and practices in light of the speculations, feelings and experiences indigenous to different social orders, used as a piece of the help of prosperity and in the neutralizing activity, assurance, change or treatment of physical and broken conduct". With a particular ultimate objective to extend the human administrations in these gatherings there is one way and that is to facilitate shielded and convincing traditional medicines into formal prosperity system [35]. In this way, various women in like manner see herbs with respect to the most part milder and more secure than pharmaceutical meds [36, 37].

Modern research inspect focusing on the use of plants much of the time focuses on the space of data of male traditional healers, and analysts have missed the wealth of discovering that is held by women [38]. Documenting the usage of plants by ethnic minorities is not only a basic part in appreciation and separating segments of traditional birth practices, however a way

to deal with manage data in threat of being lost [33]. Many studies have been done on the traditional postpartum aids to mothers around the world e.g. [31, 39, 40, 41, 42, 43]. Several ethnobotanical studies have over looked in Asia and neighboring countries of Pakistan on the significance of the traditional plant use for postpartum problems [16, 31, 44, 45, 46, 47] although the traditional medicine is been widely practiced in Pakistan but is not much documented about the gynecological problems [48, 49], but therapeutic uses of plants for postpartum issues in the research area has not been explored before, so, in this regard the present research can be considered as the first one which deals with postpartum aids to mothers in this region. District Pishin has got its importance for majority of population (46%) and an important reason that women of the area only share and discuss their women health problems with females because of veiling (Parda) and shyness it is impossible for a male researcher to interview them, so, being a female researcher and local of the region it was my aim to survey and to record the knowledge on medicinal plants for postpartum recovery from the people living in rural and urban areas of district Pishin and to preserve this precious information before the disappearing of this traditional knowledge due to acculturation and the high rate of habitat degradation.

MATERIAL AND METHODS

Geo-ethnographical overview of district Pishin

District Pishin is arranged in the North West of Balochistan range of Pakistan and the ordinary capital of Balochistan, giving its points of confinement in north-east to Afghanistan and Killa Saifullah in the east. Killa Abdullah on the west and Quetta District is in the south. Area Pishin lies between 30O 04' to 31° 17' north degrees and 66° 13' to 67° 50' east longitudes. The scope of the Pushin District is 5,850 sq. km. The general character of the district is uneven. Its northern half is secured by Toba Plateau. The region involves one tehsil, Pishin, and three tehsils: Huramzai, Barshore and Karazat and a sub tehsil Saranan and is incorporated a movement of valleys with ground rise going from 1,370–1,680meters above sea level, which are encased by Toba Kakar Range toward the north. Lora River and its tributaries fill in as genuine source meandering through Pishin (Figure 1). The Aurumbi Basin is a fundamental resource of water in District Pishin. Generally speaking, the Aurumbi stream bowl is depicted by a troublesome issue of declining water tables. The Aurumbi sub bowl incorporates an

arrangement of 24 Karezes, the bigger piece of them have left; others that are up 'til now alive need recuperation and change works. Out of 21 basic springs, only a couple are up 'til now spilling. Correspondingly, a heavy part of the tube wells entered by the all inclusive community before the assault of drought have been surrendered as a result of the declining water table [50].

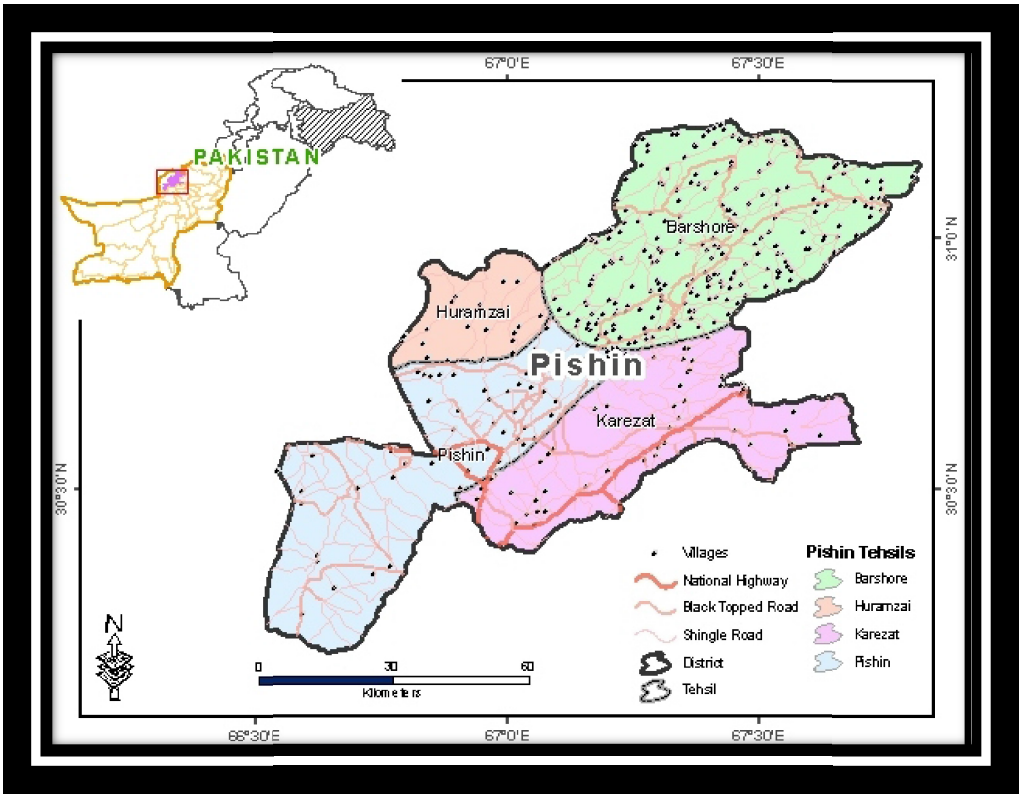

Fig.1: Map of district Pishin, Balochistan, Pakistan

The atmosphere of Pishin can be ordered as delightful summers, dry and intensely frosty winters. Pishin lies outside the circle of rainstorm streams. The locale encounter storms in winter season. Stormy season is for the most part in the long stretches of December, January, February, March and April.

Socio-economic conditions of the district Pishin

The locale has rich soil for creation of good quality apple, cherry, almond, grapes, plums, peaches and apricots and comprises of thousands of sections of land of these natural product plantations. The manufactured water system diverts in the region, made by drilling gaps into rocks to convey the profound water to the surface called Karez and present-day agribusiness techniques have done marvels in the territory. The rich gather of the organic

product is stacked at Bostan, Yaru and Saranan railroad station to various goals.

Role of Women in the area

Its entertaining to observe that pashtoon society offers regard and pride on women, yet that when in doubt the position of Pashtoon women is miserable. At whatever point energetic, a young woman is hitched without her consent and vulvar is gotten for her advantage, and being a life partner, she needs to play out various commitments. Her part with respect to family practices is compelled to the activities, for instance, cleaning, adolescent bearing, washing articles of clothing, taking thought and treatment of the creatures et cetera. It has all the earmarks of being to a great degree horrifying that at the gathering level their part is unessential and fringe in social and furthermore they have no position or status in general society field, as status is quite recently possible if they have any participatory part in a wide range of various foundations and in case they have fundamental administration position. The women are bound by the socio-social taboos and religious restrictions. The Pashtoon society is to an awesome degree sensitive in respect for women. Women is a bit of the code of regard. It is amazing that women met by men in the zone even in cover (Parda). That is the reason the area is so far unexplored ethnobotanically'Poopoo/Kadwal' is one character of this examination. An old woman who assembles the helpful plants from the area and who bargains home to home these adjacent herbs to the following women in the town and regularly she rubs the mother's body with mustard oil admixed with various herbs in the midst of postpartum period. Poopoo women are untalented as in they have no preparation besides some learning of helpful plants and their uses, which she has through comprehension and tuning in from her seniors.

Plants collection and identification

Plant species were collected, dried, and mounted on herbarium sheets. Vouchers illustration's number were allotted and perceived thusly with the help of plant taxonomist at Quaid-I-Azam University Islamabad, Pakistan, using Flora of Pakistan [51, 52, 53, 54] and The Plant List [55]. The voucher specimens were kept in Herbarium of Pakistan (ISL), Department of Plant sciences; Quaid-i-Azam University Islamabad.

Ethnobotanical field survey, data collection and Demographic information

The present paper is a consequence of wide field investigation of 13 towns of Districrt Pishin Balochistan Pakistan (i.e.

Pishin Bazar, Saranan, Barshore, Rod Mulazai, Yaru, Bostan, Khanozai, Dilsora, Khushab, Lumran, Karezat, Manzari and Huramzai) to accumulate information on therapeutic uses of different plant species for postpartum aids for mothers. Focuses of the investigation were unveiled to each interviewee in Pashto. The objectives were similarly shown as consent that was set apart by the sources. Ethnomedicinal data was assembled through semi structured, open-ended questionnaire (Martins, 1995) [56] and through eye to eye discourses. A total of 168 informants were interviewed belonging to different age groups. The informants were parceled into four various age groups i.e. 18-25, 26-40, 41-54 or more 55 years old. The information was gotten just from the women at their homes. Scarcely any birthing authorities (close-by dai) and Poopoo's (Local old women remedial plant sellers) were moreover met. The amount of hotspots for a creature classifications saying its uses was assessed and ordered (Cook, 1995). [57] The therapeutic motivating force for postpartum issues of each plant was recorded in the going with cases; a. plant name, b. part used, c. technique for traditional status, association and estimations d. plant name and ethnographical information of the sources, for instance, age, class, sexual introduction, experience and enlightening establishment.

Quantitative analysis of the results

The data collected was analyzed using quantitative value indices.

Family importance value (FIV)

Family importance value (FIV) was calculated by following formula to taking the percentage of informants mentioning family [58] (Vitalini et al., 2013)

FIV= [FC(family)/N x100]

Where, Fc is the number of informants mentioning the family while N is the total number of informants participating in the study.

Frequency citation (FC) and relative frequency citation (RFC)

The relative frequency citation (RFC) list was controlled by plunging the quantity of sources saying a useful species. FC or frequency of citation by the aggregate number of witnesses in the study [58, 59]. This record is gotten by utilizing the accompanying equation:

RFC=[FC/N(0<RFC<1)]

RFC value differs from 0 (when no one alludes to a plant as a valuable one), to 1 (when every one of the sources say it as helpful). RFC list which does not consider the utilization classification (UR or utilize report is a solitary record for utilization of a

plant said by an individual) while the FC of the species of the t species of plants being used was assessed by utilizing the equation:

FC= [(Number of times a specific plant species was said/add up to number of times that all species were specified) x 100.]x1

Disease Consensus Index (DCI)

DCI was calculated by following formula [60].

$$DCI = \left(\frac{(\sum_{i=1}^{\infty} Vxi/CcmVx))}{100}\right)$$

where x is any species, Vxi is the sum of individual values obtained for one species within the community and evaluates the knowledge of and the number of mentions for a plant, mVx is the statistical mean of the individual values for one plant and evaluates the knowledge of that plant, and Cc is the correlation coefficient, defined as the maximum number of informants whom can refer to a plant and evaluates the number of mentions of that plant. Cc is also the number of interviewed informants. Finally, to obtain values between 0.01and1, the result was divided by100

DCI was designed to evaluate the knowledge about one plant, the plant knowledge as a remedy (for the specific disease), how much the people appreciate the plant and its remedy and comparison of the individual species. It is a comparison based on mathematical concepts (i.e., limit theory), the ideal answers of informant reports (Cc) and the ideal answers for each species (Vx) [61]

DCI was proposed to survey the data around one plant, the plant learning as a cure (for the specific illness), how much the all inclusive community welcome the plant and its cure and examination of the individual species. It is a correlation in perspective of logical thoughts (i.e., limit theory), the ideal answers of witness reports (Cc) and the ideal reactions for each species (Vx) [61].

Use value citations (UVC) and use report (UR)

Use value for plants give a quantitative measure to the citation value of plants during interviews. The Use value (UVC) exhibits the relative significance of plants known locally. It is figured utilizing the accompanying recipe [62].

$$\text{UVC} = \sum Uis/ns$$

Where, Uis is the sum of the total number of use citations by all informants for a given species, divided by the total number of informants, ns, while use report (UR) is the use recorded for every species.

RESULTS AND DISCUSSION

Socio-demographic information of the inhabitants and documentation of medicinal plants

We met a sum of 168 informants. All informants were female and wedded. The informants were grouped into four distinctive age groups. Substantial quantities of informants were in the age group of over 55 years (57 informants), followed by 41–54 years (44 informants), 26-40 years (37 informants) and 18–25 (30 informants). For the most part the ladies were accessible at homes for interviews because the vast majority of them were caring for youthful kids. Scarcely any maternity specialists (Dai) were not accessible at home for going to conveyance cases elsewhere and by chance two Poopoo/Kadwal old ladies were met in the homes of villagers when she was offering therapeutic plants. In the first place, she was not consented to share the therapeutic uses of plants without purchasing any restorative plant, however in the wake of purchasing of RS.400 rupees plants of various species she turned out to be extremely happy and recommended the cures like a specialist doctor, of every one of those plants which we were purchased from her. The nearby ladies of the region just offer and talk about their postpartum issues with other experienced ladies or 'Dai'and cures their sicknesses at home, male informants were absolutely uninformed from the illnesses which are of a "female nature" and they didn't react, by asserting that they don't have any data. Unmarried young ladies shared just feminine cycle issues they additionally guaranteed that they don't have any data about pregnancy or postpartum issues, so the meetings were limited just to the wedded female informants of the region. For the most part the ladies of the region are ignorant yet contrasting and different areas of northern Balochistan the region Pishin particularly "Khanozai" town is a special region, as in because of high proficiency rate the part of ladies is changed significantly in its social association. In social advancement, they are assuming a huge part and this spread impact is likewise entering into nearby towns of the area. Yet, on other hand it is noted during the survey that the informants of the Pishin city and Khanozai have lesser information about plants than the occupants of the rural regions because of modernization, proficiency rate and to nearer and limited with Qeutta city which is capital of Province. Ziyyat et al. [63] reported that the use of therapeutic plants agreeing the territory, abundance of the species, ethnology and home condition changes the rate of use of medicinal plants.

Diversity of the medicinal plants

A total of 46 plant species belonging to 43 genera and 28 plant families were used for treatment of postpartum issues reported from

area Pishin Balochistan, Pakistan. The vernacular names of plants with their family names, uses, parts used for their therapeutic values, use reports, use value, frequency citation (FC) and relative frequency citation (RFC) are recorded in table 1. The most well-known plant families as far as the quantity of species were the Apiaceae (six species), Lamiaceae (five species), Fabaceae and Rosaceae (3 species each) (Table 2). The most widely recognized parts plant parts used were their seeds (33%), whole plant (14 %) and leaves (12%) (Figure 3). Plants were frequently used as decoction (31%), powder (30%) and a little extent was likewise used as tooth cleaner (2%). The most elevated use value was reported for the *Plantago ciliata* (0.76). Most noteworthy RFC value was ascertained for *Oligomeris linifolia* (0.18). Most elevated use report was computed in *Linum perenne* (4UR). The consequences of this examination demonstrated that Apiaceae and Lamiaceae were the most normally used plant families used in postpartum issues to moms in Pishin. In a literature survey done by Panyaphu et al. [31] that the family Apiaceaae was the most spoken to family for the treatment of "women issues" in northern Thailand. Two plant species i.e. *Curcuma longa, Zingiber officinale* were not privately grown in the region but rather effortlessly accessible in the business sectors of the territory are used for the cure of postpartum issues.

Table 2: Most used families for postpartum recovery

Family name	Number of taxa
Apiaceae	6
Lamiaceae	5
Asteraceae	3
Fabaceae	3
Rosaceae	3
Alliaceae	2
Plantaginaceae	2
Zingiberaceae	2

Administration routes and dosage

In this examination, it was clear that taking the medicinal plants orally was the most favored administration mode. (83%) plant species were taken orally, though (17%) plant species were connected topically. Steenkamp [64] gave the comparable outcomes while reporting the traditional herbal remedies used by ladies for postpartum in South Africa. Thus, de Wet and Ngubane [1] reported the traditional herbal remedies used by ladies in a rural group in northern Maputaland (South Africa) for the treatment of gynecology and obstetrics grievances. It was seen that for the most part the natural arrangements are liked to take orally and oral method of administration is the ruling over the topical method of administration [65, 66, 67, 68]. The crude preparation of plant parts were assembled into ten classes (Figure 2). Of these, most preparation method was decoction (32%) followed by powder (30%),

raw plant parts like seeds/leaves and fruits (11%) and infusion (6%). The decoction for the postpartum disorders was a typical practice among the ethnic groups in Pishin. It was additionally found in African people that the decoction administrationmethodwas the most frequent mode. The decoctions of plants blended in porridge and mixtures taken orally or as vaginal douches, to treat ladies infections in African communities [1, 69, 70]. The aftereffects of boundless use of decoction likewise concur with the consequences of Yadav et al. [71] and Bibi et al. [68] who reported that decoction was the most regularly used arrangement. In the study area, the decoction was acquired by heating up the plant parts in water until the point when the volume of the water decreased to least or required sum. The powder was set up by the granulating of shade dried plant parts and generally brought orally with water and now or with honey, however water is predominant specialist for taking orally. The paste was set up by squashing the garden-crisp or dried plant parts with water. In some cases, the plant (*Peganum harmala*) was burnt and the smoke coordinated into either the vagina or the vulva to actuate work torment and after conveyance to advancing ejection of 'dead blood' and lochia. The rest of the therapeutic plants were taken either as tea, juice, cooked or crude plant parts.

Among the diverse parts of the plants used in postpartum issues, the seeds (33%), and whole plant (14%) were used as often as possible (Figure 3). The reason of dominancy of seeds might be that the seeds of Apiaceae (predominant group of the region) and different families are effortlessly accessible at all seasons in the nearby herb seller shops/Pansars in shoddy prizes. The use of whole plant in addition to use of seeds of plants as medicines, prompt the damaging impacts on the development of plant populace in nature. The use of aerial parts and leaves is safe for maintainability of plant species [67]. The most overwhelming life form of the species reported incorporates herbs (61%) followed by shrubs (20%) (Figure 4). The herbaceous propensity was overwhelming life form in our investigation as well as it is a common and widespread ecological phenomenon around the world [72, 73]. A comparative example of life form was reported in ethnobotanical survey of our neighboring nation India [74]. Bibi et al. [68] reported the comparative outcomes in the region of district Mastung Balochistan, while Ahmad et al. [75] likewise reported that the herbaceous plants as predominant propensity was expended in the Chail valley of Pakistan.

Table 1: Medicinal plants used by the local people of district Pishin for postpartum recovery with its quantitative analysis

Families	Botanical name and (Voucher specimen)	Local name	Part used	Life form	Method of preparation and administrations	Uses	FC	RFC	UR	UVC	DCI
Alliaceae	*Allium cepa*L. (QAU.G.23)	Piaz	Bulb	Herb	Fried onions are eaten with bread after delivery.	Slim the abdomen	9	0.06	1	0.12	0.1
	*Allium sativum*L. (QAU.G.24)	Tom/ uzha	Bulb	Herb	Powder from dried bulbs of the plant and powder of ginger is mixed in green tea taken orally during 1-7 days of delivery.	Blood cleansing after delivery, (promoting expulsion of 'dead blood' and lochia) after delivery constipation after delivery	13	0.08	2	0.15	0.13
Anacardiaceae	*Pistaci akhinjuk* Stocks (QAU.G.08)	Shinay	Gum	Tree	Gum is ground along almond and sugar and this powder is taken daily during the 9th month of pregnancy.	Easy delivery	15	0.09	1	0.07	0.05
Apiaceae	*Bunium persicum* (Boiss.) B.Fedtsch. (QAU.G. 41)	Torazira	Seeds	Herb	Seeds of the plant with the seeds of *carumcopticum, foeniculumvulgare, Cuminumcyminum*andcarda mom with brown sugar are ground and cooked in ghee and flour as like a halwa (a sweet dish).	Galactagogue, postpartum pains, promoting expulsion of 'dead blood' and lochia after delivery	29	0.17	3	0.1	0.08
	Trachyspermum ammi (L.) Sprague (QAU.G.01)	Sparakai	Seeds	Herb	Infusion is taken orally after the 40 days of delivery Decoction is taken orally daily in evening after delievery	Promoting expulsion of 'dead blood' and lochia after delivery irregular postpartum pain, gastric	15	0.09	3	0.2	0.18
	Cuminum cyminum L. (QAU.G.42)	Spin zira	Seeds	Herb	Powder of seed is taken orally with warm milk or tea.	Postpartum pain, gastric	11	0.07	2	0.19	0.16
	*Doremaammoniacum*D. Don (QAU.G.02)	Ooshi	Gum	Shrub	Tablet is made from the powdered gum and taken orally with water.	Abortifacient	10	0.06	1	0.1	0.07
	Foeniculum vulgare Mill.(QAU.G.03)	Khawazha walani	Seeds	Shrub	Seeds are taken orally with milk after delivery.Decoction is taken soon after delivery to increase the milk	Postpartum pain, galactagogue	17	0.1	2	0.11	0.09
	Psammogeton biternatum Edgew.	Sparkai	Seeds	Herb	The seeds of the plant are ground and mixed in water	Postpartum infections	14	0.09	1	0.07	0.04

	(QAU.G.04)				**and sugar and taken orally after delivery.**						
	***Phoenix Dactylifera* L. (QAU.G.39)**	**Khormag**	**Fruits**	**Tree**	**Dried fruit are soaked at night in the milk, and taken orally early in the morning after delivery for waist pain. Fresh two fruit s are eaten daily in 9th month of pregnancy to prevent the newborn from hepatitis.**	**To strengthen the backbone, waist pain, new born hepatitis**	**13**	**0.01**	**3**	**0.23**	**0.21**
Asclepiadaceae	***Calotropis procera* (Aiton) Dryand.(QAU.G.40)**	**Tirkha pan/ Pulhar pan**	**Latex, leaves**	**Shrub**	**Fresh leaves or latex is eaten in very small amount during pregnancy.**	**Promoting expulsion of 'dead blood' and lochia after delivery, abortifacient**	**7**	**0.05**	**1**	**0.14**	**0.11**
Asteraceae	***Hertia intermedia* (Boiss.) Kuntze(QAU.G.15)**	**Goongapatha**	**Leaves**	**Herb**	**The leaves of the *Hertia intermedia* and seeds of *Linum perenne* are ground together with an admixture of some flour and with water in order to make a thick paste and wrapped on breasts**	**Galactagogue, to reduce the swelling and pain of breasts**	**18**	**0.1**	**3**	**0.17**	**0.14**
	***Microcephala Lamellata* (Bunge.) Pobed (QAU.G.06)**	**Chargualai**	**Flower, whole plant**	**Herb**	**Powder is mixed with water and taken orally.**	**Strengthen the uterus, swelling of uterus**	**16**	**0.1**	**2**	**0.12**	**0.09**
	***Seriphidium quettense* (Podlech) Y.R.Ling (QAU.G.07)**	**Tarkha**	**Whole plant**	**Shrub**	**The decoction of the plant is given orally to the new born and mother baby soon after birth.**	**Cleansing intestines**	**7**	**0.05**	**1**	**0.14**	**0.12**
Berberidaceae	***Berberis lyceum* Royle QAU.G.09)**	**Zerleg**	**Roots**	**Shrub**	**Roots of the plant is ground and mixed in egg and eaten after delivery The decoction of the roots is taken orally to reduce the pains after delivery.**	**Internal wounds, postpartum pains, waist pain**	**17**	**0.1**	**2**	**0.12**	**0.09**
Boraginaceae	***Onosma hispida* Wall. ex G. Don (QAU.G.10)**	**Arrelling**	**Whole plant**	**Herb**	**Tea is made from the leaves**	**Promoting expulsion of 'dead blood' and lochia after delivery fever, internal wounds**	**12**	**0.08**	**3**	**0.25**	**0.22**
Convolvulaceae	***Cuscuta reflexa* Roxb.(QAU.G.13)**	**Asmanbotai**	**Whole plant**	**Climber**	**Decoction is taken orally daily in the morning.**	**strangulation, suffocation of womb**	**12**	**0.08**	**2**	**0.17**	**0.15**
Cucurbitaceae	***Citrullus***	**Maraghone**	**Fruit**	**Herb**	**Powder is taken orally with**	**Constipation,**	**14**	**0.09**	**2**	**0.14**	**0.11**

	***colocynthis* (L.) Schrad.(QAU.G.11)**	**e**			**honey for use of abortion and with water after delivery.**	**promoting expulsion of 'dead blood' and lochia after delivery**					
Cupressaceae	***Juniperus excelsa* M. Bieb. (QAU.G.12)**	**Ubasht**	**Fruit**	**Tree**	**Powder of fruit is mixed in warm milk and taken orally.**	**Promoting expulsion of 'dead blood' and lochia after delivery**	**11**	**0.07**	**1**	**0.09**	**0.06**
Ephedraceae	***Ephedra intermedia* Schrenk & C.A.Mey. (QAU.G. 14)**	**Oman**	**Stem**	**Shrub**	**After three days of delivery the women are made to sit in the decoction. Powder is applied external on stitches after *cesarean delivery or vaginal stitches*.**	**Internal injury, Swelling of uterus, fertility, wounds**	**16**	**0.1**	**3**	**0.19**	**0.17**
Euphorbiaceae	***Ricinus communis* L. (QAU.G.15)**	**Jalabotukham**	**Seeds**	**Shrub**	**Chewed one seed daily one week before menses for period pain or after menses for the prevention from pregnancy and in 9th month for easy delivery.**	**Period pain, contraceptive, easy delivery**	**18**	**0.1**	**3**	**0.17**	**0.15**
Fabaceae	***Cassia fistula* L. (QAU.G.16)**	**Granjawanr/ pools**	**Fruit**	**Tree**	**Decoction of the flesh of fruit is taken orally in labor pain**	**Easy delivery,**	**9**	**0.06**	**1**	**0.12**	**0.11**
	***Glycyrrhiza glabra* L. (QAU.G. 17)**	**Khawazhawalee**	**Stem**	**Herb**	**Hot decoction is taken orally early in the morning.**	**Promoting expulsion of 'dead blood' and lochia after delivery, gastric**	**12**	**0.08**	**1**	**0.09**	**0.06**
	***Medicago monantha* (C.A.Mey.) Trautv. (QAU.G.25)**	**Karari**	**Seeds**	**Herb**	**The decoction is taken orally after delivery.**	**Internal wounds**	**11**	**0.07**	**1**	**0.09**	**0.06**
Fagaceae	***Quercusin fectoria* G. Olivier (QAU.G.18)**	**Zarghoonmazoo**	**Fruit (Galls)**	**Tree**	**Cold decoction is taken orally.**	**Waist pain, postpartum pain**	**9**	**0.06**	**2**	**0.23**	**0.20**
Juglandaceae	***Juglans regia*L. (QAU.G.44)**	**Akhrot**	**Stem, leaves, root, fruit coat**	**Tree**	**All the parts of the tree are used as 'miswak'to clean the teeth daily soon after delivery till 40 days.**	**Strengthen the teeth after delivery**	**20**	**0.12**	**1**	**0.05**	**0.02**
Lamiaceae	***Lallemantia royleana* (Benth.) Benth. (QAU.G.45)**	**Malangyan**	**Whole plant**	**Herb**	**Powder is taken orally with water before meal.**	**Gastric, constipation, postpartum pain**	**13**	**0.08**	**3**	**0.23**	**0.22**
	***Mentha longifolia* (L.) L. (QAU.G.19)**	**Shin shobai**	**Leaves**	**Herb**	**Decoction is taken orally**	**Vomiting**	**24**	**0.15**	**1**	**0.04**	**0.02**
		Podina	**Leaves**	**Herb**	**One teaspoon of pure ghee is**	**Promoting expulsion of**	**11**	**0.07**	**1**	**0.09**	**0.07**

	***Mentha spicata* L. (QAU.G.20)**				**added in the warm decoction and taken orally.**	**'dead blood' and lochia after delivery**				
	***Ocimum basilicum* L. (QAU.G.21)**	**Neazboo/ naezboi**	**Seeds**	**Herb**	**Warm decoction is taken during menses.**	**Promoting expulsion of 'dead blood' and lochia after delivery**	**18**	**0.1**	**1**	**0.06**	**0.04**
	***Ziziphor atenuior*L. (QAU.G.22)**	**Gharpodin a**	**Whole plant**	**Herb**	**The decoction or the juice is taken orally in case of gastric**	**Gastric**	**24**	**0.15**	**1**	**0.04**	**0.02**
Linaceae	***Linum perenne*L (QAU.G.37)**	**Aalesi/ Zaghar/ azghar**	**Seeds**	**Herb**	**The powder of the seeds is taken orally with water for internal wounds. Sit in the decoction of crushed seeds or wash the vulva with decoction regularly.**	**Internal wounds, Injury, Inflammation, swelling of womb/ uterus**	**17**	**0.1**	**4**	**0.23**	**0.21**
Moraceae	***Ficus carica* L. (QAU.G. 43)**	**Inzar**	**Fruit**	**Tree**	**Two to three dried fruits are eaten daily to avoid constipation after delivery.**	**Constipation**	**8**	**0.05**	**1**	**0.12**	**0.09**
Plantaginaceae	***Plantago lanceolata* L. (QAU.G.27)**	**Barthang**	**Seed**	**Herb**	**Seeds are boiled in rose water and taken orally**	**Apatite.**	**17**	**0.1**	**1**	**0.05**	**0.02**
	***Plantago ciliate* Desf. (QAU.G.26)**	**Aspighol**	**Seeds**	**Herb**	**The seeds are soaked in milk and taken orally after delivery**	**Gastric**	**13**	**0.08**	**1**	**0.76**	**0.71**
Poaceae	***Triticum aesativum* L. (QAU.G.28)**	**Ghanam**	**Seeds**	**Herb**	**From the flour of the wheat "chapatti" bread is made and tied on the abdomen. Halwa (sweet dish) is made from the flour in pure ghee**	**Strengthen the back bone, waist and uterus, to keep warm the body after delievery**	**12**	**0.08**	**3**	**0.25**	**0.21**
Portulacaeae	***Portula caoleracea* L. (QAU.G.29)**	**Marlai**	**leaves**	**Herb**	**The leaves of the plant are mashed and wrapped on abdomen after 40 days of delivery.**	**Slim the abdomen**	**12**	**0.07**	**1**	**0.08**	**0.06**
Resedaceae	***Oligomeris linifolia* (Vahl) Machbrick (QAU.G.30)**	**Shata**	**Seeds**	**Herb**	**After delivery the decoction of the seeds is taken orally when felt thirsty instead of pure water.**	**Slim the abdomen, swelling of ovary, uterus,**	**29**	**0.18**	**3**	**0.1**	**0.08**
Rosaceae	***Amygdalus brahuica* (Pachomj) Browicz (QAU.G.32)**	**Kunduri**	**Gum**	**Shrub**	**After delivery the powdered gum of the plant is mixed in castor oil and taken orally.**	**Constipation, postpartum pains**	**21**	**0.13**	**2**	**0.1**	**0.08**
	***Prunus amygdalus* L.**	**Badam**	**Seeds**	**Tree**	**Seeds of the plant with seeds of walnut, watermelon,**	**Backache, strengthen the brain and weakness**	**22**	**0.13**	**3**	**0.13**	**0.11**

	(QAU.G.46)				**melon are ground in milk and taken orally early in the morning soon after delivery.**						
	***Rosa indica* L (QAU.G.31)**	**Gulgulab**	**Flower (Petal)**	**Shrub**	**The seeds of *Foeniculumvulgare* and petals of *Rosa indica* are boiled together and this decoction is taken orally**	**Gastric problems, constipation**	**20**	**0.11**	**2**	**0.1**	**0.08**
Rubiaceae	***Jaubertia aucheri* Guill (QAU.G.33)**	**Khartoosa**	**Seeds**	**Herb**	**The decoction of the seeds is taken orally for fertility in women The powder of seeds consisting of leaves of *Hertia intermedia* mixed with an and flour in order to make a thick paste and also added a small quantity of Brassica oil in it and wrapped it on the belly as an ointment covered by a cloth or tied with bandage.**	**Slim the abdomen**	**13**	**0.08**	**1**	**0.08**	**0.06**
Solanaceae	***Hyos cyamus Nige r*L. (QAU.G.34)**	**Bhang lewana**	**Seeds**	**Herb**	**Very few seeds are chewed with water or milk.**	**Stop too much bleeding after delivery**	**8**	**0.05**	**1**	**0.12**	**0.09**
Zingiberaceae	***Curcuma longa* L. (QAU.G.35)**	**Kurkoman**	**Rhizo me**	**Herb**	**Powder is taken orally with milk daily. Powder is mixed in mustard oil and used as an ointment for stitches**	**Healing internal injuries after delivery, external stitches, postpartum, infections**	**26**	**0.16**	**2**	**0.08**	**0.05**
	***Zingiber officinale* Roscoe (QAU.G.36)**	**Adrak/ shondh**	**Rhizo me**	**Herb**	**Powder from dried stem with brown sugar is taken orally.**	**Postpartum pain**	**18**	**0.1**	**1**	**0.06**	**0.03**
Zygophyllaceae	***Peganum harmala* L (QAU.G.38)**	**Spalani**	**Whole plant**	**Herb**	**The smoke of the plant is smelled by the Women in labor pain.**	**Easy delivery**	**18**	**0.1**	**1**	**0.06**	**0.04**

Plants that are used in combination

It was seen that many plants were used join for a single disease e.g. seeds of the *Bunium persicum* with the seeds of *Trachy spermumammi, foeniculum vulgare, Cuminum cyminum* and *cardamom* with brown sugar were ground and cooked in ghee and flour as like a sweet dish (named 'Lethi/Garmana' in local language), for the cure ofpain after delievery, advancing removal of 'dead blood' and lochia after conveyance and as lactagogue. Another case was that the leaves of the *Hertia intermedia* and seeds of *Linum perenne* were ground together with an admixture of some flour and with water keeping in mind the end goal to make a thick paste and wrapped on bosoms for creation of milk, to diminish the swelling and agony of bosoms (Table 1). Lamxay et al. [30] additionally reported the plants that used in blend, yet he reported distinctive plant mixes for labor and postpartum recuperation.

Use categories and use reports of the area

A number of plant species were used by the local people for curing of postpartum issues. It was noticed that postpartum period is viewed as vital in many cultures [7, 21]. This additionally holds for the ladies of District Pishin culture that a rest time of forty days after labor was usually prescribed. Postpartum practices were as yet vital and clung to. Prescriptive practices after labor were imperative for ensuring ladies' fleeting survival, long haul wellbeing, support of their ripeness, and their capacity to deliver bosom milk [76]. Shah et al. [49] reported nine species for the cure of various sicknesses during pregnancy and conveyance in Abbotabad. In District Pishin *Curcuma longa* is most normally used in postpartum recuperation. Comparable outcomes were reported by Thaina et al. [77]. What's more, in a human clinical examination, the rhizome extract of curcumin enhanced injury mending after episiotomy [78]. The calming, cell reinforcement, safe modulatory and wound mending properties of Curcuma longa and the constituent curcumin could clarify why it is traditionally used in postpartum recuperation [39].

Quantitative analysis

The most widely recognized families as portrayed by its FIV were Apiaceae as the prevailing family with (6 FIV) followed by Lamiaceae (5) and Asteraceae (3) while, minimal values of FIV were watched for Twenty families with one FIV (Figure 5). It was difficult to look at our quantitative information inside the locale especially in the District Pishin or different parts of Balochistan, or even inside the country

because of first quantitative ethnobotanical uses for postpartum recuperation reported in the local area.

Use value citation (UVC), use report (UR) and Disease Consensus Index (DCI)

The most noteworthy use value citation and disease consensus indexwas reported for *Plantago ciliata* (UVC= 0.76, DCI= 0.71) followed by *Triticum aesativum* (UVC= 0.25, DCI= 0.22) and *Onosma hispida* (UVC= 0.25 each, DCI= 0.21), the least UV were reported for two species *Mentha longifolia* and *Ziziphor ateniour* (UVC= 0.04 each, DCI= 0.02 each) (Table 1). High use values can be credited to its continuous use in postpartum period with high use reports and number of informants demonstrating that it is all around acclimated by every one of the participant as a postpartum therapeutic plant. The regular use of these above species shows the commonness of postpartum aid in the area that are treated with the medicinal plants A fascinating marvel which recommended by Steenkamp's [64] that the accessibility of plants is not by any means the only criteria for use; cultural impact may assume a relevant part in the decision of plant species. In any case, here the purposes behind high use of *Plantago ciliata* and *Triticum aesativum* likewise might be that these two species are common in Balochistan. Wheat *T. aesativum* is cultivated all through the Balochistan and normal nourishment of this district, while *P. ciliata* is additionally broadly found all through the Balochistan and as I would see it and perceptions that Poopoos/Kadhwals gathers these plants and instruct this species for a number with respect to infections to the nearby ladies. It additionally indicates the way that in spite of the fact that the nearby individuals approach government human services framework, still postpartum practices and therapeutic plants have not lost their values among the local people.

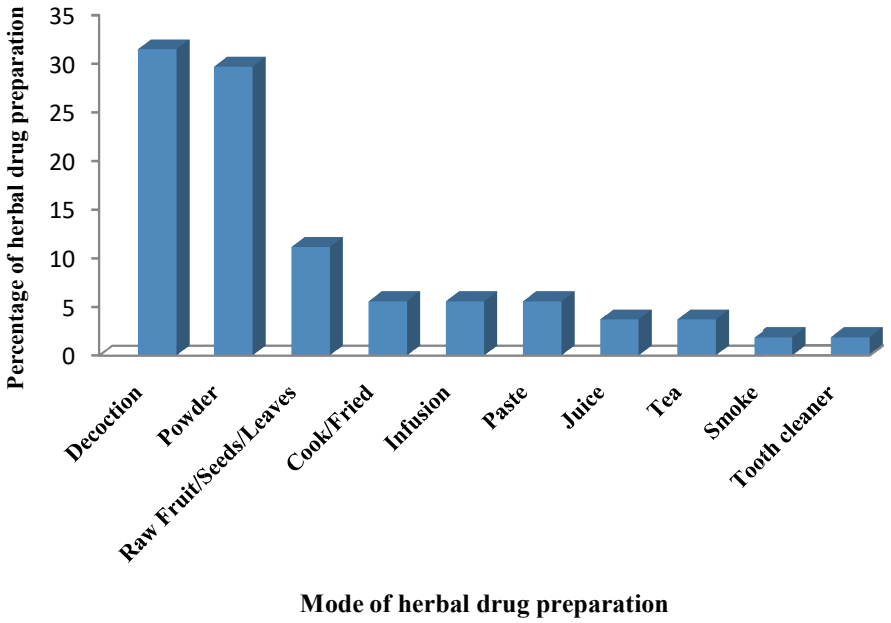

Fig. 2: Percentage of herbal drug preparation

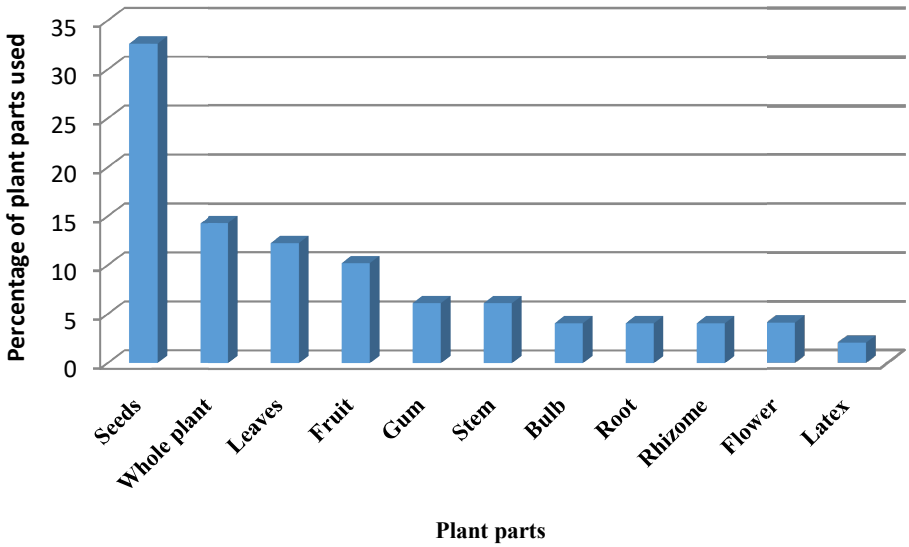

Fig. 3: Percentage of plant parts used.

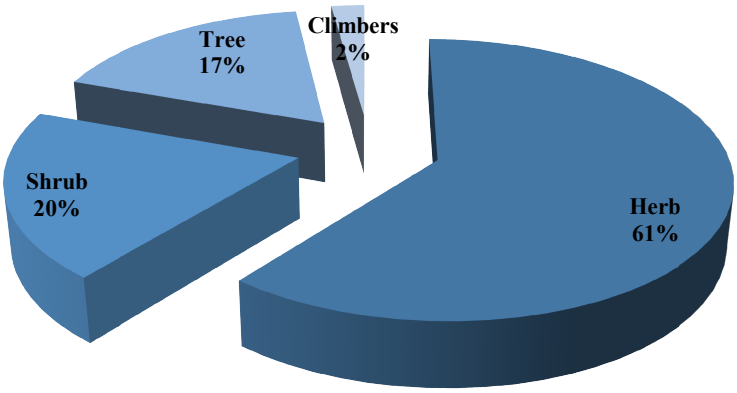

Fig. 4: Percentage of plant life forms

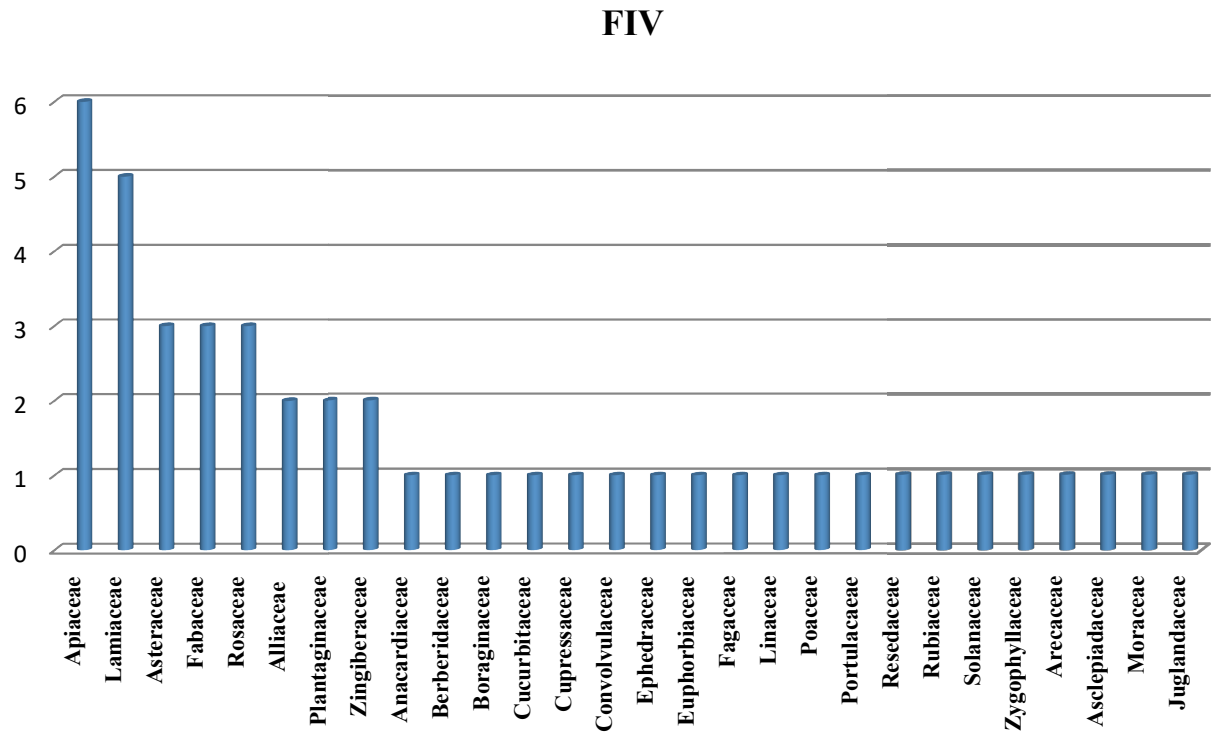

Fig.5: Family importance value (FIV) of the families of the study area

Relative frequency of citation (RFC) and use report (UR)

Most noteworthy use report (UR) was recorded for *Linumperenne* (4 UR) and least use report (1UR) was reported for 23 species (Table 1). Most elevated RFC value were computed for *Oligomerislinifolia*, (0.18), *Bunium persicum* (0.17) and *Curcuma longa* (0.16) and minimum RFC was figured for *Phoenix dactylifera* (0.01) (Table1). The high values of RFC portray the way that these medicinal plant species were outstanding to greatest number of informants of the investigation region. They don't just gather the *Oligomeris linifolia* and *Bunium persicum* however purchase it from local herbal shops (Pansars) and Poopoos/Khadwals. The *Curcuma longa* is not a species of Balochistan but rather it is purchased from neighborhood home grown sholocal herbal shops (pansars). While the *Phoenix dactylifera* is not cultivated in northern Balochistan, it is sold in the business sectors of the zone in crisp shape while the dried natural product which is used for cure of infirmities is not just effectively accessible in home grown shops of the zone yet exceptionally costly thus, this reason might be the base use of this organic product by the neighborhood occupants the territory.

Balochistan is financially the poor area of the country. The procuring sources practically in every one of the locale of the area including region Pishin is domesticated animals and agriculture, yet another source of pay in region Pishin is Brick making production lines. The change of land for block industrial facilities, over touching, urbanization, and removing of therapeutic plants by local herbal shops and Poopoos/Khadwals are not kidding dangers in the zone. These dangers increment the danger of the eradication of greenery in the range. The feasible use of wild verdure and development of therapeutic plants ought to be advanced in the zone, this will emphatically enhance the financial state of the neighborhood tenants

Reasons of the use of medicinal plants and recommendations

It is noticed that the use of herbal medicines is far reaching in this locale with higher level of postpartum practices. This is because of that the postpartum period is viewed as critical in northern Balochistan, also the absence of mindfulness, modesty and absence of present day hospitals accessible in their area and the high cost of therapeutic framework for treatment are unreasonably expensive by tribal. As per WHO [79], the poorer and less instructed ladies and those

living in rural territories are far less inclined to conceive an offspring within the sight of a talented wellbeing laborer than better taught ladies who live in wealthier households or urban zones. Purposes behind this incorporate separation and costs to achieve medicinal services focuses, yet additionally unseemly socio-cultural practices.

One issue which I have noted in this area that some mid spouses (or the patient took herself) with the mix of numerous medicinal plants make a decoction and provide for the ladies in postpartum period too in the process of giving birth agony to accelerate the work without realizing that whether it is sheltered to use the decoctions or not? There might be confirmation of fetal misery, irregular fetal position, placenta previa, uterine prolapse, cephalo pelvic imbalance, cervical disease, significant surgery or uterine neck or past herpes contamination or such a large number of different complexities [80]. The use of these herbal therapeutics may cause a pointless enduring to the baby and the mother Like this some herbal therapeutics are used as abortifacient in the region, however large portions of those herbal therapeutics are not sufficiently solid to oust the hatchling completely and it is these fragmented premature births that regularly prompt perilous intricacies [43, 81]. There is a requirement for a careful examination on the conceivable risks and advantages related with the diverse traditional restorative practices; a circumstance that has still not been tried. Particular investigations ought to be completed so as to logically survey the helpful values of these plants used in postpartum disorders. Further research utilizing deductively controlled procedures is, in this manner, urgently expected to assess the degree to which cures, for example, these are protected and compelling. It is likewise vital to reveal insight into how traditional medicine and allopathic treatment are interfacing with each other and the conceivable development of symptoms. This is particularly urgent for treatment that is given to ladies in a sensitive period of their life, for example, postpartum period [43].

CONCLUSIONS

This research is the principal which presents bits of knowledge into traditional practices identified with postpartum period among the ladies of District Pishin, Balchistan Pakistan. 168 ladies were met by methods for a structured, open ended questionnaire, eye to eye discussions and individual perceptions. They use 46 medicinal plant species used for the postpartum issues from which eighteen species, *Amygdalus brahuica, Berberis*

balochistanica, Bunium persicum, Calotropis procera, Dorema ammoniacum, Ephedra intermedia, Hertia intermedia, Hyos cyamusniger, Juglans regia, Microcephala Lamellata, Oligomeris linifolia, Onosma hispida, Peganum harmala, Pistacia khinjuk, Prunus amygdalus, Psammogeton biternatum, Seriphidium quettense and *Ziziphor ateniour* were first time reported to be used for postpartum issues in this research. It is noticed that these species don't have nitty gritty references on their dynamic chemicals constituents in charge of postpartum infections in past literature. The adequacy and wellbeing of these new reported species for postpartum use should be assessed for future phytochemical, pharmacological and harmfulness considers. Further the restorative plant information identified with postpartum disarranges is not consistently dispersed among the 168 women's. We discovered impacts of age and on restorative plant information and such learning is for the most part controlled by more established female sources. In any case, there is a continuous loss of traditional information about these plants in new era. By and large, this investigation gives a more profound understanding of District Pishin traditional state of mind towards postpartum period. Conservation of scholarly legacy about therapeutic plant used in ladies' medicinal services requires serious scattering to the youthful era.

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