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CONSUMPTION OF HERBAL AND DIETARY SUPPLEMENTS FOR PREGNANT AND CHILD BEARING WOMEN FOR THEMSELVES AND THEIR CHILDREN: A SURVEY AMONG THE PUBLIC IN SOUTHERN PUNJAB, PAKISTAN

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Abstract:

Introduction: Young mothers are influenced to use herbal food supplements for themselves, their children by social group pressure, perceived benefits, and perceived ease. This study targets to detect the prevalence, acceptance, predictors, and patterns of herbal medicines and dietary supplements use for pregnant and child bearing women for themselves and their children.

Methods: A cross-sectional survey was conducted from December 2021 to November 2022 involving female adults (18-40y). A self-administered questionnaire was filled out by 400 mothers. Logistic regression analysis was conducted to determine the predictors of food/herbal supplements use.

Results: A high prevalence rate of herbal medicine use (82.8%) was found in young mothers of southern Punjab. However, herbal supplements were not recommended by a physician in mostly cases. Most of the women use herbal remedies for their children in the form of almonds, walnuts and resins. Females use herbal supplements is the form of Panjeeri mostly. Pregnant ladies believe that herbs are very helpful during pregnancy. They use old ancient remedies during postpartum period.

Conclusion: Current study indicated that Herbal supplements use among pregnant and child bearing women for themselves and their children was common among the respondents. Several issues such as the use of unreliable sources of information, myths regarding herbs and the lack of consultation with healthcare providers indicate that herbal consultants should be more preemptive in their consultative and information-providing roles regarding herbal supplement use.

Keywords: Herbal remedy, Dietary Supplements, Consumption, Southern Punjab, Pregnancy

Introduction

The trend of use of herbal medicines and dietary supplements for pregnant and child bearing women for themselves and their children is important [1]. The use of herbal medicine is rising as an alternative medicine world widely. Many Asian women still adhere to a variety of ancient customs and rituals throughout their pregnancies, deliveries, and following years [2]. Moreover, young mothers develop a dynamic connection with their newborns and are highly concerned about health of their children. They are convinced to use herbal food supplements for themselves, their children due to social group pressure, perceived benefits and perceived ease [3]. A balanced diet is requisite during pregnancy, lactation, early childhood, and adulthood. An array of plant-based foods, such as protein, fiber, omega-3 fatty acids, iron, zinc, iodine, calcium, vitamin D, and vitamin B12, are included in a balanced diet to satisfy energy needs [4].

Herbal remedies are known to be "simple, convenient, affordable, and efficient" and have been used for thousands of years [5]. Because facilities are either too expensive or too few facilities are available for too many people, contemporary health care and medicine are frequently only accessible to a small number of people in developing countries. Traditional medical expertise is highly valued and frequently restricted to a small number of traditional healers [6]. Given that the most significant factor leading to the preference for herbal medicine is dissatisfaction and cost of conventional medicine [7]. The government agencies, medical professionals, and pharmaceutical companies must be aware of this issue [8]. Herbal medicines are often used to treat mild to moderate ailments. Self-medication, unqualified advice, and a lack of risk awareness are common issues related to herbal medicine [9]. The healthcare providers with latest awareness can provide unbiased information about herbal medicine use to ensure public health and patient safety [10].

The prevalence of herb use among pregnant and child bearing women for themselves and their children in developing nations like Pakistan is scarcely reported [11]. This study aims to detect the prevalence, acceptance, predictors, and patterns of herbal medicines and dietary supplements use for pregnant and child bearing women for themselves and their children. The study also aims to find the value of social networking in raising knowledge of and persuading other young mothers to use herbal remedies.

Methods

Study Design: A cross sectional observational survey study over twelve months from December 2021 to November 2022, was done to evaluate the knowledge of using herbal remedies in women during pregnancy, puerperium and for their children among the rural and urban female population of southern Punjab.

Study site and sample population

This study was conducted in Southern Punjab, a developing area of Pakistan. The participants included only females those who identified themselves as residents of any area of southern Punjab, were 18 - 40 years old, literate and illiterate both are included in study. The sample size was calculated using the https://www.checkmarket.com/sample-size-calculator/. A sample size of 382 was recommended with a margin of error of 5 %, a confidence interval of 95%, and a response distribution of 80 % for an approximate total population of 50000 female adults (18 - 40 years) in Southern Punjab.

Survey instrument

The survey instrument was a questionnaire that was used with some modifications from a previous study [12]. The questionnaire was developed in Urdu, the national language of Pakistan. The questionnaire consisted of three sections (Appendix A). The first was related to data from mothers about their children food Supplements, whereas the second and third were regarding food supplements use during pregnancy and puerperium, respectively. Demographics variables of participants include age, education level, monthly income and mode of delivery (Episiotomy/Cesarean/Home delivery). First section of questionnaire consisted of 15 closed ended questions (10 Yes/No while 5 are related

to multiple choice questions). Second part of questionnaire consisted of 19 closed ended questions. 3rd part of questionnaire consisted of 29 closed ended questions (10 Yes/No while 9 are related to multiple choice questions).
The questionnaire was studied by three senior eastern medicine lecturers to ensure that each element was appropriate. Minor alterations were made based on the suggestions from the reviewers.

Data Collection
The data was collected by home to home visit in an area conveniently approachable. A convenient, non-probability sampling technique was used for data collection in which easily approachable areas were visited and every 10th home was selected as a sample. Verbal consent was taken from each participant through briefing of objectives of study.

Statistical Analysis
The statistical analysis was done using IBM SPSS version 20.0. Categorical data were presented as frequency and percentage. Logistic regression analysis was conducted to determine the predictors of food/herbal supplements use. P value was considered significant at ≤0.05 level.

Results and Discussion
400 questionnaires had been collected from adult females of southern Punjab. This number fulfilled the requirement of minimum sample size of this study. **Table 1** shows demographic distribution of the participants of survey. Results of study indicated a high prevalence rate of herbal medicine use (82.8%) but mostly the herbal/food supplements were recommended by an elder female of area (72.5%) or a family member (13.7%). Only 5.5% women took herbal /food supplements on advice of a physician. These results are in line with [9] study that pointed to same problem of unqualified advice regarding herbal remedies. Bhatia study says that the majority of pregnant women take CAM throughout the prenatal period. Rural women with poor sociodemographic status, less education, domestic work, and unplanned pregnancies are using CAM [13]. Additionally, the alarmingly low degree of contact between CAM users and healthcare professionals necessitates that doctors ask their patients about their use of CAM [14]. Also James say that there are differences in age, sex, region, and religious affiliation between TCAM users and non-users, and the socioeconomic and educational status of TCAM users is more likely to be poor than that of non-users. The majority of TCAM users (55.8%-100%) in SSA do not disclose their TCAM usage to their healthcare providers, with the main reasons being worry about receiving inferior care and the providers' negative views TCAM users [15]. The current study finds that 56.8% are normally delivered at home and 22.5% are delivered by cesarean **(Table 1)**. The possibility of a hospital caesarian/episiotomy rather than a natural delivery was the main concern of this area. Firdos report also says that, home deliveries continue to be the top choice for expectant mothers. Traditional viewpoints, religious convictions, and social restrictions are the main causes of that [13]. The study find that 11% people are highly educated and they know more about herbal supplements then the uneducated one **(Table 1)**. Rashrash study says that the use of herbal supplements was acknowledged by more than one-third of respondents. Higher levels of education and advancing age were associated with more frequent use of herbal supplements [16].
Mostly females used supplements for physical growth of their children [17]. Supplements were used for mental sharpness of children (25%) and to boost children immunity (17.8%) **(Table 2)**. Women give herbal supplement to their children to boost up their immunity and brain health. These days everyone is busy meet up their goals in short time so women gives these supplement to their children to make them fit and intelligent [18]. Women of this area authors have selected are very poor. Authors do contact with many women's some are refused to answer author's questions that they don't have any resources to use these herbal supplement because they are poor. Some women's are says they are busy in daily work and not having any time for self-care. Main thing that why authors have selected this area because this area is rich with herbs but people didn't know about the benefit of these herbs. Moreover, myths regarding these herbs/foods prevent people to use them. Sethi also say in his study

that poll received 240 responses from mothers. Potatoes, yoghurt, spices, and fizzy beverages were the key items on the restricted diet list. Dietary limitations were most frequently associated with the misconceptions that they caused physiological jaundice, abdominal pain, and chest infections [19]. The Pashtun and local Peshawar traditions also advocated some homemade goods like Suji Halwa and Achwani. In Khyber Pakhtunkhwa, nursing mothers impose unnecessary dietary restrictions on their newborns. There is no scientific justification for the prohibited foods.

According to current study, females mostly use ginger, cumin, coconut and green tea during their gestation and puerperium (Table 3). Bhatia [20] also indicated the frequent use ginger, peppermint, thyme, chamomile, aniseeds, green tea, tealeaf, raspberry, and echinacea leaf. Moreover, both of these studies also find the high prevalence rate of usage of herbs that was attributed to cultural norms, personal philosophies regarding health, the desire to take charge of one's own health, perceptions of illness, and a holistic approach to healing. However, the results are inconsistent with Stanisiere study as ginger use was not convincing [21]. It might be due to the reason that all nations don't advise its consumption for expectant mothers.

Mostly females use herbal supplements in the form of Panjeeri while children took herbal supplements in either raw or powder form **(Table 3)**. 17.6% women use wheat flour+Desi ghee during postpartum and 28% use panjeri +Warm milk. Bhatia also say that for maternal health, 23% of people used herbs and desi ghee with 100% satisfaction. 53% of those who utilised goat milk and almonds reported being satisfied with the foetal growth.(39%) ladies utilized CAM with unidentified chemicals that were prescribed by sant/baba in order to have a male child [20]. According to one study 46% says CAM is beneficial during post pregnancy weakness. Nik Yusof Fuad also says that CAM use was 85.5% common among postpartum women. Unreliable body therapies, such as massage, reflexology, hot stone compression, and body wrapping, were most popular among postpartum mothers (84.1%), followed by medically based therapies (33.1%). More than half of the respondents (52.1%) made the decision to use CAM for themselves as a result of their positive interactions with other users [22].

This study find that 62.5% mothers are use herbal remedies to increase milk quantity **(Table 3)**. The majority of mothers were advised eating soup, milk, Desi Ghee, and nuts while nursing. These, however, are crucial to the increase of breast milk. Zheng also says that Herbal remedies are widely used by nursing mothers to increase milk production. Strategic and coordinated activities involving key stakeholders are required to ensure that the needs of women who are thinking about utilizing herbal products during breastfeeding are met [23], According to Buntuchai ingestion of various traditional galactagogues, such as banana blossom, lemon basil, Thai basil, bottle gourd, and pumpkin, was strongly connected with the volume of human milk. Milk volume and maternal calorie and carbohydrate intake were linked, but protein intake was not linked to increase milk [24]. Salarfard also say that use of fenugreek to increase breastfeeding effectiveness and foster newborn growth because to its accessibility, rarity of negative effects for both mother and child, and convenience of usage [25]. Hachul also says that the test group (N = 60) of healthy, exclusively/fully breastfeeding women without milk insufficiency received Mother's Milk® herbal tea, an all-natural beverage containing fruits of bitter fennel, anise, and coriander, fenugreek seed, and other herbs, while the control group received lemon verbena leaves [26]. Molavi also says that Galactagogues are items like foods, herbs, or pharmaceuticals that promote the initiation, continuation, or reinforcement of breastfeeding. Notably, moms typically choose herbal supplements over chemical prescriptions because they believe them to be more dependable, cost-effective, and safe [27]. Different fruits, meals, and plants are used for this purpose in different countries. Many foods and drugs have the ability to induce lactation [28]. Tafrishi also says that galactagogic drop including fennel, anise, dill, parsley, cumin, and fennel flower was used in the fourth study, but it had no effect on the amount of breast milk produced or the infant's weight increase. Another recent study showed the fenugreek seed and fennel herbal tea's advantages for improving breastfeeding sufficiency through gains in anthropometric markers, the number of wet diapers, and the proportion of breast milk consumers. Another study regarding adequate milk revealed that eating dates had a good effect on milk production [29]. Community members and nursing moms need to be informed on nutrition-related myths.

The most prevalent myth in this area was regarding baby whitening (Baby complexion might be more light due to consumption of coconut during pregnancy) **(Table 3)**. Naveed says in his study that women did not follow the majority of food myths and taboos, most women appeared to have healthy prenatal practices. Most people believed that food has a hot or cold temperament. Some were staying away from nuts, meat, and eggs. Additionally, it was discovered that pregnancy myths and taboos did prevent expectant mothers from getting enough nutrients [30]. Goweily say that 400 women who were interviewed, 50% were between the ages of 20 and 30 and 36% were illiterate. The most prevalent taboos included using a knife or kala tika to ward off evil spirits, using herbal birth control, covering one's head and ears after giving birth, using castor oil or ghee to facilitate a normal delivery, and avoiding specific foods because they were hot or cold. The described myths regarding causes of abortions and difficult labor were numerous. More women and their families continue to believe in antiquated, unscientific myths. Such taboos and misconceptions can be dispelled as literacy rates rise. Education on nutrition is necessary [31]

Table 1. Demographic variables of the participants of survey

Demographic Factor		All participants (n=400) n (%)	Univariate	
			Odds ratio (95% Cl)	*P* value
Age	18-29 years	200 (50)	0.505 (0.299-0.852)	0.01
	30-40 years	200 (50)		
Education Level	Illiterate	161 (40.3)	1.933 (1.249-2.991)	0.003
	Primary to secondary	195 (48.8)		
	Higher Education	44 (11)		
Monthly income (PKR)	Less than 30K	141 (35.2)	1.757 (1.167-2.643)	0.007
	30-50K	199 (49.8)		
	More than 50K	60 (15)		
Mode of delivery	Episiotomy	83 (20.8)	2.147 (1.416-3.256)	0.0001
	Normal spontaneous vaginal delivery at home	227 (56.8)		
	Cesarean section	90 (22.5)		

Table 2. Data from Mothers of children's about food/herbal Supplement use

		Yes	**No**
BA1	Did you use any food/herbal supplement for your children?	331 (82.8)	69 (17.3)
BA2	Does a Doctor/physician prescribe it?	22(5.5)	309(77.3)
BA3	Did you use it for mental sharpness?	100 (25)	225(56.2)
BA4	Did you use it for the remarkable physical growth of child?	230 (57.5)	95(23.7)
BA5	Did you use these supplements to increase the child's immunity?	75 (18.7)	250 (62.5)
BA6	Did you see any difference in the health of the child?	290 (72.5)	35 (8.7)
BA7	Did it increase their hunger?	220 (55)	105(26.2)
BA8	Is that increase overall performance in school?	178 (44.5)	147(36.7)
BA9	Did you observe any weight gain?	220 (55)	105(26.2)
BA10	Did you observe any weight loss?	85 (21.2)	240 (60)

Table 3. Details of Herbal/Food supplements use for children and mothers during pregnancy and puerperium

Characteristics		**n (%)**
Herbal/Food supplements	Ginger	200 (50)
	Cumin	300 (75)
	Almond	100
	Coconut	200 (50)
	Green tea	105 (26.2)
	Walnut	75 (18.7)
Source of Information about Food/herbal supplements	Elderly	290 (72.5)
	Doctor	22 (5.5)
	Self	18 (4.5)
	Mother/Family member	55 (13.7)
Which form of herbal food supplement you are giving to children?	Capsules	50 (12.5)
	Tablets	50 (12.5)
	Majoon	50 (12.5)
	Raw form	100 (25)
	Powder	150 (37.5)
In which form females use foods supplement?	Panjeri	250 (62.5)
	Tablet	75 (18.7)
	Capsules	75 (18.7)
Reason of using foods supplement?	Increasing milk	250 (62.5)
	Female own health	150 (37.5)
For what thing they mostly follow myth?	Baby whitening	200 (50)
	Weight loss	100 (25)
	Not for any thing	100 (25)

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