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Plants used during pregnancy, childbirth, postpartum and infant healthcare in Palestine

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A B S T R A C T

Purpose: This study aims to evaluate the prevalence and the factors related to the use of herbs by women during pregnancy, childbirth, postpartum and for infant healthcare. The study also aims to identify the herbs therapeutic uses and preparation. To date, no previous studies have investigated this prevalence in Palestine.
Methods: A cross-sectional survey of women of different child-bearing age group inhabiting different locations in Palestine was carried out by means of a semi-structured questionnaire.
Results: A total of 372 women were interviewed. Of the participants 72.3% reported using herbs at different pregnancy stages and for infant healthcare. The most common herbal products used in this study at different stages of pregnancy were *Pimpinella anisum, Salvia fruticosa, Matricaria aurea,* and *Mentha spicata*.
Conclusion: This study revealed that there is an appreciable prevalence of herbal use among pregnant women at different pregnancy stages and for infant healthcare in Palestine.

1. Introduction

The use of complementary and alternative medicines (CAM) has grown considerably worldwide in the last 20 years. Herbal medicines are used in all countries of the world and are included in the top CAM therapies used [1–3].

The use of medicinal plants in women's health related conditions such as female fertility, menorrhea, birth control, pregnancy, childbirth, postpartum healthcare and lactation, including infant care, have been documented for various ethnic groups [4–10]. However, the toxicity of a large number of these plants has not been investigated [11].

Plants used during pregnancy may be pregnancy related health issues, for example for nausea and vomiting [12–14], candida vaginal infection [12], nutritional [15], and to facilitate labor [14]; or may be used for unrelated pregnancy health issues such respiratory related diseases or for skin problems [15].

Several sources have been reported for the recommendation of medicinal plants use in pregnancy including: healthcare providers, natural or alternative medicine practitioners, pharmacists, based on information from media sources [13]; suggested by friends or family [13–15]; or based on women's own information and knowledge [13,16].

During pregnancy, childbirth, and postpartum healthcare, traditional medicine depends on the use of certain herbs for their beneficial effects to contract the uterus muscle, facilitate labor, in the removal of retained placenta and management of postpartum haemorrhage [17]. In Palestine specific surveys that investigate the attitude of woman towards the use of herbal medications during pregnancy, childbirth, postpartum and for infant healthcare are still lacking. The only available information on this issue, focused on herbal medicines used during pregnancy in a group of women mainly from a specific geographic area (Nablus city), who attended at an antenatal clinic or gave birth at maternity ward in Rafidia Hospital in Nablus within a short time of delivery [18,19].

2. Aims and objectives

Several ethnobotanical investigations have been conducted in the area to explore its vast ethnomedicinal plant knowledge [20–23]. This study aims to evaluate the prevalence and the factors related to the use of herbs by women during pregnancy, childbirth, postpartum and for infant healthcare. The study also aims to

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identify the herbs therapeutic uses and preparation. To date, no previous studies have investigated this prevalence in Palestine.

3. Methods

The study took the form of a cross-sectional survey of women of different child-bearing age groups inhabiting different locations in Palestine (Hebron, Nablus, Tulkarm, Jenin and Qalqilia). Data were collected by means of a semi-structured questionnaire administered by trained researchers from the Biodiversity and Environmental Research Centre (BERC), using a face-to-face interview of 30 min. Researchers clearly explained to participants that this is a research about their use of herbal medicines during different stages of pregnancy and giving birth and for infants' healthcare. Moreover, they were assured that any information they would reveal will strictly remain confidential and would only be used for research purposes. Prior to proceeding with the study, ethical approval for conducting the study was obtained from the Institutional Review Board (IRB) at Ministry of Health in Nablus and women expressing interest in participating in the study were requested to sign this document. The study took place over a five month period in 2010 (January 2010 until May 2010). The vast majority of the questions had pre-formulated answers.

3.1. Research sample

To evaluate the questionnaire, a pilot study on 30 randomly selected women was performed. In the present study, a total of 372 randomly selected married women participated. The findings from the pilot study have not been included in the analysis of data for the present study.

3.2. Data analysis

Responses were coded and entered into SPSS for Windows, version 16, for statistical analysis.

4. Results

4.1. Participants

A total of 400 women were consecutively contacted, with a response rate of 93%. The mean age of the final sample (372 women) was 39.7 years; most women were pluriparae (88.7%) while 9.1, 1.9 and 0.3% were nullioparae, secondiparae and primiparae, respectively. With regard to their educational level, 33.1% of women had a university degree, while 50.5% had primary or secondary school education (Table 1). The majority of the women (68.5%) were house wives, living in villages (53.5%), 8.9% of them were widows. There were no statistically significant differences between users and non-users of medicinal plants in all socioeconomic and demographic status, and pregnancy stages or infant healthcare.

4.2. Pattern of herbal preparation use among participants

Plant use during pregnancy, childbirth, postpartum healthcare and for infant care is common among Palestinian women; of the 372 participants, 88.4% (n = 329) were users for medicinal plants during pregnancy, while 87.1%, 95.4% and 87.6% of the women reported the use of medicinal plants during childbirth, postpartum healthcare, and for infants healthcare, respectively (Fig. 1).

The majority of herbal medicine users (n = 95.1%) obtained their supply from the market, while 24.9% obtained their supply from nature, and preferred to use the herbs in the form of decoction (40.3%), and raw (25%). Among the plant parts used, seeds preparations has been found to be the most popular (24.6%), followed by fruits (21.1%), leaves (19.3%) and areal parts (15.8%) (Fig. 2). In case of mode of administration oral (42 Cases) exceeds the topical (16 cases).

Table 1
Socioeconomic and demographic data of study population.

	Frequency	Percentage
Age		
20–30	85	22.8
31–40	95	25.5
More than 40	117	31.5
Missing	75	20.2
Marital Status		
Married	316	84.9
Divorced	2	0.5
Widower	33	8.9
Missing	21	5.6
Residence		
City	142	38.2
Village	199	53.5
Camp	16	4.3
Missing	15	4.0
Educational Level		
Illiterate	43	11.6
Primary	99	26.6
Secondary	89	23.9
University	123	33.1
Missing	18	4.8
Work		
Yes	117	31.5
No	255	68.5

4.3. Herbs used by women at different stages of pregnancy and for infant healthcare

In this study, 96 plant taxa, belonging to 41 botanical families are used by women at different stages of pregnancy and for infant healthcare, with Lamiaceae (13 species), Asteraceae (8 species) and Rosaceae (8 species) being the most quoted families. Of these plants, 52 species belonging to 30 families were mentioned by ≥3 informants (Table 2), 44 species were mentioned by ≤2 of the women in this study and therefore were excluded from further discussions. Table 2 presents the most frequent plants used, part used, stage of use, mode of preparation and medical use.

The reported uses of the herbs are classified into the following application categories: oral use, as decoction, infusion or cold extract; steam bath and body wash; external use applied as poultice; and eaten, either boiled or roasted.

Fifty two plant species were used by women for postpartum healthcare, while 36, 27, and 34 plant species were used during pregnancy, childbirth and infant care, respectively. Fifteen plants were common among the 4 categories, whereas 30, 28, 25, 25, 19, and 17 species were common in pregnancy and postpartum healthcare, postpartum and infant healthcare, pregnancy and infant healthcare, during birth and postpartum healthcare, pregnancy and during birth, and during birth and infant healthcare, respectively. The following plants were common to all four stages: *Pimpinella anisum* (anise), *Salvia fruticosa* (sage), *Matricaria aurea* (golden cotula), and *Mentha spicata* (peppermint) which were utilized by 54% or more of the study population. Herbal mixture was used by 3.8% of the population study.

Plants mentioned in this study were reported to treat several ailments some of which are pregnancy related, for example urinary tract infection, prepare to labor, lactagogue, facilitate delivery; or may be used to treat unrelated pregnancy health issues such as cold and respiratory illnesses and chest pain (Fig. 3).