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Traditional plants used for the treatment of gynaecological disorders in Vedaranyam taluk, South India - An ethnomedicinal survey

S. Balamurugan, S. Vijayakumar*, S. Prabhu, J.E. Morvin Yabesh

PG and Research Department of Botany and Microbiology, AVVM Sri Pushpam College (Autonomous) Poondi, Thanjavur (Dist), Tamil Nadu, India

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ABSTRACT

Gynaecological disorder is one of the most severe conditions under reproductive health. So we investigate and collect information from traditional practitioners on the use of medicinal plants for treatment of Gynaecological disorder in Vedaranyam taluk, Nagappattinam district of South India. The field study was carried out for a period of January 2014–January 2015 in Vedaranyam taluk, Nagappattinam district of South India. This is the first traditional medicine study in which statistical calculations about plants are done by RFC, CI, UV and ICF in the study area. The ethnomedicinal information was collected through interviews, informal meetings, open and group discussions and overt observations with semi-structured questionnaires among traditional practitioners. A total of 66 species of plants distributed in 62 genera belonging to 44 families were identified as commonly used ethno medicinal plants by traditional practitioners in Vedaranyam taluk for the treatment of 36 ailments based on the reproductive systems treated. Leaves were the most frequently used plant parts and most of the medicines were prepared in the form of paste and administered orally. We know the most important species according to their use value such as *Moringa oleifera*, *Smailax zeylanica* and *Achyranthes aspera* were recorded. The present study, we have highlighted some claims which are high use in the study area. Further pharmacological studies of these plants may provide some important drugs for the treatment of common gynaecological disorders.

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1. Introduction

Gynaecology or gynecology is the medical practice dealing with the health of the female reproductive system (uterus, vagina and ovaries). Gynaecology is an important branch which deals with the treatment of ailments among rural women for example abortion, menstrual trouble, menopausal syndrome, morning sickness, leucorrhoea, anti-fertility, delivery problem, etc.¹ Socio economic conditions force many women's seek abortion. In countries where abortion is illegal or where the health system can't provide sufficient care, women are left with option of inducing abortion themselves. In India, Indian phenol code, which was enacted in 1816 and was written in accordance with British law at the time of creation, declared induced abortion as illegal. Induced abortion was

defined as purposely causing miscarriage.²

According to WHO³ 'The health care of women is Crucial'. Women who live in hamlets economically and educationally very, very poor. Generally pregnant women of rural areas prefer a skilled village midwife to gynaecologist for delivery. It is not possible for them to go to the healthcare and multispecialty centers owing to distance and inadequacy of money. Traditional birth attendants (TBA) provide the majority of primary maternity care in many developing countries. In India, TBA have provide basic healthcare, support and advice during and after pregnancy and child birth, based primary on experience and knowledge acquired infirmly through the tradition and practice of the community where they originated. They usually work in rural, remote and other medically underserved areas.

Approximately 80% of world population depends on traditional herbal medicine for primary healthcare as plant and plant based medication in the base of many of the today's pharmaceutical drugs used for various ailments.⁴ In India almost 95% of medications are plant based formulations from the traditional system of Unani, Ayurveda, Homeopathy and Siddha and their associate material

* Corresponding author. Tel.: +91 9003311921.

E-mail address: svijaya_kumar2579@rediff.com (S. Vijayakumar).

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largely depended on wild harvested plants.⁵

Herbal medication hold highly reputational position in the developing countries like India and China becoming popular among people of both urban and rural areas to their safety, efficacy and affordability. Almost 8,000 plant species are registered for their ethnomedicinal importance⁶ and traditional knowledge based formulations or indigenous traditional medicine has played an elementary role in the innovation of novel healthcare products from plants.⁷

Many ethnobotanical studies have been carried out on the medicinal use of herbal plants but very few quantitative studies have been performed on the use of traditional remedies for gynaecological care. Fortunately, the tradition of using traditional remedies to treat female healthcare problem is still very much alive. However these traditional remedies have not been thoroughly documented. The creation of nuclear families where grand mothers are absent, migration to cities easy availability of synthetic drugs and access to primary health centre's are some of the reasons for the less of traditional knowledge about traditional remedies. In this study, we have documented the traditional knowledge on plants used for treating gynaecological disorders.

2. Materials and methods

2.1. Selection of traditional practitioners

The population of the Vedaranyam (Taluk), Nagapattinam district is around 8 sites in our study total of 2, 15,653 (Males-1, 07, 007; Females-1, 08, 646) peoples were lived (http://en.wikipedia.org/wiki/Vedaranyam_taluk). The informants or traditional practitioners were selected based on their knowledge of medicinal plants in the study area. The practitioners who had been practicing for more than 5 years were included in the survey. In the first visit, the purpose and nature of the project were explained to each practitioner in a simple language, to get prior informant consent. After establishing a clear consent from them, formal interviews were conducted from the second visit onwards. In this study, 120 traditional healer medical practitioners were included and their knowledge on medicinal plants was gathered. The interviews were conducted in the local language 'Tamil' and the documentation of the data in the field was also done in the local language. Successive free listing was the method adopted for the interview.⁸ The interview consisted of two parts. The first part dealt with the demographic profile of the informants which included the name, gender, age, professional experience, educational status and occupation (Appendix A). The second part dealt with their medicinal plant knowledge (Appendix B). The informants were asked to describe the medicines that were given by them with their mode of usage. The details regarding the parts used, mode of preparing the medicine and solvent used for administration in this part. Furthermore, the informants were asked to describe the symptomatology of illnesses.

2.2. Investigation sites

The study area was investigated to get information from local traditional practitioners having practical knowledge of medicinal plants were interviewed in 8 villages of Kallimedu, Kodia kadu, Kuravap palam, Maruthur south, Nakudaiyan, Panjanadhikulam east, Periakuthakai and Putpavanam, Vedaranyam (taluk), Nagapattinam (dt), Tamil Nadu, India (Fig. 1). The field surveys were conducted between January 2014 and January 2015 in Vedaranyam taluk of Nagapattinam district. A total of 365 field days was spent together the data. Methods of selecting informants depended upon the distribution of local people having sound knowledge. They

were requested to collect specimens of the plants they know or to show the plant species on site. These informants were traditional practitioners themselves or had tradition of healing in their families and had knowledge of the medicinal use of the plants. The wealth of medicinal plant knowledge among the people of this district is based on hundreds of years of beliefs and observations.

2.3. Preservation of plant specimens

Standard method was followed with record to collection of plant materials, drying, mounting, preparation and preservation of plant specimens.⁹ Voucher specimens of medicinal plants in triplicate were collected, prepared and identified. Plants with their correct nomenclature were arranged alphabetically by family name, vernacular name, ethno medicinal uses and other applications. The identification and nomenclature of the listed plants were based on the Flora of Presidency of Madras¹⁰ and the Flora of Tamil Nadu Carnatic.¹¹ They were later verified at Botanical Survey of India, Southern Circle, Coimbatore, India. All the preserved specimens were deposited at the Herbarium of A.V.V.M.S.P. College (Pushpam Herbarium Cabinet (PHC), Poondi.

2.4. Quantitative analysis

2.4.1. Relative frequency citation (RFC)

This index used here is the relative frequency of citation (RFC). This index is obtained by dividing the number of informants mentioning a useful species (FC or frequency of citation), by the total number of informants in the survey (N). RFC value varies from 0 (when nobody refers to a plant as a useful one), to 1 (when all the informants mentioning it as useful).¹² RFC index, which does not consider the use-category (UR or use-report is a single record for use of a plant mentioned by an individual) and RFC calculated by the following formula:

$$RFC_s = \frac{FC_s}{N} = \frac{\sum_{i=1}^N UR_i}{N}$$

2.4.2. Cultural importance index (CI)

The second approach used in our study is the cultural importance index (CI). This index is calculated by the sum of the proportion of informants mentioning each species use (i.e. the sum of the number of participants who mention the use of each species divided by the total number of informants (N)). This index is calculated by the following formula:

$$CI_i = \sum_{u=1}^{uNC} \sum_{i=1}^{iN} UR_{ui} / N$$

This index takes into account the spread of the use (number of informants) for each species along with its versatility, i.e. the diversity of its applications.¹²

2.4.3. Use value (UV)

The Use Value (UV) demonstrates the relative importance of plants known locally. It was calculated using the following formula.¹³

$$UV = \sum U_i / N$$

where U_i is the number of uses mentioned by each informant for a given species and N is the total number of informants.

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