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Phytotherapy Against Insomnia: Extravagant Claims or an Alternative Medicine?

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Abstract: Insomnia or sleeplessness is a disorder characterized by a personal incapability to falling or staying asleep for a desirable period of time. Apart from *Valeriana officinalis* and *Ziziphus jujuba* most of the ethnobotanicals used for sleep disorders have not been evaluated for pharmacological or clinical efficacy against insomnia. Chinese herbal medicines involving polyherbal formulations are yet to be characterized and long term side effects are yet to be evaluated. Anti insomniac phytotherapy opens up an exciting aspect of research which might benefit a large number of patients suffering from different degrees of insomnia.

Key words: Insomnia, phytotherapy, side effects evaluation

INTRODUCTION

Insomnia or sleeplessness is a disorder characterized by a person's incapability to falling or staying asleep for a desirable period of time (Roth, 2007). Insomnia is associated with psychiatric and medical illnesses and depression (Benca, 2001). Approximately 30% of the general population is affected by chronic insomnia and almost 40% of adults with insomnia suffer from psychiatric disorder such as depression (Roth, 2007).

Ethnobotany serves as a starting point in many drug discovery programs. Traditional remedy using medicinal plants has been reported against a number of human and livestock ailments (Dey and De, 2010) such as gastrointestinal disorders (Dey and De, 2012a), snakebite (Dey and De, 2012b), fever (Dey and De, 2012c), skin diseases and wound healing (Dey *et al.*, 2012) etc. Various and separate preparations of leaves of *Araucaria bidwillii* Hook. (a gymnosperm), fronds of *Dicranopteris linearis* Underw. (a pteridophyte) and roots of *Laportea interrupta* (L.) Chew. along with *Cratoxylum* leaves were prescribed in insomniac children by the hill tribes of Northern Thailand (Anderson, 1986). Dried flowers of *Lavandula angustifolia* Miller and seeds of *Ocimum basilicum* L. are among the two ethnomedicinal remedy against insomnia practiced by the people residing around Izmir province, Turkey (Ugulu *et al.*, 2009). *Rauwolfia serpentina* (L.) has also been reported as a phytotherapy against sleeplessness (Dey and De, 2011). *Hibiscus rosasinensis* L. flowers are used against nervousness and insomnia in Santa Rita Estado Aragua, Venezuela (Martinez *et al.*, 2012). In

another observation, leaves of *Lactuca sativa* L. was suggested for the same purpose in the Natural Park of "Serra de São Mamede" (Portugal) (Camejo-Rodrigues *et al.*, 2003). Even in urban areas of Samogitia region, Lithuania, *Humulus lupulus* L. fruits and *Valeriana officinalis* L. roots are reported as anti-insomniacs (Petkeviciute *et al.*, 2010). Roots of *Centaurea ornata* Willd. and dried petals of *Papaver rhoeas* L. have been reported from Arribes del Duero, western Spain for the same reason (Gonzalez *et al.*, 2010). Flowers of *Papaver rhoeas* L. and *Tilia cordata* Mill. are reported from Gollak region, Kosovo to promote sleep (Mustafa *et al.*, 2012).

Herbal remedy is considered as an alternative and complementary treatment of insomnia which has been reflected in many ethnobotanical investigations. Despite the scarcity of data regarding effectiveness and safety of these sleep inducing natural products, the common perception of using such remedies have been popularized widely (Sanchez-Ortuno *et al.*, 2009). Two dietary or herbal supplements valerian and melatonin have been used extensively to treat sleep disorder and increase sleep quality (Shimazaki and Martin, 2007). Valerian medication was found to safe with moderate beneficial effects in insomnia when compared to placebo (Oxman *et al.*, 2007). *Xylaria nigripes* (Kl.) Sacc mycelia is used in the form of Wuling Capsule to treat insomnia and it was found to improve sleep disorder in patients in multicenter, randomized, double-blind trials (Lin *et al.*, 2013). Chinese herbal medicine is considered as one of the most common Chinese Medicine (CM) therapies to treat primary insomnia (Yan *et al.*, 2013). Traditional Chinese Medicine

(TCM) treatments involve the use of herbal medicine to treat sleep disorders but high quality further research was suggested to draw a conclusion (Yeung *et al.*, 2012a). *Ziziphus jujuba* is reported as a single herb based preparation used against insomnia in Chinese herbal medicine (Yeung *et al.*, 2012b). Polyherbal preparations with complex formulae used in Chinese herbal medicines have gained popularity in Taiwan. A survey to monitor the drug utilization patterns of these medicines indicated the need for further studies (Chen *et al.*, 2005; 2009). Although herbal medication was found to be modestly effective to improve sleep quality, long term study with a large sample size is needed to evaluate possible drug interactions in the long run (Shimazaki and Martin, 2007). Apart from *Valeriana officinalis* and *Ziziphus jujuba* most of the ethnobotanicals used for sleep disorders have not been evaluated for pharmacological or clinical efficacy. Chinese herbal medicines involving polyherbal formulations are yet to be characterized and long term side effects are yet to be evaluated. Anti-insomniac phytotherapy opens up an exciting aspect of research which might benefit a large number of patients suffering from different degrees of insomnia.

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