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# Assessment of ethanolic extract of *Thymus vulgaris* effects in comparison with *Ciprofloxacin* on three *Shigella* species in vitro

Medicinal plants are used based on empirical treatment from traditional medicine, thus more *in vivo* and *in vitro* studies are needed to determine their mechanism of action and adverse side effects.

Thymus vulgaris is a herb which grows in various mountain of Iran. It has been said that its extract has anti-spasmodic effects, inhibitory effect on the spasm induced by Barium chloride, carbuncle, histamine and prostaglandins.[1] Different species are used as anti-cough and anti-fungal.[2]

Acute diarrhoeal diseases are the results of bacterial, viral or protozoa pathogens and are the most common reason of death in pediatrics, all over the world.[3]

All species of Shigella are pathogen in the intestine and cause dysentery in human and primates. Resistance of this bacterium to different anti-biotics is seen.[4] This study was designed to measure the effect of thymus vulgaris on three species of Shigella: Shigella flexenri, dysentery and sunei.

In a small study, ethanolic extract of Thymus vulgaris was prepared by one of the pharmaceutical companies in Golestan province, Northeast of Iran; with percolation method, extract was assumed from whole body of the herb. Extract batch number was 1386/7/1. Different concentrations (1/2, 1/4 &1/8) of the extract were assumed by distilled water. The bacteria were cultured in suitable environment (Muller Hinton agar). Blank discs were put in the extracts to absorb it. Then discs were dried in a sterile environment and kept in to assess its antimicrobial effect.

Extract and antibiotic discs were placed on the plates. Regarded diameter of inhibition zone was considered sensitive when more than 7mm. Bacteria were isolated from clinical samples (stool) in consultation with microbiology laboratory of Golestan Medical University. Ciprofloxacin antibiotic disc was used as positive control group. Antimicrobial effects of ethanolic extract were assessed with disc diffusion method. Plates were incubated in 37$^{O}$c for one day and assessed the next day for the inhibition zone. Ethanolic extract of thymus vulgaris had no effect on 3 bacteria species. Inhibition zone of ciprofloxacin disc was 40mm in Shigella flexenri, 35mm in Dysentria and 30mm in sunei.

In a study in Blegium, this herb had anti-microbial effects on S.flexeneri and S.sunei.[5] In another study, effect of thymus vulgaris extract on oral phatogen micro-organism, like actinobacillus actinomycetum, canadida albicans and streptococcus mutans was assessed. Extracts were assessed by two methods: pitting method with 0.1 concentrations and disc method by two mg discs. Results showed a signficant effect on these micro-organisms. The most effect was related to candida albicans. This extract had a better effect in comparison to chlorhexidine.[6]

Farsangi et al assessed the lethal effect of thymus vulgaris on Giardia. Boild extract, essence and succylated thymus were compared to metronidazole in 30 & 60 minutes. Results showed that this herb can be a proper substitue for metronidazole.[7] May be the difference could be explained by the differences in the area from which this herb was collected. Other studies with different concentrations of the herb are suggested.


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## Deficiencies in manuscripts accepted for Publication

It is an honour to serve as an advisor of Pakistan Journal of Medical Sciences, which is a wonderful balance among a good number of scholarly scientific articles of different specialties, from different corners of world. In the latest issue, it was fascinating to read an original article, entitled "Deficiencies in original articles accepted for publication in Pakistan Journal of Medical Sciences: A retrospective analysis.[1]"

The novel attempt to analyze and criticize the published articles is praiseworthy. Credit also goes to its sound peer-review system and reviewers' database.

It is unfortunate that many of our clinicians still find manuscript writing a daunting task. Successful completion of a study is only the halfway. To grab the attention of community by clear and concise writing is vital to become a successful scientist. Even the most exciting data may be rejected for publication if its presentation is poor or is badly written.

Scientific writing follows a defined format that has developed over time by editorial practice, scientific ethics, interplay with printing and publishing services etc. According to this style some ways of writing are plain mistakes, even if they are acceptable in other sectors such as history or literature. The beginners find the hardest thing is to follow this format. The article unveiled a long list of niches. The major deficiencies were references not in Vancouver style, grammatical mistakes, lack of recent, local and international references, not properly structured etc. All these reflect a failure to cope with the style of medical writing and lack of exercising manuscript preparation. Thus, the analysis calls for and reminds us the urgent need to incorporate scientific writing in undergraduate curriculum and arrangement of regular workshop in different institutions. Journals of underprivileged countries should publish such articles to bring the flaws of authors to light and advise them how to improve their manuscripts.

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