Process management applied on replacement of hormonal treatments with pharmaceutical preparation of Agnus cactus biocomponents in menstrual disorders in teenagers

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Abstract

Unfortunately, in present one of the most common drug used by teenagers are contraceptive products that are too easily obtained from both doctors and the pharmacies even without a prescription.

The aim of the present study was to identify and statistically process information about the health of teenagers’s reproductive system and the way of handling with possible pathologies. Such a comparison was made between the use and impact of hormone therapy versus active preparations of vitex Agnus castus biocomponents in menstrual disorders in adolescents.

Currently on pharmaceutical market with impact on reproductive system have made a special place the bioactive products of vitex Agnus castus adding value to adolescent health especially in the fight to reduce the risk of carcinogenesis in the reproductive system.

This paper seeks to provide additional justification for such treatment and emphasizes the role of process management approach to implement the use of these bioactive natural products with the clear aim of improving the quality of life.

Keywords: process management, added value, biocomponents, Agnus castus

1. Introduction

Women’s menstrual cycle of women in the reproductive phase is a several hundred times repeated event in order to ensure fertilization of the egg and preparative conditions for uterine implantation.

Ovarian function is based on a complex interaction of hormonal axis starting from the hypothalamus and reaching the ovaries via hypophysis. This endocrine functional unit is a prerequisite for cyclical occurrence of follicular development, follicular selection, ovulation, luteal function and menstruation.

From this complex interaction of various concentrations of hormones that are controlled by feedback mechanisms carefully regulated, it is easy to deduce that the imbalances of mutual interaction of hormones are reflected in menstrual disorders.

Since menstruation should be seen as a continuous process, it is understandable that a disorder of follicular development is often followed by insufficient luteal phase. An adequate follicular development is usually a prerequisite for luteal functioning [1].

Menstrual disorders are primarily those generated by luteal insufficiency which have very common symptoms in gynecological practice [2,3].

Menstrual disorders treatment need occur not only to women who have not experienced motherhood. Anovulation and luteal insufficiency may promote
endometriosis. In connection with amenorrhea, estrogen deficiency is a predisposing factor for osteoporosis.

To prevent anemia, long-term menstrual abnormalities existing such as polimenoreea, hypermenorea, menorrhagia and metrorrhagia should be treated. However, due to the high incidence of different tumors possible, organic disorders should be excluded by histological examination before treatment.

The lack of secretory transformation of the endometrium due to an imbalance of sex steroids at the expense of progesterone and persistence of this state over time are related to changes in the mucosa.

In addition, disturbances in the sex steroids influence mammary gland and represent the cause of menstrual breast pain (mastodiny) and mastopathies fibrosis. Myriad consequences of menstrual disorders should lead to determine women to undergo effective treatment that have few side effects as possible [6].

Currently, due to competition on the pharmaceutical market in terms of price, delivery time and quality, manufacturers increasingly direct achievement of added value towards meeting the requirements and expectations of patients and this approach tries to be as more flexible.

The principle of approaching as a process is a management principle, which ISO 9000:2000 series of standards is based on and is defined to be the way that the desired result is achieved more efficiently when activities and related resources are managed as a process [5].

Many changes occurring in the pharmaceutical environment, are increasingly leading to a approach targeted on the process [4].

Value creation processes, those who realise performance, in any field but especially in the medical and pharmaceutical one, are those processes for which results the patient is willing to pay extra. In our case the patient is:

- teenager considered as healthy by family environment but who wants to improve the quality of life in terms of reproductive function,
- teenager sick with various diseases who wants that medicines she takes have a low negative impact on overall health.
- healthy teenager but with increased risk for various diseases at this level who wants to support health with natural products to lower this risk [3]

*Agnus castus* (fruit of chastity, pepper monk) originated in the Mediterranean and in Central Asia is a shrub 2-4 m height which blooms in midsummer and after pollination gives rise to the variety of colors fruits from dark red to black. Numerous studies have demonstrated the ability of these plants to regulate ovarian secretion and restore woman's endocrine balance. *Agnus castus* reduce symptoms of PMS (breast pain, edema, nervousness, emotional lability, abdominal pain, palpitations, headache), regulates menstruation, promotes fertility, reduces perimenopause and menopause simptomatology [6].

### 2. Materials and Method

This study was conducted in three of the greatest theoretical schools in Timișoara. In the study were interviewed over 300 teenagers (386 with 375 valid responses) on:

- reproductive system health
- occurrence of menstrual disorders
- administered medication on these disorders
- impact of this medication on health.

In the study teenagers were informed about the impact of hormone therapy versus therapy with medicinal products with vitex *Agnus castus* bioactive components, then they answer the following questions:

1. Have you ever had problems with the reproductive system?
2. In what environment you received information on reproductive system and possible problems that may occur at this level?
3. Have you ever heard about or used drugs or nutritional supplements to maintain your reproductive health?
4. Have you ever used contraception?
5. Have you suffered or suffer from disorders of the menstrual cycle?
6. What type of such disorders you have or had?

7. Have you received any preparation used to treat menstrual disorders? If so what was the impact?

8. Do you want to follow a treatment with medicinal products with bioactive components from plants (Vitex agnus castus) that have a positive impact on the reproductive health and has no significant side effects?

3. Results and Discussion

Below are the results received by processing the questionnaire.

As seen from Figure 1, that most girls this age still encounter problems with reproductive system health. Even more can infer that these problems indicate a monthly menstrual cycle disorders.

Seen from Figure 2 that about half of teenagers have heard information about reproductive health from formal systems, schools, literature and informative programs in the media, the other half getting such information from informal environment, family, friends and acquaintances.

Question 1: Have you ever had problems with the reproductive system?

![Figure 1. Representation of responses to Question 1](image1)

Question 2: In what environment you received information on reproductive system and possible problems that may occur at this level?

![Figure 2. Representation of responses to Question 2](image2)
Seen from Figure 3 that over 30%, approx. third of teenagers, have not received and not used drugs or nutritional supplement, another third received and used drugs, nutritional supplement or local hygiene and a third had used oral products.

Seen from Figure 4 that almost a third of teenagers have used or are using contraceptive preparations regardless of sexual beginning, almost half of them even if they didn’t accused disorders, they have not consulted any specialists in this regard and 26% have not trusted this treatment even though it has been shown by people known or specialist.

**Question 3: Have you ever heard about or used drugs or nutritional supplements to maintain your reproductive health?**

![Figure 3. Representation of responses to Question 3](image)

**Question 4: Have you ever used contraception?**

![Figure 4. Representation of responses to Question 4](image)

Seen from Figure 5 that over a third of teenagers have never experienced or had only a few months of menstrual disorders, slight cramping type, while two-thirds were suffering continuous with variable pain.

Seen from Figure 6 that over a third of teenagers have never experienced or had only a few months of menstrual disorders, slight cramping type, while two-thirds were suffering continuous with variable pain intensity, in addition to the usual cramps appear headache, vomiting and bleeding that raise the risk of anemia.
Question 5: Have you suffered or suffer from disorders of the menstrual cycle?

![Bar chart showing responses to Question 5]

Figure 5: Representation of responses to Question 5

Question 6: What type of such disorders you have or had?

![Bar chart showing responses to Question 6]

Figure 6: Representation of responses to Question 6

Seen from Figure 7 that over a third of teenagers have never experienced or had only a few months of menstrual disorders, slight cramping type, for which they received mild painkillers to be used when needed. The other two thirds are suffering continuous with variable pain intensity and sometimes the vomiting and bleeding appears raising the risk of anemia they received and used other products, and over 20% of teenagers use hormonal products.
Question 7: Have you received any preparation used to treat menstrual disorders? If so what was the impact?

![Figure 7. Representation of responses to Question 7](image)

Question 8: Do you want to follow a treatment with medicinal products with bioactive components from plants (Vitex agnus castus) that have a positive impact on the reproductive health and has no significant side effects?

![Figure 8. Representation of responses to Question 8](image)

4. Conclusion

After careful analysis of the responses received from the girls interviewed, we can conclude the following:

(1) Nowadays girls are quite well informed about possible problems that may occur in the reproductive system including the occurrence of menstruation;

(2) In the treatment of menstrual disorders, in most cases the analgesic products are used, sometimes accompanied by supplements containing vitamins and minerals, iron in particular;

(3) Unfortunately regardless of menstrual cycle start, many teenage start using birth control pills without doctor's advice or even with their consent but without having previous investigations on possible hormonal disorders requiring such treatment;

(4) None of the girls interviewed who were treated with hormonal products did not know clear details about their impact on the body and about potential side effects.

(5) Most teenagers when accumulation considered specific information they prefer, when needed, biocomponents products from vitex Agnus castus versus hormone therapy.

References

1. *** Functional foods and nutraceuticals, Pharmascience, Agriculture and Agri-Food Canada,


