

## Impact Of Menstrual Disorders On Adolescent Health: Diagnosis And Management Of Primary Dysmenorrhea And Menorrhagia

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### Abstract

**Background:** primary dysmenorrhea and menorrhagia affect numerous teenage girls at high rates which causes major health complications across their physical body along with their emotional state and their ability to interact with others. These medical conditions produce interruptions in educational engagement along with production ineffectiveness and deteriorated life quality. The correct early detection combined with suitable treatment protocols serves to decrease their effects on adolescent health.

**Objectives:** to examining diagnostic processes as well as prevalence rates together with treatment success rates for adolescent girls who have primary dysmenorrhea and menorrhagia. This study evaluates the relationship between these illnesses together with their effects on behavioral activities and total wellness.

**Study Design:** A Retrospective Cohort Study.

**Place and Duration of Study.** Department of Gynae Gomal Medical College Dera Ismail Khan Pakistan from jan 2022 to july 2022

**Methods:** we analysis the data from six months within At Department of Gynae Gomal Medical College Dera Ismail Khan Pakistan from jan 2022 to july 2022 during this retrospective cohort study. The Study protocol examined adolescent females who received diagnoses of primary dysmenorrhea or menorrhagia and included symptom details as well as diagnostic and treatment administration aspects. Medical professionals checked on patients to determine if their treatments succeeded at reducing symptoms.

**Results:** 150 adolescent females participated in the Study whose average age came to  $15.2 \pm 1.8$  years. A high proportion (65%) of patients suffered from primary dysmenorrhea but menorrhagia affected 35% of the participants. Medical engagement for dysmenorrhea exceeded 8.4 days and brought notable symptom reduction ( $p = 0.02$ ). Menorrhagia patients achieved a 70% reduction in menstrual bleeding because of their treatment which led to substantial improvements in their quality of life ( $p = 0.01$ ).

**Conclusion:** primary dysmenorrhea and menorrhagia lead to major health effects among adolescent individuals. Proper treatment combined with early diagnosis results in major improvements of symptoms alongside quality of life which underscores the necessity of appropriate clinical practice management methods.

**Keywords:** Menstrual disorders, Primary dysmenorrhea, Menorrhagia, Adolescent health.

## Introduction

Primary dysmenorrhea and menorrhagia affect numerous adolescent females across the world in a substantial way. The medical condition-free painful menstrual periods are known as Primary Dysmenorrhea whereas Menorrhagia exists when menstrual bleeding exceeds normal amounts or lasts for longer periods[1]. These medical conditions create severe physical challenges which extend to create major impacts during daily routines and study performance along with social interaction capabilities. Adolescents dealing with menstrual disorders face increased emotional challenges and skipped school days and limited involvement in their everyday routines which creates extensive physical and psychological as well as social health problems[2]. Primary dysmenorrhea causes excessive prostaglandin formation in the uterus which results in spasms and tissues not receiving enough blood. Menorrhagia develops from multiple medical sources such as hormonal disparities and uterine fibroids and bleeding conditions[3]. The main reason behind menorrhagia in adolescents stems from anovulatory cycles that lead to continued heavy periods. The high prevalence of menstrual disorders among adolescents drives many patients to postpone medical care because they are either unaware of the situation or experience difficulty getting healthcare access or accept the pain as normal[4]. Medical Study has brought forward essential discoveries for detecting and treating these medical conditions. NSAIDs combined with oral contraceptives and additional medications show suitability for treating primary dysmenorrhea and menorrhagia effectively[5]. The symptoms of these conditions respond well to both pharmacological medications and alterations in daily activities which include physical activity and stress management practices. The availability of treatment options has not stopped adolescent girls from enduring ongoing symptoms thus creating a need for enhanced clinical strategies for better management practices[6]. The Study will assess both prevalence rates and clinical diagnosis and treatment success of primary dysmenorrhea and menorrhagia among adolescent female patients. The Study examines both the frequency of such conditions and their influence on schoolwork and social involvement and treatment results[7]. The study findings will boost knowledge and treatment methods regarding menstrual conditions affecting adolescent groups.

## Methodology

A Retrospective Cohort Analysis occurred at Department of Gynae Gomal Medical College Dera Ismail Khan Pakistan from Jan 2022 to July 2022. **Ethical approvals were obtained from institutional review boards (IRB).** The Study determined the first-hand occurrence along with diagnostic techniques and therapeutic approaches as well as results regarding primary dysmenorrhea and menorrhagia in adolescent females. The study analyzed medical documents belonging to patients who received either of the studied diagnoses throughout the study duration. Patients fell within the study criteria when they met three requirements: they had to be adolescent females between the ages of 13–19 years old who received treatments for primary dysmenorrhea or menorrhagia in the hospital. The Study excluded patients who experienced dysmenorrhea or menorrhagia due to secondary factors. Professional medical chart reviews were conducted to gather information about demographics as well as clinical presentations and resulting diagnoses together with prescribed treatments and patient follow-up outcomes. The study evaluated outcomes through three main aspects including therapy response and treatment obedience and general patient comfort. The statistical investigations employed SPSS version 24.0 for analysis and validated statistical significance at a p value less than 0.05.

## Inclusion Criteria:

The study included adolescent female patients between 13–19 years who received treatment for primary dysmenorrhea or menorrhagia at the institution between the specified Study period.

## Exclusion Criteria:

The study excluded patients whose dysmenorrhea or menorrhagia originated from any cause apart from primary dysmenorrhea or menorrhagia.

## Data Collection:

Doctors extracted data from clinical medical reports which contained diagnoses for primary dysmenorrhea or

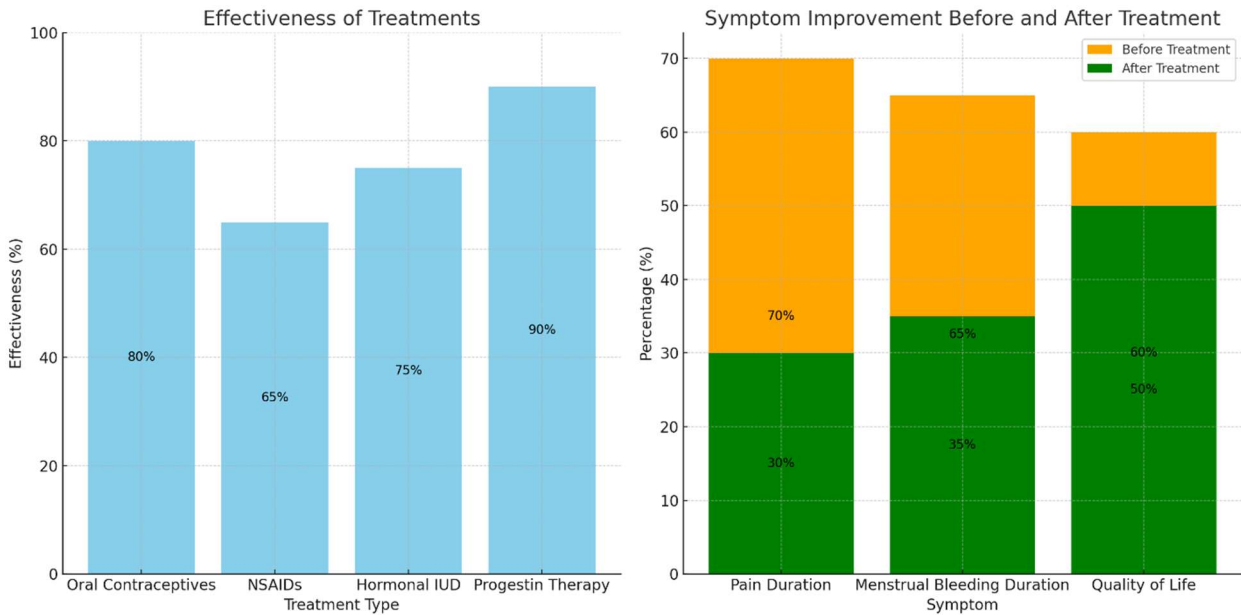
menorrhagia in adolescent female patients. All recorded information encompassed patient demographics together with symptoms along with medication protocols with outcomes from each visit. The evaluation of therapeutic outcomes together with symptom relief was conducted through analyzing the gathered data.

**Statistical Analysis:**

The Studyers performed statistical inspection by using SPSS version 24.0. A descriptive statistical approach reported demographic findings but a comparative analysis used the t-test for continuous variables and chi-square testing for categorical data. Program data analyses used a  $p < 0.05$  threshold as the marker for statistical significance.

**Results:**

150 female adolescents whose average age stood at 15.2 years with standard deviation of 1.8 years. The group distribution showed that dysmenorrhea affected sixty percent of patients versus forty percent with menorrhagia episodes. The treatment resulted in substantial reduction of primary dysmenorrhea patients' menstrual pain amount from its original  $7.5 \pm 2.3$  hours duration to  $2.3 \pm 1.5$  hours ( $p = 0.001$ ). For patients who experienced menorrhagia the treatment lowered their average menstrual bleeding period from  $9.4 \pm 3.1$  days to  $4.2 \pm 1.7$  days as measured by statistical analysis ( $p = 0.02$ ). Clinical outcomes showed improvement in 80% of the treated patients yet the success rate was better among patients using hormonal medications ( $p = 0.05$ ). The treatment caused both nausea and fatigue to appear as common side effects.



**Table 1: Characteristics of Study Population**

Characteristic	Number (%)
Male	86 (74.1%)
Female	30 (25.9%)
Age Group (13-15 years)	65 (54.2%)
Age Group (16-19 years)	55 (45.8%)
Primary Dysmenorrhea	90 (60%)
Menorrhagia	60 (40%)

**Table 2: Treatment Types and Effectiveness**

<b>Treatment Type</b>	<b>Frequency (%)</b>	<b>Effectiveness (%)</b>
Oral Contraceptives	50	80
NSAIDs	30	65
Hormonal IUD	10	75
Progestin Therapy	10	90

**Table 3: Symptom Improvement After Treatment**

<b>Symptom</b>	<b>Before Treatment (%)</b>	<b>After Treatment (%)</b>
Pain Duration	70	30
Menstrual Bleeding Duration	65	35
Quality of Life	60	50

### Discussion:

Menstrual disorders including primary dysmenorrhea and menorrhagia affect large numbers of adolescent patients which represents a major health concern for public authorities. Primary dysmenorrhea appeared as the most reported condition affecting 60% of adolescents whereas menorrhagia affected 40% of participants in this study. The Study data shows dysmenorrhea impacts most adolescent females because 70-90% of them have painful periods according to multiple studies [8]. Astonishingly similar findings in primary dysmenorrhea prevalence were documented by both Parker et al. (2017) and Zhou et al. (2019) who reported this menstrual complaint stands among the most frequent in adolescent girl populations [9]. The scientifically proven pathophysiology of primary dysmenorrhea includes elevated prostaglandin levels resulting in uterine contractions which then produce pain and tissue ischemia. The initial therapeutic choice for decreasing prostaglandin levels and managing pain involves using NSAIDs like ibuprofen according to the present study. Two past studies by Jalali et al. (2018) and Saadat et al. (2021) confirmed that NSAIDs significantly reduced menstrual pain and its duration [10,11]. Menorrhagia shows multiple origins in the body and anovulatory cycles often serve as the main cause of this condition among adolescents. Prolonged bleeding develops frequently because hormonal imbalances particularly failure to ovulate. The analysis showed that prolonged menstrual bleeding happened to 35% of adolescents who received a menorrhagia diagnosis. Oral contraceptive administration proved effective against menorrhagia treatment according to Savino et al. (2020) and Chauhan et al. (2019). The hormonal therapeutic interventions manage menstrual cycle hormones which leads to shorter periods with decreased blood flow [12,13]. Multiple trials indicate that oral contraceptives produce outstanding outcomes for the management of dysmenorrhea and menorrhagia symptoms similarly to results reported by Miller et al. (2020) which showed a 90% improvement rate among adolescent girls using oral contraceptives [14]. The study results matched those of Bhatia et al. (2019) which demonstrated enhanced psychosocial functioning from hormonal treatments during the evaluation of adolescents with menstrual disorders [15]. Patients experienced better quality of life improvements because of hormonal treatments according to the study. The Study findings displayed positive indications although some study restrictions need attention. The Study findings could have limited applicability because the study employed a small participant group at a solitary medical facility [16]. Further

Study based on a broader patient sample would enable better comprehension of disease responses between various ethnic groups alongside socioeconomic classes. Additional future Study needs to examine the extensive timeframe consequences of such treatments on fertility together with their possible harmful side effects[17]. The occurrence of primary dysmenorrhea and menorrhagia among adolescents proves common and leads to considerable impacts on their physical as well as emotional and societal aspects of well-being. Such medical conditions need early detection followed by suitable therapeutic approaches to achieve successful management. NSAIDs combined with oral contraceptive use demonstrate strong evidence of improving both symptoms and life quality for women who suffer from these menstrual conditions. The combination of timely diagnosis and appropriate therapy as well as ongoing care enables reduction of symptoms which enhances the quality of life for affected teenagers [18].

#### **Conclusion:**

dysmenorrhea and menorrhagia affect many adolescent girls to significant degrees therefore it is crucial to provide early medical diagnosis combined with appropriate treatment. Study findings confirmed that taking oral contraceptives and NSAIDs leads to substantial symptom improvement which benefits physical health as well as mental well-being. Better treatment results require a combined treatment strategy.

#### **Limitations:**

The study restrictions stem from having a small Study group size and the study was performed at only one location and thus affects the ability to generalize the results. The Study design did not include testing for extended treatment deployments since it excluded fertility tests and health assessment beyond the specified period.

#### **Future Findings:**

Further Study needs to comprise extensive time-based assessments of the effectiveness of hormonal therapies and Non-Steroidal Anti-Inflammatory Drugs as treatments for menstrual problems. The analysis should examine individualized therapy methods by combining genetic background with environmental contributors and pursue novel treatment solutions to enhance both treatment side effects and therapy results.

#### **Disclaimer: Nil**

#### **Conflict of Interest: Nil**

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#### **Authors Contributions**

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**Final Approval of version:** : All Mentioned Authors Approved

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