

The FIGO Recommendations on Terminologies and Definitions for Normal and Abnormal Uterine Bleeding

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ABSTRACT

Over the past 5 years there has been a major international discussion aimed at reaching agreement on the use of well-defined terminologies to describe the normal limits and range of abnormalities related to patterns of uterine bleeding. This article builds on concepts previously presented, which include the abandonment of long-used, ill-defined, and confusing English-language terms of Latin and Greek origin, such as menorrhagia and metrorrhagia. The term *dysfunctional uterine bleeding* should also be discarded. Alternative terms and concepts have been proposed and defined. The terminologies and definitions described here have been comprehensively reviewed and have received wide acceptance as a basis both for routine clinical practice and for comparative research studies. It is anticipated that these terminologies and definitions will be reviewed again on a regular basis through the International Federation of Gynecology and Obstetrics Menstrual Disorders Working Group.

KEYWORDS: Menstruation, menstrual cycle, abnormal uterine bleeding

Over the past decade it has become abundantly clear that many terms used to describe menstrual symptoms and causes of abnormal menstrual bleeding are ill defined and confusing.¹⁻⁴ This situation has led to difficulties in interpreting the scientific and clinical literature, in reaching agreement on the use of various therapies, and in the establishment of acceptable clinical trials. Indeed, two phase 3 clinical trials on management of heavy menstrual bleeding with a novel estradiol-based oral contraceptive, using identical protocols, have just been completed on opposite sides of the Atlantic. These

two trials performed in the United States/Canada and Europe/Australia (Clinical Trials.gov identifiers NCT00293059 and NCT00307801) were set up separately, primarily because of difficulties in defining the study populations using current terminologies.^{5,6}

A formal initiative was established with an international workshop in Washington, D.C., in 2005,⁷ which primarily addressed the most obvious and confusing of issues around terminologies, definitions, and classifications of abnormal uterine bleeding but also addressed issues that were less prominent at that time.

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These additional issues included quality of life and obvious patient-based considerations; cultural issues, and controversies around investigations and management.

A high level of agreement on terminologies was obtained following extensive discussion and use of an audience keypad responder system. It was strongly recommended that poorly defined and confusing terminologies such as *menorrhagia*, *metrorrhagia*, and *dysfunctional uterine bleeding* be abandoned.^{2,3} In their place should be substituted clear and simple terms that women and men in the general community could understand and could be easily translated into other languages. These terms should be defined, and ideally the definitions should be based on statistics derived from population studies.

These initial discussions and publications were followed by lectures, teleconferences, and the establishment of the International Federation of Gynecology and Obstetrics (FIGO) Menstrual Disorders Working Group. Members of this group met again for a Pre-Congress Workshop immediately prior to the FIGO World Congress of Gynecology and Obstetrics in Cape Town in October 2009 and reviewed a series of recommendations, which are described here. Many of these recommendations were posed as questions through an audience responder system to a large multicultural audience at a symposium on "Abnormal Uterine Bleeding" within the main scientific program of the FIGO World Congress. These audience responses are addressed in detail in the article by Munro et al in this issue.⁸

METHODOLOGY

The methodology behind the recommendations presented here has been described in detail elsewhere.^{2,3,7} Briefly, this involved prereading of a series of discussion documents and the answering of a series of questions before the workshop in a Delphi process⁹ by the participants in the Washington Expert Workshop in 2005. These issues were then addressed in detailed discussions and the questions revisited using an audience responder system, in the Delphi process manner. The recommendations received a high level of agreement. Subsequently these recommendations were published (with simultaneous publication in *Fertility and Sterility* and *Human Reproduction*),^{2,3} and they were also tested in presentations at international meetings. Several areas of uncertainty were specifically addressed during discussions by a multicultural Working Group at the FIGO Cape Town Congress. This Working Group also assisted in designing questions to test the acceptability of the recommended terminologies, definitions, and classifications with a large multicultural audience in the Congress on Abnormal Uterine Bleeding Symposium using the Audience Responder System.⁸

The recommendations presented here are the result of an extensive discussion and testing process but should still be regarded as a flexible living document, scheduled for future review through the FIGO Menstrual Disorders Working Group and sessions at FIGO World Congresses.

If these recommendations continue to meet with wide approval, it is hoped they will be steadily incorporated into daily professional and community use and be translated into other languages. Journal editors will be encouraged to offer guidelines for the use of these terminologies and definitions in submitted articles.

RECOMMENDATIONS ON TERMINOLOGIES

Terminologies That Should Be Discarded

Extensive international discussions have strongly recommended that certain terminologies be abandoned because of their controversial, confusing, and poorly defined usage (Table 1).²⁻⁴ These terminologies particularly include several English-language terms with Latin and Greek origins:

- "*Menorrhagia*" is confusingly used as a symptom and diagnosis.
- "*Metrorrhagia*" is poorly defined.
- Most other terms of Latin and Greek origin are recommended to be abandoned as listed in Table 1.

A further term strongly recommended to be abandoned is *dysfunctional uterine bleeding* (DUB), which was first used in 1935, never clearly defined,⁴ and is variably used as a symptom and a diagnosis.²⁻⁴ It has mostly been used as a diagnosis of exclusion where the underlying pathology has not been defined, but these

Table 1 Menstrual Terminologies That Recent Agreement Indicates Should Be Discarded⁴

Menorrhagia (all usages, including "essential menorrhagia," "idiopathic menorrhagia," "primary menorrhagia," "functional menorrhagia," "ovulatory or anovulatory menorrhagia")
Metrorrhagia
Hypermenorrhoea
Hypomenorrhoea
Menometrorrhagia
Polymenorrhoea
Polymenorrhagia
Epimenorrhoea
Epimenorrhagia
Metropathica hemorrhagica
Uterine hemorrhage
Dysfunctional uterine bleeding
Functional uterine bleeding

underlying mechanisms are being increasingly researched and defined.¹⁰ Hence it is now recommended that the diagnoses encompassed within dysfunctional uterine bleeding can be classified¹¹ under three definable headings: (1) disorders of endometrial origin (disturbances of the molecular mechanisms responsible for regulation of the volume of blood lost at menstruation); (2) disorders of the hypothalamic-pituitary-ovarian axis; and (3) disorders of hemostasis (the “coagulopathies”). These three groups of diagnoses are sometimes referred to as “nonstructural” causes of abnormal uterine bleeding (AUB).¹²

RECOMMENDED TERMINOLOGY, DEFINITIONS, AND CLASSIFICATIONS OF SYMPTOMS OF ABNORMAL UTERINE BLEEDING

Disturbances of menstrual bleeding manifest in a wide range of presentations (Fig. 1 and Fig. 2A–D). *AUB* is the overarching term used to describe any departure from normal menstruation or from a normal menstrual cycle pattern. The key characteristics are regularity, frequency, heaviness of flow, and duration of flow, but each of these may exhibit considerable variability (Fig. 2A–D). Several abbreviations for these terminologies are established or becoming established by increasing popular usage (Table 2).

Disturbances of Regularity

Irregular menstrual bleeding (IrregMB): Everyone understands when a menstrual cycle is irregular, but

determining a definition is challenging. Using the published data from several population studies (2,3) gives a definition of >20 days in individual cycle lengths over a period of 1 year, which is the definition we prefer. A very detailed analysis of the largest single database gives a definition of “a range of varying lengths of bleeding-free intervals exceeding 17 days within one 90-day reference period.”^{2,13} These data include women of varying ages but with no known pathology or hormonal therapy. The databases undoubtedly include women with polycystic ovaries but no formal diagnosis of polycystic ovary syndrome.

Absent menstrual bleeding (amenorrhea): No bleeding in a 90-day period (some authorities prefer to use a longer denominator). It is recommended that the term *amenorrhea* be retained because there is little controversy in its use or definition.

Disturbances of Frequency

Infrequent menstrual bleeding (oligomenorrhea): One or two episodes in a 90-day period. It is recommended that the term *oligomenorrhea* be abolished.

Frequent menstrual bleeding: More than four episodes in a 90-day period (this term only includes frequent menstruation and not erratic intermenstrual bleeding; it is very uncommon).

Disturbances of Heaviness of Flow

Heavy menstrual bleeding (HMB): This is the most common clinical presentation of AUB. The term was first used in New Zealand National Guidelines on

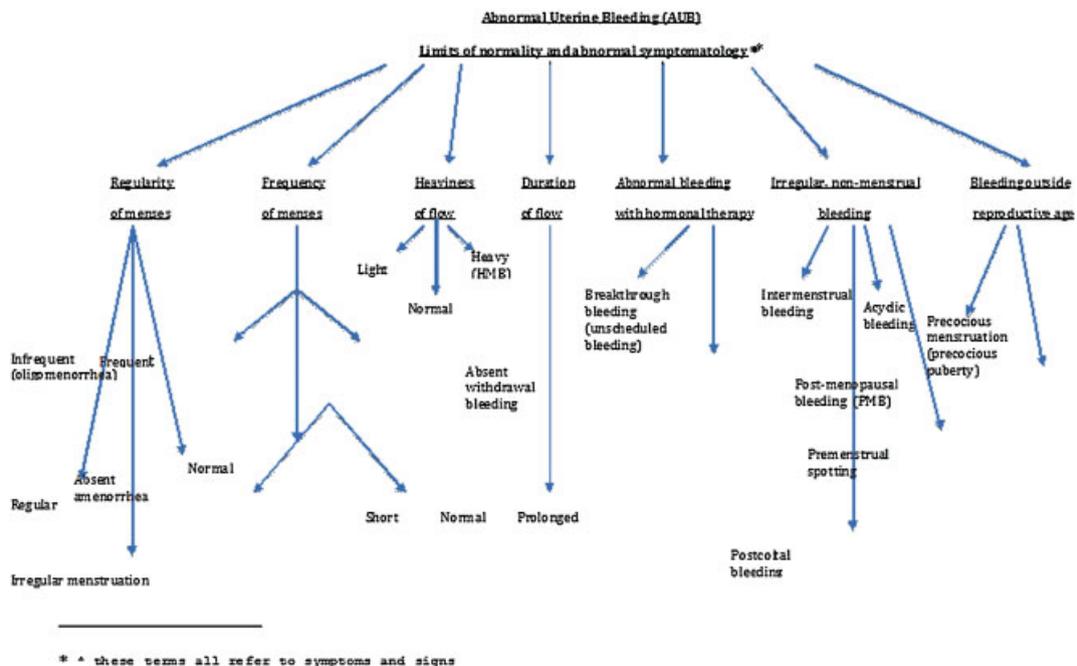


Figure 1 The relationships of different types of symptoms and signs of abnormal uterine bleeding using recommended terminologies.

HMB.¹⁴ It has been well defined in the routine clinical context on the basis of the patient’s presenting complaint in the NICE Guidelines of the National Institute of Health and Clinical Excellence of the United Kingdom¹⁵: “HMB should be defined as excessive menstrual blood loss which interferes with the woman’s physical, emotional, social and material quality of life, and which can occur alone or in combination with other symptoms.” A corollary of this definition is that any interventions should aim to improve quality of life measures.

HMB also needs to be defined more objectively on a research basis as the measurement of actual blood loss per menstrual period, using the extraction of hemoglobin (alkaline hematin method) from menstrual sanitary supplies (pads and tampons, carefully collected after detailed counseling).^{16–18} Clinicians and researchers also need to be aware that >50% of the total menstrual loss is an endometrial transudate and the whole blood component usually varies between 30% and 50%.¹⁹ HMB is typically associated with a symptom complex, including variable pelvic pain and somatic symptoms.

Heavy and prolonged menstrual bleeding (HPMB): This complaint is much less common than HMB on its own. The distinction from HMB is worth making because these two symptomatic components may have different etiologies and may respond differently to therapies.

Light menstrual bleeding: This is based on complaint by the patient, is only rarely related to pathology, and is usually a cultural complaint in those communities where a heavy, “red” bleed is valued as a perceived sign of health.

Disturbances of the Duration of Flow

Prolonged menstrual bleeding: Recommended to be used to describe menstrual periods that exceed 8 days in duration on a regular basis. This phenomenon is commonly associated with heavy menstrual bleeding (“heavy and prolonged menstrual bleeding” [HPMB]). This is much less common than HMB of normal duration.

Shortened menstrual bleeding: A very uncommon complaint and defined as menstrual bleeding of no

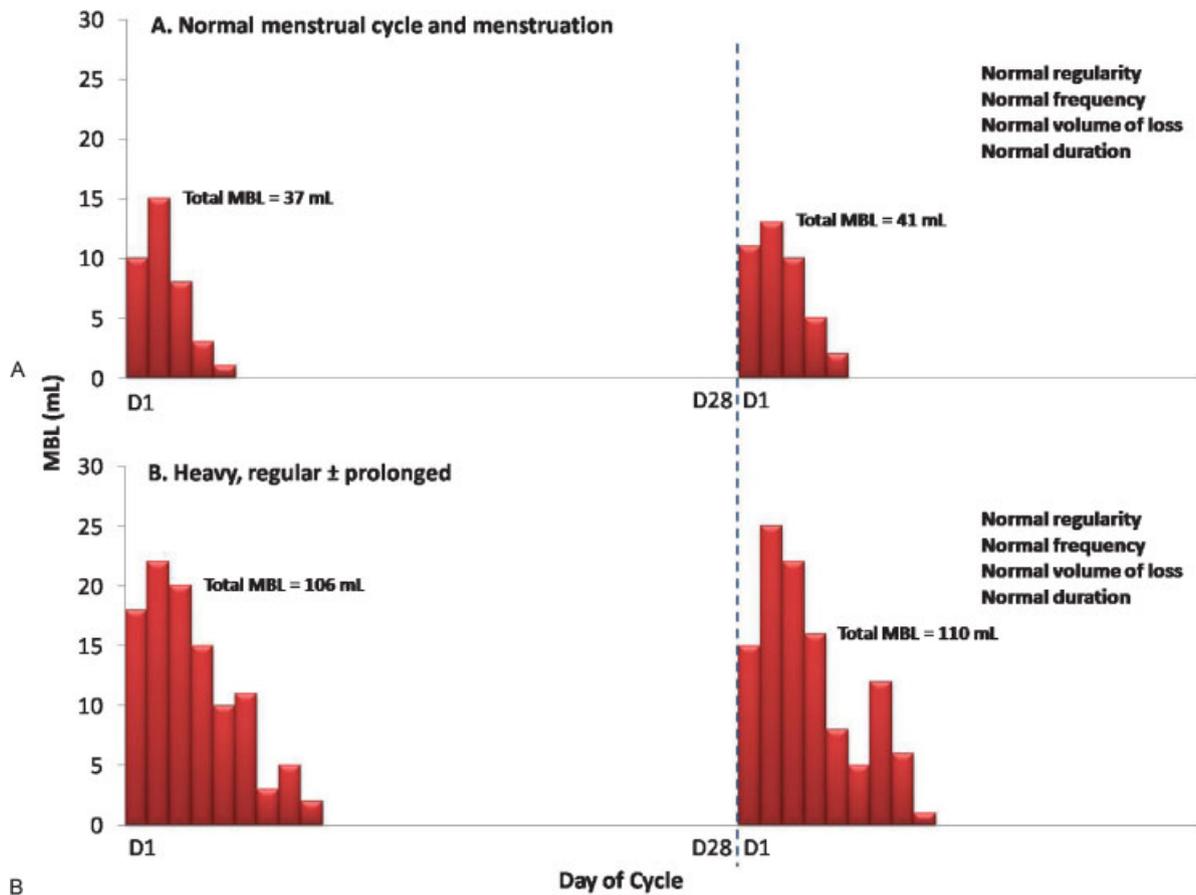


Figure 2 (A–D) Schematic illustrations of four different menstrual cycle patterns and associated, objectively measured menstrual blood loss. These cycles illustrate the characteristics of each type of common pattern in the context of the new recommended terminologies. D1, D28 represent days of idealized cycles; MBL describes objectively measured menstrual blood loss.

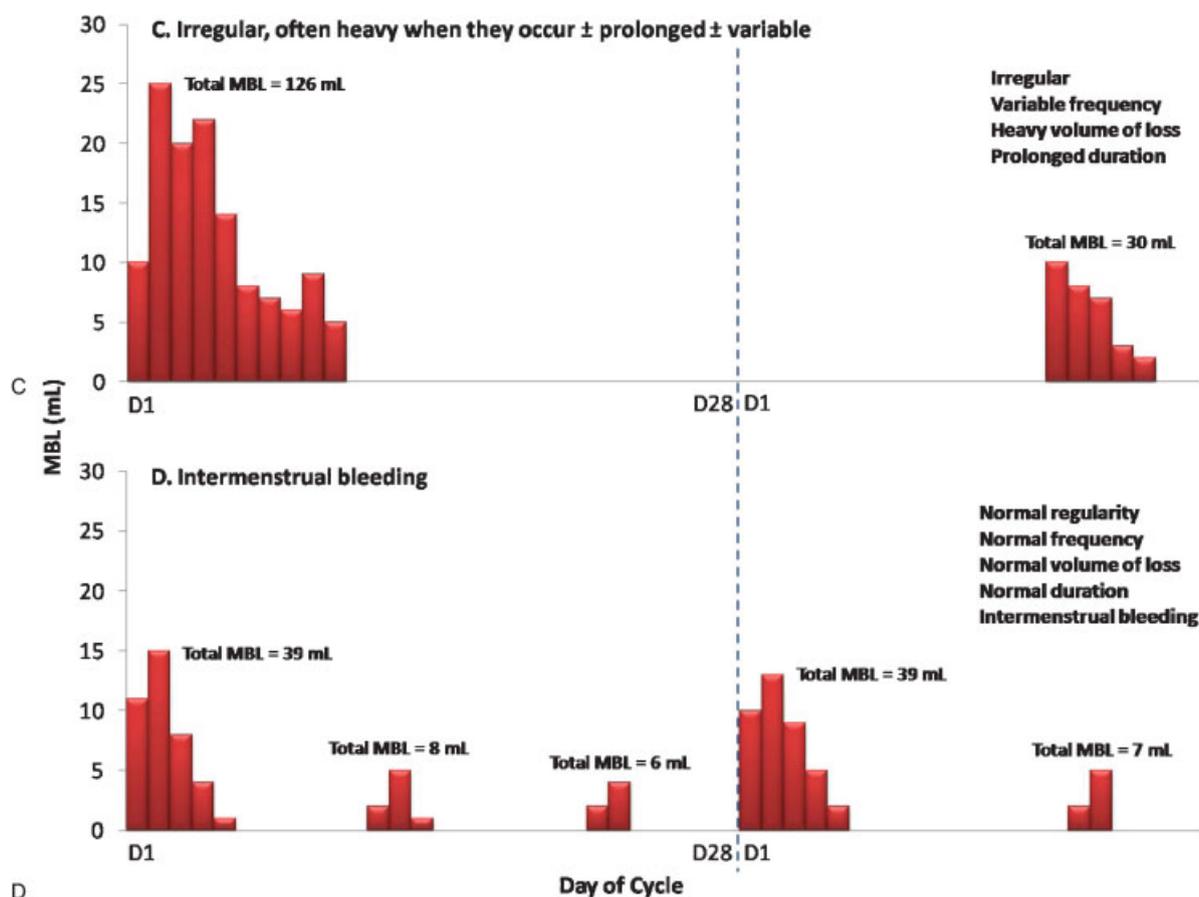


Figure 2 (Continued)

longer than 2 days in duration. The bleeding is also usually light in volume and is uncommonly associated with serious pathology (such as intrauterine adhesions and endometrial tuberculosis).

Irregular Nonmenstrual Bleeding

Nonmenstrual bleeding is common and usually consists of the occasional episode of intermenstrual or postcoital bleeding associated with minor surface lesions of the genital tract, but such bleeding may herald more serious lesions such as cervical or endometrial cancer. Intermenstrual bleeding is defined as irregular episodes of bleeding, often light and short, occurring between otherwise fairly normal menstrual periods (Fig. 2). This bleeding may occasionally be prolonged or heavy, and it may occur on a regular basis around ovulation as a

physiological event in 1–2% of cycles. Women with surface lesions of the genital tract may typically experience bleeding during or immediately after sexual intercourse (postcoital bleeding). The term *acyclic bleeding* is rarely used but encompasses those few women who present with totally erratic bleeding, with no discernable cyclic pattern, usually associated with fairly advanced cervical or endometrial cancer. Premenstrual and postmenstrual spotting (or staining) are descriptions of very light bleeding that may occur regularly for ≥ 1 days before or after the recognized menstrual period. These symptoms may be indicative of endometriosis or endometrial polyps or other structural lesions of the genital tract.

Bleeding Outside Reproductive Age

Precocious menstruation (occurring before 9 years of age) is uncommon and usually associated with other signs of precocious puberty. Postmenopausal bleeding (PMB) is common and usually defined as bleeding occurring >1 year after the acknowledged menopause. “The menopause” is the last natural menstrual period that a woman will experience and can only be determined in retrospect when a year of amenorrhea has followed it. PMB is an important symptom because of its common

Table 2 Acceptable Abbreviations Describing Menstrual Symptoms Established by Popular Usage

AUB: Abnormal uterine bleeding (the overarching symptom)
HMB: Heavy menstrual bleeding
HPMB: Heavy and prolonged menstrual bleeding
IMB: Intermenstrual bleeding
PMB: Postmenopausal bleeding

association with structural uterine pathology, including malignancy. The stages of the menopause transition and the occurrence of menopause are defined by the STRAW (Stages of Reproductive Aging Workshop) classification.²⁰

Acute or Chronic Abnormal Uterine Bleeding⁸

It is proposed that *acute* AUB is “an episode of bleeding in a woman of reproductive age, who is not pregnant, that is of sufficient quantity to require immediate intervention to prevent further blood loss.” *Chronic* AUB is “bleeding from the uterine corpus that is abnormal in duration, volume, and/or frequency and has been present for the majority of the last 6 months.”

Patterns of Bleeding²¹

Sometimes called the “shape” of the volume of the bleeding pattern over the days of one menstrual period, this aspect of the menstrual bleeding experience of individual women is very poorly understood. Only one article has tried to define it in different populations.²¹ It is greatly in need of future research in both normal and abnormal uterine bleeding. In general, in the normal cycle, it is recognized that ~90% of the total menstrual flow is lost within the first 3 days of menstruation, with day 1 or 2 the heaviest and day 4 and 5 very light (Fig. 2). However, in women with AUB, daily patterns of loss may be highly variable.

The Special Case of Disturbed Uterine Bleeding Patterns during use of Reproductive Hormonal Therapies and Hormonal Contraception

Menstrual bleeding patterns are almost invariably modified by estrogen and/or progestogen therapies, sometimes in quite unpredictable ways. The least predictable patterns tend to come with use of the long-acting proges-

togen-only symptoms. New systems and terminologies had to be devised to define these new patterns.^{18,22,23} The erratic nature and sometimes long intermenstrual intervals led to a need to use a longer timeline for each analysis, and a “reference period” of 90 days was selected as a sound compromise for the baseline. Twenty-eight or 30-day reference periods may still be used for monthly hormone systems. Description of the basic concepts of regularity, frequency, duration, and heaviness of flow is still necessary, but new terminologies were required (Table 3).¹⁸ Heaviness of flow is difficult to assess with any degree of accuracy in routine clinical practice, and because most of the hormonal methods lighten the flow, it was decided the only distinction that could usually be made was between “bleeding” and “spotting,” based on the need for sanitary napkin use. These terminologies allow for several different analyses within each reference period, which offer a useful degree of discrimination between different types of therapy. These analyses led to attempts to define clinically important bleeding patterns, derived initially from World Health Organization phase 3 clinical contraceptive trials¹³ and subsequently modified after analysis of menstrual data from 1000 normal women (Table 4).²⁴

Change in Menstrual Pattern

It needs to be recognized that most women experience episodes of considerable change in their menstrual pattern at different times in their lives. At times these patterns may become abnormal, and this change needs to be recognized as part of the presenting clinical problem.

DEFINITIONS OF NORMAL MENSTRUATION, MENSTRUAL CYCLE, AND ABNORMAL UTERINE BLEEDING

Normal menstruation and the normal menstrual cycle should be defined according to the following parameters

Table 3 Definitions of Bleeding Patterns That Can Be Used in Reference Period Analysis When Describing Patterns Experienced by Women Using Hormonal Contraceptive Systems

Bleeding: Any bloody vaginal discharge that requires the use of protection such as pads or tampons
Spotting: Any bloody vaginal discharge that is not large enough to require sanitary protection
Bleeding/spotting episode: One or more consecutive days on which bleeding or spotting has been entered on the diary card
Bleeding/spotting-free interval: One or more consecutive days on which no bleeding or spotting has been entered on the diary card
Bleeding/spotting segment: One bleeding/spotting episode and the immediately following bleeding/spotting-free interval
Reference period: The number of consecutive days on which the analysis is based (usually taken as 90 days for women using long-acting hormonal systems and 28 or 30 days for women using once-a-month systems, including combined oral contraception)
Different types of analysis that can be undertaken on bleeding patterns within a reference period:
Number of bleeding/spotting (B/S) days
Number of bleeding/spotting episodes
Mean, range of lengths of bleeding/spotting episodes (or medians and centiles for box-whisker plot analysis)
Mean, range (medians and centiles) of lengths of bleeding/spotting-free intervals
Number of spotting days and spotting-only episodes

Table 4 Revised Recommendations of Clinically Important Bleeding Patterns Based on an Analysis of Menstrual Data from >1000 Normal Women¹³

No bleeding: No days of bleeding/spotting entered throughout the reference period
Prolonged bleeding: ≥ 10 days in one episode
Frequent bleeding: >4 episodes in one 90-day reference period
Infrequent bleeding: <2 episodes in one 90-day reference period
Irregular bleeding: A range of varying lengths of bleeding-free intervals >17 days within one 90-day reference period

Table 5 Suggested "Normal" Limits for Menstrual Parameters in the Mid-Reproductive Years

Clinical Dimensions of Menstruation and Menstrual Cycle	Descriptive Terms	Normal Limits
Menstruation and menstrual cycle		(5–95th percentiles)
Frequency of menses (days)	Frequent	<24
	Normal	24–38
	Infrequent	>38
Regularity of menses, cycle to cycle		
Variation over 12 months (days)	Absent	No bleeding
	Regular	Variation ± 2 –20 days
	Irregular	Variation >20 days
Duration of flow (days)	Prolonged	>8.0
	Normal	4.5–8.0
	Shortened	<4.5
	Heavy	>80
Volume of monthly blood loss (mL)	Normal	5–80
	Light	<5

Limits are based primarily on the data of Snowden and Chistian,²¹ Belsey and Pinol,²⁴ Treloar et al,²⁵ and Hallberg et al²⁶. Each of these studies provides somewhat different data. Adapted from Fraser et al.^{2,3}

(Table 5): (1) regularity of menses, (2) frequency of menses, (3) heaviness of menstrual flow, and (4) duration of menstrual flow.

It is recommended that these parameters be defined on the basis of published population data,^{2,3,21,25,26} using medians and confidence intervals. Anything outside these limits should be regarded as AUB. Different population studies provide different data, and little is really known about cultural, ethnic, or geographic variations. Also, there is an apparent large variation within the normal population in the regularity and frequency of menstrual periods when 5th to 95th centiles are used, and this may need to be considered in situations where minor irregularities may gain greater importance, such as infertility.

CONCLUSIONS

This article summarized the many discussions of the use of different menstrual terminologies, their definitions, and their international usage. The terminologies described have already received a high degree of acceptance by doctors from many cultures. It is to be hoped they can be used widely in the future clinical and research literature, and will assist with a uniform understanding of both simple and complex symptom experiences. It is also hoped that simple and widely

agreed terminologies will allow a clear understanding of published research studies. These terminologies and definitions will be subject to regular ongoing review and debate focused through the FIGO Menstrual Disorders Working Group.

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