UNIT 23 MENOPAUSE

Structure

23.0 OBJECTIVES

After reading this unit, you should be able to:

- define menopause;
- describe the endocrine and physical changes produced by estrogen deficiency;
- diagnose the problems specific to estrogen deficiency;
- plan the management of problems specific to estrogen decline;
- counsel menopausal and perimenopausal women; and
- refer appropriately those requiring further investigations.

23.1 INTRODUCTION

This unit introduces you to the health problems of women in the peri-menopausal period. In India, currently the life expectancy of women is 62 years and is likely to rise further. All women who live beyond the age of 50 years and some younger women will experience a transition from reproductive to non-reproductive life. Despite the universality of the change of life, we need to remember the importance of medical and psychological

implications. You must remember that menopausal health is a component of the Reproductive and Child Health program launched by the Government of India.

You must note that in women, age related medical problems are further complicated by declining levels of estrogens.

The management of menopausal problems therefore, call for a thorough evaluation, attention to medical problems, Hormone Replacement Therapy (HRT) and good counselling.

As you go through this unit, you will learn about the physiology of menopause, the problems specific to this phase in a woman's life; you will see that not all menopausal symptoms are due to hypoestrogenemia. Proper nutrition, exercise, counselling and HRT are important interventions that you will discuss and provide an individualized 'treatment option', keeping in mind the cultural and socioeconomic aspects of Indian women, especially in rural areas.

23.2 DEFINITION AND COMMON TERMS

Menopause: It is the cessation of menstruation due to loss of ovarian function. It is a biological marker of reproductive senescence and is a definite event.

The average age of menopause is 50-51 years; among Indian women it is 47-48 years. The age of menopause is not influenced by race, parity, height, weight, reproductive history, use of combined oral contraceptive pills, age of menarche, socioeconomic status or education. However menopause occurs 2 years earlier among cigarette smokers as compared to non-smokers. High altitude also decrease menopause by 2 years.

Climacteric: It is the period of transition from the reproductive to non-reproductive life, and begins several years before menopause. It is characterized by evidence of decreasing ovarian activity, biologically by decreasing fertility and clinically by alterations in menstrual cycle and by a variety of symptoms.

The menopause is said to be premature if follicular regression occurs before the age of 40 years.

Perimenopause : It is another term used for climacteric. Recently, a distinction is made between decline in reproductive/gametogenic function (by a rise in serum FSH) and decrease in other ovarian function.

Menopausal : It is a vague term and usually used to indicate the period around menopause.

Post menopausal : It is used for the period starting from one year after the last menses i.e. menopause.

23.3 MENSTRUAL PATTERN DURING MENOPAUSAL TRANSITION

You may be well aware that usually women brush aside all menstrual problems occurring during perimenopause as natural. All menstrual problems are not normal/physiological.

Menstrual patterns that can be considered as normal are as follows:

1) Cycles becomes shorter, bleeding becomes less and less both in duration and quantity.

2) Cycles becomes longer in duration and quantity of bleeding gradually decrease.

3) Rarely, normal cycles suddenly stop.

Only when no menstruation has occurred for one year, we label her as a having attained menopause.

Abnormal menstrual patterns are:

i) Vaginal bleeding that has no cyclical pattern (Metrorrhagia)

ii) Cyclical pattern but bleeding is more in duration and/or quantity (Menorrhagia).

iii) Delayed cycles followed by heavy bleeding both in duration and quantity (due to prolonged oestrogenic activity with no progesterone as in metropathia haemorrhagica)

iv) Bleeding occurring one year after last period (post menopausal bleeding)

Malignancies of genital tract, other organic pathology such as fibroid, polyps may be present with such patterns and need thorough investigation and treatment, hence they may be referred to a gynaecologist.

23.4 CHANGES DUE TO DECLINING GONADAL FUNCTION

The changes will be described in the following sub-sections:

i) hormonal Changes

ii) changes in genital tract

iii) changes in bones

iv) changes in coronary and other arteries

v) changes in other tissues

23.4.1 Hormonal Changes

The ovaries become less responsive to gonadotrophins several years before menopause. There is a decrease in plasma levels of inhibin and increase in FSH levels. FSH levels above 40 IU/l are characteristic of menopause. FSH levels fluctuate markedly from premenopausal to postmenopausal values on a daily basis and these changes in circulating hormones level frequently occur inspite of ovulatory menstrual cycles. As ovarian unresponsiveness becomes more marked, cycles tend to become anovulatory. Eventually complete failure of follicular development occurs; when oestradiol production is no longer sufficient to stimulate the endometrium, amenorrhoea occurs.

With the gradual increase in FSH levels, there is a decrease in oestradiol and progesterone levels, FSH levels reach a maximum 2-3 years after menopause and then gradually declines over the next 20-30 years.

Postmenopausal ovary produces testosterone and androstenedione; adrenals continue to produce both testosterone and androstenedione, though predominantly androstenedione is contributed by adrenals. Estrone is produced by aromatisation of androstenedione in the peripheral tissues mainly fat. Estrone, though less potent than oestradiol is biologically active. Heavy women have higher conversion rate of androstenedione to oestrone than thin women. Now we know why obesity is a risk factor for endometrial carcinoma.

Compared to premenopausal state, postmenopause is associated with a relative excess of androgens to oestrogens. This explains the hirsutism in elderly women. This also helps us to understand why lipid and lipoprotein profiles are altered after menopause exposing the women to increased cardiovascular disease after menopause.

To understand better, the hormonal changes are depicted in Table 23.1.

Table 23.1: Hormone Changes in Postmenopause

Hormone	Changes	Comments
Estradiol (E_2)	Markedly decreased	
Estrone (E_1)	Decreased	
Ratio E_1; E_2	Increased	Reversal of Premenopause. Though E_2 & E_1 decrease, the fall in E_2 level is more marked.
FSH	Markedly increased	
LH.....	Increased	
Androstenedione	Decreased	
Ratio Androgen : Estrogen	Increased	Relative androgen excess resulting in hirsutism and increased risk of cardiovascular disease.

23.4.2 Changes in the Genital Tract

1) **External Genitalia:** Vulva undergoes gradual atrophy. There is gradual loss of pubic hair. Vulval skin becomes thinner, subcutaneous tissue decreases markedly and labia shrink. Introitus becomes narrow.

   Distal urethral mucosa undergo atrophy; loss of urethral sphincter tone causes gaping of external urinary meatus. Thinning of mucosa along with gaping predisposes to infection and formation of urethral caruncle causing dysuria, meatal tenderness and occasional haematuria.

2) **Vagina:** Vagina is markedly affected by oestrogen deprivation. Vaginal epithelium becomes thin and vascularity decreases with loss of elasticity. The epithelial cells do not undergo maturation resulting in marked reduction in glycogen content of vaginal epithelial cell resulting in increase in vaginal pH. Lactobacilli also decrease. All these changes lead to atrophic vaginitis. Anatomically, vaginal rugae is lost; there is tenting of vaginal fornices and rings of fibrous tissues/bands are felt in upper vagina. Vagina becomes shorter and narrower.

3) **Uterus, Cervix, Fallopian Tubes:** All these structures undergo generalised atrophy.

4) **Uterine supporting ligaments** undergo changes due to oestrogen deficiency. Decrease in the tone of ligaments and muscles supporting the uterus become lax resulting in genital prolapse.

23.4.3 Changes in Bones

Changes in bone occurs as a result of oestrogen deficiency and also due to aging. Loss of bone density per unit volume commonly known as osteoporosis occurs both in women and men. The dramatic fall in bone density especially in trabecular bones is seen after menopause and continue in postmenopausal years. This makes women more prone to severe osteoporosis and bone fractures as compared to men. A continuous process of bone resorption and bone formation is going on all the time known as bone remodelling. Due to oestrogen deficiency, there is increase in bone resorption and less of new bone formation resulting in osteoporosis. Vertebrae, distal radius and neck of femur and the common site of fractures. Ribs and humerus fracture can also occur. These fractures occur with minimal or no trauma.

23.4.4 Changes in Coronary and Other Arteries

It is observed that premenopausal women are protected against coronary disease. Following menopause, this protection is lost and death rates due to coronary diseases increase gradually and eventually reach those seen in male population. The ovarian failure is followed by increase in both total cholesterol and low-density lipoprotein. Data on HDL cholesterol is not very clear. Plasma triglyceride level also rises but this is age dependent also. Cerebral stroke also rises after menopause due to changes in arteris of the brain.

23.4.5 Changes in Other Tissues

You have learnt in the above section changes in the genital treat which is oestrogen dependent.

1) Skin: Superficial layers of skin, hair follicles and sebaceous glands contain oestrogen receptors. Hence in postmenopausal years, skin becomes thin and dry. Loss of collagen occurs resulting in loss of elasticity. All these lead to itching and bruising of skin.

2) Loss of hair: Because of lack of oestrogen, there is loss of pubic, axillary and scalp hair. The lanugo hair on upper lip, chin and cheek is replaced by coarse terminal hair. As already mentioned, some amount of hirsutism is seen due to increased androgen/ oestrogen ratio.

Check Your Progress 1

1) List the iatrogenic factors that decrease the age of menopause.

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2) What is the level of pit genodotrophins to diagnose menopause?

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3) List the long-term consequences of oestrogen deficiency.

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23.5 PROBLEMS CAUSED BY ESTROGEN DEFICIENCY

After learning changes in various systems due to oestrogen deficiency, you will learn about the symptoms/disease caused by oestrogen deficiency.

You will appreciate that some women view menopause as transition from middle age to old age. Others think it is loss of youth and above all fertility. Yet others may be depressed because menopause is an evidence of loss of feminity and failure of child bearing.

Socio-cultural factors, life styles and genetic regulation to some extent govern the response to menopause. You will agree that in India, most women consider menopause a blessing!

A number of women experience effects of estrogen deficiency. The diagnosis of estrogen deficiency is essentially clinical. If a woman between 45 to 50 years of age, stops menstruating completely, you can make a presumptive diagnosis of estrogen insufficiency.

The most obvious symptom of cessation of cyclic ovarian function is prolonged amenorrhoea. You will appreciate the advantages of amenorrhoea: discomfort of menstruation and anaemia due to cyclical blood loss are no more a problem and any bleeding that may occur later serves as a warning for potential malignancy.

The symptoms caused by oestrogen deficiency can be acute, intermediate and long term. The following table sums up the various symptoms/diseases produced in different systems due to oestrogen deficiency.

Table 23.2 : Acute, Intermediate and long term consequences of oestrogen deficiency

Symptoms/Disease	System Affected	Time of onset and duration
ACUTE		
Hot flushes, night sweats, insomnia	Vasomotor	Can continue for a few months to 2-3 years. Mostly self limiting
Mood changes, anxiety, irritability, poor memory, poor concentration, loss of self esteem	Neuro-endocrine	After menstruation ceases
INTERMEDIATE		
Urogenital atrophy, dyspareunia, urethral syndrome, loss of libido	Lower genital tract	Appear within 3 years and continue to increase with time since menopause
Skin thinning, genital prolapse, joint aches and pains? Incontinence	Connective tissue	Appear within 3 years and continue to increase with time since menopause
LONG TERM		
Cerebrovascular accident	Arterial	Many years after ovarian failure and clinically silent in the intervening period.
Osteoporosis	Skeletal	Many years after ovarian failure and clinically silent in the intervening period.

Oestrogen receptors have been demonstrated in almost all times, organs and symptoms of the body. All these are affected structurally and functionally by oestrogen deficiency which accelerates the aging process. Hence, the recent plea for advocating long term hormone replacement therapy for all women after menopause/perimenopause.

23.5.1 Vasomotor Symptoms

The classic symptom associated with menopause is hot flashes, also known as 'hot flushes'. It is described as "recurrent, transient periods of flushing, sweating and a sensation of heat, often accompanied by palpitations, feelings of anxiety, and sometimes followed by chills". The episodes vary in duration and frequency; each episode may last for 1-3 minutes and there may be 5-10 episodes per day, which settle down after a few months. The vasomotor symptoms said to be caused by episodic increase in the frequency and intensity of gonadotropin-releasing hormone (GnRH) from the hypothalamus, leading to disturbance in the thermoregulatory centre.

Sleep Disturbance

Changes in sleep pattern, you will remember, affect both sexes with increasing age. However, during the transition period, many women suffer from insomnia that appears to be related to estrogen deficiency. Hot flashes may disturb sleep and sleep pattern.

23.5.2 Urogenital and Sexual Symptoms

Tissues of the vagina, urethra and bladder base, you will understand, are estrogen sensitive. Within 4 to 5 years of menopause, a number of women who are not taking estrogens develop symptomatic tissue atrophy. Vaginal symptoms include dryness, dyspareunia and recurrent vaginitis. All these symptoms can be relieved with estrogen replacement.

Urinary symptoms include dysuria, urgency and recurrent urinary tract infections. Genuine urinary stress incontinence is related to estrogen deficiency. We must remember that estrogen can improve stress urinary incontinence in more than 50% of women, by exerting a direct effect on the urethral mucosa.

Oestrogen deficiency may cause uterovaginal prolapse due to lack of muscle tone in ligaments and muscles supporting the uterus.

23.5.3 Behavioural Problems

You may have come across perimenopausal women complaining of loss of short-term memory; aging could also be responsible for these symptoms. During this period, you must remember that a substantial number of women tend to be depressed not only because of menopause, but also due to certain events in life widowhood, children leaving home and the presence illness.

23.5.4 Cardiovascular Disease

Cardiovascular disease, including coronary artery disease and cerebrovascular accidents have been associated with menopause. The other important factors, which influence their prevalence are: age, smoking, hypertension, diabetes mellitus, hypercholesterolemia and a sedentary life style. Estrogen protects against coronary heart disease by increasing the levels of high density Lipoproteins (HDL), lowering the level low-density lipoproteins (LDL); it has also been found to decrease the vascular tone and the risk of thrombus formation.

23.5.5 Osteoporosis

By definition, osteoporosis is reduction in quantity of bone. The etiology of osteoporosis is multifactorial and includes age, race, heredity, estrogen status, intake of dietary calcium, smoking and sedentary life style.

Many women start losing bone mass in their thirties; the rate of loss is 4 to 5 times more after menopause. Heredity plays an important role; history of osteoporosis in the family is a strong risk factor. It has been well established that hypoestrogenemia contributes significantly to bone loss. Dietary calcium, in the form dairy products has been associated with decreased bone loss. Calcium therapy is advocated in postmenopausal woman as the dietary calcium amounts to only about 500mg/day.

Check Your Progress 2

1) Enumerate the factors that promote cardiovascular disease in the postmenopausal period.

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2) What are the factors that influence the occurrence of osteoporosis?

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23.6 MANAGEMENT OF MENOPAUSE

We must consider the management of menopause as a program of preventive health care. Estrogen replacement therapy can be administered on short-term basis for symptoms. In order to reduce the risk of cardiovascular diseases and osteoporosis, Hormone replacement therapy (HRT) should be given for atleast 5 years, if not more. You must give due attention to proper counselling regarding diet and exercise.

HRT is the topic of the day. All are talking about it. You may have also heard about it. Is treatment for menopause needed? Some regard menopause as a completely natural event in a women's life and should be regarded as such. Others regard menopause as a hormone deficiency state similar to diabetes and oestrogen should be replaced. The benefit for HRT is for providing relief from menopausal symptoms, to prevent urogenital atrophy and long term prevention of osteroporosis, coronary artery disease and stroke (refer Table 23.2 of this unit).

Justification for HRT: Life expectancy has increased and more people are living up to old age and women live longer than men. Menopause is regarded as a hormone deficiency state similar to diabetes. All tissues in the body benefit from oestrogen replacement in elderly. Hence, HRT is recommended to all women from the time of menopause for better quality of life and to prevent morbidity.

Objections to HRT: Women do not want withdrawal bleeding or even spotting. Fear of breast cancer put some women off HRT. Some prefer to avoid steroid hormone therapy. Long term therapy with associated cost and compliance problems deter many women.

We need to perform minimum laboratory investigations like hemoglobin, urine sugar, albumin, blood sugar and lipid profile, liver function tests and mammography.

23.6.1 Indications, Contraindications and Side Effects of HRT

Indications of HRT

1) Therapeutic
   - Menopausal Symptoms
   - Recurrent UTI
   - Atrophic Vaginitis
   - Dyspareunia
   - Stress incontinence
2) Preventive
   - Coronary artery disease and stroke
   - Osteoporosis
3) Role to be Established
   - Psychological symptoms such as loss of confidence, poor concentration, depression and fatigue
   - Symptoms attributed to oestrogen dependent loss of collagen such as thinning, dryness and itching of skin, musculoskeletal aches and pains.

Side Effects of HRT

You should be aware that minor side effects may deter many from continuing HRT. Counselling will enable women to continue HRT. Breast tenderness, bloating, fluid retention and leg cramps are common side effects which disappear spontaneously after 3-4 months. Withdrawal bleeding in a side effect. Combination of oestrogen and progestogen throught produces amenorrhoea but spotting off and on could post problems. Increased risk of breast cancer and endomentrial cancer can major side effects.

Contraindications for HRT

HRT should not be prescribed in the following conditions

- Vaginal Bleeding of unknown origin
- Active liver disease
- Carcinoma breast
- Carcinoma endometrium
- Acute thromboembolic disease
- Deep vein thrombosis
- Endometriosis

23.6.2 Evaluation and Follow Up

A thorough clinical evaluation is essential. History and clinical examination findings are recorded. Beside Hb, urine for albumin and sugar and blood sugar, special investigations requested are:

1) Lipid Profile
2) Liver Function Tests (LFT)
3) Mammography
4) Pap Smear
5) Endometrial thickness on USG (less than 4 mm). If > 4 mm, endometrial aspiration cytology is done.

Initial follow up visit is advised after 3 months or earlier if there are problems felt by the woman. Once she settles down, yearly follow up is advised.

23.6.3 Hormones Used in HRT

As you read earlier, estrogen is the main hormone used in HRT. Conjugated oestrogens (CEE) is the most commonly used preparation. Progestogens have protective effect against some of the side effects of oestrogen like endometrial hyperplasia.

1) Estrogens

Conjugated equine oestrogens	Premarin	0.625 mg 1.25 mg	Oral route
Estriol	Evalon	2.0 mg. (dose 2-8 mg)	Oral route
Oestradiol	Estraderm TTS	50 ugm, 100 ugm	Dermal patch (Twice a week)
Evalon cream	Local Application		

2) Progestogens

Medroxy Progesterone acetate	Farlutal Devry Meprate Provera Modus	2.5 mg 5 mg 10 mg	Orally
Dydrogesterone	Duphaston	5 mg	Orally

23.6.4 Regimen of HRT

You may prescribe only estrogen (conjugated) 0.625 mg. for women who have undergone hysterectomy. It may be given cyclically for 20 days with a gap of 7 days or continuously.

For those women with uterus, it is best to use a combination of CEE 0.625 mg. and MPA 2.5 mg. to 5 mg. for 21 days; CEE can be given for 21 days, with addition of a progestogen in the last 14 days of estrogen therapy.

A continuous, combined regimen leads to endometrial atrophy if given for 6 to 12 months; about 15 to 30% may experience irregular bleeding.

23.7 ALTERNATIVES TO ESTROGENS

Oestrogen does not suit everyone. Hence you should know what other alternative drugs/ medicine are available. They are described below.

i) **Tibolone**

It is a compound with weak estrogenic, androgenic and progestogenic actions. It does not stimulate the endometrium. The daily dose is 2.5 mg and is used mainly for relief of vasomotor and psychological symptoms and for prevention of osteoporosis. It is very expensive.

ii) **Selective estrogen receptors modulators (SERM)**

These are drugs with estrogen agonistic effect on bones and circulating cholesterol. They induce vasomotor symptoms. Raloxifene, in dose of 60 mg. is useful in the prevention of osteoporosis and cardiovascular disease. Tamoxifen used in breast cancer is another selective estrogen receptor modulator.

iii) **Non-hormonal therapy**

The hormones and the SERMs have some untoward effects, besides there is a large number of women to whom they are unacceptable. You must be aware that some non-hormonal agents are useful in the management of menopausal problem.

Clonidine and methyl dopa can be used for relief of "hot flashes" and oil of Primrose Polycarbophil moisturisers for vaginal dryness.

iv) **Nutrition**

It has been noted that women with basically good nutrition suffer less from the risks of osteoporosis and cardiovascular disorders.

Vitamins B, C, E and substances like Soya & Ginseng (containing phytoestrogens) have been found to be beneficial. Besides, they have no side effects. They are therefore, acceptable to many women who may be unwilling to take ERT.

Dietary supplementation with calcium 800-1000 mg / day, Vit. D, Calcitriol, Etidronate sodium is effective in the prevention of osteoporosis.

v) **Exercise**

Aerobic type of exercise has been found to be effective in the prevention of osteoporosis. You must, hence advice a brisk walking of 30 minutes duration, at least 3 times a week.

Check Your Progress 3

1) What are the therapeutic indications for HRT.

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2) List side effects of HRT.

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3) Enumerate the special investigations for HRT.

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23.8 LET US SUM UP

In this unit, we have discussed the problems women can develop in the peri and postmenopausal period, defined menopause and described the physiological and endocrine changes. The most important phenomenon is a decline in the estrogen. We have seen that during this phase of life, a number of women can suffer from "hot flashes", disturbance in micturition and sexual dysfunction, and respond well to ERT. Long term effects of estrogen deficiency are osteoporosis and cardiovascular diseases; the risk is said to be reduced with replacement of estrogen. Alternatives to ERT are available and can be advised. However, we must remember that the higher prevalence of these disorders is age-related. Good nutrition, intake of vitamins, calcium and aerobic type of exercise are useful in reducing the prevalence of these disorders.

23.9 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1) i) Tobacco Smoking, ii) High altitude

2) > 40 IU/l

3) (i) Coronary artery disease (ii) Stroke, (iii) Osteoporosis

Check Your Progress 2

1) Age, smoking, hypertension, diabetes mellitus, hypercholostrolemia, sedentary life style.

2) Age, heredity, race, oestrogen status, dietary intake of calcium, smoking, sedentary life style.

Check Your Progress 3

1) Menopausal symptom, recurrent UTI, atrophic vaginitis, dyspareunia, stress incontinence.

2) Breast tenderness, bloating, fluid retention and leg cramps.

3) Lipid profile, LFT, mammography, Pap smear, Endometrial thickness on ultrasonography.

23.10 FURTHER READINGS

Alsina J.C.I., *Benefits of Hormone Replacement Therapy — Overview and Update*, Int J Fertil. 42 (Supplement 2), 1997 pp. 329-346.

Berek J.S., Adashi E.Y. and Hillard P.A., *Novak's Gynaecology*, 12th Edition, Williams and Wilkins, Baltimore, Maryland 1996.

ICMR Bulletin, *Menopause and HRT*, Vol. 28, No. 1, January 1998.

Dear learner,

While going through this block, you might have found certain portions of the text to be difficult to comprehend and some scope to improve them. We wish to know your difficulties and suggestions in order to improve the quality of the course. We, therefore, request you to fill up and send us the following questionnaire, which pertains to this block. If you find the space provided insufficient, kindly use a separate sheet.

Please mail the filled in questionnaire to: **Programme Coordinator, PGDMCH Programme, School of Health Sciences, IGNOU, Maidan Garhi, New Delhi-110 068.**

Questionnaire

Enrolment No. | | | | | | | | | |

Section A: Unit Specific Comments

Unit19: Common Gynaecological Problems

1. How many hours did you need to study this unit?.....
2. Please grade the unit on the following items by putting a tick (√) mark:

Item	Grade				
	Excellent	**Very Good**	**Good**	**Satisfactory**	**Poor**
Presentation Quality					
Language and Style					
Illustrations (Diagram, Tables etc.)					
Conceptual Clarity					
Check Your Progress Questions					
Answers to Check Your Progress					

3. Do you find all the sections to be relevant for this course? .....
   If not, please list the section/sub-section.

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Unit 20: Adolescent Gynaecological Problems

1. How many hours did you need to study this unit? .....
2. Please grade the unit on the following items by putting a tick (√) mark:

Item	Grade				
	Excellent	**Very Good**	**Good**	**Satisfactory**	**Poor**
Presentation Quality					
Language and Style					
Illustrations (Diagram, Tables etc.)					
Conceptual Clarity					
Check Your Progress Questions					
Answers to Check Your Progress					

3. Do you find all the sections to be relevant for this course? .....
   If not, please list the section/sub-section.

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Unit 21: Infertility

1. How many hours did you need to study this unit? .....
2. Please grade the unit on the following items by putting a tick (√) mark:

Item	Grade				
	Excellent	**Very Good**	**Good**	**Satisfactory**	**Poor**
Presentation Quality					
Language and Style					
Illustrations (Diagram, Tables etc.)					
Conceptual Clarity					
Check Your Progress Questions					
Answers to Check Your Progress					

3. Do you find all the sections to be relevant for this course? .....
   If not, please list the section/sub-section.

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Unit 22: Reproductive Tract Infections/Sexually Transmitted Infections including HIV/ AIDS

1. How many hours did you need to study this unit? .....
2. Please grade the unit on the following items by putting a tick (√) mark:

Item	Grade				
	Excellent	**Very Good**	**Good**	**Satisfactory**	**Poor**
Presentation Quality					
Language and Style					
Illustrations (Diagram, Tables etc.)					
Conceptual Clarity					
Check Your Progress Questions					
Answers to Check Your Progress					

3. Do you find all the sections to be relevant for this course? .....
   If not, please list the section/sub-section.

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Unit 23: Menopause

1. How many hours did you need to study this unit? .....
2. Please grade the unit on the following items by putting a tick (√) mark:

Item	Grade				
	Excellent	**Very Good**	**Good**	**Satisfactory**	**Poor**
Presentation Quality					
Language and Style					
Illustrations (Diagram, Tables etc.)					
Conceptual Clarity					
Check Your Progress Questions					
Answers to Check Your Progress					

3. Do you find all the sections to be relevant for this course? .....
   If not, please list the section/sub-section.

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Section B: Block Specific Comments

1. List the subject areas of relevance to Maternity and Child Health that you feel should have been incorporated in this block.

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2. Any other suggestions:

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