

**Ordinance governing
Regulations & Syllabus
Of
Fellowship Course in
AYURVEDA ONCOLOGY
Syllabus / Curriculum 2018-2019**



KLE UNIVERSITY'S
Accredited 'A' Grade by NAAC (2nd Cycle) || Placed under Category 'A' by MHRD (GoI) & UGC
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(Applicable to 2020, 2021 and 2022 batches)

Fellowship course in Ayurveda Oncology

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Section I

Preamble:

Oncology is a branch of medicine that deals with the prevention, diagnosis and treatment of cancer. Oncology in Ayurveda is very much unexplored in spite of its great potential in preventing and treating cancer. Considering the widespread of cancer and limitations of conventional therapy there is a great need for an effective Complimentary and/or Alternative therapy. Also there is an increase in number of cancer survivors who requires effective therapies in prevention and rehabilitation.

Rasayu Cancer Clinic (RCC) is a unique venture located in Pune which offers comprehensive solutions to cancer patients. Rasayu Cancer Clinic is one of its kind cancer care centre which provides evidence based highly advanced therapies which are based on principles and fundamentals of Ayurveda. RCC has developed a comprehensive treatment protocol for treating cancer patients after series of in-vivo, in-vitro and clinical studies on fundamentals and pharmaceuticals of Ayurveda. This treatment protocol of Rasayu Cancer Clinic is found to be of immense help to cancer patients of all the stages. Thousands of cancer patients throughout the globe were treated successfully using this treatment protocol. Rasayu cancer clinic will be involved in providing lectures and also in hands on practical experience to students.

The present program aims in training Ayurveda practitioners in domain of Oncology and applications of Ayurveda in Oncology which translates as valuable human resources to society and serves the need of hour.

Section II

Goal of the Course:

To train specialized Ayurveda doctors who will be capable to deliver best health services in Ayurveda cancer therapy, treat efficiently patients with various malignancies and offer best guidance to cancer patients.

Section III

AIMS:

To develop skills amongst Ayurveda medical practitioners for exploring the potential of Ayurveda in treating cancer patients and also to develop skills & for conducting scientific research in Ayurveda and integrative Oncology.

OBJECTIVES:

The course is designed with the following objectives which can be divided into sub headings as mentioned below. The student is expected to get trained in these domains by the time he completes the course.

- Knowledge (Cognitive domain)
- Skills (Psycho Motor Domain)
- Attitude

KNOWLEDGE

- A thorough understanding of Ayurveda principles in Oncology.
- Describe the role of various Ayurveda formulations in treating malignancies
- To develop an ability in determining the role of Panchakarma in treating cancer patients.
- To develop knowledge regarding Yoga and application of yogic therapies in Oncology.
- To understand the principles of Diet and Nutrition in Oncology.
- To demonstrate the understanding of psychological counselling to cancer patients and survivors.
- Demonstrate understanding of the Basic Sciences relevant to Oncology.
- Describe etiology, patho-physiology, principles of diagnosis and management of malignancies
- Identify socio-economic, environmental and emotional determinants in a given case and take them into account for planning therapeutic measures.
- An ability to use knowledge to adapt professional practice to meet the changing demands of health care systems.

- Update oneself by self-study, by attending courses, conferences and seminars relevant to the specialty.
- To develop an ability to teach and guide his team, colleagues and students.
- Getting well versed with fundamentals of research and research methodology so as to conduct research with the aim of publications and presentations at various scientific domains.
- To understand basics of biomedical statistics.
- To develop an ability to undertake audit.

SKILLS

- To develop skills in examining the patient, taking a proper clinical history, perform essential diagnostic procedures and prescribe relevant tests and interpret them so as to conduct diagnosis & staging of disease.
- **To practice comprehensive Ayurveda treatment protocols in Oncology**
- Perform common therapeutic procedures relevant to the Oncology.
- Undertake complete monitoring of the patient.
- Develop skills of complete documentation.
- To develop skills to apply his knowledge for prevention, treatment and rehabilitation of cancer patients.

ATTITUDE

- Develop communication skills with patient and his relatives, especially to provide unbiased opinion and to explain various options available in management of the disease.
- Develop communication skills so as to obtain a true Informed Consent from the patient & breaking of bad news.
- Develop leadership qualities so as to achieve best results from his team.
- An ability to understand and apply ethical guidelines while performing clinical as well as animal research.
- To develop presentation skills.

Section IV

Regulations of Governing fellowship course in Oncology

1. Eligibility:

A person having post graduate degree in Ayurveda of a recognised University is eligible for admission in fellowship course in Oncology.

2. Intake of the Student:

4 students per year

3. Medium of instructions:

Medium of Instruction shall be English (with a working knowledge of Sanskrit to serve the study)

4. Duration of the Course Study:

The Course of study shall be for a period of 2 year.

5. Attendance and Progress:

A minimum of 75% of the attendance in theory and practical separately is required to be eligible for examination, subject to the condition that his/her progress and conduct are counted to be satisfactory by the principal.

Each student shall attend lectures, practical's, clinics, seminars, case presentations, journal review meetings etc. The students shall have to attend the hospital duties as may be assigned to them during the course of study. The students must attend special lectures/demonstrations; seminars and such other activities as may be arranged by the department. Also, the students will have to attend clinics and lectures in Rasayu Cancer Clinic, Pune or any other branch of Rasayu Cancer Clinic.

Student shall Maintain a **Log Book** on a day to day basis of his Clinical, Academic and Research work.

6. Course Content / Curriculum.

Ayurveda Syllabus points will be covered by departments of RogaNidan, Kayachikthsa, Panchakarma, Rasashastra, Dravyaguna etc in accordance to Conventional understanding.

Conventional Aspect of Cancer will be covered by series of guest lectures and attending CME, Seminar etc. Postings or **visitations will be given** at respective department like laboratories, Radiology etc.

7. Schedule: A total 26 working hours a week which will be distributed as follows (Appx 1300 hours / year)

Sl. no	Particular	Site	Hours	Total working hour / week
1.	Clinical Outpatient Department	KLE Ayurveda Hospital Abhaya Cancer Care	4 hours twice a week	8
		Ayurveda Rasayani's Rasayu Cancer clinic	8 hours once a week.	8
	Inpatient	KLE Ayurveda Hospital Abhaya Cancer Care	Regular Rounds 1 hour/ day	6
2.	Academic	Seminar	1 hour/ week	1
		Journal club	1 hour /week	1
		Theory classes	2 hours / week	2
		Case discussion	1 hour / month	1
			Total	27 hours

8. Subjects taught, Number of lectures/ practical's and demonstrations for various subjects:

No.	Subject	Code	Lectures (hrs.)	Clinics, Practical and Demonstrations(hrs.)
1	Maulika Siddhaant and Vyadhi Parichaya.	FCCO-1	100	200
2	Chikitsa and Bheshaja Siddhaant	FCCO-2	100	200

9. Scheme of University Examinations:

a) Subjects taught, number of theory papers and marks:

No.	Title of the paper	Code	Marks
1	Maulika Siddhaant and Vyadhi Parichaya. (1 paper part A and d B)	FCCO-1	100
2	Chikitsa and Bheshaja Siddhaant (1 papers part A and B)	FCCO-2	100

b) University practical examination and marks division:

No.	Title of the paper	Code	Marks	Total
1	FCCO- 3	Practical - a. Long case – 35 marks - b. Short case – 15 marks	50	100
		Viva voce	50	

c) University Theory Question Paper Pattern Practical Pattern:

Will comprise of two papers of 100 marks each. The First paper will include **Maulika Siddhaant and Vyadhi Parichaya** (Conceptual and Etiopathogenesis) and second paper will include **Chikitsa and Bheshaja Siddhaant** (Cancer Management and Pharmacology). Question papers in English language and of 3-hour duration only

	Subject	Long essay questions			Short essay Questions			Grand total	
		No	Marks/ Q's	Total	No	Marks/ Q's	Total		
01	Maulika Siddhaant and Vyadhi Parichaya	2	20	40	6	10	60		
02	Chikitsa and Bheshaja Siddhaant	2	20	40	6	10	60		
	Total			80				120	200

Practical Examination: Case Presentation and Viva Voce.

Particulars	Distribution	Total marks
Case Presentation	LONG CASE (1x25) SHORT CASE (1x10) SPOTTING (5x3=15)	50
Viva Voce		50
	Total	100

d) Criteria for Pass:

- Minimum marks to be secured in each theory paper and practical paper are 50% separately.
- A candidate failed in or more than one subject in examination shall be eligible to appear in supplementary examination.
- In case of student fails to appear in regular examination for cognitive reasons he/she will appear in supplementary exam as a regular student.

e) Declaration of Class:

- A candidate obtaining 50% and more but less than 60% of the marks in the grand total aggregate in the first attempt shall be declared to have passed the examination in Second Class.
- A successful candidate obtaining 60% marks or more but less than 75% of marks in the aggregate of all the subjects in the first attempt will be declared to have passed the examination in First Class.
- Successful candidates obtaining 75% of marks or more in the aggregate of all the subjects in first attempt will be declared to have passed the examination in distinction.

- d. A candidate passing a university examination in more than one attempt shall be placed in Pass class irrespective of the percentage of marks secured by him / her in the examination

10. Syllabus

Name of the course: Fellowship in Ayurveda Oncology	
Name of the paper: Maulika Siddhaant and Vyadhi Parichaya - FCCO-1	
Duration: Theory: 100 hrs.	Maximum marks: Theory - 100
Part A Contents (Theory) Maulika Siddhaant (conceptual and basics)	
Marks – 50	Duration: 50 hrs.
<ol style="list-style-type: none">1. Brief Knowledge of Shareera and its basic principles like Dosha, Dhatu and mala.2. Knowledge of Bija, Avayava uttapatti (organogenesis).3. Knowledge of Dhatu Parinamana and Poshana nyaya.4. Mamra vigynan.5. Knowledge of Oja and Vyadhikshamtava.6. Dushivisha, Garavisha and Virudda Ahar.7. Tumour Immunology and epigenetics.8. Essentials of molecular biology of cancer: oncogenes, tumor suppressor genes etc9. Knowledge of Srotas and Concept of Agni10. Stem cells and Cell cycle: Apoptosis etc11. Nidan Panchaka analysis in Cancer and Etiology's of cancer12. Cancer Epidemiology13. Cancer screening and early detection14. Dashvid, Ashtavidh and Trividh Pariksha15. Diagnostic tools in Cancer & Principles of Imaging,	
Part B: Vyadhi parichaya (Etiopathogenesis)	
Marks – 50	Duration: 50 hrs.
<ol style="list-style-type: none">1. Cancer as swatantra and paratantra vyadhi2. Knowledge of Gulma, Arbuda, Granthi, Yakshma, Udara roga's, raktapitta , Gandamala etc other relevant disorders.3. Lakshana, Samprapti & Srotas Pariksha4. Arista Lakshana and its application in clinical oncology.5. Importance of Dhatu in cancer treatment6. Neoplasma's of different systems and organs.	

- a. GI System,
- b. GU System,
- c. Haemopoietic
- d. Thorax (lung & Mediastinum)
- e. Head and neck
- f. Endocrine system, CNS and Skin
- g. Reproductive system (uterus & ovarian)
- h. Sarcomas of soft tissue and Bone. etc

Name of the course: Fellowship in Arbuda Chikitsa

Name of the paper: Chikitsa and Bshesaja Siddhaant- FCCO-2

Duration: Theory: 100 hrs.

Maximum marks: Theory – 100

Part A: Contents (Theory) Chikitsa Siddhaant (Clinical Management)

Marks – 50

Duration: 50 hrs.

1. Chikitsaa Siddhaant / Sootra and Sadhyaasadhayata
2. Rasayu Cancer Clinic treatment protocol
3. Shodhana (Panchakarma) and Shamana. (Rasayana and Palliative care)
4. Treatment according to symptoms, stages, DFS...
5. Principles of Medical Oncology of different Neoplasmas.
6. Principles of Surgical Oncology
7. Applications of Radiation Oncology
8. Principles of Endocrine Therapy
9. Principles of Bio-therapeutics in Cancer
10. Principles of Bone Marrow Transplantation
11. Principles of Psycho-Oncology (conventional and satwaavayaja)
12. Principles of Rehabilitation in Oncology
13. Infections in Cancer Care
14. Principles of Palliative Care.
15. Ayurveda Management of Complications of Cancer therapies.
16. Importance of Integrative oncology.
17. Ayurveda management for Intensive Care Patients.

Part B: Bhesahja Siddhaant (Pharmacology)

Marks – 50

Duration: 50 hrs.

1. Dravya Guna Karma (Pharmacology of Rasayana dravya's)
2. Rasayana chikitsa
3. Rasashastra Chikitsa Siddhaant (Pharmacology of Bhasma)
4. Dravya, Bhasma and **Visha Dravya's** useful in cancer.
5. Different compound formulations.
6. Aahaar Kalpa useful in cancer.
7. Vihaar
8. Yoga: Pranayam etc.
9. Satwavavayaja chikitsa (Counselling)
10. Pharmacology of Cancer Chemotherapy.
11. Chemotherapy drug resistance.
12. Cancer prevention tobacco related etc, diet and risk reduction chemo preventive agents and hormones.
13. Patient report outcome measures in clinical oncology.

Paper 1: Part A

Maulika Siddhaant (conceptual and basics)

1. Brief Knowledge of Shareera and its basic principles like Dosha, Dhatu and mala.
 - a. Karma of dosha dhatu mala
 - b. Assessment of dosha avastha in cancer patient
 - c. Role of Dhatu in vyadhi.
2. Knowledge of Bija, Avayava uttapatti (organogenesis).
 - a. Bija (hereditary)
 - b. Matruja and pitruja bhava etc in Angapratyanga uttapati
3. Knowledge of Dhatu Parinamana and Poshana nyaya
 - a. Dhatu Karma
 - b. Prakopa Lakshana and nidan.
 - c. Different Nyaya like ksheradadhi, kalekapota and its application etc.
4. Marma Vigyan.
5. Knowledge of Oja and Vyadhikshamtava
 - a. Oja lakshana, oja kshaya, vibhrmansa etc
 - b. Vyadhikshamatva, satmya asatmya etc.
 - c. Okastamya
6. Dushivisha and Garavisha
 - a. Concept of Dushivisha as a possible nidan
 - b. Concept of Garavisha as a possible nidan
 - c. Concept of Virudhha Ahara.
7. Tumour Immunology
 - a. Basic immune system
 - b. Pathological dysregulation of immunity in Cancer and cells involved.
8. Essentials of molecular biology of cancer: oncogenes, tumor suppressor genes etc
 - a. Regulation and expression of oncogenes
 - b. Basics of epigenetics.
 - c. Growth factors etc.
9. Knowledge of Srotas and Concept of Agni: all components of agni, levels of Agnimandya
 - a. Definition, mula, nidan for dusti, dusti prakara and lakshana.
 - b. Agni types, dusti nidan , lakshana of agnimandya and disorders of it.
10. Stem cells and Cell cycle: Apoptosis etc.

- a. Stages of cell formation & Stem cell importance
- b. Apoptosis, necrosis of cells in cancer
- c. Angiogenesis.
- d. Cell proliferation and Metastasis.

11. Nidan Panchaka analysis in Cancer and Etiology's of cancer

- a. Contemporary and classical Ahara nidan's for cancer samprapti
- b. Possible lakshana's being produced in form of other disorders
- c. Building samprapti on bases of presentation of cancer.
- d. Genetics
- e. Viral
- f. Chemicals and hormones
- g. Radiation
- h. Trauma and Inflammation

12. Cancer Epidemiology.

- a. Global and Indian incidence
- b. Cancer specific presentation in age, sex and geographical

13. Dashvidh, Ashtavidh and Trividh Pariksha

14. Cancer screening and early detection

- a. Tumor markers.
- b. FNAC

15. Tests for Diagnostic tools in Cancer & Principles of Imaging

- a. MRI
- b. CT
- c. PET SCAN
- d. USG
- e. Endoscopy and ERCP
- f. X ray.

Paper I: Part B

Vyadhi parichaya (Etiopathogenesis)

1. Cancer as swatantra and paratantra vyadhi.
2. Lakshana Pariksha, Sampraptti Pariksha & Srotas Pariksha.
 - a. Differentiation between uttana and gambira lakshana
 - b. Type of sampraptti followed by roga (in cancer patient per se)
3. Knowledge of Gulma, Arbuda, Granthi, Yakshma, Udara roga's, Raktapitta, visarpa etc and other relevant portion of respective roga's.
 - a. Nidan, purvarupa, lakshana sampraptti of above mentioned disease wst cancer
 - b. Other disorders that fit in to sign and symptomatology based on avastha.
4. Arista lakshana and its Application in Clinical oncology
5. Importance of Dhatu in cancer treatment.
 - a. Rasa dhatu
 - b. Rakta Dhatu
 - c. Shukra dhatu
 - d. Mamas Dhatu.
6. Neoplasma's of different systems and organs.
 - a. Alimentary Canal (oesophagus, stomach, liver, gallbladder, pancreas, Intestine & Colon, Rectum & Anal canal)
 - b. Genitourinary System (Renal, Bladder, Prostate, Penis, Testis)
 - c. Haemapoietic (AML, CML, ALL, CLL, NHL, Hodgkin's lymphoma etc.)
 - d. Thorax (lung & Mediastinum)
 - e. Head and neck
 - f. Endocrine system (Thyroid, Adrenal cortex etc), CNS and Skin
 - g. Reproductive system (Cervix, Vulva, Vagina, uterus, Fallopian tubes & ovarian)
 - h. Sarcomas of soft tissue and Bone. Etc.
 - i. Breast cancer.

Paper II: Part A

Chikitsa Siddhaant (Clinical Management)

1. Chikitsaa Siddhaant / Sootra and Sadhyaasadhayata
 - a. Samanya & Vishishta
 - b. Dosha viparita and Dhatu samya chikitsa
 - c. Dushivisha and Garavisha chikitsa.
 - d. Virudha ahara chikithsa.
2. Rasayu Cancer Clinic treatment protocol.
 - a. Rasayan chikitsa
 - b. Vyadhikshamatva
 - c. Avastha anusaar chikithsa.
3. Shodhana (Panchakarma) and Shamana. (Rasayana and Palliative care)
 - a. Prophylactical & Post-operative Panchkrama
 - b. External Procedures for Palliation of Pain or complications
 - c. Role of Rasayan dravya in Cancer
4. Treatment according to symptoms, stages, DFS...
 - a. International Protocols of cancer types and chemotherapy protocols etc,
5. Principles of Medical Oncology of different Neoplasmas.
6. Principles of Surgical Oncology (In Brief)
 - a. Principles of Surgical Oncology
 - b. Vascular Access in Cancer Patients
7. Applications of Radiation Oncology (In Brief)
 - a. Physical and Biologic Basis of Radiation Oncology
 - b. Principles of Hyperthermia
 - c. Photodynamic Therapy of Cancer
8. Principles of Endocrine Therapy (In Brief)
 - a. Steroid Hormone Binding and Hormone Receptors
 - b. Hypothalamic and Other Peptide Hormones
 - c. Corticosteroids
 - d. Estrogens and Antiestrogens
 - e. Clinical Use of Aromatase Inhibitors in Breast Carcinoma
 - f. Progestins
 - g. Androgen Deprivation Strategies in the Treatment of Advanced Prostate Cancer

9. Principles of Bio-therapeutics in Cancer (In Brief)
 - a. Immunostimulants
 - b. Active Specific Immunotherapy with Vaccines
 - c. Interferons & Cytokines: Biology and Applications in Cancer Medicine
 - d. Hematopoietic Growth Factors.
 - e. Monoclonal Serotherapy
 - f. Cancer Gene Therapy
10. Principles of Bone Marrow Transplantation (In Brief)
 - a. Autologous Bone Marrow and Stem Cell Transplantation
 - b. Transplantation of Allogeneic Hematopoietic Cells for the Treatment of Malignancies
11. Principles of Psycho-Oncology (In Brief)
12. Principles of Rehabilitation in Oncology
13. Infections in Cancer Care
14. Principles of Palliative Care and treatment of CRT.
15. Ayurveda Management of Complications of Cancer therapies (In Brief conventional)
 - a. Jwara atisaar chardi & Vruna etc treatment adoption for complications.
 - b. Management of Cancer Pain, Anorexia and Cachexia
 - c. Antiemetic Therapy
 - d. Neurologic Complications & Dermatologic Complications of Cancer
 - e. Chemotherapy Skeletal Complications
 - f. Hematologic Complications and Blood Bank Support, Coagulopathic Complications of Cancer
 - g. Urologic Complications
 - h. Cardiac Complications
 - i. Respiratory Complications
 - j. Liver Function and Hepatotoxicity in Cancer
 - k. Gastrointestinal Complications
 - l. Oral Complications
 - m. Gonadal Complications, Endocrine Complications
 - n. Secondary Cancers: Incidence, Risk Factors, and Management.
16. Importance of Integrative oncology.
17. Ayurveda management for Intensive Care Patients.

Paper II-Part B

Bhesahja Siddhaant (Pharmacology)

1. Dravya Guna Karma (Pharmacology of Rasayana dravya's)
 - a. Rasa, guna , virya, vipaka, Karma & Prabhava concepts in brief.
 - b. Mode of action of Rasayan Dravya
2. Rasayana chikitsa
 - a. Classification of Rasayana
 - b. Understanding rasayan in perspective of:
 - i. Nutraceutical action
 - ii. Immunomodulation
 - iii. Oxygen free radicals & Antioxidant activity
 - iv. Adaptogenesis
 - v. Regenerative action
 - vi. Cell proliferative
 - vii. Cell regenerative
 - viii. Genoprotective
 - ix. Micronutrients
 - x. Anabolic activity
 - c. Dhatu specific rasayana
 - d. Srotas wise rasayana
3. Rasashastra Chikitsa Siddhaant (Pharmacology of Bhasma)
 - a. In brief Bhasma Preparation
 - b. Role of Samskar like Bhavana to it.
4. Dravya and Bhasma useful in cancer.
 - a. Pharmacology of: Aswagandha, Shatavari, Kapikacchu, Gokshura, SvetaMusali, Kokilaksha, Ksheeravidari, Yastimadhu, Amalaki, Akarakarabha, Bhrihati, Jatiphala, Bhallataka, Bhanga, Haritaki, Guduchi, Ikshu, Masha, etc.
 - b. Pharmacology of: Hiraka, Svarna, tamra, Rajata, Vanga, Naga, Yashada, Haratala, Manashila, somala, Shilajit, Abhraka, Svarnamakshika etc.
5. Different compound formulations.
 - a. **Ghritha:** Shatavari Grita, AswagandhaGritha, VidaryadiGritha, Amrita PrashaGritha etc.,
 - b. **Rasayanas:** NarasimhaRasayana, Brahmarasayan, Narasimharasayan, Pippalirasayan, Chyavanaprasa, HaritakyadiRasayan, NagabalaRasayan, VidangaRasayan, Agasthyarasayana,

Shilajathurasayan, Bhallathaka rasayan, Pippalirasayan, Lasunarasayan, Vardhamana Pippali Rasayana etc.,

c. **Rashoushadi's:** Arogyavardhini, Makaradhwaaja, Chandrakala rasa, Sootashekar rasa, Laghusootashekar rasa, Suvarna Sootshekar, Laxmi Vilas rasa, Mahalaxmivilas rasa, Tribhuvankirti rasa, Swasakasachintamani rasa, Laghumalini rasa, Kanakasundar rasa, Bolbadda rasa, Kamadugha rasa (plain and mukta yukta), Tapyadi loha, Suvarnamalini vasant, Bruhatvata Chintamani rasa, Vasant Kusumakar rasa, Trilokyachintamani rasa, Chaturmuka rasa, Yogendra rasa, Rasaraj rasa, Suvarna bhupati rasa, Chandraprabhavati, Pravala panchamruta, etc.

d. **Agada prayoga and Visha Dravya prayoga:** Bilwadi agada, Dushivishari agada, Murvadi agada, Lodhrasevyadhi churna, Dashanga agada etc., and Upavishas

e. **Vati/Guggulu:** Kanchnar guggulu, Mahayograj guggulu, Gokshuradi Guggulu, Trayodashanga guggulu, Shankavati, Lashunadi vati, etc.

6. Aahaar Kalpa useful in cancer.

a. Pathya Kalpana: Mantha, Phanta, Hima, Lajja peya, Yusha, Ksheerpaka etc.

7. Vihaar

a. Home environment, psychology play of Patient attenders etc.

8. Yoga: Pranayam etc.

9. Satwaavayavaja and Daivavyapashraya. (Counselling)

10. Pharmacology of Cancer Chemotherapy.

11. Chemotherapy drug resistance.

12. Cancer prevention tobacco related etc, diet and risk reduction chemo preventive agents and hormones.

13. Patient report outcome measures in clinical oncology.