

Family and Community Health

Competency code	Competency addressed	Exercise
CM2.1	Describe the steps and perform clinico-socio-cultural and demographic assessment of the individual, family and community	1.1
CM2.2	Describe the socio-cultural factors, family (types), its role in health and disease & demonstrate in a simulated environment the correct assessment of socio-economic status	1.3
CM2.4	Describe social psychology, community behavior and community relationship and their impact on health and disease	1.6
CM2.5	Describe poverty and social security measures and its relationship to health and disease	1.7
CM3.1	Describe the health hazards of air, water, noise, radiation and pollution	1.3
CM3.4	Describe the concept of solid waste, human excreta and sewage disposal	1.3
CM5.2	Describe and demonstrate the correct method of performing a nutritional assessment of individuals, families and the community by using the appropriate method	1.8
CM5.3	Define and describe common nutrition related health disorders (including macro-PEM, Micro-iron, Zn, iodine, Vit. A), their control and management	1.2
CM5.4	Plan and recommend a suitable diet for the individuals and families based on local availability of foods and economic status, etc. in a simulated environment	1.2
CM8.1	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases	1.10
CM10.3	Describe local customs and practices during pregnancy, childbirth, lactation and child feeding practices	1.4
CM10.6	Enumerate and describe various family planning methods, their advantages and shortcomings	1.5
CM12.1	Define and describe the concept of geriatric services	1.9
CM12.3	Describe the prevention of health problems of aged population	1.9
PH1.55	Describe and discuss the following National Health programs including Immunization, Tuberculosis, Leprosy, Malaria, HIV, Filaria, Kala azar, Diarrheal diseases, Anemia & nutritional disorders, Blindness, Non-communicable diseases, Cancer and Iodine deficiency	1.10

■ EXERCISE 1.1

At the end of this exercise, you should be able to describe the steps and perform clinico socio-cultural and demographic assessment of the individual, family and community **(CM2.1)**

Mrs Sharda, aged 60 years, lives in Ormanjhi, Ranchi and heads a Hindu family of 5 members. She is widowed, illiterate and works as a tailor. Her 28-year-old son studied up to primary school and works at a dairy factory. The family has 1 eligible couple and 2 children. Total family income from all sources is Rs. 10,500 per month. The family lives in a single roomed, *pucca* house which has a small verandah in front. The kitchen is in the same room. Food is cooked on a *chulha* placed on the floor, but sometimes on a cemented slab. LPG is used as cooking fuel. Uncooked vegetables are kept in a plastic tub covered with cloth. Cooked food is stored in covered utensils. There is a bathroom and toilet on the first floor which is shared by another family. All the family members sleep in the same room. The floor space area of the house is 200 sq ft. There are no windows. Natural light is inadequate, and there is one fluorescent bulb that acts as a source of artificial light. Walls are painted but have cracks and crevices. Rats, mosquitoes, flies, and cockroaches are frequently seen. There is intermittent water supply for a total of 2 hours a day. Water for drinking purposes is stored in plastic tub and kept covered. Steel glass is used to withdraw water. Refuse is collected in plastic bags and disposed of in an open area in front of the house. It is then collected by garbage collector daily. Separate Indian flush type toilets are present. Excreta is disposed through sewage line. The bathroom with a door is adjacent to the toilet and has a tap water supply. Used water flows just outside the house. The members of the family are religious and celebrate all major festivals with pomp and show. They have harmonious relationships amongst themselves and their neighbors.

- Comment on the positive findings in relation to the physical and biological environment in this family.
- What preventive measures can be suggested to this family to improve the physical and biological environment of the household?

Guide Notes

- Overcrowding
- Housing standards
- Biological environment and public health importance.

■ EXERCISE 1.2

- At the end of this exercise, you should be able to define and describe common nutrition related health disorders (including macro-PEM, Micro-iron, Zn, iodine, Vit. A), their control and management **(CM5.3)**
- Plan and recommend a suitable diet for the individuals and families based on local availability of foods and economic status, etc. in a simulated environment **(CM5.4)**

A five-membered Christian family resides in Balumath village of Latehar district. The family is headed by a retired army man, aged 63 years, Shyam Baxla. His only son, married, works as a computer operator in a nearby hospital and his daughter-in-law is a housewife. He has two granddaughters, one aged 5 months and the other 4 years. The dietary intake of the family was calculated using a 24-hour recall method and by monthly consumption of raw materials. Dietary intake of 3 days was considered and then an average was taken. On that basis it was found that the family consumed 666 g of cereals, 150 g of pulses, 1000 ml of milk, 500 g vegetables, 133 g oils and butter and

150 g of sugar, daily. The family also consumed one packet of Parle-G biscuit weighing 100 g, a packet of *kurkure* of ₹ 5 and one medium-sized *samosa* during three days which was not considered during calculation.

- Discuss the nutritive intake of the family.
- What advice would you like to give to this family?

Guide Notes

- Balanced diet
- Dietary cycle
- RDA of nutrients, both macro and micro, for various age groups.

■ EXERCISE 1.3

- At the end of this exercise, you should be able to describe the socio-cultural factors, family (types), its role in health and disease & demonstrate in a simulated environment the correct assessment of socio-economic status (CM2.2)
- Describe the health hazards of air, water, noise, radiation and pollution (CM3.1)
- Describe the concept of solid waste, human excreta and sewage disposal (CM3.4)

Mr Raja, aged 22 years, residing in Kanke, Ranchi, is a tenant of Mr Randhir. He heads a Hindu joint family comprising of six members. The family comprises one eligible couple and 2 adolescents (brothers of the head of the family), that eligible couple has two girls, one neonate and the other is of 8-years. The family lives in a one-roomed pucca house on the ground floor measuring 8 × 8 feet. The roof, floor and walls are plastered with cement, having several cracks. The floor of the house was one foot lower than the level of the road. The roof was approx. 9 ft from the ground. The house has a single door and window on the same wall and together they comprise less than 2/5 of the floor area. There is no exhaust fan, only a ceiling fan is present. The window is closed most of the time. There was a tube light in the room, which was required even during the day. Rats, ants, mosquitoes, houseflies, and cockroaches were sighted inside the house. There was no separate kitchen; the corner near the window was used as a kitchen. They used LPG as cooking fuel. The window is kept open during cooking; there is no other outlet for smoke. Food was cooked twice a day and kept covered. Utensils were washed outside the house. The water supply is intermittent, but twice a day. Water for household purposes was collected from a tap outside the house and stored in drums and open buckets outside. Drinking water was collected from the tanker and stored in buckets with covers and used without filtration. There are 4 toilets and 2 bathrooms outside the house which are shared by 15 families. The wastewater from the bathroom drains into an open drain outside. The toilets are Indian, water seal type, and connected to a dug well. Refuse is collected in plastic bags and disposed of in an open area in front of the house. It is then collected by garbage collector daily. There is no history of substance abuse in the family. The family has a harmonious relationship amongst themselves and with their neighbors. The couple reported they had no preference for male child. The couple has been married for 2 years and have been cohabiting for the past one year. No contraception was used by the couple and both the pregnancies were uneventful.

- Comment on socio-economic condition of the family
- Comment on sewage, sullage and refuse disposal of the family.

Guide Notes

- Different socio-economic status (SES) classification scales used in India and elsewhere
- Sewage disposal
- Water and sanitation.

EXERCISE 1.4

At the end of this exercise, you should be able to describe local customs and practices during pregnancy, childbirth, lactation and child feeding practices (**CM10.3**)

The index case is a 21-year-old lactating mother with her 17-day old neonate. She is a P₁L₁A₀ (obstetric history) who delivered through cesarean section on July 12, 2020. She is presented with symptoms of heartburn and pain at the stitch site for past 2 days. There is a negative history of fever, lower abdominal pain, copious or offensive lochia discharge, itching, bleeding p/v, burning micturition, nausea, regurgitation, or pain in breasts after delivery. She had her menarche at 14 years of age. Her cycles have by far been regular and there were no complaints of dysmenorrhea or menorrhagia. Her last menstrual period (LMP) and expected date of delivery (EDD) were October 2, 2019 and July 9, 2020, respectively. Initially she was unaware of her pregnancy and complained of morning sickness, nausea, vomiting and fatigue in the first trimester. Pregnancy was confirmed by urine pregnancy test (UPT) in the 3rd month by a private practitioner, after which she got herself registered at RIMS, Ranchi. Ultrasonography (TAS/TVS) was done during her antenatal visits to the hospital. She took iron-folic acid (IFA) regularly and received 2 doses of tetanus (TT) vaccination. She reported quickening in the fourth gestational month. Her weight at full term was 55 kg and Hb was measured to be 11.6 g/dl. She had to undergo an elective caesarean section due to mal-presentation. The baby cried soon after birth and weighed 2.75 kg. The baby was breastfed after 12 hours of birth and received birth doses of the following vaccines: BCG, OPV and Hep B. The baby was not bathed for the first 4 days. The mother and the baby were discharged after 4 days. Currently, the mother is breastfeeding the baby as and when she cries, approximately about 6–7 times in the day and 2–3 times at night. In between, the mother also feeds the baby with gripe water when she cries in the evening as per the family's suggestion. The mother is not a Janani Suraksha Yojana (JSY) beneficiary. She is a non-vegetarian by diet. Based on 24-hour recall method, she had 1 glass of milk, 2 tsp sugar, 1 *Panjiri laddoo* (1 serving amounts to 464 calories), 12 *rotis*, 1 *katori aloo palak sabzi* and 1 *katori bhindi sabzi*. The mother's current weight is 42 kg and height is 150 cm. The baby and the mother, altogether appear normal on general examination.

- What wrong practices can you point out in the above scenario? What ideally should be practiced instead?
- Comment on the ANC care of the mother and weight and immunization of the baby at birth?

Guide Notes

- Recommendations by WHO for ANC and PNC visits and that for Indian scenario.

EXERCISE 1.5

At the end of this exercise, you should be able to enumerate and describe various family planning methods, their advantages and shortcomings (**CM10.6**)

During the induction visit under Family Adoption Programme, you come across a family constituting of 6 members. The head of family (HOF), Sanjay, is a 32 years old male, with no formal education, and earns a living by selling fruits in the local market. The wife of the HOF is a 27 years old female Radhika, who is a homemaker. The other 4 members are three daughters and one son, including a newborn; the eldest among them being a 5 years and 6 months old daughter, Neha. Neha caught your attention, since you noticed grossly visible deformity in both her legs, which the mother had noticed when Neha was 2 years old.

- Prepare a case presentation having two parts:
 - The first part should describe the family's composition, physical and biological environment, dietary history, socio-cultural environment, ending in a family diagnosis of the apparent needs of this family.
 - The second part of the presentation should be a case study taking Neha as the index case, which should also include antenatal, intra-natal and postnatal history when Radhika conceived her.

(For preparing the presentation, you might have to interact with various families and assimilate information in this single presentation.)

- Also highlight the advice you think is appropriate in this scenario, general for family and specific to Neha.

Guide Notes

- Objectives of family study
- Family Adoption Programme
- Various models for FAP and which one is followed by your institute.

■ EXERCISE 1.6

At the end of this exercise, you should be able to describe social psychology, community behaviour and community relationship and their impact on health and disease (CM2.4)

You adopt a six-membered, Hindu, non-vegetarian, upper lower-class family residing in their own house in Dallapura. The head of the family (HOF) is a 45 years old male, Gopal, with formal education till 8th class and working under a contractor. He is a chronic alcoholic and smoker. His wife, Vijaywati, 41 years old, is illiterate and works in a factory as a daily-wage labourer. They have 4 children, the eldest being 23 years old Sonu, their only son, who also works in the same factory as his mother. Sonu has attained formal education till 6th class only. Two out of 3 daughters dropped out from school after completing their 3rd standard education, whilst the youngest is in the 3rd standard currently. A distressed Sonu called you one night informing you about his mothers' ill health. Vijaywati is having difficulty in breathing and looks pale and drowsy, as she has been crying on the floor for the past one hour. Sonu heard loud voices coming from his parents' room, as if they were fighting. He also mentions some bruise marks on her face and arm, and pain in right ankle. On further enquiry, Sonu informs you that she had fever, cough with yellowish sputum production and chest pain for the last 4–5 days. She also complained of heartburn and weakness for the past one month. Apprehending a case of domestic violence (DV), you ask Sonu to bring his mother to the hospital immediately.

- Draft a case presentation in two parts: Generalized Family Structure and case of Domestic Violence as the index.

- What preliminary questions would you ask Sonu over the call to assess Vijaywati's condition?
- What other measures would you want Sonu to take before leaving for hospital?
- Explain "Right to Health for All" in context of Indian women.

Guide Notes

- Health issues associated with DV
- Impact of DV on children (physical health and mental health) in the family
- Judiciary and community help in cases of DV and sexual assault (SA).

■ EXERCISE 1.7

At the end of this exercise, you should be able to describe poverty and social security measures and its relationship to health and disease (**CM2.5**)

During your first visit, you had to analyze the socio-economic status (SES) of the family in the above exercise.

Parameter	Status
Education of Head of the family (HOF)	8th Pass
Occupation of HOF	Semi-skilled
Family income per month	₹ 8500/-

- Using Kuppaswamy classification scale, determine the SES of the family.
- Also classify according to Modified BG Prasad SES scale?

Guide Notes

- Tendulkar Committee
- Various SES scales
- BPL card and health benefits
- Availing benefits under AB.

■ EXERCISE 1.8

At the end of this exercise, you should be able to describe and demonstrate the correct method of performing a nutritional assessment of individuals, families and the community by using the appropriate method (**CM5.2**)

You examine an 11 years old, Pooja, student of 5th class section B, of Nagar Nigam Prathamik Balika Vidyalaya, Shahdara, Delhi. She resides in Kheda region with her family comprising her father (driver), mother (housewife), elder brother Mohan (13 years old, studies in 7th standard) and younger sister Sandhya (3 years old, stays at home). Sandhya was delivered prematurely at 33 weeks, other than that there is no significant past history. Her height and weight are 143 cm and 25 kg, respectively. She has an average built. Her skin appears normal, with no apparent edema, rash, or pigmentary issues. Her hair seems lustrous. Grossly, her eye, ENT and oral examinations were insignificant. Lymph nodes were not palpable and no apparent swelling which moved with deglutition was present in front of the neck. Systemic examination was done, which only revealed a 6/9 vision with spectacles, bilaterally. She mentioned that she eats food prepared at home only, but still experiences frequent

stomach aches, gastrointestinal (GI) upset, flatulence, and occasional loose motions. There was no record of vaccination since birth.

- What is the structure of a School Health Card?
- Draft one for Pooja with duly filled information.

Guide Notes

- Structure of Family Card and School Health Card
- Structure of Nutritional Assessment Survey Form
- Locally available combination food with their nutritive values and recommended daily intake, as per different age groups
- Emerging GI issues and the appropriate dietary adjustments.

EXERCISE 1.9

- At the end of this exercise, you should be able to define and describe the concept of Geriatric services **(CM12.1)**
- Describe the prevention of health problems of aged population **(CM12.3)**

Study the following family composition:

S. No.	Name	Age/Sex	Relation to HOF	Literacy	Occupation
1.	Rani Devi	62/F	Mother	5th pass	–
2.	Arvind	40/M	Self	12th pass	Auto driver
3.	Rekha	35/F	Wife	8th pass	Housewife
4.	Siddhant	9/M	Son	4th class	Student in Government school
5.	Sneha	7/F	Daughter	2nd class	Student in Government school

Rani Devi was apparently well 7 years back when she complained of insidious onset of increased frequency and burning micturition. A few days later she developed high grade fever and was brought to GTB hospital emergency in an unconscious state, where she was diagnosed with diabetes and hypertension. She was started on treatment at the GTB hospital, but she was non-compliant to her medications. She used to get her blood sugar tested at regular intervals of 3–6 months. Recently she has started to complain about chest pain on left side which radiated to jaws and epigastric region. The pain is dull in nature, intermittent and associated with gradually worsening dyspnea. She complains about blurring of vision and seeing floating objects in her visual field.

- What advice will you give to Arvind and Rekha as the caretaker of Rani Devi, regarding her care?
- Make two groups, each having four people, who will educate the whole class about the following four topics related to diabetes and hypertension.
 - Signs and symptoms
 - Investigations and follow-up visits
 - Management protocol, with proper dosing of medicines
 - Dangers signs, complications, and their management.

Guide Notes

- BP Passport, IHCI
- Geriatric care and jurisprudence.

■ EXERCISE 1.10

- At the end of this exercise, you should be able to describe and discuss the following National Health programs including Immunization, Tuberculosis, Leprosy, Malaria, HIV, Filaria, Kala azar, Diarrheal diseases, Anemia and nutritional disorders, Blindness, Non-communicable diseases, Cancer and Iodine deficiency (**PH1.55**)
- Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases (**CM8.1**)

Vipin, a 32 years old male who is a known case of tuberculosis, is adherent to his treatment plan and is about to complete the continuation phase in 15 days. He presents to the community health centre (CHC) with his wife Manjiri, 26 years old, with complains of irregular menses and scanty bleeding per cycle, since 6 months. She also has evening rise of temperature and increased coughing since 8 months, with mild sputum production occasionally. The couple is not practicing any contraception and has been married for 14 months. Her last cycle was delayed by two weeks, so she went to the nearby primary health care (PHC) and was advised to take up a urine pregnancy test, which subsequently came out to be negative. Since the couple is planning for a baby, the doctor had prescribed her IFA tablets and advised her to get a USG pelvis done. She did not get the ultrasound done, as she had her menses in a couple of days. On eliciting past medical history, she informs that she had not been vaccinated with her birth doses and received her first vaccine at the age of 2 years. She also had contracted TB from her father at the age of 15 years but is not sure whether she completed the treatment or not. She also did not go for follow up testing then. You advise her USG pelvis and sputum examination for acid fast bacilli (AFB) and computer based nucleic acid amplification test (CBNAAT).

- What is your provisional diagnosis of Manjiri's condition?
- Discuss among yourselves the need and scope of premarital counselling and screening for communicable and non-communicable diseases.

Guide Notes

- DOTS centre in your area
- Complications of TB and danger signs.

■ REFERENCES

1. Kadri's IAPSM's Textbook of Community Medicine. 2nd edn, pages 66, 68, 893, 643, 594, 962
2. Park's Textbook of Preventive and Social Medicine. 26th edn, Chapters-14 'Tribal Health in India', and Chapter-24 'Health Care of the Community'.