AJEENKYA D Y PATIL UNIVERSITY
THE INNOVATION UNIVERSITY
School of Engineering

Department of Biotechnology
Medical Informatics
Even Term
Innovative Teaching Learning (Pedagogy) Report

Name of the Faculty	Ranjit Kumar
Class	(VI-Semester 3rd year)
Courses Taught	Medical Informatics, Major Course
Academic year	2024-2025
Title of Padagogy	Health Talk – Heat Stroke
Objective	• **Knowledge**: Enable students to define heat stroke and distinguish it from heat exhaustion. • **Awareness**: Help students recognize early warning signs (e.g., high body temperature, rapid pulse, confusion) and understand risk factors (prolonged sun exposure, dehydration). • **Skills**: Teach immediate first-aid steps for a suspected heat stroke victim (rapid cooling, hydration, seeking medical help). • **Prevention**: Instill habits for preventing heat stroke—adequate hydration, wearing light clothing, scheduling activities during cooler hours.
Methodology	**Audio–Visual Aids** • Short animated video illustrating how the body overheats. • Infographics on signs, symptoms, and prevention tips projected via slide deck. **Interactive Discussion** • Begin with an open question: "What happens to your body when you stay too long in the sun?" • Encourage volunteers to share personal experiences of heat-related

	discomfort. **Demonstration & Role-Play** • Live demo of cooling techniques: applying cold compresses, misting, fanning. • Students role-play a first-aid response team for a mock heat stroke scenario. **Q&A and Myth-Busting** • Quiz-style rapid-fire true/false on common misconceptions (e.g., "Drinking alcohol cools you down—True/False?"). • Clarify doubts in English, Marathi, or Hindi as per students' comfort. **Handout & Take-Home Poster** • Distribute a one-pager summarizing "5 Quick Tips to Beat the Heat." • Provide blank poster sheets for small groups to design their own prevention posters.
Outcome	• **Cognitive**: Post-talk quiz showed an average score of 85% (up from 50% pre-talk). • **Affective**: Students reported increased confidence (on a 1–5 scale) in recognizing heat stroke signs—average confidence rose from 2.3 to 4.1. • **Behavioral**: Within a week, 90% of students carried water bottles to campus and used shaded routes during breaks. • **Feedback Highlights**: ➢ "The role-play made first-aid steps really memorable." ➢ "Loved the poster activity—it helped us own the message."

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Glimpses	

Ranjit Kumar
Subject Teacher

Health Talk on Heat Stroke

Name of Student- Tejal

Language-English, Marathi, Hindi

Topic- Heat Stroke
Audience – Students

Name of supervisior – Mr.Ranjit Kumar

Date-16th April 2025

Previous Knowledge of Group- Students have some Previous Knowledge about Heat stroke

Learning Method- Different ways through sharing thoughts , asking or cleaning doubts related to the topics.

Teaching Method- AV aids will be used Discussion will be done with Audience

- Specific Objective →

At the end of session student or group members will be able to :-

* Introduce
* Define
* Types
* Management
* Care of patient
* Nursing Responsibilities
* Causes
* Elaborate complication & prevention
* Explain various management

Sr no.	Time	Specific objectives	CONTENT	Teaching method	AV aids	Evaluation
1.		Introduction Audience will be introduced about their gathering	Had a brief introduction with the audience about self and reason for being an audience Brief knowledge of group about the topic is also being discussed	DISCUSSION	-	Group does not have any deep knowledge about the heat stroke

Sr. no	Specific objectives	CONTENT	Teaching Method	AV aids	Evaluation
2.	Introducing the topic by giving a brief explaination of what Heat Stroke is	Heat Stroke also termed as "Sun Stroke" is characterized by hyperpyrexia with core body temperature Temperature more than 40°C is considered to be dysfunctioning physiologic -al activity	D I S C U S S I O N	C H A R T	Group get a brief introduction of Heat Stroke

Sr no.	Specific objectives	CONTENT	Teaching method	AV aids	Evaluation
3. —	Definition of Heat stroke	Definition Heat Stroke is defined as a core body temper-ature that rises above 104°F (40°) accompanied by hot dry skin and central nervous syetem abnormalities such as delirium convulsion or coma	LECTURE DISCUSSION	FLASH CARDS	Group will be able to define the Heat Stroke

Sr no.	Specific objective	CONTENT	Teaching learning	AV aids	Evaluation
		Sun stroke is a condition where body can not overcome the heat by sweating and becomes overheated. It is a core temperature $\geq 40^{\circ}C$ accompanied by dysfunction in patient with environmental heat exposure.	D I S C U S S I O N	C H A R T S	Group will have Knowledge about how is the condition

Sr no	Specific objectives	CONTENT	Teaching method	AV aids	Evaluation
		Heat stroke is a serious potentially life threatening form of heat illness At that high temperature body proteins and the membranes around cells in body especially in brain begin to destroy	LECTURE	EXPLAINATION	Group will be able to understand fatality of condition

CLASSIFICATION

1. EXERTIONAL HEAT STROKE

2. NON-EXERTIONAL HEAT STROKE

Sr no.	Specific objectives	CONTENT	Teaching method	AV aids	Evaluation
4.	Explaining the various classification of Heat Stroke	**Classifications** Heat stroke is broadly classified into 2 types namely → Non Exertional Heat Stroke This type of Heat Stroke is more common in younger children who are unable to escape from hot environment and those	L E C T U R E	F L A S H C A R D S	

Sr. no	Specific objectives	CONTENT	Teaching method	AV aids	Evaluation
		with underlying chronic medical conditions It occurs when one is vigorously active in a hot environment such as playing sports on a hot summer day or participating in military activities of training	DISCUSSION	EXPLANATION	Group will understand the types of heat strokes

Sr no	Specific objectives	CONTENT	Teaching learning	AV aids	Evaluation
		It can take several days of high temperatures for non-exertional heatstroke to occur Exertional Heat Stroke This has a sudden onset It occurs in those people whose bodies can no longer adapt to rising temperature while working	L E C T U R E	F L A S H C A R D S	Group will be able to explain and differentiate the types.

PATHOPHYSIOLOGY

EXERCISE/HEATSTRESS

↓

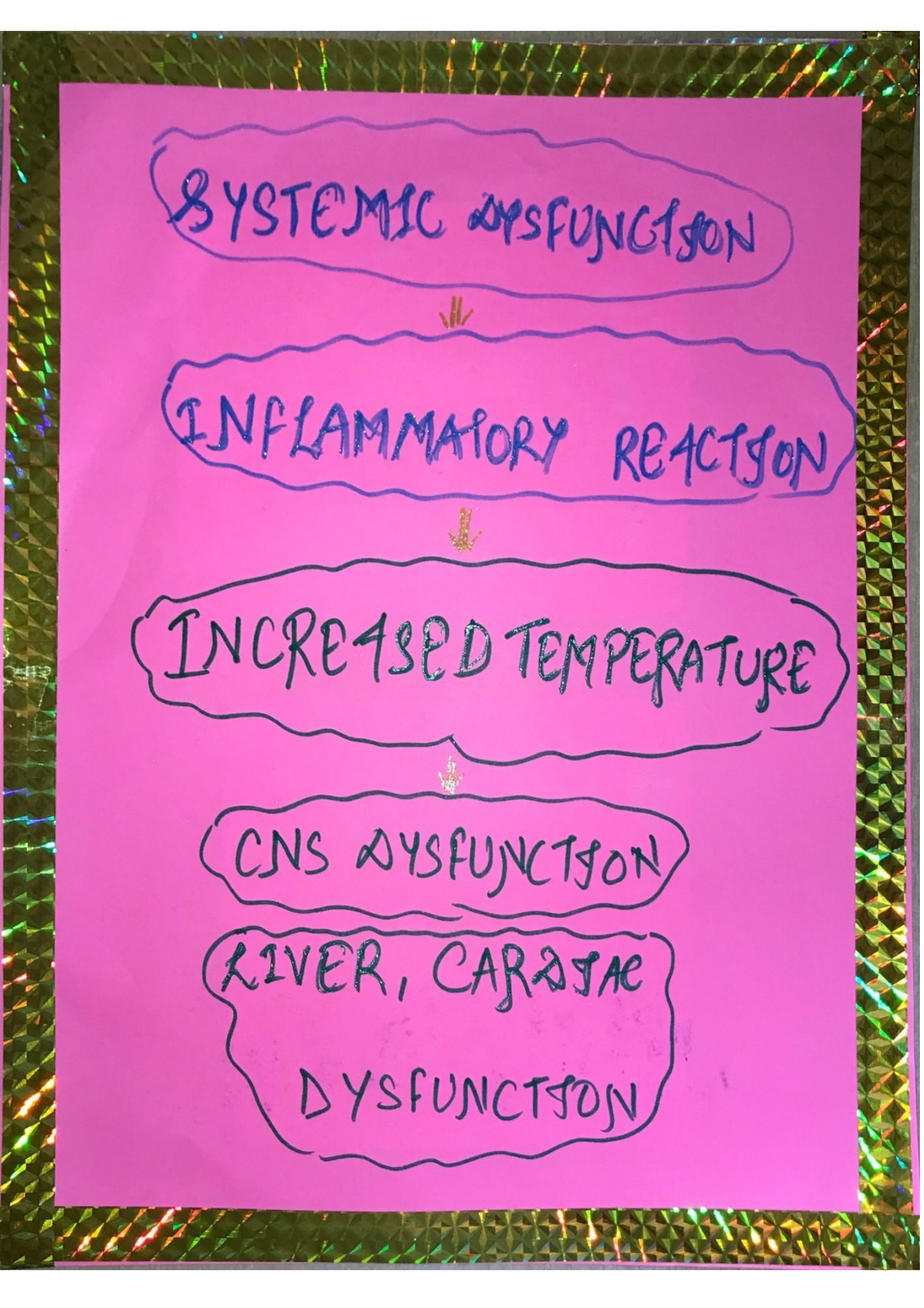
INCREASED TEMPERATURE

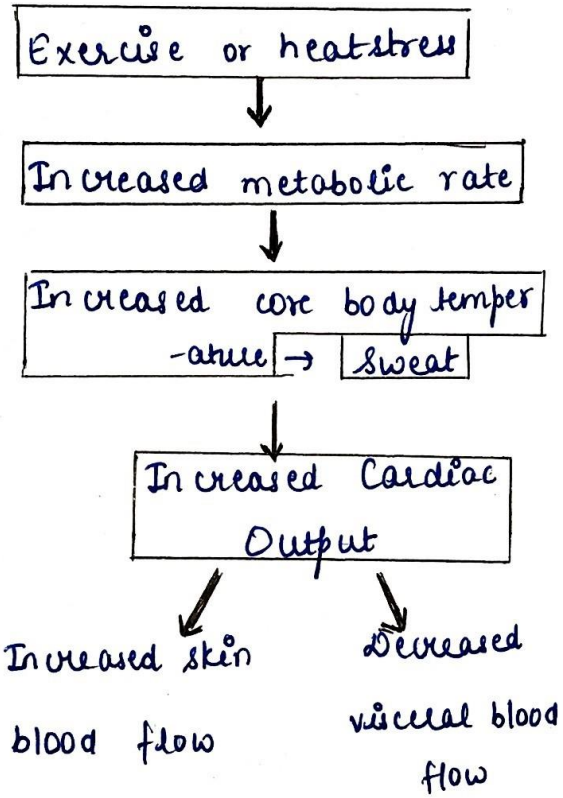
↓

INCREASED CARDIAC OUTPUT

↓

INCREASED CORE BODY TEMPERATURE


SYSTEMIC DYSFUNCTION
INFLAMMATORY REACTION
INCREASED TEMPERATURE
CNS DYSFUNCTION
LIVER, CARDIAC
DYSFUNCTION

Sr no	Specific objectives	CONTENT	Teaching learning	AV aids	Evaluation
5.	To elaborate the pathophysiology of heat stroke	**Pathophysiology**  	DISCUSSION	CHART	Group will be able to understand the pathophysiology

Sr no	Specific objectives	CONTENT	Teaching learning	AV aids	Evaluation
		Increased core body temperature ↓ Cell anoxia, Gastrointestinal permeability increased, cardiovascular collapse, Inflammatory reaction ↓ Systemic inflammatory response system ↙ ↘ Increased temperature CNS, liver ARF, Cardiac dysfunction	LECTURE	CHARTS	Group will be able to define and explain the pathophy-siology

Sr no	Specific objectives	Content	Teaching learning	AV aids	Evaluation
6.	Discuss the causes of Heat stroke	**Causes** Heatstroke can occur as a result of following → Exposure to a hot area In a type of heatstroke called non exertional heatstroke being in a hot environment leads to rise in core body temperature. Strenous Activity → Exertional heatstroke caused by core	DISCUSSION	EXPLANATION	Group will be able to discuss the causes

Sr no	Specific objectives	CONTENT	Teaching learning	AV aids	Evaluation
		Physical activity in hot weather → Wearing excess clothing → Drinking alcohol → Becoming dehydrated → Being overweight → Sleep deprivation Medication as antihistamines diuretics, laxatives, calcium channel blockers, use of cocaine.	LECTURES	EXPLANATION	Group will be able to understand the causes

Sr no.	Specific objectives	CONTENT	Teaching learning	AV aids	Evaluation
7.	To briefly explain the risk factors of heat stroke	**Risk factor** Anyone can develop heat stroke but several factors increase risk which includes Age → Ability to cope with extreme heat depends on strengths of person. In very young people CNS is underdeveloped and in adult over 65 years, CNS begins to deteriorate	DISCUSSION	EXPLAINATION	Group will be able to understand risk factors of stroke

Sr. no	Specific objective	CONTENT	Teaching learning	AV aids	Evaluation
		Extertion in hot weather • Sudden exposure to heat weather • Lack of air conditioning • Certain medication. • Certain Health condition such as heart or lung disease might increase risk of heatstroke	LECTURE	EXPLANATION	Group will will be able to learn about the risk factors

Sr no	Specific objectives	CONTENT	learning method	AV aid	Evaluation
B:	To elaborate the signs and symptoms of Heat stroke	**Sign & Symptoms** **High Blood Temperature** A core body temperature of 104°F or higher is main sign of heatstroke **Altered Mental State or Behaviour** – confusion, agitation slurred speech and coma can result from heatstroke **Alteration in Sweating** In heatstroke bought on by hot weather, your skin	L E C T U R E	F L A S H C A R D S	Group will be able to explain the Sign and Symptoms of Stroke.

Sr no	Specific objectives	CONTENT	Teaching learning	AV aids	Evaluation
		may feel dry or mouth • Nausea & Vomiting • Rapid breathing • Racing Heart rate • Headache & Dizziness • Muscle Weakness **Complications**	DISCUSSION	EXPLANATION	Group will be able to understand sign and symptoms
10	Discuss possible complications of Heat Stroke	Some vital and severe complications of heat stroke include			

Sr no	Specific objectives	CONTENT	Teaching method	AV aids	Evaluation
		→ Vital organ damage → Without a quick response to lower body temperature, heat stroke can cause brain or other vitals to swell, possibly resulting in permanent damage. Death → Without prompt and adequate treatment heat stroke can be fatal which leads to death of victim	LECTURE	EXPLANATION	Audience will be able to understand the possible complication

Sr no	Specific objectives	CONTENT	Teaching learning	AV aids	Evaluation
11.	To explain the prevention of heat stroke	Heatstroke is a predictable and preventable. following steps to prevent heatstroke during hot weather	LECTURES	EXPLANATION	Group will be able to understand prevention of Heat Stroke.

SUMMARY & CONCLUSION

To summarize was to able to give a brief introduction of the topic, definition of topic, different types of Heatstroke with its explaination, different causes of heatstroke and also various risk factors and also sign & symptoms different complication that arise from heatstroke, prevention and management of Heat Stroke

RESEARCH EVIDENCE

Worldwide Heatstroke continues do be a crisis of significant morbidity and mortality. A high index of clinical supervision is needed in person with altered mental status and history of exposure to high temperature

Rapid cooling and resuscitation treatment are management of treatment

clinical judgement should be used to select appropriate patient

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a) Essentials of Medical Surgical Nursing, Mr Dipak Sethi, Dr Shaladha Ramesh. Springfield Publisher.

b) Brunner and S.B. Siddhart, Dr. Heloppen Cait, Manual of Nursing practice

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Ajeenkya DY Patil University, Pune

School of Engineering
Department of Biotechnology

Innovative Teaching–Learning Practices

Reviewer's Assessment Form

Basic Information

Faculty Name: RANJIT KUMAR

Department: Biotechnology

Course Name: Medical Informatics

Semester & Division: VIth Sem - Bioinformatics

Academic Year: 2024-25

Date of Implementation: 16/04/2025

Title of the Innovation: Health talk - Heat Stroke

Details of the Teaching Innovation

Criteria	Description
1. Objective of the Innovation	Equip students to differentiate heat exhaustion, recognize it warnings signs and risk factors, administer immediate first aid
2. Description of the Method/Practice	Simulations to reinforce heat stroke recognition, response and prevention
3. Resources Used	poster making, Avicls
4. Student Engagement Activities	Brainstroming session, First Aid role play
5. Learning Outcomes Expected	• define Heat stroke, demonstrate proper first aid steps, explain awareness
6. Evaluation Methods Used	- Poster Assessment Rubric - observation checklist - First Aid skill demonstration Rubric.

Reviewer's Evaluation

Parameter	Excellent	Good	Average	Needs Improvement	Remarks
Relevance of Innovation	☐	☑	☐	☐	To provide awareness to students about the heatstroke and its impact
Clarity of Objectives	☐	☑	☐	☐	The objectives are well & clear
Student Participation	☑	☐	☐	☐	The student participation is appreciable.
Outcome Achievement	☑	☐	☐	☐	There is well awareness of the remedies regarding heatstroke
Use of Technology/Tools	☐	☑	☐	☐	Appropriate
Innovation & Creativity	☐	☑	☐	☐	The approach is appreciable

Suggestions for Improvement (if any):
Various other environmental factors can be considered for the above approach.

Final Remarks by Reviewer:
Overall a appreciable take on environment related awarenss by Mr Ranjt Kumar

Reviewer Name: Dr. Shweta Vkey

Designation: Assistant professor

Signature: [signature]

Date: _____