

Complementary and Alternative Medicine (CAM)

Course

Health Science

Unit VIII

Strategies for
Prevention of
Disease

Essential Question

What is
Alternative and
Complementary
Medicine and
why do we need
to learn about it?

TEKS

130.204 12 E

Prior Student Learning

Cultural Diversity
Lesson

Estimated time

3 – 6 hours

Rationale

As a health care provider it is important to be aware of other treatments patients/clients may use besides traditional medicine.

Objectives

Upon completion of this lesson, the student will be able to:

- explain and distinguish among the five categories of CAM therapies
- compare complementary medicine and alternative medicine

Engage

Ask the students:

Why is it important to some people to have an alternative other than traditional medicine?

Have students brainstorm and list types of treatments, therapies, or home remedies their grandmothers/grandfathers, mothers/fathers, or other family members have used. Write some out on the board and have students discuss if it made them feel better.

Key Points

- I. Complementary and Alternative Medicine (CAM) is a group of diverse medical and health care systems, practices, and products that are not generally considered to be part of conventional medicine.
 - A. Complementary medicine is used together with conventional medicine; an example of a complementary therapy is using aromatherapy to help lessen a patient's discomfort following surgery
 - B. Alternative medicine is used in place of conventional medicine; in this case, an example of an alternative therapy is using a special diet to treat cancer instead of undergoing surgery, radiation, or chemotherapy that has been recommended by a conventional doctor
 - C. Integrative medicine combines treatments from conventional medicine and CAM for which there is evidence of safety and effectiveness; it is also called integrated medicine
- II. Types of complementary and alternative medicine
 - A. Whole medical systems
 1. built upon complete systems of theory and practice; often

systems evolved apart from and earlier than the conventional medical approach used in the United States

2. examples

- a. homeopathic medicine
- b. naturopathic medicine.
- c. traditional Chinese medicine
- d. Ayurveda

B. Biologically based therapies

1. use substances found in nature, such as herbs, foods, and vitamins

2. examples

- a. dietary supplements
- b. herbal products

C. Mind-Body Interventions

1. focus on interactions among mind, body, and behavior, and how mind and behavior can directly affect health

2. examples

- a. meditation
- b. yoga

D. Manipulative and body-based practices

1. based on manipulation and/or movement of one or more parts of the body

2. examples

- a. chiropractic or osteopathic manipulation
- b. massage

E. Energy therapies involve the use of energy fields; two types:

1. Biofield therapies: intended to affect energy fields that purportedly surround and penetrate the human body; existence of such fields has not yet been scientifically proven. Some forms of energy therapy manipulate biofields by applying pressure and/or manipulating the body by placing the hands in, or through, these fields

- a. examples include qi gong, Reiki, and Therapeutic Touch

2. Bioelectromagnetic-based therapies: involve the unconventional use of electromagnetic fields, such as pulsed fields, magnetic fields, or alternating-current or direct-current fields.

III. Key Terms

A. **Acupuncture** describes a family of procedures involving stimulation of anatomical points on the body by a variety of techniques. American practices of acupuncture incorporate medical traditions from China, Japan, Korea, and other countries. The acupuncture technique that has been most studied scientifically involves penetrating the skin with thin, solid, metallic

needles that are manipulated by the hands or by electrical stimulation.

- B. **Aromatherapy** involves the use of essential oils from flowers, herbs, and trees to promote health and well-being.
- C. **Ayurveda** has been practiced primarily in the Indian subcontinent for 5,000 years; includes diet and herbal remedies; emphasizes the use of body, mind, and spirit in disease prevention and treatment.
- D. **Chiropractic** focuses on the relationship between bodily structure (primarily that of the spine) and function, and how that relationship affects the preservation and restoration of health. Chiropractors use manipulative therapy as an integral treatment tool.
- E. **Dietary supplements** are products (other than tobacco) taken by mouth that contains a “dietary ingredient” intended to supplement the diet. Dietary ingredients may include vitamins, minerals, herbs or other botanicals, amino acids, and substances such as enzymes, organ tissues, and metabolites. Dietary supplements come in many forms, including extracts, concentrates, tablets, capsules, gel caps, liquids, and powders. They have special requirements for labeling.
- F. **Electromagnetic fields** are invisible lines of force that surround all electrical devices. The Earth also produces EMFs; electric fields are produced when there is thunderstorm activity, and magnetic fields are believed to be produced by electric currents flowing at the Earth’s core.
- G. **Homeopathic** medicine is a CAM whole medical system. In homeopathic medicine, there is a belief that “like cures like,” meaning that small, highly diluted quantities of medicinal substances are given to cure symptoms, when the same substances given at higher or more concentrated doses would actually cause those symptoms.
- H. **Massage** therapists manipulate muscle and connective tissue to enhance function of those tissues and promote relaxation and well-being.
- I. **Naturopathic** medicine proposes that there is a healing power in the body that establishes, maintains, and restores health. Practitioners work with the patient with a goal of supporting this power, through treatments such as nutrition and lifestyle counseling, dietary supplements, medicinal plants, exercise, homeopathy, and treatments from traditional Chinese medicine.
- J. **Osteopathic** medicine is a form of conventional medicine that, in part, emphasizes diseases arising in the musculoskeletal system. There is an underlying belief that all of the body’s systems work together, and disturbances in one system may affect function elsewhere in the body. Some osteopathic physicians practice osteopathic manipulation, a full-body system of hands-on

techniques to alleviate pain, restore function, and promote health and well-being.

- K. **Qi gong** is a component of traditional Chinese medicine that combines movement, meditation, and regulation of breathing to enhance the flow of qi (an ancient term given to what is believed to be vital energy) in the body, improve blood circulation, and enhance immune function.
- L. **Reiki** is a Japanese word representing Universal Life Energy. Reiki is based on the belief that when spiritual energy is channeled through a Reiki practitioner, the patient's spirit is healed, which in turn heals the physical body.
- M. **Therapeutic Touch** is derived from an ancient technique called laying-on of hands. It is based on the premise that it is the healing force of the therapist that affects the patient's recovery; healing is promoted when the body's energies are in balance; and, by passing their hands over the patient, healers can identify energy imbalances.
- N. **Traditional Chinese medicine (TCM)** is the current name for an ancient system of health care from China. TCM is based on a concept of balanced qi (pronounced "chee"), or vital energy, that is believed to flow throughout the body. Qi is proposed to regulate a person's spiritual, emotional, mental, and physical balance and to be influenced by the opposing forces of yin (negative energy) and yang (positive energy). Disease is proposed to result from the flow of qi being disrupted and yin and yang becoming imbalanced. Among the components of TCM are herbal and nutritional therapy, restorative physical exercises, meditation, acupuncture, and remedial massage.

Activity

- I. Complete the CAM worksheet
- II. Complete the Massage Therapy Activity
- III. Create a massage that could benefit an age group, athlete, stress, or injury and present to the class.
- IV. Participate in a biomedical debate on the use of acupuncture in treatment of disease

Assessment

Biomedical Debate Rubric
Oral Presentation Rubric
CAM Worksheet Key

Oral Presentation Rubric
Demonstration of massage for selected group or injury

Materials

Internet access

<http://www.hosa.org> – Biomedical Debate

<http://nccam.nih.gov/> -- National Center for Complementary & Alternative Medicine

www.ods.od.nih.gov -- *Office of Dietary Supplements*

www.cfsan.fda.gov -- *U.S. Food and Drug Administration (FDA)*

Aromatherapy charts

Olive oil

Massage oils/lotions (students can select or bring their own)

Pillows or towels

Cosmetic pads

Zip lock sandwich bags

Chairs

Stethoscope

sphygmomanometer

Accommodations for Learning Differences

For reinforcement, the student will create a chart that shows pictures of different massage techniques for an age group, athlete, stress, or injury. Discuss how this information can be applied to restoring comfort among patients who are afraid of modern medicine and rely on alternative medicine as tradition.

For enrichment,, the student will design a brochure on alternative and complementary medicine for a client that is afraid of modern medical treatment.

National and State Education Standards

National Health Science Cluster Standards

HLC06.02 Safety, Health, and Environmental

Health care workers will understand the fundamentals of wellness and the prevention of disease processes. They will practice preventive health behaviors among the clients.

TEKS

130.204 (c)(12)(E) research alternative health practices and therapies

Texas College and Career Readiness Standards

English Language Arts

II. B. Understand new vocabulary and concepts and use them accurately in

reading writing and speaking.

III. B. Develop effective speaking styles for both group and one-on-one situations

IV. A. Apply listening skills as an individual and as a member of a group in a variety of settings

IV. B. 2. Listen actively and effectively in one-on-one communication situations

Cross-Disciplinary

A. Intellectual curiosity

1. Engage in scholarly inquiry and dialogue

2. Accept constructive criticism and revise personal views when valid evidence warrants

B. Reasoning

1. Consider arguments and conclusions of self and others

2. Construct well-reasoned arguments to explain phenomena, validate conjectures, or support positions

3. Gather evidence to support arguments, findings, or lines of reasoning

4. Support or modify claims based on the results of an inquiry

C. Problem solving

1. Analyze a situation to identify a problem to be solved

2. Develop and apply multiple strategies to solving a problem

3. Collect evidence and data systematically and directly relate to solving a problem

E. Technology

1. Use technology to gather information

2. Use technology to organize, manage, and analyze information

3. Use technology to communicate and display findings in a clear and coherent manner

4. Use technology appropriately

Massage Therapy

Purpose:

Students learn how to execute three proper massage techniques

Background:

Materials:

Aromatherapy charts

Olive oil

Massage oils/lotions (students can select or bring their own)

Pillows or towels

Cosmetic pads

Zip lock sandwich bags

Chairs

Stethoscope

sphygmomanometer

Procedure:

I. Oil Selection:

- A. Work with a partner and smell different oils* while reading about them from the aromatherapy charts.
- B. Select oil or lotion

**Teachers: Soak a cosmetic pad with oil and place in a zip lock bag.*

II. The Massage:

Students should wear short sleeve T-shirts tucked into pants

A. Positioning and Comfort for Massager and Patient:

**Students should be advised of 'off limit' areas and to pay attention to the comfort zone of their partner.*

1. The student receiving the massage leans against the back of the chair; a pillow or towel can be used to cushion the back of the chair for comfort
2. The massager must use proper body mechanics
3. The student giving the massage introduces himself or herself to the receiver and explains the procedure

**Common courtesy to be followed at the beginning of every massage.*

B. Three Techniques:

1. Effleurage: long soothing, stroking movements using a flat hand

- a. Record pulse rate and blood pressure. Beginning at the base of the neck, the massager uses long gentle strokes with the palm of their hands. The strokes go across the shoulders and down the back. The massager can alternate their hands up and down the sides of the back. Proceed with long strokes from the shoulders down the upper parts of the arms. *Ensure that the strokes are smooth but not too fast or rushed.*
 - b. The massager walks around to the front of their partner. Picking up their partner's right arm and supporting it with their left hand, the massager makes long strokes up and down the arm with medium pressure. A gentle pull to stretch the arm and then the massager slowly places the arm back on their partner's knee. Repeat the same on the other arm. Record pulse rate and blood pressure.
 - c. The students now trade places and let the receiver become the massager.
2. Petrissage: kneading, rolling, picking the skin up, and rolling muscles
- a. Record pulse rate and blood pressure. Beginning with the original massager, the massager begins kneading the shoulders. The thumbs can travel up the base of the neck up to the occipital fossa (back of the head) at the end of each stroke. The massager should communicate with their partner to make sure their strokes are being executed with pressure that is comfortable.
 - b. The kneading of the shoulders should be continued proceed down over the shoulder to the upper arms and back up again.
 - c. The massager walks around to the front of their partner and facing them. The massager picks up their partner's arm and begins kneading the forearm up to the halfway point of the biceps. The stroke ends here and the massager comes back to the wrists and repeats the same stroke five times before moving to the next arm.
 - d. Now spread the little finger (5th digit) and thumb of partner's hand. The massager uses the thumbs to massage the palm of their partner. The massager now kneads each of their partner's fingers slowly towards the tip. Do each finger once. Record pulse rate and blood pressure.
 - e. The students now trade places and the receiver is now the massager.
3. Friction: deeper penetrating massage using circular movements with the thumb, fingertips, or knuckles
- a. (Starting positions the same.) Record pulse rate and blood pressure. Massager places a hand with fingers pointing upward on each side of the spine. (Remember to not massage directly on the spine.) Place pressure on each thumb and walk the fingers up each side of the spine. When reaching the base of the neck, curl hands and use the flat part of the fist (between the 3rd & 2nd phalangeal joint) to make medium circles downward along each side of the spine. The massager is kneading upward and knuckling downward.

- b. The massager continues this pattern moving laterally from the spine.
- c. End this technique by rubbing the entire back with palm for 15 to 30 seconds.
- d. Record pulse rate and blood pressure.
- e. The students now trade places and the receiver is now the massager.

Data:

Create a data table to record blood pressure, pulse rate, and stress levels (scale of 1-5, five being totally stress to one being total relaxation) before and after each procedure.

Conclusion:

1. Graph blood pressure, heart rate, and stress level changes on a bar graph.

2. Analyze the data collected and discuss the effects of the massage.

3. Write a half page summary of the experience from the viewpoint as the massager and as the receiver.

4. Students define stress, common causes, and possible physiological changes that occur to a body that are exposed to chronic stress.

CAM Worksheet

Student: _____ **Date:** _____

1. What is the definition of “complementary and alternative medicine”?

2. What is the difference between alternative medicine and complementary medicine?

3. What is an example of a complementary therapy?

4. What is an example of an alternative therapy?

5. List the five Types of complementary and alternative medicine.

- 6.
7. True or False Massage therapists manipulate muscle and connective tissue to enhance function of those tissues and promote relaxation and well-being.

True or False Ayurveda is a Japanese word representing Universal Life Energy.

8. What is Acupuncture?

What are Dietary supplements?

9. List and describe the two types of Energy therapies.

CAM Worksheet – KEY

1. What is the definition of “complementary and alternative medicine?”

Complementary and Alternative Medicine (CAM) is a group of diverse medical and health care systems, practices, and products that are not generally considered to be part of conventional medicine.

2. What is the difference between alternative medicine and complementary medicine?

Complementary medicine is used together with conventional medicine.
Alternative medicine is used in place of conventional medicine.

3. What is an example of a complementary therapy?

An example of a complementary therapy is using aromatherapy to help lessen a patient's discomfort following surgery. Answers may vary.

4. What is an example of an alternative therapy?

An example of an alternative therapy is using a special diet to treat cancer instead of undergoing surgery, radiation, or chemotherapy that has been recommended by a conventional doctor.

5. List the five Types of complementary and alternative medicine.

Whole medical systems
Biologically based therapies
Mind-Body Interventions
Manipulative and body-based practices
Energy therapies

6. True or False Massage therapists manipulate muscle and connective tissue to enhance function of those tissues and promote relaxation and well-being. True

7. True or False Ayurveda is a Japanese word representing Universal Life Energy. False

8. What is Acupuncture?

Acupuncture describes a family of procedures involving stimulation of anatomical points on the body by a variety of techniques. American practices of acupuncture incorporate medical traditions from China, Japan, Korea, and other countries. The acupuncture technique that

has been most studied scientifically involves penetrating the skin with thin, solid, metallic needles that are manipulated by the hands or by electrical stimulation.

9. What are Dietary supplements?

Dietary supplements are products (other than tobacco) taken by mouth that contain a “dietary ingredient” intended to supplement the diet. Dietary ingredients may include vitamins, minerals, herbs or other botanicals, amino acids, and substances such as enzymes, organ tissues, and metabolites. Dietary supplements come in many forms, including extracts, concentrates, tablets, capsules, gel caps, liquids, and powders. They have special requirements for labeling.

10. List and describe the two types of Energy therapies.

- a. Biofield therapies are intended to affect energy fields that purportedly surround and penetrate the human body. The existence of such fields has not yet been scientifically proven. Some forms of energy therapy manipulate biofields by applying pressure and/or manipulating the body by placing the hands in, or through, these fields. Examples include qi gong, Reiki, and Therapeutic Touch.
- b. Bioelectromagnetic-based therapies involve the unconventional use of electromagnetic fields, such as pulsed fields, magnetic fields, or alternating-current or direct-current fields.

Classroom Debate Rubric

Scoring Criteria	4. Excellent	3. Good	2. Needs Some Improvement	1. Needs Much Improvement	N/A
Viewpoints and responses are clearly outlined.					
Reasons are given to support viewpoint.					
Examples and facts are given to support reasons.					
Arguments made by the other team are responded to and dealt with effectively.					
The team understood the topic and presented the information convincingly.					
Respect shown throughout the debate for the opposing team.					
Tone of voice, use of gestures, and enthusiasm are convincing.					

NOTE: N/A represents a response to the performance which is "not appropriate."

Oral Presentation Rubric

Student: _____ Date: _____

Scoring criteria	4. Excellent	3. Good	2. Needs Some Improvement	1. Needs Much Improvement	N/A
Clearly and effectively communicates the main idea or theme.					
Presenter is self-confident and clearly expresses ideas.					
Presenter answers questions with well thought out responses.					
Holds audience attention and maintains eye contact.					
Visual aids are clear and add to the presentation.					

NOTE: N/A represents a response to the performance which is "not appropriate."