

DAcOM

Quality Improvement Project (QIP)

Integrative Medicine: Traditional Chinese Medicine
Interpretation of Biomedical Vitals

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COVER PAGE

Purpose

The purpose of this Quality Improvement Project (QIP) is to offer students and acupuncturists a different approach to understanding how biomedical vitals can contribute to a Chinese medicine diagnosis.

Reason For QIP

Western medicine vitals allow the healthcare provider to understand the nature of the patient's bodily functions. Understanding and utilizing Western medicine vitals can be used as a tool to gain insight into a Chinese Medicine diagnosis. The goal is to develop a communication pathway between doctors of acupuncture and Chinese medicine, and Western medicine physicians.

Target Audience

Current students and licensed acupuncturist who are interested in integrative medicine or working in a hospital-based system.

End Product Description

1. A general guide to understanding Western medical vitals and the TCM interpretations
2. Quick Summary of Western medicine vitals and TCM Interpretation

End Product

PDF documents & PowerPoint

INTRODUCTION

Acupuncture and Chinese medicine treatments are gaining popularity in the Western medical community as a valid form of therapy for many conditions. In recent news, acupuncture has become one of the primary treatments to help control the opioid addiction in the U.S.^[1] As acupuncture became a more mainstream and accepted into large healthcare systems, doctors of acupuncturist will be required to develop a certain level of knowledge using modern medical practices. This includes taking vitals for every patient and understanding the information in both Western and Traditional Chinese medicine language. In this Quality Improvement Project (QIP), we explore the importance of vitals from a Western medicine perspective and how to interpret basic vitals signs to gain insight on a Traditional Chinese Medicine (TCM) diagnosis.

REASON FOR QUALITY IMPROVEMENT PROJECT (QIP)

Today's Traditional Chinese Medicine (TCM) education is relatively one-sided on TCM theories and practices. The standards of biomedicine requirements differ across the country and educational institutes. For example, AOMA Graduate School Integrative Medicine master's program requires 480 hours (40 credits) of biomedicine science while Florida College of Integrative Medicine master's program requires 544 hours (36.2 credits).^[2, 3] These discrepancies in education could be a factor in why some TCM practitioners do not understand how to integrate the two medical modules.

If Eastern and Western treatment strategies are to be integrated, TCM practitioners should improve their Western medicine literacy; and be able to explain general treatment strategies in a language that is common in today's modern world. A common communication pathway between acupuncturist and physicians will better serve the health and wellness of the patient.

Target Audience

1. AOMA students and alumni
2. Current acupuncturists

Description Of Intervention

General description of Western medical vitals and TCM differential

- General Vitals: Blood Pressure, Pulse, Oxygen Saturation, Respiration, Body Temperature
- Normal and abnormal vitals, and their general TCM Interpretations
- 2 case studies associated with each vital and general explanation of the information

End Product

1. A general guide to understanding Western medical vitals and the TCM interpretations
2. Quick Summary of Western Vitas and TCM Interpretation

UNDERSTANDING VITALS

Why are vitals important in Western Medicine? How can they be used by Doctors of Acupuncture & Chinese Medicine?

Vitals establish an immediate baseline of the human body. It allows the doctor or healthcare provider to understand the state of the human bodily functions. They determine treatment protocols, provide critical information needed to make life-saving decisions, and confirm feedback on a treatment performed.

For doctors of acupuncture & Chinese medicine, vitals are required by the Texas Medical Board of Acupuncture only when a patient is establishing care or when the provider deems necessary.^[4] However, taking vitals can contribute to ones TCM diagnosis if the practitioner can understand and interpret the information.

BLOOD PRESSURE & PULSE

Blood pressure offers Chinese medicine doctors the first piece of diagnostic information when a patient is establishing care. In Western medicine, the systolic number (top number) explains how much pressure the blood is exerting against the artery walls when the heart beats. The diastolic number (the lower number) indicates how much pressure the blood is exerting against the artery walls while the heart is resting between beats.^[5, 6] These numbers are used to diagnosis high blood pressure or hypertension.

Classification	Systolic (SBP)		Diastolic (DBP)
Low	< 90	or	< 60
Normal	< 120	and	< 80
Prehypertension	120 - 139	or	80 – 89
High: Stage 1 Hypertension	140 – 159	or	90 – 99
High: Stage 2 Hypertension	160 ≤	or	≥ 100

Source: National Heart, Lung and Blood Institute.^[6]

Blood pressure also has significant information when it comes to an understanding of one's physical state of being according to traditional Chinese medicine. For Chinese medicine practitioners, these numbers allow them to determine if the patient is excessive or deficient; hot or cold condition. The systolic number is a representation of the Liver function, and the diastolic is a representation of the kidney function.^[7] These two number in combination with the pulse allow the practitioner to match symptoms and confirm their diagnosis.

	Diastolic	Systolic	Pulse Rate	TCM Analysis ^[7]
Type 1	140 ≤	90 ≤	80 ≤	Excessive Heat
Type 2	≤ 95	≤ 60	60	Deficient/Cold Nature
Type 3	140 ≤	≤ 80	≤ 65	Blood Stagnation
Type 4	90	60	80 -100	Yin Deficient Heat

Source: Vital Signs Dx: TCM Analysis of Blood Pressure & Heart Rate ^[7]

Cast Study 1: 49 years-old female presents with a blood pressure of 110/77 with a pulse rate of 76 bpm. Her blood pressure and pulse rate would be considered to be normal according to Western medical standards. In a TCM view, her pulse rate is slightly rapid indicative of heat in the body, and her blood pressure is on the lower side. Together this would give a baseline of some yin deficient heat signs in the body. She reported that she was currently having night sweats due to menopause, along with thinning of the hair and constant thirst.

Cast Study 2: 34-year-old male presented with a blood pressure of 140/93, pulse rate of 101 bpm. His blood pressure and pulse rate would be considered stage one hypertension according to Western medical standards. His tongue had red peeled sides, thick yellow coat and dry. His blood pressure & pulse are indicative of an excessive heat condition. His main reason for seeking treatment was for chronic irritable bowel syndrome with diarrhea.

PERIPHERAL CAPILLARY OXYGEN SATURATION (SP02)

The pulse oximeter continuously and transcutaneously monitors the functional oxygen saturation of hemoglobin in the arterial blood (SaO₂). Pulse oximetry is so widely prevalent in medical care that it is often regarded as a fifth vital sign.^[8] Studies have shown at the right middle finger, and the right thumb has the most accurate value that reflects the arterial oxygen saturation.^[9] Normal ranges are higher than 95%. However, people who have PCOS, this value will change. Hypoxia ranges from 85% to 94%. Severe hypoxia range is below 85%.

In Chinese Medicine, SP02 can be indicative of the amount of qi in the body. If the SP02 number is lower than 95%, this could be considered a lack of qi and blood inside the body. This could also be interpreted as the amount of qi being distributed throughout the body, or how effectively the body is utilizing the qi. This number also could be indicative of lung qi deficiency, and lung qi is not descending.

Sp02	Range	TCM Analysis
Normal	95% ≤	Normal Lung Qi Function
Hypoxia	85% - 94%	Lung Qi Deficiency or Lung Qi not Descending
Severe Hypoxia	< 85%	Lung Qi not descending or Lung Qi Collapse

Case Study 1: 28-Year-old female presented with conditions of chronic mild-asthma and environmental allergies. She has been on steroid inhalers for the past 15 years; including Albuterol, Fluticasone-salmeterol, and Montelukast (Singulair). Her reason for seeking treatment was to help control her asthma. On her first visit, she presented with a 125/84 BP, 82 pulse rate, 92% SP02. Osculating of the lungs presented with wheezing on the exhale. An acupuncture treatment on BL 13 (T3) and LU 7 showed improvements on the SP02 saturation. After 15 minutes of stimulation, her saturation level read 98%.

Case Study 2: 55-year-old male presents with allergies after moving to Austin from London. His blood pressure was 135/82, 66 BPM, 98.1 °F, SP02 94% and his respiration rate was 18. Looking at his current complaint and his vitals, this could indicate that this patient could be suffering from a lung qi deficiency with slight heat symptoms. After exploring his chief complaint, the patient expresses that he was suffering from pressure in his chest on the inhale along with yellow nasal discharge and cough.

BODY TEMPERATURE

The average body temperature is 98.6 degrees Fahrenheit; however, the normal temperature can range between 97.8 to 99.1 degrees Fahrenheit or slightly higher. Body temperature can be measured using a thermometer inserted into the mouth, anus, or placed under the armpit. However, today the most common way to take ones body temperature is through the ear canal, temporal artery or sublingually.

A temperature that is higher than the average body temperature is considered a fever. A temperature below 95 degrees Fahrenheit is defined as hypothermia. Temperature can vary due to factors other than illness or infection. Stress, dehydration, exercise, being in a hot or cold environment, drinking a hot or cold beverage, and thyroid disorders can influence body temperature. Older adults can lack control over their body temperature and can be ill without displaying signs of a fever.

In Chinese medicine the temperature allows the practitioner to differentiate from true or false cold, qi deficiency, heat or an excessive conditions. One can utilize this information as confirmation about an area of the body, or channel and the nature of the disease.

Temperature	°F	TCM Analysis
Normal	97.6 – 99.6	General, Normal Temperature Range
Low	< 96.6	True / False Cold or Qi Deficiency Condition
High	99.7 <	Heat or Excessive Qi Condition

Case 1: 57 years-old man presents with constant sweating. His vitals present with 110/70 BP, 62 pulse rate, 98% SP02, 96.1 °F temperature and 14 respiration rate. Based on his vitals alone, these numbers are indicative of deficiency condition, possibly due to a cold. While most of his vital numbers are within the normal limits, they are still on the lower side. After further exploration of his chief complaint, he reports that he has been having unexplained cold sweats. He mentions that the sweat does not always occur when he is nervous, he can be seated and start to sweat. The feeling of the sweat does not feel like normal water sweat, but rather a sticky sweat with a slight odor.

Case 2: 44-year-old female presents with a stomach ache. Her vitals are 138/91 blood pressure, 79 pulse rate, 98% SP02, 97.1 temperature and 17 respiration rate. On abdominal examination noticeable temperature changes on the abdomen. The temperature of the three abdominal areas was; 98.3 °f epigastric, 93.9 °f periumbilical and 99.1 °f hypogastrium area. If you compare these numbers to the

average body temperature one can suspect that this is an excessive or heat condition of the stomach area or channel.

RESPIRATORY RATE

A person's respiratory rate is the number of breaths one takes per minute. The normal respiration rate for an adult at rest is between 12 to 20 breaths per minute. A respiration rate under 12 or over 25 breaths per minute at rest is considered abnormal.

In Chinese Medicine, the lungs have many more function than air intake. The lungs are considered the uppermost organ of the body and allow the qi to descend into the body. This function is also key because it communicates with the kidneys which receive the qi from above. When functioning properly the patient will have a strong defensive qi, an abundance of qi in channels or radiant skin. When not functioning correctly will have a weak defensive qi, dull skin, nasal obstructions or poor breathing.^[10] When viewing the respiration rate one can tell whether the body is currently having abnormalities of excessive or deficient symptoms. For example, excessive heat patterns that present as high respiration intake.

Respiration	Rate	TCM Analysis
Normal	12 - 20	Normal Range
Low	< 12	Deficient Pattern
High	20 <	Excessive Pattern

Case Study 1: 15-year-old male presents with severe acne rosacea and a diagnosis of ADHD. His vitals are 130/86 blood pressure, 88 pulse rate, 98.1°F temperature, 98% SPO2 and 19 breaths per minute. The acne is mostly on his forehead and his temples with dark red discoloration. His constitution is very fidgety and unable to remain still for more than 5 minutes. He also presents with rapid movements and a loud domain voice. His vitals are indicative of a patient who is having signs and symptoms of an excessive heat condition.

Case Study 2: 28-year-old female complains of depression and fatigue. Her vitals are 100/70 blood pressure, 66 pulse rate, 97% SPO2, 96.7°F and 14 breaths per minute. Patient reports feeling slow and not wanting to participate in life because she is tired. She is slightly overweight. Based on her vitals these are indicative of a patient who is a deficient or cold type condition.

CONCLUSION

Western medicine vitals are considered a standard in getting information on the state of one's health. As acupuncturist and doctors of Chinese medicine, one can use this information to make a qualitative diagnosis and ensure that a proper treatment strategy. In Chinese medicine, our diagnosis and treatments lay in the details of the human body. Every piece of information gathered either confirms our thought process or pulls us towards another direction.

Even more, using Western medicine is one step further into understanding how we can merge the two practices. By understanding the general thought patterns and interpretation of both Western medicine and TCM, we can have an open dialogue on integrated treatment strategies.

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