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BACKGROUND

- Physical inactivity is a hallmark of chronic disease and a contributor to many acute conditions.
- Awareness of the role of physical activity (PA) in disease prevention and management has been increasing but there is still a significant gap in the education of exercise prescription amongst medical professionals, specifically physicians.
 - Exercise prescription refers to the specific plan of fitness related activities designed to meet individual health and physical fitness goals within the context of individual health status, function, and the respective physical and social environment.
- Physicians play a vital role in addressing physical inactivity and are often seen by patients as a significant source of exercise related information.
- Unfortunately, many physicians report that they lack the education to inform their patients on the important aspects of exercise prescription. This significant lack of education has led to physicians who are not equipped to provide information to their patients that could have a significant impact on their health.
- The aim of this research was to explore the need for exercise prescription (EP) education amongst physicians in training and determine the effectiveness of an EP didactic during medical training.

METHODS

- A one-hour curriculum was developed based on the American College of Sports Medicine principles of EP.
- Pre- and post-surveys were administered to assess perceived EP education level and confidence levels for prescribing aerobic and anaerobic exercise to patients among groups of Wayne State School of Medicine medical students and residents.
- Data was also collected assessing PA habits and beliefs.
- Virtual curriculum sessions were held over Zoom.
- Data were presented utilizing standard techniques, including mean values with standard deviation.

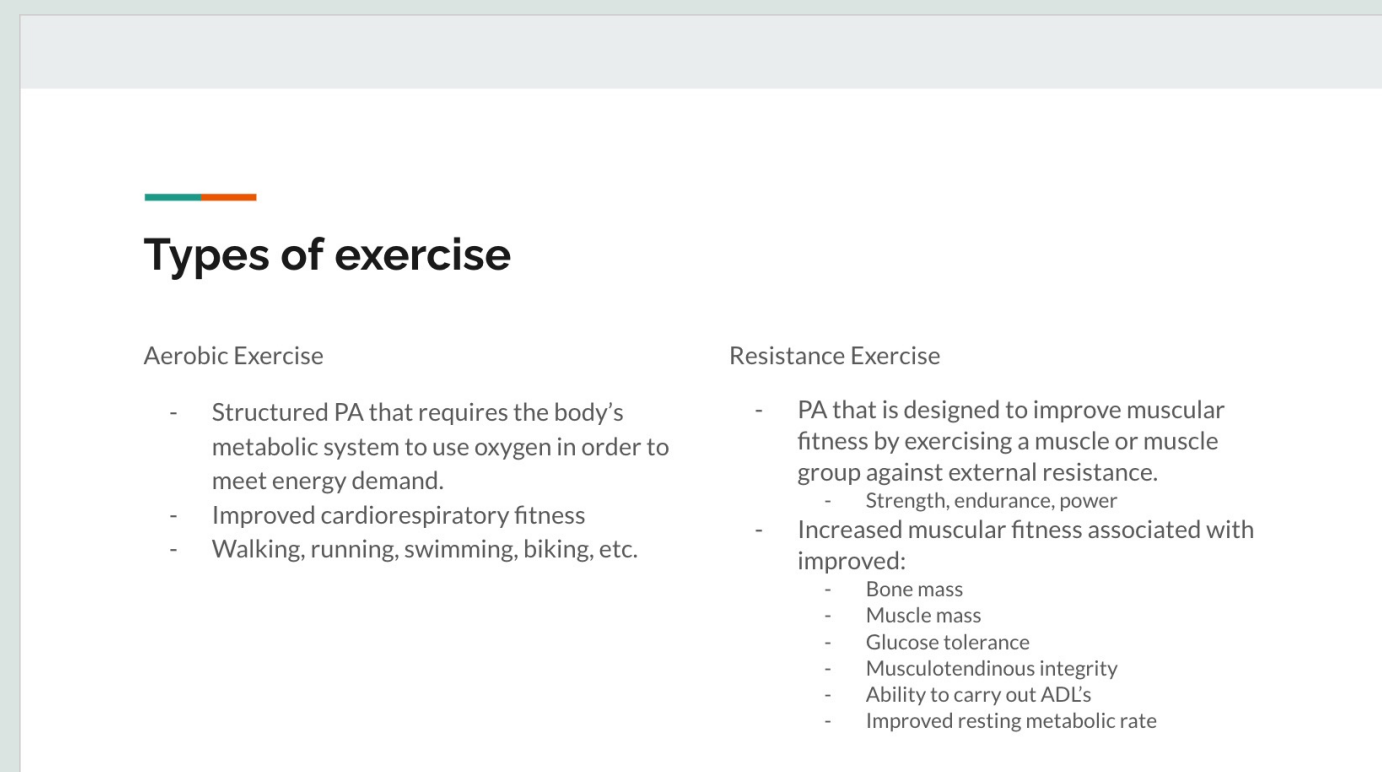


Figure 1. Slide from curriculum session presenting the two main types of exercise.

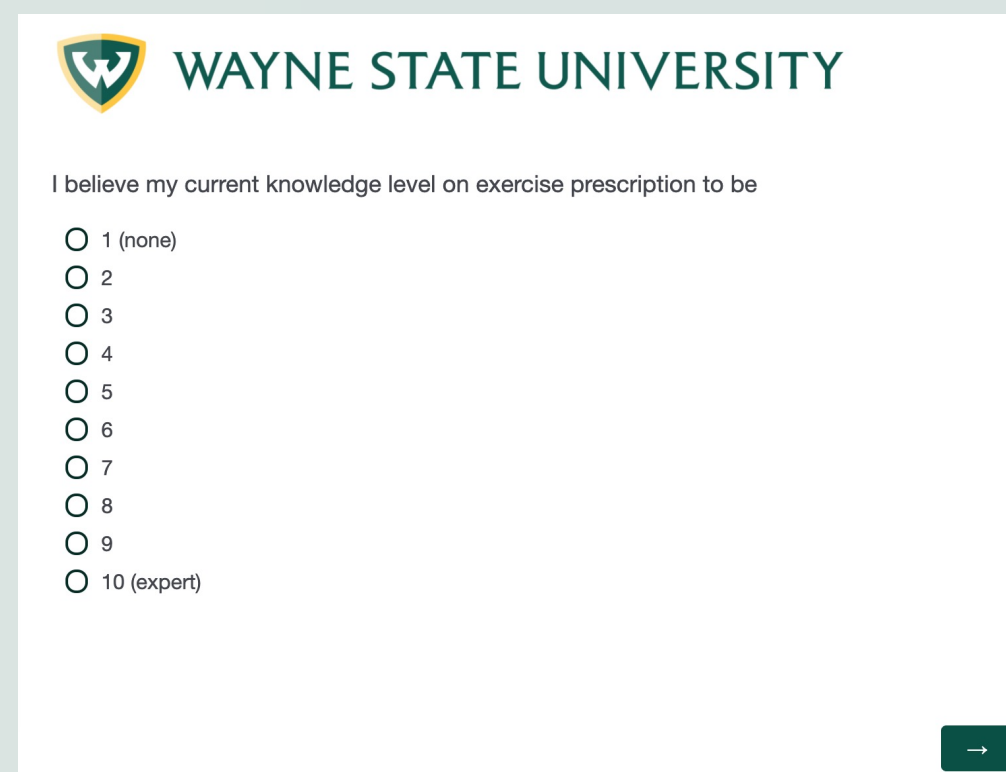


Figure 2. Question from Qualtrics survey assessing perceived knowledge level of exercise prescription.

RESULTS

- Results are based on 137 pre-session and 118 post-session surveys on which students rated responses on a 10-point and 1-5 Likert scales.
 - Likert scale: 1 = strongly agree, 5 = strongly disagree
- Mean education level before the session was 4.62/10 (SD 1.98) and 7.35/10 post session (SD 1.56), which was a statistically significant difference ($p < .001$) (figure 3).

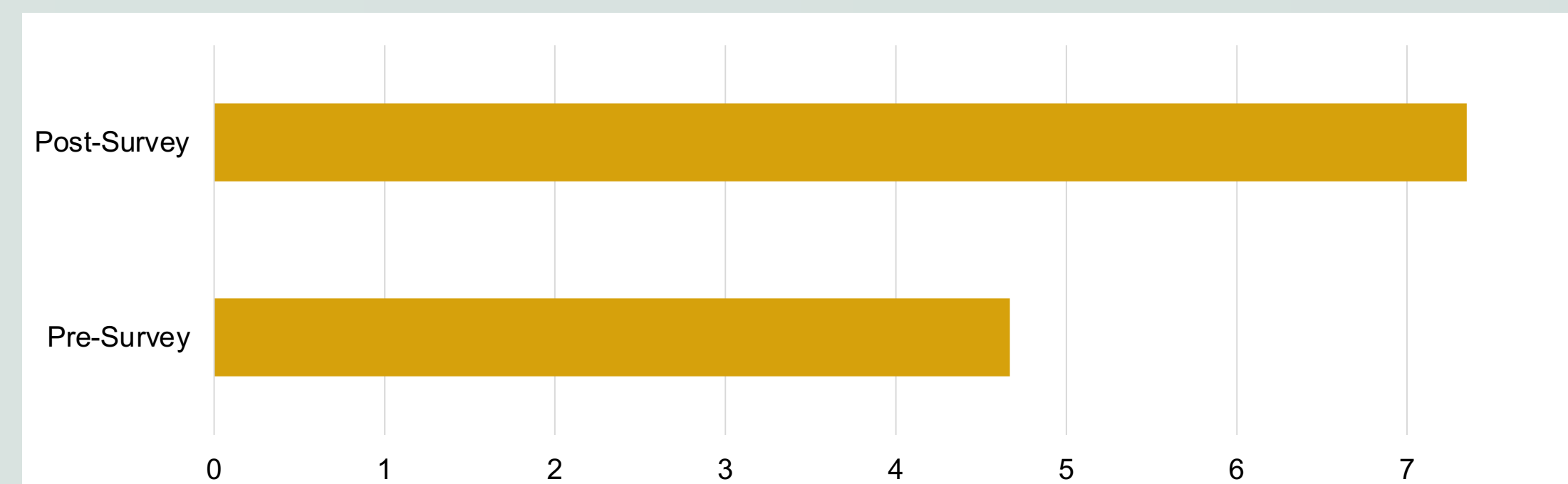


Figure 3. Survey reported exercise prescription education level amongst 137 pre-survey participants and 118 post-survey participants.

- Increases in confidence level discussing PA with patients (2.52/5 to 1.66/5), ability to answer exercise related questions (2.58/5 to 1.66/5), ability to prescribe aerobic exercise (2.58/5 to 1.64/5), and ability to prescribe anaerobic exercise (2.68/5 to 1.65/5) were also seen. These differences were all statistically significant ($p < .001$).
- The following PA habits and beliefs were collected from the 137 pre-session responses
 - “I believe physical activity is integral to my patients health”
 - 1.13/5
 - “I believe physicians have a responsibility to promote PA to their patients”
 - 1.17/5
 - “Medical schools/Residency programs should encourage their residents to practice physically active lifestyles”
 - 1.30/5
 - “My medical school/residency program encourages residents to exercise and be PA”
 - 2.73/5
 - “I have received an adequate amount of education/training on PA counselling and exercise prescription for health, prevention, and treatment of disease during my medical training and/or residency”
 - 3.44/5
 - “I would like to receive more education/training on PA counselling and exercise prescription for health, prevention, and treatment of disease”
 - 1.39/5

CONCLUSIONS

- By learning the tenets of EP (figure 4) and how to apply them, physicians can provide better concrete PA advice and create actionable exercise programs for their patients.
- In as little as one hour, education levels and confidence in ability to prescribe exercise can be significantly improved.
- This small amount of time could provide large benefits to patients and as medical education continues to develop, EP should serve a vital component if significant improvements in patient health are desired.
- Based on survey responses surrounding PA habits and beliefs, medical students and residents believe that PA is important to their patient's health and feel a responsibility to understand how to discuss PA with their patients.
- Medical students and residents also believe they have not received adequate training to properly prescribe exercise to patients and have a desire to learn more during their medical training.
- This further calls on medical schools to incorporate adequate training on PA and exercise prescription in their curriculum as this serves an important clinical tool while working with patients.
- Next steps include working collaboratively with medical school curriculum committees to develop sessions that can be incorporated into current curriculum and developing clinical tools that will make prescribing exercise to patients more accessible to physicians (figure 5).

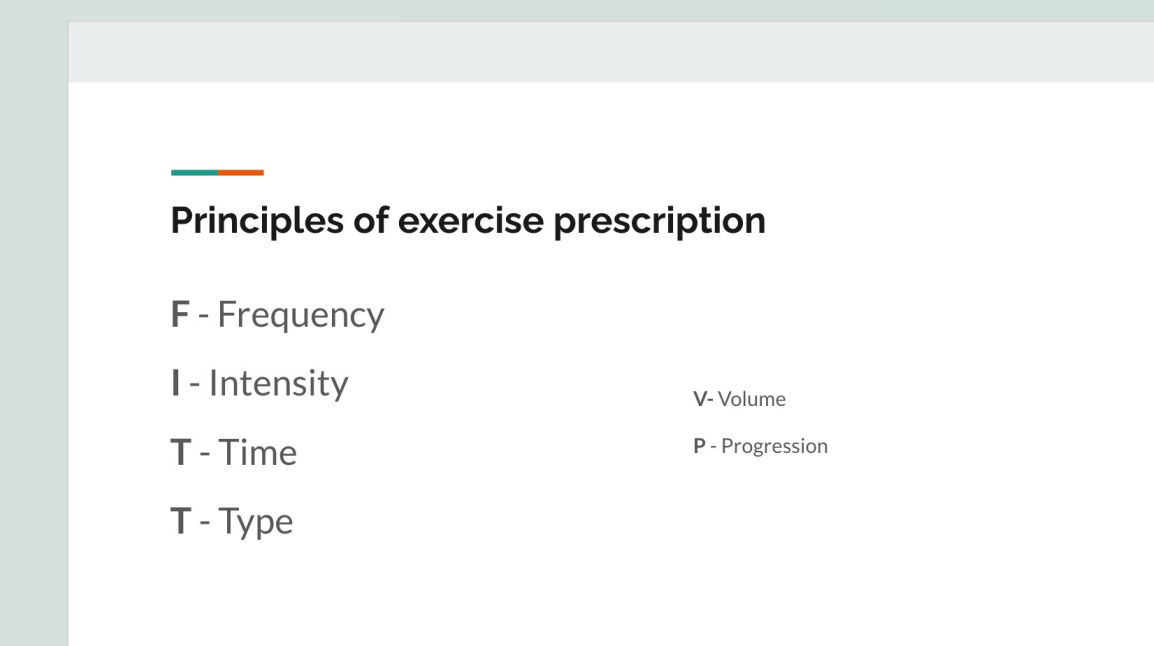
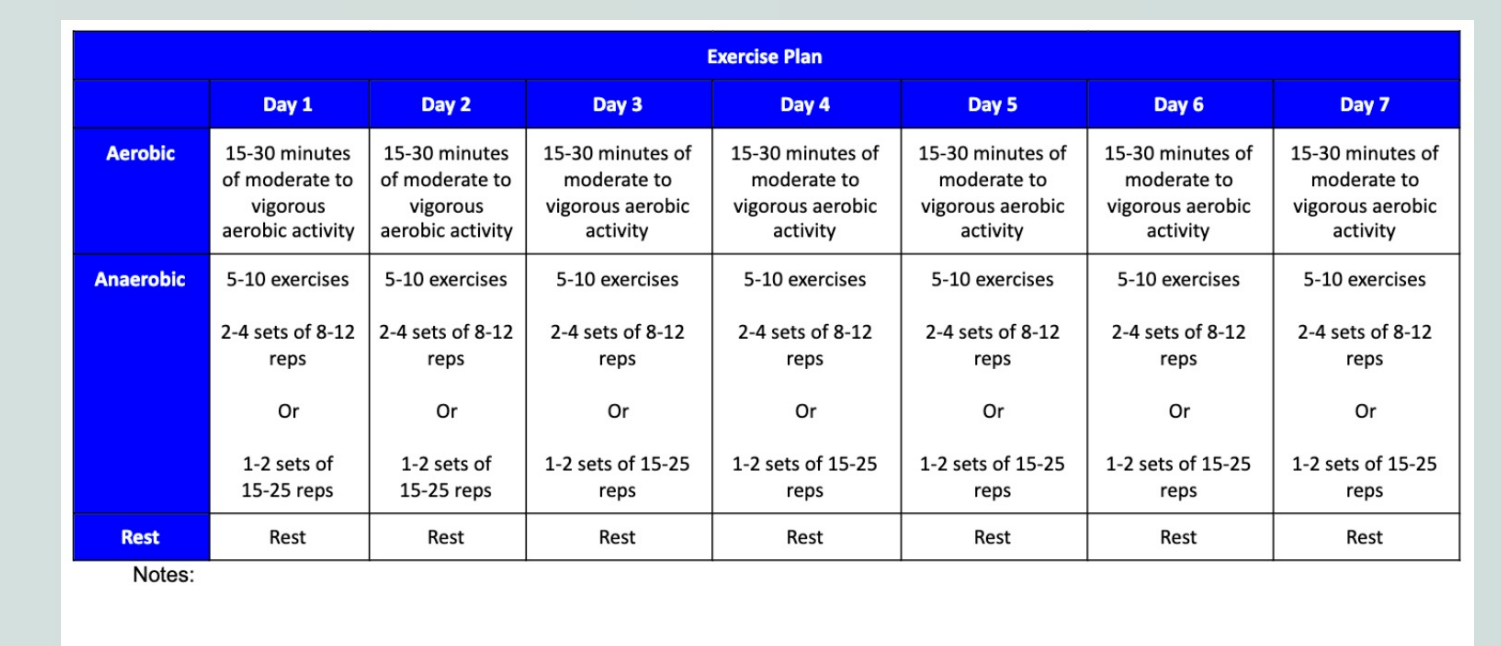


Figure 4. Slide from curriculum session presenting the tenets of exercise prescription.



		Exercise Plan						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Aerobic	15-30 minutes of moderate to vigorous aerobic activity	15-30 minutes of moderate to vigorous aerobic activity	15-30 minutes of moderate to vigorous aerobic activity	15-30 minutes of moderate to vigorous aerobic activity	15-30 minutes of moderate to vigorous aerobic activity	15-30 minutes of moderate to vigorous aerobic activity	15-30 minutes of moderate to vigorous aerobic activity	15-30 minutes of moderate to vigorous aerobic activity
Anaerobic	5-10 exercises	5-10 exercises	5-10 exercises	5-10 exercises	5-10 exercises	5-10 exercises	5-10 exercises	5-10 exercises
	2-4 sets of 8-12 reps	2-4 sets of 8-12 reps	2-4 sets of 8-12 reps	2-4 sets of 8-12 reps	2-4 sets of 8-12 reps	2-4 sets of 8-12 reps	2-4 sets of 8-12 reps	2-4 sets of 8-12 reps
	Or	Or	Or	Or	Or	Or	Or	Or
	1-2 sets of 15-25 reps	1-2 sets of 15-25 reps	1-2 sets of 15-25 reps	1-2 sets of 15-25 reps	1-2 sets of 15-25 reps	1-2 sets of 15-25 reps	1-2 sets of 15-25 reps	1-2 sets of 15-25 reps
Rest	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Rest

Notes:

Figure 5. Sample exercise prescription template presented during sessions that could be used by physicians while prescribing exercise to patients.

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