INTRODUCTION

The Functional Movement Screen (FMS) requires an individual to perform 7 different movement patterns that challenge stability and mobility. Any area of the body that is not performing optimally could have an increased potential for injury. A general consensus among health professionals is that a score equal or below 14 out of 21 increases risk of injury by a factor of 5 when compared to those who score 15 or higher (Garrison et al., 2015).

The FMS was originally created as a screening tool to measure compensatory movement patterns within the kinetic chain. These compensatory patterns lead to inefficient movements that may lead to reduced performance and increase an individual’s risk for injury. Recent research has sought out to elucidate a direct link between poor FMS scores, at or less than 14, and risk of injury in athletic populations.

Collegiate athletics continue to be a high interest among the public and industry. An aspect that athletes, team head coaches, and medical staff attempt to find a competitive advantage is to prevent injuries in order to prolong an athlete’s participation in sport in order to facilitate the end-of-season goal of winning a national championship. In all sports, including major NCAA Division 1 Softball, athletes often perform many of the movements tested by the FMS. The researcher’s first hypothesis that FMS scores equal to or below 14 leads to higher injury risk. This study did, however, support the hypothesis that there would be a decrease in FMS scores throughout the season. Possible explanations of this may be that athletes experience fatigue and decreased conditioning throughout a season. The second hypothesis is that FMS scores may decrease throughout a season. Possible explanations of this may be that athletes experience fatigue and decreased conditioning throughout a season.

METHODS

19 softball athletes at a division 1 University participated in this study and were asked to perform FMS testing at three separate times: pre-season, mid-season, and post-season. The athletes were instructed not to exercise prior to the testing, and to wear tennis shoes during the testing. One researcher performed all of the FMS testing. The athletic trainer and softball coach reported information on injury rates, mechanisms of injury, and loss of play time or practice time due to injury.

OBJECTIVE

To examine the relationship between injury rates and FMS scores in Division I Softball athletes and to examine FMS score changes that occur throughout a season.

DISCUSSION

The results of this study did not support the hypothesis that a score at or below a 14 leads to higher injury risk. This study did, however, support the hypothesis that there would be a decrease in FMS scores throughout the season. This study was different from previous FMS studies because it only examined one sport. This study also was different from previous FMS studies because it examined pre-season, mid-season, and post-season scores in order to determine how FMS scores may change throughout a season. Although the sample size was smaller than previous studies, the effect size calculated a proposed sample size to be eight participants. Therefore, this sample size in this study surpassed this amount.

CONCLUSION

It appears that FMS score does not “predict” injury like previous studies had found. However, this study does point to the possibility of using FMS as a tool to highlight strengths and weaknesses in an athlete so that strength and conditioning coaches may individualize their program to focus on their weaknesses. It also appears that FMS scores may decrease throughout a season. Possible explanations of this may be that athletes experience fatigue and decreased conditioning throughout a season. Future research should continue to examine only one sport, and potentially examine different positions within the same sport. Future research should also perform multiple FMS tests throughout the season.

REFERENCE