



Effects Of Warm-Up Exercises On Performance Of Athletes

Ali, M.Phil. Scholar Isra Institute of Rehabilitation Science, Isra University Islamabad.

Habib Ullah, M.Phil. Scholar Isra Institute of Rehabilitation Science, Isra University Islamabad.

Noor Muhammad Marwat, Department of Sport Sciences and Physical Education, Gomal University, Dera Ismail Khan (KP) Pakistan.

Dr Ejaz Asghar, Associate Professor, Isra Institute of Rehabilitation Sciences, Isra University, Islamabad Campus.

Muammad Touqeer Awan, M.Phil. Scholar Isra Institute of Rehabilitation Science, Isra University Islamabad.

Muammad Iftikhar, Ph.D Scholar, Department of Health Physical Education and Sports Sciences University of Karachi.

Abdul Baqi Panhwar, Incharge Sports the Sheikh Ayaz University Shikarpur.

ABSTRACT: Purpose of this particular study was aimed to find out the physical and psychological effect of warm up exercise on performance of athlete. Hundred athletes were selected N=60 male and N=40 female age between 18 to 27 years, athletes from Faisalabad division. Injured and pregnant athletes exclude in my study. Non-probability convenience sampling method was adopted for cross-sectional study. 7 to 10 minutes warm up protocol follow the athletes, physical self- description questionnaire (PSDQ-S, Marsh) used for data collection. Researchers concluded that null hypothesis was rejected and researcher's objectives were supported by the results of the study. Results after warm up exercise improve athlete's performance and physical self description variables have psychological significant impact on the skill and fitness of athlete of division Faisalabad, Pakistan.

INTRODUCTION: Warm up exercises is a protocol of rhythmic exercise which begins to raise body temperature and lack the chance of injuries, it's commonly used to optimize athlete's fitness, improve skill and prevent injuries, proper warm up will help to prevent injury; stretch muscles & joints; increase heart rate and flexibility improve athletes' performance ¹. Warm up exercises is a sporting physical activity characterized by long and high-intensity movements like coordination & agility with accuracy, strength, maximum

range of motion of joints, endurance are essential elements of the sports². Warm up exercise are commonly used to optimize athletes performance and prevent injuries. In order to play sports, it is very important to first get ready with good warm up exercise, it's a preparatory period before exercise to enhance performance in competition or training; proper warm up will help to prevent injury; stretch muscles & joints; increase heart rate and flexibility improve the athlete performance³. IB Stewart, et al., study in 2017, effect of warm up exercise on flexibility and anaerobic performance on nine males (age 21 year, height 1.77 m, weight 80 kg, VO₂ max 60.4 ml/kg/min) completed four trials, each trial consisted of knee, hip and ankle range of motion evaluation using an anaerobic ability test and an electronic inclinometer on the treadmill, a task specific warm up resulted in increased body temperature, heart rate, anaerobic ability and the lack of change in range of motion at the knee and hip joints, advantages of warm up are closely related to the duration, intensity and warm up mood, in short warm up prior to activity with the intention of enhancing performance and reducing injuries⁴. Liu X, et al., analyzed in 2017 effect of selected exercises on flexibility and accuracy of badminton and tennis players, flexibility refers the absolute Range of motion in joints and length in muscles that cross the joints, coordination is the ability to integrate movement of muscles into an efficient pattern of movement⁵. Koyuncu M, et al., in 2018, determine the relationship between social physical anxiety (SPA), body image dissatisfaction (BID), self-esteem (SE) and body fat ratio (BFR) on 290 females exercisers and non-exercisers, results shows that exercises significantly positive change in behavior, moderating effect on self-confidence level, decreased body fat ratio, social anxiety and body image dissatisfaction⁶.

OBJECTIVES OF THE STUDY:

1. To find out the effects of warm up exercises on performance of athletes.
2. To check the psychological effects of warm up exercises on performance of athletes.

HYPOTHESIS:

H01- There is no significant effect of warm up exercise on improvement of the performance of athletes.

H02- There is no significant effect of warm up exercises on psychological effects of athletes' performance.

METHODOLOGY: Non-probability convenient sampling method was adopted for cross-sectional study. Hundred athletes from Faisalabad division of Punjab, Pakistan were selected with 60 male and 40 female. Age of participants varied between 18 to 27 years. Injured and pregnant athletes were excluded from the study. 7 to 10 minutes warm up following the athletes, physical self-description questionnaire (PSDQ-S, Marsh) used for data collection.

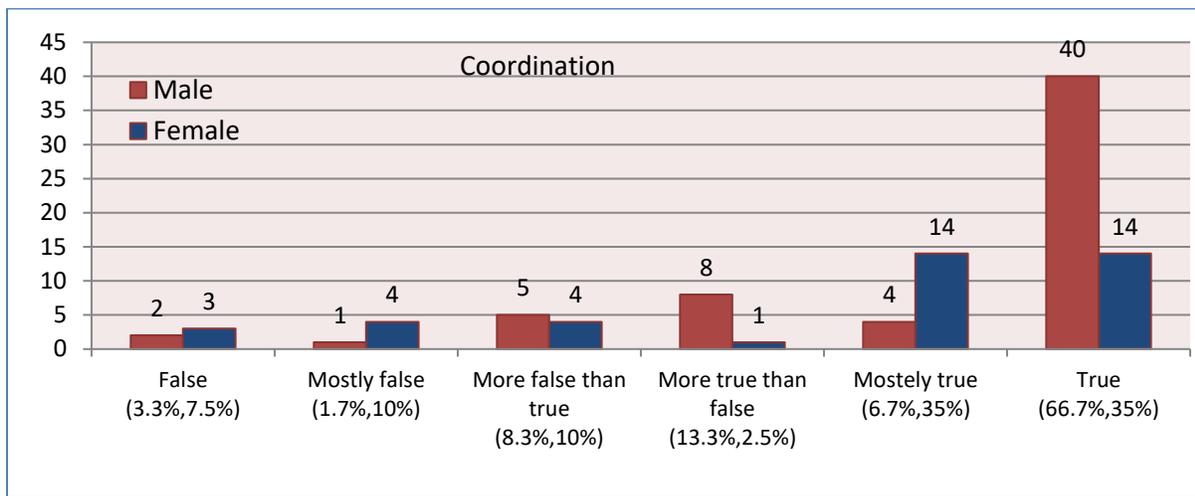
Statistical Analysis: Collected data was analyzed through descriptive statistics. Mean, standard deviation, frequency and percentages were calculated for athletes and results obtained after analysis was presented by using graphs and tables, data was analyzed by

using SPSS 2021 version. Level of probability was adjusted at .05 for statistical significance. Alpha value >0.876 which shows acceptable reliability.

RESULTS

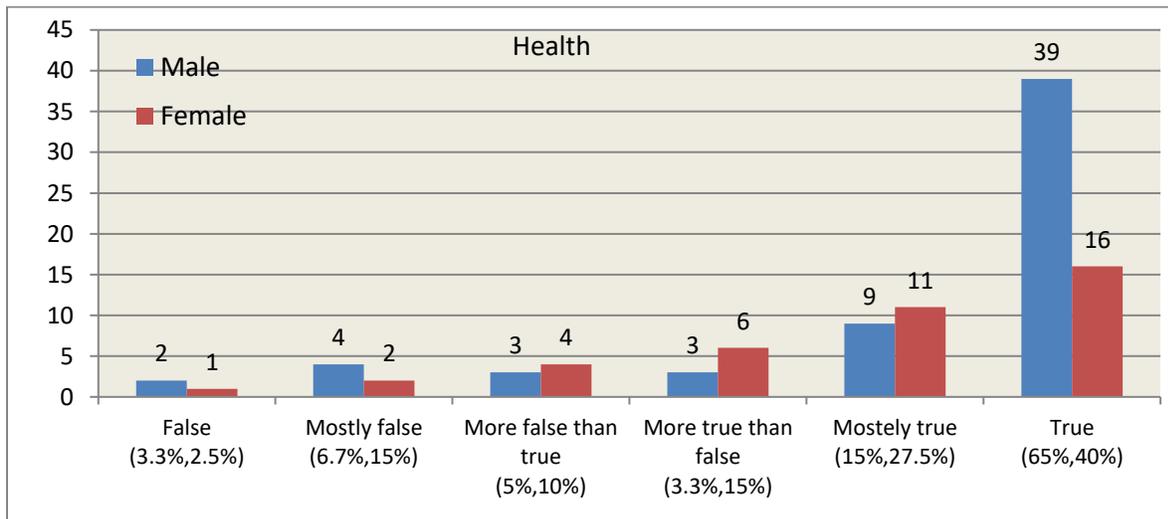
Dependent Variable	Male			Female			Overall			P.value
	N	Mean	±S.D	N	mean	±S.D	N	mean	±S.D	
Coordination	60	5.320	1.257	40	4.791	1.551	100	5.096	1.397	0.000
Health	60	5.287	1.296	40	5.065	1.218	100	5.198	1.264	0.004
Activity	60	5.166	1.259	40	4.450	1.436	100	4.880	1.372	0.000
Body Fat	60	5.561	1.054	40	4.658	1.284	100	5.199	1.229	0.000
Sports	60	5.688	0.934	40	4.833	1.320	100	5.346	1.176	0.000
Global Physical	60	5.122	1.101	40	4.225	1.898	100	4.763	1.528	0.000
Appearance	60	5.150	1.153	40	4.550	1.593	100	4.910	1.371	0.000
Strength	60	5.710	0.958	40	4.921	1.183	100	5.396	1.112	0.000
Flexibility	60	5.298	1.203	40	4.966	1.161	100	5.120	1.199	0.001
Endurance	60	5.427	1.160	40	4.546	1.144	100	5.003	1.215	0.000
Global Esteem	60	5.320	1.098	40	5.055	1.280	100	5.214	1.175	0.002

Figure-1



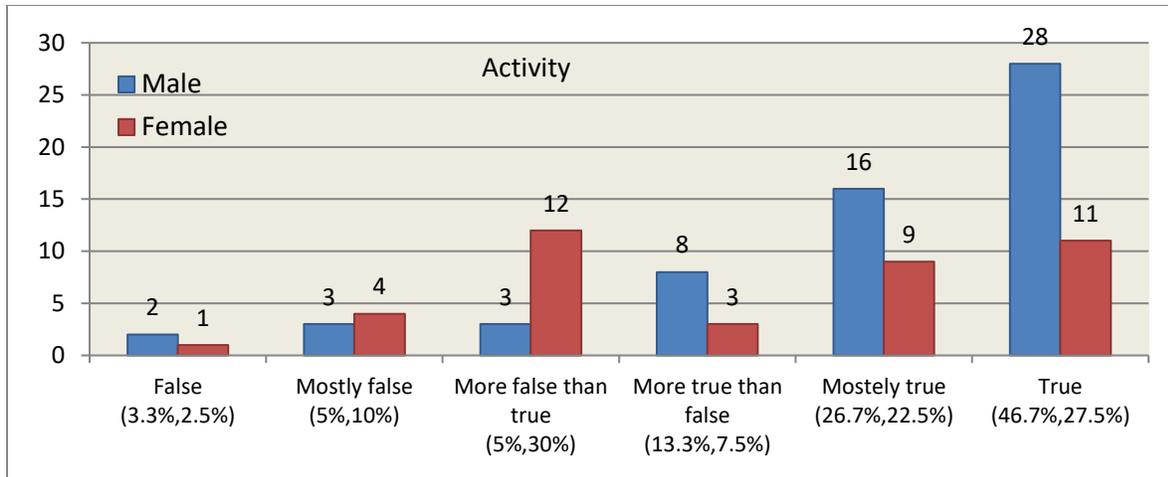
The Male (N=60) and female (N=40) mean, \pm SD and p-value of coordination were 5.32 ± 1.27 , $p < 0.000$, 4.79 ± 1.51 , $p < 0.000$, with respectively.

Figure-2



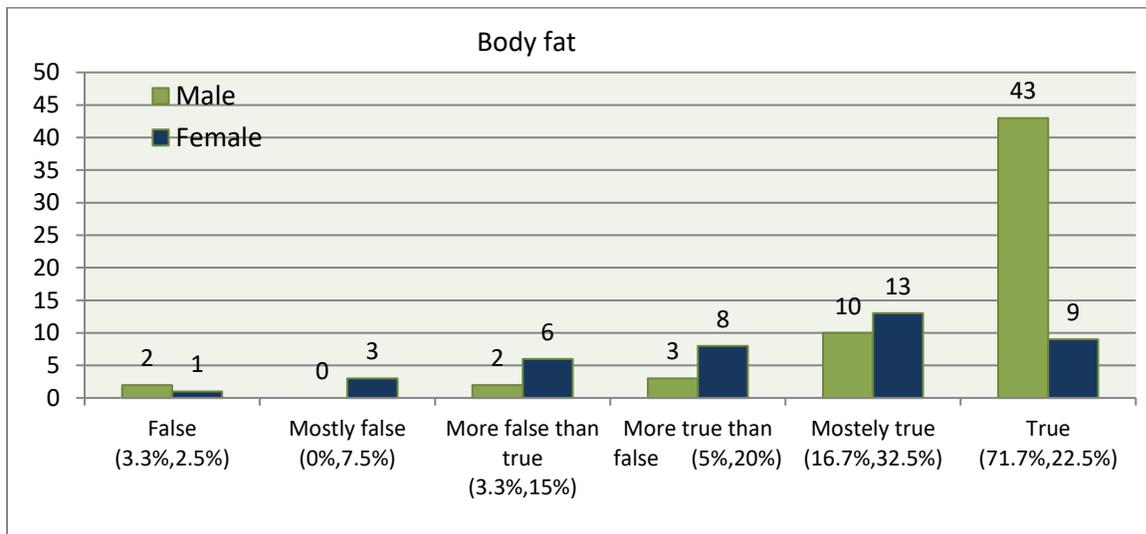
The Male (N=60) and female (N=40) mean, \pm SD and pvalue of health were 5.28 ± 1.29 , $p < 0.00$, 5.06 ± 1.21 , $p < 0.00$, with respectively.

Figure-3



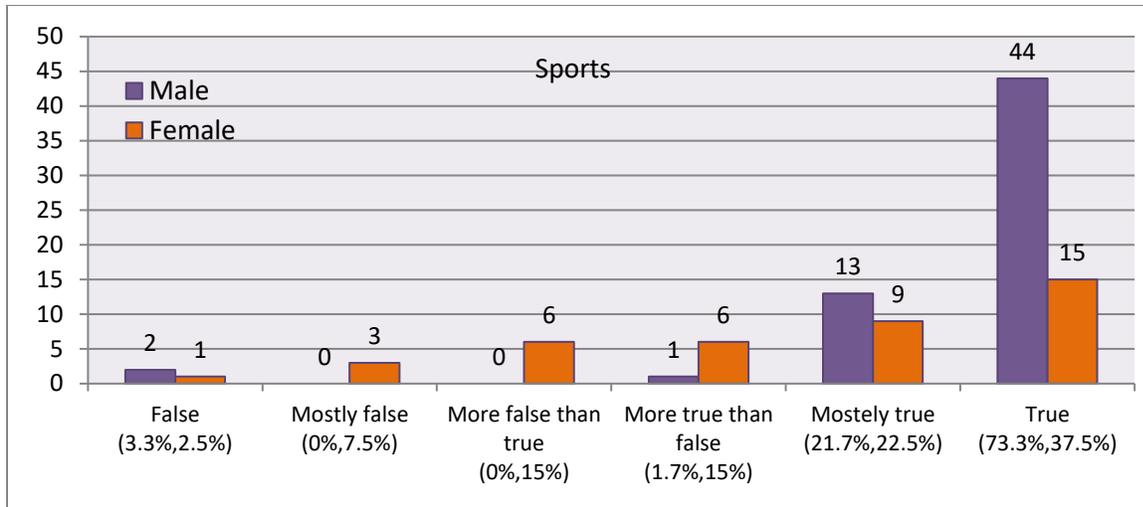
Statistical analysis shows warm up effect on activity, Male (N=60) and female (N=40) mean, \pm SD and pvalue were 5.16 ± 1.25 $p < 0.00$, 4.45 ± 1.43 $p < 0.00$, with respectively.

Figure-4



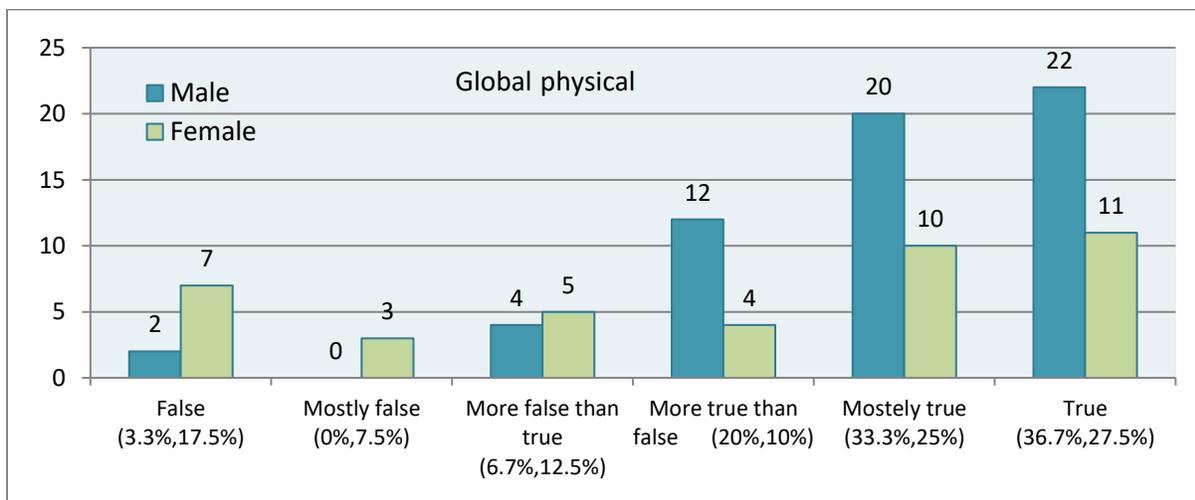
The Male(N=60) and female(N=40) mean, \pm SD and pvalue of body fat were 5.56 ± 1.05 $p < 0.00$, 4.65 ± 1.28 $p < 0.00$, with respectively.

Figure-5



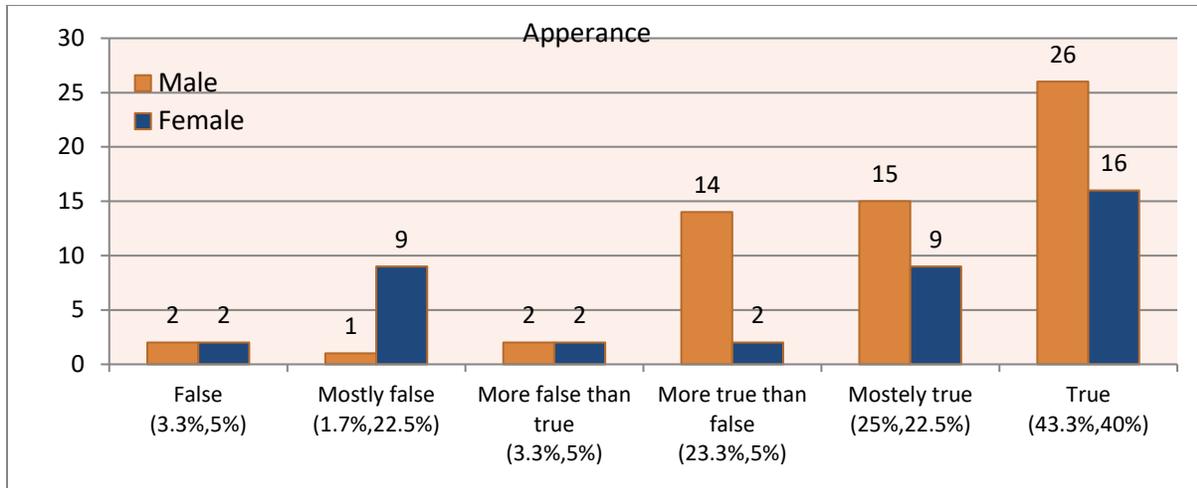
The Male(N=60) and female(N=40) mean, \pm SD and pvalue of sports were 5.68 ± 0.93 $p < 0.00$, 4.83 ± 1.32 $p < 0.00$, with respectively.

Figure-6



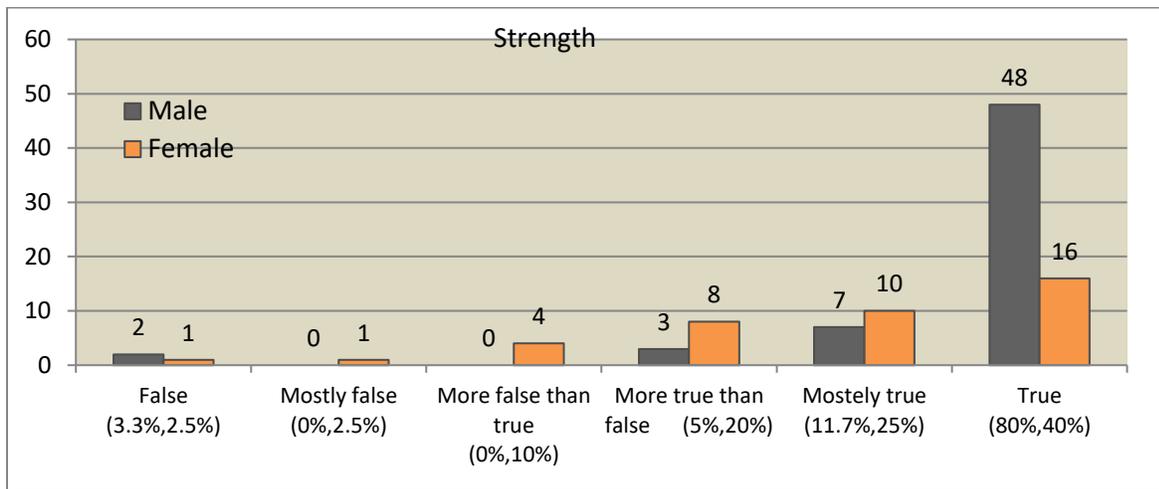
The Male (N=60) and female (N=40) mean, \pm SD and P.value of global physical were 5.12 ± 1.10 $p < 0.00$, 4.22 ± 1.89 $p < 0.00$, with respectively.

Figure-7



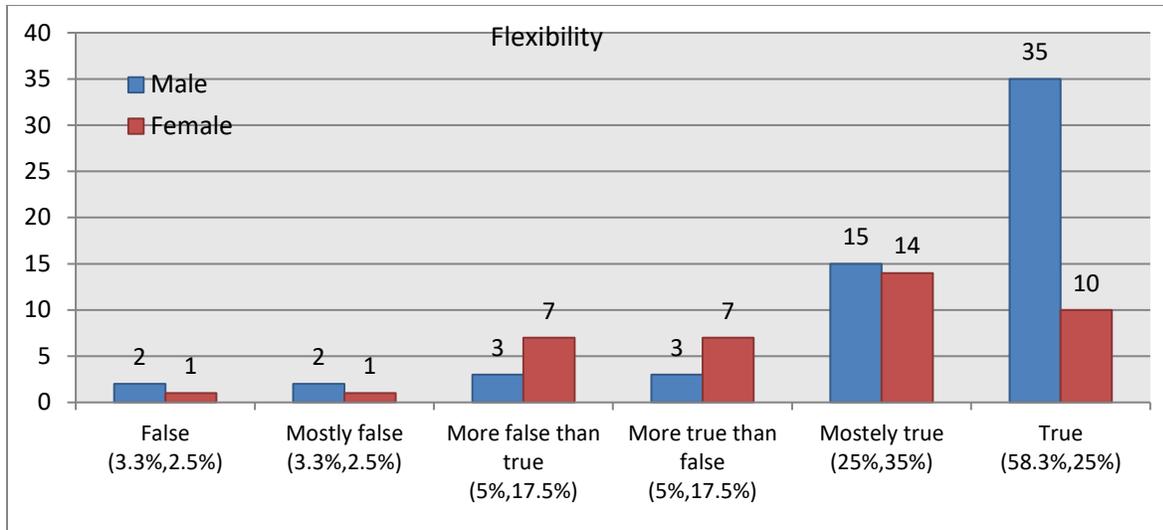
The Male (N=60) and female (N=40) mean, \pm SD and pvalue of apperance were 5.15 ± 1.15 $p < 0.00$, 4.55 ± 1.59 $p < 0.00$, with respectively.

Figure-8



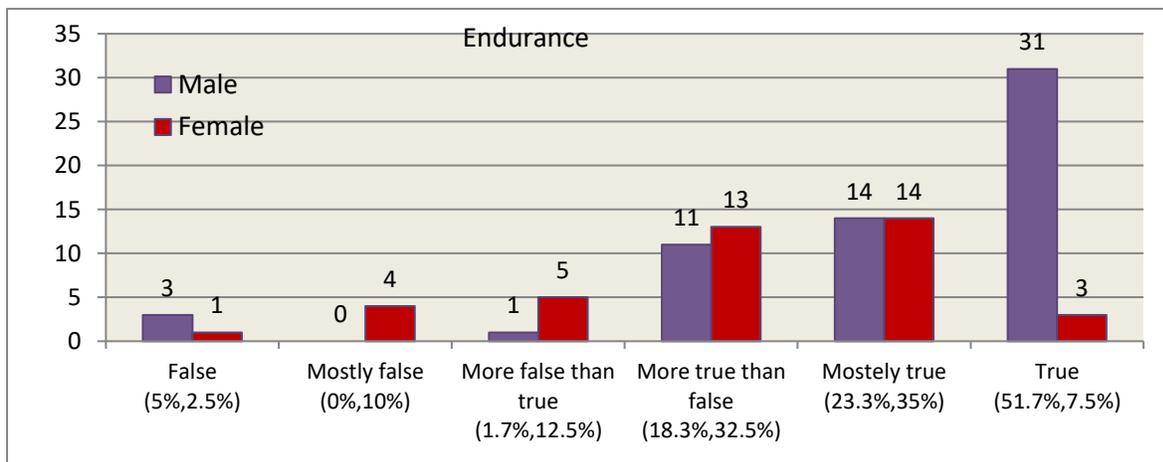
The Male (N=60) and female (N=40) mean, \pm SD and pvalue of strength were 5.71 ± 0.95 $p < 0.00$, 4.92 ± 1.18 $p < 0.00$, with respectively.

Figure-9



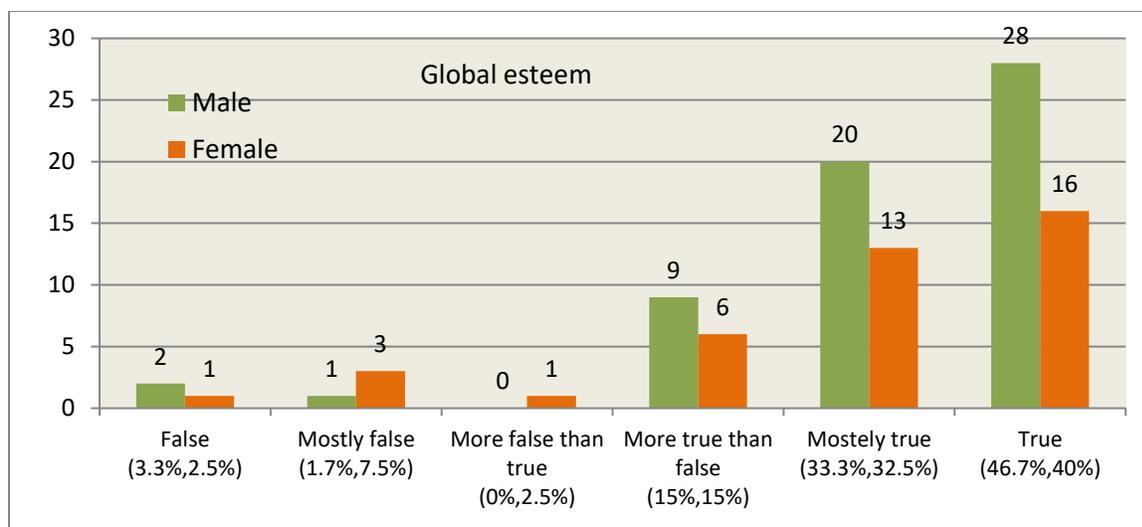
The Male (N=60) and female (N=40) mean, \pm SD and pvalue of flexibility were 5.29 ± 1.20 $p < 0.00$, 4.96 ± 1.16 $p < 0.00$, with respectively.

Figure-10



The Male (N=60) and female (N=40) mean, \pm SD and pvalue of endurance were 5.42 ± 1.16 $p < 0.00$, 4.54 ± 1.14 $p < 0.00$, with respectively.

Figure-11



The Male(N=60) and female(N=40) mean, \pm SD and pvalue of global esteem were 5.32 ± 1.09 $p < 0.00$, 5.05 ± 1.28 $p < 0.00$, with respectively.

DISCUSSION: Study was conducted to find out effects of warm up exercise on performance of athletes. Hundred athletes were randomly selected for study from the Faisalabad division. Both the gender consisted of 60 male 40 female for testing. Athletes feel confident and good after warm up exercises. Effect of high intensity interval circuit training on the development of specific endurance or some essential skills on sixteen athletes with a 4 week training session, performance tests consisted of bench press, wall toss test, sit and reach test, shuttle run test, speed ladder test, high intensity interval training is increase endurance (strength, speed) and some basic skills (Abdullah, S, 2018). The students showed significant improvements in their ability to choose tactical solutions and make arguments for those decisions when watching sports match-ups, novice students more cooperative, exercise increased the self-esteem and confidence level for athletes(Holler J, Pohlmann B, 2019). Quality of movement with direction and approach matters in athlete's competitions (Logan S W, et al, 2017). Regular stretching exercise programs enhance the level of self-esteem and decreasing hopelessness level, exercises develop positive change in behavior, increased self-esteem level, and decreased body fat ratio, anxiety and body image dissatisfaction (Yigitir K,2019). Warm up exercise improves running, jumping, catching, and throwing abilities of athletes after training (Duncan M J, 2020). Athletes use endurance exercise improvement as winning tool during competitions (Petersen D, 2015). Coordination and agility is vital aspect of fitness and for agile athletes it is essential (Reilly T et al, 1995). Maximum range of joints and high level of muscles flexibility is needed for athletes to gain proper position during sports activates (Abian-Vican. J et al, 2012).

CONCLUSION: Null hypothesis was rejected and researcher's objectives were supported by the results of the study. After proper warm up exercises the performance of athletes was improved. The physical self description variables had psychological impact on the skill and fitness level of athlete of Faisalabad division, (Punjab) Pakistan.

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