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RESEARCH ARTICLE

PERCEIVED BENEFITS AND BARRIERS OF EXERCISE AMONG FEMALE UNIVERSITY STUDENTS.

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Key words:-

Physical activity; benefits; barriers; university students.

Abstract

Background: Many individuals do not participate in sufficient physical activity due to low perceived benefits and high-perceived barriers to exercise.

Objectives: To assess the level of perceived benefits and barriers to physical activity, describe the level of physical activity as regards frequency of exercise and study relation between physical activity status and perceived exercise benefits and barriers among female university students in KKU.

Subjects and methods: A cross-sectional study carried out at Mahala campus for Girls, KKU. 400 students from four colleges were selected by simple random sampling. The Exercise Benefits/Barriers Scale used to determine perceived the benefits and barriers to exercise. The Godin questionnaire also used to determine frequency of exercise

Results: The benefits mean value was 3.29, compared to the barriers mean value of 2.69, indicating strong agreement with the benefits of exercise. The most perceived benefit item was; "Exercising improves my self-concept", whilst the most perceived barrier item was; "There are too few places for me to exercise". About 65% of students were physically inactive. Inactive students had significantly higher mean barrier score than active students. Obese students and overweight had significantly higher mean barrier score than normal-weight students.

Conclusions and recommendations: The highest mean of benefits was the psychological outlook then followed by Physical performance, Life Enhancement, Preventive health, Social interaction subscale respectively. The highest mean of barriers was the Time expenditure subscale then followed by the Exercise milieu, Physical exertion), Family discouragement subscale respectively. Applied interventions need to assist female university students to overcome their barrier to participate in physical activity.

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Introduction:-

A top priority of any country should be fitness and Physical activity. It has been approved that physical activity reduces from high school to college and most of the college students suffered a decrease in physical activity level following the graduation time (Rajappan et al, 2016). In 2010, the WHO reported that 23% of adults aged 18 years old and above and 81% of adolescents aged 11–17 years were insufficiently physically active Worldwide.

About 3.2 million deaths each year related to insufficient physical activity, and stated that physical activity can reduce mortality. Therefore, the WHO sets a global target by 2025 promote world population's health by reducing 10% in the prevalence of insufficient physical activity (WHO, 2011). Promoting a healthy lifestyle among university students first step is determining perceived barriers to physical activity. (Raynor et al., 2010). Regular physical activity can improve psychological health and physical fitness and prevent a variety of diseases including cardiovascular. (Sultoni & Suherman., 2017)

A contributing factor for obesity, weight gain, coronary heart disease, and other life-threatening illnesses mainly physical inactivity (Munford, 2011). A critical period of adolescence is the transition between high school and university that physical activity level turns down during adolescence and activity behavior starts to decreased as adults (Bray, 2007).

The global mortality 4th leading risk factor is physical inactivity and it is a contributing factor in the development of various chronic diseases such as hypertension, cancer and heart diseases causing 3.2 million deaths worldwide. The World Health Organization reports that about 60% of the global population do not meet the recommended daily minimum of physical activity (WHO, 2010).

In Saudi Arabia (KSA) The economic growth surge in recent years responsible of facing challenges to combat chronic health problems related to sedentary lifestyles, diet and other behavior changes associated with riches of the country. In addition, developments in city planning that require the use of automobiles for all trips (Al-Hazzaa et al., 2011), may be leading to physical inactivity and a low down level of physical fitness. Studies conducted in Saudi Arabia suggests a high prevalence 43.3–99.5% of physical inactivity among Saudi children and among adults (Khalaf et al., 2013). The southwestern region college students of Saudi Arabia suffered from high prevalence of physical inactivity and inactive leisure time among (Awadalla et al., 2016).

Analyzing university students' barriers to physical activity is a cornerstone to address needs and promote physical activity among college students by health officials (Alsahli, 2016). The reasons why university students do not participate in sufficient physical activity (personal, interpersonal, environmental, and social and policy factors) are essential, perceived barriers to being active are the main predictor of health behavior change. (Lovell et al., 2010).

Aim:

The purpose of the present study was to examine the perceived benefits and barriers of physical activity among female university students to improve their physical and mental health. The specific objectives were to:

- To assess the perceived benefits and barriers to physical activity among female university students in KKU
- To describe the level of physical activity as regards frequency and duration among female university students in KKU
- To study the relationship between physical activity status and perceived exercise benefits and barriers among female university students in KKU

Subjects and methods:-**Research design:**

4. A cross sectional study carried out at Mahala female campus, King Khalid University (KKU), Khamis Mushait, Kindom of Saudi Arabia.

Sample and Participants:

The target population was the female students at Mahala female campus, in KKU. These include 4 colleges: applied medical science; nursing; science & art and community.

Sampling technique: simple random sample

Sample size:

$$n = Z^2 p q / E^2$$

$$Z \text{ at } 95\% \text{ confidence} = 1.96 (2)$$

$$P: \text{ estimated percent in population} = 50\%$$

$$q : 100-p = 100-50 = 50\%$$

$$e : \text{ accepted sample errors} (0.05)$$

$$\text{Power} = 0.8$$

$$\text{The total is } 400$$
Tools:**A self-administered Questionnaire: include**

A. Socio demographic characteristics (age, name of college, education, occupation of father and mother and family income)

B. Data about usual exercise habits and their frequencies based on Godin Leisure Time Exercise Questionnaire This is a brief query of usual exercise habits and their frequencies

C. Exercise benefits/barriers scale (EBBS)

According to the EBBS questionnaire (Sechrist et al, 1987), this instrument previously assessed as a reliable measure to evaluate the perceived benefits and barriers to exercise.

The EBBS questionnaire is made up of a total of 43 questions, 29 of which comprise the benefits components and 14 of which make up the barrier components.

The benefits component are further divided in five subscales: life enhancement (8 questions), physical performance (8 questions), psychological outlook (6 questions), social interaction (4 questions), and preventative health (3 questions).

The barriers component is categorized as four subscales: exercise milieu (6 questions), time expenditure (3 questions), physical exertion (3 questions), and family discouragement (2 questions).

The Likert 4-point scoring system was used to score all items in the benefits and barriers scale; whereby 4= 'strongly agree'; 3= 'agree'; 2= 'disagree'; and 1= 'strongly disagree'.

Procedure:

Approval to conduct this study was obtained from Dean of applied medical science, nursing; science & art and community colleges, King Khalid University. Analysis of the findings carried out by using SPSS software package version 20.

To assess the perceived benefits and barriers to physical activity: A descriptive analysis performed. Possible scores of Likert scale ranged from one to four; four represented the highest perception of benefit and perception of barrier. The scores were computed for both the total benefits, total barriers and total score. Scores on the total instrument can range from 43 to 172. The higher the score, the more positively the individual perceives exercise. The score range of benefits is between 29 and 116 and score range of barrier is ranged between 14 and 56. The means of the individual EBBS items as well as the mean total of all benefits and barriers items was calculated. For each scale and subscale, the items were added then divided by number of items included in that scale to calculate the mean score.

To describe the level of physical activity status. The physical activity status was classified according to Godin Leisure Time Exercise Questionnaire Scoring for health contribution. Weekly frequencies of strenuous and moderate, activities are multiplied by 9 and 5, respectively. Total weekly leisure activity was calculated in by summing the products of the separate components 1- 24 units or more: Active, 2- 23 units or less: Insufficiently active. This cut point (24 units or more) is more near of the «basic» public health recommendations (Minimal weekly volume with strenuous and/or moderate physical activity).

To study the relation between physical activity status and perceived exercise benefits and barriers by using independent t test.

To study the relation between BMI groups and perceived exercise benefits and barriers, ANOVA test was used.

Results:-

Table (1) demonstrates Socio-demographic characteristics of the study sample. It was clear that, 97.3% of females university students were Saudi, the majority of student's residence 84.3 % were urban. Slightly more than one third of students were married.

Table (2) and Figure (1) show the exercise benefits scale: mean and standard deviation of each item. It was clear that female's university students either agreed or strongly agreed with most of the benefits items as regards regular exercise

- Under the life enhancement subscale, the item (32- Exercising improves my self-concept had the highest mean (3.48).
- Under the physical performance subscale, the item (43- Exercise improves the way my body looks had the highest mean (3.45), followed by (15- Exercising increases my level of physical fitness mean (3.42).
- Under the psychological outlook subscale, the item (1- I enjoy exercise had highest mean (3.45) followed by item 3- Exercise improves my mental health had mean (3.40).
- Under Social interreaction subscale, the item (38- Exercise is good entertainment for me had highest mean (3.26)
- Under Preventive health subscale, the item (13- Exercising will keep me from having high blood pressure) had the highest mean (3.26)
- The highest mean was of the psychological outlook (3.35) then followed by Physical performance (3.34) Life Enhancement subscale (3.30), Preventive health subscale (3.23) and Social interreaction subscale (3.12) respectively.

Table (3) and Figure (2) show the exercise barriers scale: mean and standard deviation of each item.

This table and figure revealed that females' university students agreed with many of the barriers items Under the Exercise milieu subscale, the item (9- Places for me to exercise are too far away had the highest mean (2.95).

-Under the Exercise milieu subscale, the item (16- Exercise facilities do not have convenient schedules for me had the highest mean (2.97).

-Under the Exercise milieu subscale, the item (42- There are too few places for me to exercise had the highest mean (3.20).

-Under the Time expenditure subscale, the item (4- Exercising takes too much of my time had the highest mean (2.84).

-Under the Time expenditure subscale, the item (37- Exercise takes too much time from my family responsibilities had the highest mean (2.80).

The highest mean was the Time expenditure subscale (2.80) then followed by the Exercise milieu subscale (2.70), Physical exertion subscale (2.63), and Family discouragement subscale (2.55).

Table (4) shows the mean benefit, barrier and total score among study sample. It shows that the mean benefit score was 3.29, while mean barrier score was 2.69.

Table (5) and figure (3) show Comparison between mean benefit score and mean barrier score. Which revealed that there is significant difference between mean benefit score and mean barrier score.

Figure 4 shows places where students practice sports. This figure revealed that 47% of students practice sports at their home while 22.5% practice sport at Gym.

Figure 5 presents Students physical activity. It was clear that about 35% of students were active, While 65% were inactive.

Table (6) shows the frequency of physical exercise practice among the study sample. It was obvious that, slightly more than half (57.3) of students did not practice heavy activity, about (30.3) of student did not practice Moderate activity, about (43.0) of students walk every day about 15 min.

The relation between Activity behaviour and socio-demographic factors: The mother and father's level of education, the students' marital status and residence all had no significant impact on the students' physical activity.

Table (7) shows the relation between activity status and benefits and barrier scores. The table shows that, Inactive students had higher score than active students as regards barriers scores and the difference was significant.

Table (8) shows relation between BMI groups and benefits and barrier scores. It was clear that, obese students and overweight had higher mean barrier score than normal weight students and the difference was statistically significant.

Table (9) shows the relation between activity status and benefits subscales score.

It was obvious that, active students had higher mean social subscale than inactive students did. The difference was statistically significant.

Table (10) shows the relation between activity status and barriers subscales score. It was clear that inactive students had higher mean score as regards all barriers subscales except Mean time expenditure score. The difference was statistically significant.

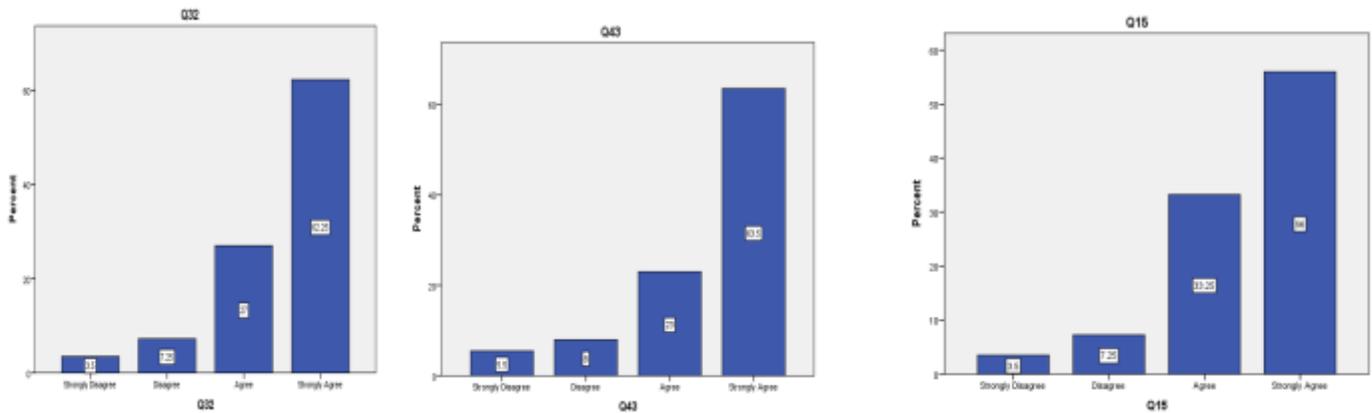
Table 1:- Socio-demographic characteristics of the study sample

		Frequency	Percent
Race	1- Saudi	389	97.3
	2- non-Saudi	11	2.8
	Total	400	100.0
Residence	1- urban	337	84.3
	2- rural	63	15.8
	Total	400	100.0
Marital status	1- married	146	36.5
	2- single	254	63.5
	Total	400	100.0
Father education	1- uneducated	24	6.0
	2- primary education	35	8.8
	3- intermediate	117	29.3
	4- university education	224	56.0
	Total	400	100.0
Mother education	1- uneducated	58	14.5
	2- primary education	63	15.8
	3- intermediate	104	26.0
	4- university education	175	43.8
	Total	400	100.0

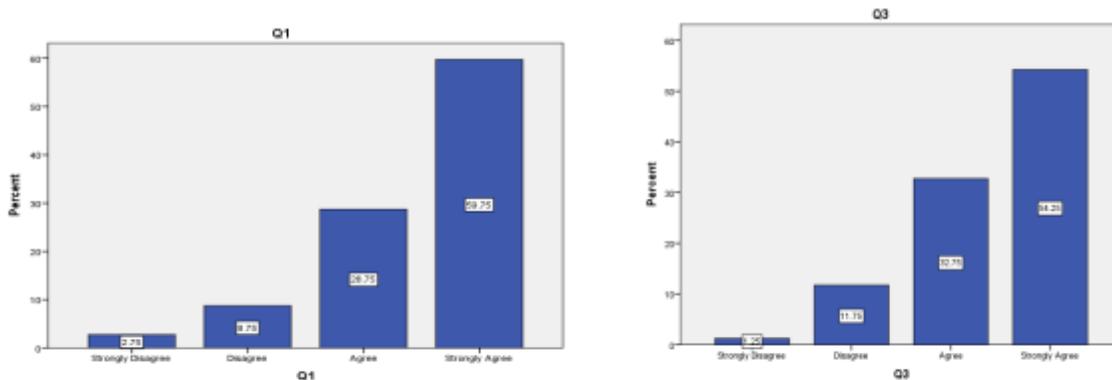
Table 2:- The exercise benefits scale: mean and standard deviation of each item

Life Enhancement subscale	Mean	SD
25- My disposition is improved with exercise	3.22	.905
26.Exercising helps me sleep better at night	3.31	.800
39. Exercise helps me decrease fatigue.	3.17	.896
32. Exercising improves my self-concept.	3.48	.778
34. Exercising increases my mental alertness.	3.32	.787
35. Exercise allows me to carry out normal activities without tired.	3.29	.840
36. Exercise improves the quality of my work.	3.29	.835
41. Exercise improves overall body functioning for me.	3.35	.820
Mean total Life Enhancement subscale	3.30	.558
Physical performance subscale	Mean	SD
7- Exercise increases my muscle strength	3.31	.865
15- Exercising increases my level of physical fitness	3.42	.774
17- My muscle tone is improved with exercise.	3.34	.812
18- Exercising improves functioning of my CVS.	3.38	.775
22- Exercise increases my stamina	3.23	.821

23- Exercise improves my flexibility	3.29	.827
31- My physical endurance is improved by exercising.	3.31	.842
43- Exercise improves the way my body looks.	3.45	.859
	3.34	.556
Psychological outlook subscale	Mean	SD
1- I enjoy exercise.	3.45	.767
2- Exercise decreases feelings of stress for me.	3.34	.773
3- Exercise improves my mental health.	3.40	.742
8- Exercise gives me a sense of personal accomplishment	3.32	.825
10- Exercising makes me feel relaxed.	3.28	.852
20- I have improved feelings of wellbeing from exercise.	3.26	.866
	3.35	.553
Social inter reaction subscale	Mean	SD
11- Exercising lets me have contact with friends I enjoy.	3.02	1.01
30- Exercising is a good way for me to meet new people	3.07	.979
38- Exercise is good entertainment for me.	3.26	.828
39- Exercising increases my acceptance by others	3.11	.912
	3.12	.658
Preventive health subscale	Mean	SD
5- I will prevent heart attacks by exercising	3.25	.844
13- Exercising will keep me from having high blood pressure	3.31	.779
27- I will live longer if I exercise	3.10	.927
	3.23	.642



(Fig.1.A) Exercising improves my self-concept. (Fig.1.B) Exercise improves the way my body looks. (Fig.1.C) Exercising increases my level of physical fitness

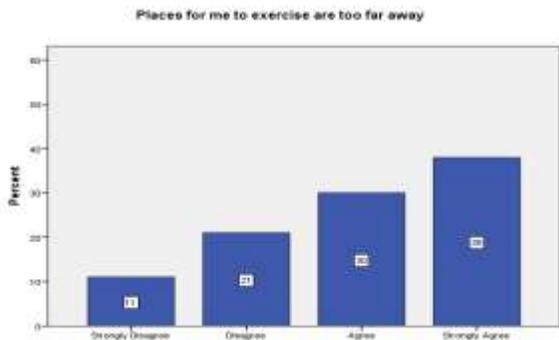


(Fig.1.D) I enjoy exercise

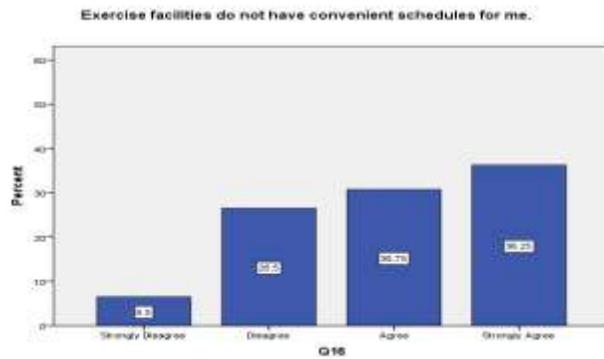
(Fig.1.E) Exercise improves my mental health

Table 3:- The exercise barriers scale: mean and standard deviation of each item

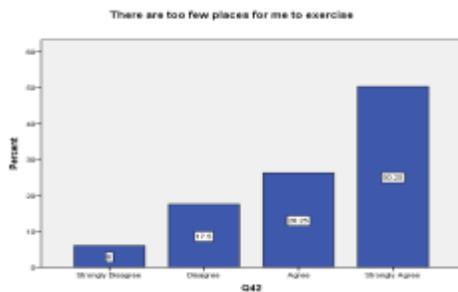
Exercise milieu subscale	Mean	SD
9- Places for me to exercise are too far away	2.95	1.01
12- I am too embarrassed to exercise.	2.29	1.04
14- It costs too much to exercise.	2.64	1.04
16- Exercise facilities do not have convenient schedules for me.	2.97	.942
28- I think people in exercise clothes look funny.	2.17	1.10
42- There are too few places for me to exercise	3.20	.936
	2.70	.639
Time expenditure subscale	Mean	SD
4- Exercising takes too much of my time	2.84	.908
24- Exercise takes too much time from family relationships	2.79	.948
37- Exercise takes too much time from my family responsibilities	2.80	.989
	2.80	.724
Physical exertion subscale	Mean	SD
6- Exercise tires me.	2.65	.923
19- I am fatigued by exercise	2.67	.941
40- Exercise is hard work for me	2.55	1.06
	2.63	.730
Family discouragement subscale	Mean	SD
21- My spouse (or significant other) does not encourage exercising	2.65	1.04
33- My family members do not encourage me to exercise	2.46	1.02
	2.55	.867



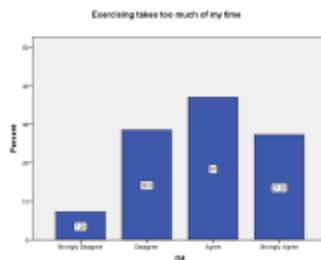
(Fig.2.A)



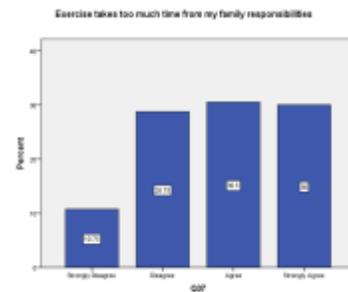
(Fig.2.B)



(Fig.2.C)



(Fig.2.D)



(Fig.2.E)

Table 4:- Mean benefit, barrier and total score among study sample

	Min	Max	Mean	Std. Deviation
Barriers score	14.0	56.0	37.66	8.26
Mean barrier score	1.0	4.0	2.69	0.59
Benefits score	36.0	116.0	95.38	14.48
Mean benefits score	1.24	4	3.29	0.49
Total score	50.0	172.0	133.04	17.86
Mean total score	1.16	4.0	3.09	0.42

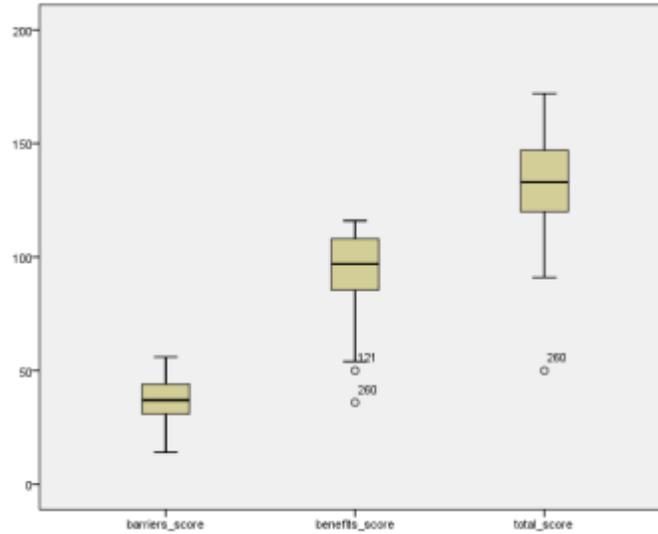


Figure 3:- Comparison between mean benefit score and mean barrier score.

Table 5:- Comparison between mean benefit score and mean barrier score

	Mean	Std. Deviation
Mean benefits score	3.2892	.49935
Mean barriers score	2.6900	.59031
	Paired t test 17.01	P =0.000

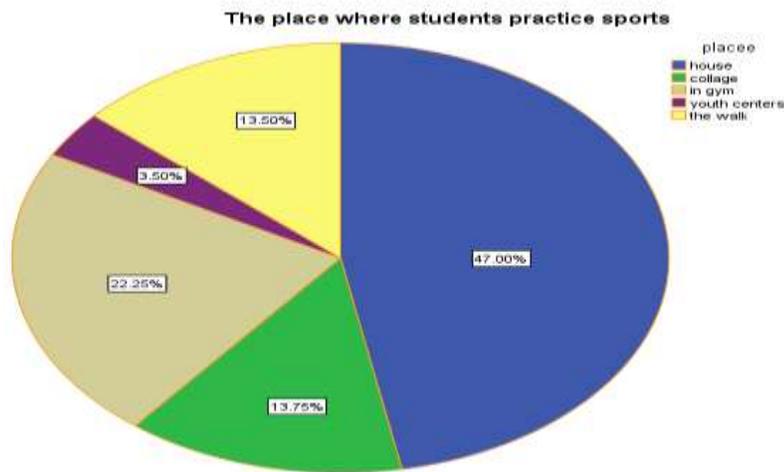


Figure 4:- Places where students practice sports.

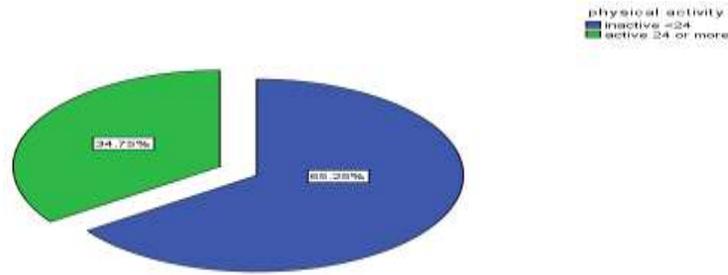


Figure 5:- Students physical activity.

Table 6:- Frequency of physical exercise practice among the study sample.

	Frequency of physical exercise practice								Total
	Never	once a week	two times a week	three times a week	four times a week	five times a week	six times a week	seven times a week	
Heavy									
Frequency	229	59	49	34	18	6	1	4	400
Percent	57.3	14.8	12.3	8.5	4.5	1.5	.3	1.0	100.0
Moderate									
Frequency	121	59	74	48	29	26	36	7	400
Percent	30.3	14.8	18.5	12.0	7.3	6.5	9.0	1.8	100.0
walk about 15 min									
Frequency	15	26	22	45	49	42	29	172	400
Percent	3.8	6.5	5.5	11.3	12.3	10.5	7.3	43.0	100.0

Table 7:- Relation between activity status and benefits and barrier scores

	Activity status	N	Mean	Std. Deviation	P value
barriers score	inactive <24	261	38.5364	8.40991	<0.05
	active 24 or more	139	36.0144	7.74876	
benefits score	inactive <24	261	95.8276	13.96303	>0.05
	active 24 or more	139	94.5612	15.42495	

Table 8:- Relation between BMI groups and benefits and barrier scores

		Number	Mean	SD
barriers score	underweight	35	34.65	8.42
	normal	245	37.15	8.22
	overweight	75	39.33	8.41
	obese I	27	40.44	7.21
	obese II	6	42.50	4.67
	Total	388	37.65	8.28
F test 3.506 P<0.05				
benefits score	underweight	35	94.45	12.84
	normal	245	95.51	14.85
	overweight	75	96.32	13.63
	obese I	27	91.40	15.00
	obese II	6	104.50	10.87
	Total	388	95.42	14.44
F test 1.23 P>0.05				

Table 9:- Relation between activity status and benefits subscales score

	Activity status	N	Mean	Std. Deviation	Std. Error Mean
Mean life enhancement score	inactive <24	261	3.3209	.54520	.03375
	active 24 or more	139	3.2725	.58228	.04939
		P>0.05			
Mean physical performance score	inactive <24	261	3.3764	.52914	.03275
	active 24 or more	139	3.2716	.59965	.05086
		P>0.05			
Mean Psychological Outlook score	inactive <24	261	3.37	0.03	
	active 24 or more	139	3.28	0.05	
Mean social score	inactive <24	261	3.0690	.66689	.04128
	active 24 or more	139	3.2122	.63340	.05372
		P<0.05			
Mean preventive score	inactive <24	261	3.2337	.61279	.03793
	active 24 or more	139	3.2134	.69737	.05915
		P>0.05			

Table 10:- Relation between activity status and barriers subscales score

	Activity status	N	Mean	Std. Deviation
Mean exercise milieu score	inactive <24	261	2.7612	.63985
	active 24 or more	139	2.5983	.62741
		T test 2.440 P .015		
Mean time expenditure score	inactive <24	261	2.8519	.72160
	active 24 or more	139	2.7290	.72628
		T test 1.618 P .107		
Mean physical exertion score	inactive <24	261	2.7229	.72341
	active 24 or more	139	2.4556	.71463
		3.546 P .000		
Mean family Discouragement score	inactive <24	261	2.6226	.87173
	active 24 or more	139	2.4353	.84877
		2.082 P .038		

Discussion:-

A university setting is vital in promoting health-enhancing behaviours. This age group is thought to be flexible and can be readily influenced to make positive changes. This is also a time whereby individuals can set habits, which then persist into adult life. (Dalibalta & Davison, 2016)

For the exercise benefits in this work, either female university students 'agreed' or 'strongly agreed' with most of the benefits items, with a total benefit mean value was 3.29. The mean scores of subscale items were greater than 3, indicating that the majority of our sample were perceived as benefits. While they were being neutral or nearly with an agreement with many of the barriers items, with a total barrier mean value was 2.69. Mean scores for all four barriers subscales were between 2 and 3 which we interpreted to mean neutral. The perceived benefits among studied sample were significantly greater than the perceived barriers to exercise.

In this work, the highest mean was of the psychological outlook (3.35) then followed by Physical performance (3.34) Life Enhancement subscale (3.30), Preventive health subscale (3.23) and Social inter reaction subscale (3.12) respectively.. These findings in concurrence with the results of (Dalibalta & Davison , 2016), where they reported that the physical performance subscale had the greatest mean score of 3.39, followed by the preventative health subscale with a mean score of 3.26 then the psychological health subscale with a mean score of 3.17. However, our findings not consistent with the results of (Dalibalta & Davison , 2016), where they reported that their study sample had mean score in life enhancement subscale 3.04 and mean social interaction subscale score was 2.59.

The current study revealed that regarding Life Enhancement subscale students demonstrated that 'Exercising improves my self-concept had highest (mean 3.48). However, regarding Physical performance subscale, Exercising increases my level of physical fitness had highest mean 3.42. In addition, mean score was (3.45) for Exercise improves the way, my body looks. Regarding Psychological outlook subscale, enjoy exercise had highest mean (3.45) and Exercise improves my mental health had highest mean (3.40). Exercise is good entertainment for me had highest mean 3.26 in Social interaction subscale. Although for Preventive health subscale, Exercising will keep me from having high blood pressure mean was 3.31.

Additionally this finding came in agreement with (Dalibalta & Davison, 2016) who studied female university Saudi students' barriers of and benefits to participation in physical activity. (USA Middle Tennessee State University and KSA University of Hafr Al Batin), demonstrated that exercising improves my self-concept in KSA had 3.27 and in the USA had 3.28. Exercising increases my level of physical fitness KSA had 3.61, the USA had 3.42. Exercising improves the way my body looks KSA had 3.6, USA had 3.63. I enjoy exercise KSA had 3.37, USA had 3.26. Exercise improves my mental health KSA had 3.25, USA had 3.41. Moreover, the present study findings was supported by a study that was carried out by (Lovell et al., 2010) in the United Kingdom who stated that Exercising improves my self-concept 3.02. Exercising increases my level of physical fitness 3.45. Exercising improves the way my body looks 3.34. I enjoy exercise 3.05. Exercise improves my mental health 3.03.

Our results suggested that the female's university students agreed with the perceptions that exercise can improve psychological wellbeing, physical fitness and physical appearance and provide preventative health benefits. Our student sample perceived higher benefits from exercise associated with life enhancement and social interaction, with mean subscale values of 3.30 and 3.12 respectively. These in opposition with previous research on university students in the United Kingdom (UK) by (Lovell et al, 2010).and in UAE by (Dalibalta & Davison, 2016), who reported that their sample perceived fewer benefits from exercise associated with these factors. This can be explained by in Saudi Arabia, female students perceived that exercise give them great opportunities to interact socially

Regarding the exercise barriers among studied students. The current study revealed that for the Exercise milieu subscale, There are too few places for me to exercise had the highest mean (3.20) followed by Places for me to exercise are too far away had mean (2.95) and mean (2.97) was exercise facilities do not have convenient schedules for me. However, regarding to the Time expenditure subscale Exercising takes too much of my time had the highest mean (2.84), followed by Exercise takes too much time from my family responsibilities 2.80. Regarding Physical exertion subscale, I am fatigued by exercise mean was 2.67. In addition, Family discouragement subscale my spouse (or significant other) does not encourage exercising mean score was 2.65. Moreover the present study findings were supported by a study that was carried out by the present study findings was supported by a study that was carried out by (Lovell et al., 2010) in the United Kingdom who stated that the Exercise milieu subscale, Places for me to exercise are too far away had highest mean 2.69. Time expenditure subscale Exercising takes too much of my time had the highest mean (2.31).

This finding came in agreement with another study in Kuwaiti university students (Alsahli, 2016) who studied Female university students perceived barriers "lack of motivation", "lack of energy", "pain when I exercise", and "how I see my body" significantly greater than male university students. In addition, revealed that "Lack of motivation" is significant barrier of females because they are not encouraged to engage in physical activity due to Kuwaiti society. Females cited more barriers to physical activity than males and overall had more internal and external barriers. The most commonly cited internal barriers to physical activity were "lack of motivation", "lack or low physical power", and "fear of injury". The most commonly cited external barriers were "lack of time", "unsuitable weather", and "lack of access to opportunities such as nearby facilities".

Another study on (Daskapan et al, 2006) at Turkish university students revealed that The total score of the external barriers was significantly higher than the score of the internal barriers Lack of time was the most important external barrier. Lack of energy was the most important internal barrier. "Lack of time due to responsibilities related to the family and social environment" and "I have never any energy to able to do any exercise". In Spanish University Students, (Lemos et al, 2014) stated that the higher scores corresponded to "too much work"; "laziness"; "place for exercise are too far away", and "lack of time for exercise". Self-perceived health was associated with barriers to PA.

Study on Kuwaiti students, “not having time to be physically active”, was one of the main barriers reported (Musaiger et al, 2014). Furthermore, a survey on Saudi adolescents showed that lack of time was the primary reason for inactivity for both males and females (Al-Hazzaa et al, 2014).

(Alsahli M, 2016) cited barriers for both the USA and KSA university groups were “I am too embarrassed to exercise” and “I think people in exercise clothes look funny”. The strongest endorsement from both the KSA and USA participants, reflected by a mean score > 3.6 , was for the item: Exercise improves the way my body looks. This finding was consistent with the last surveys, among undergraduate students in the USA and UK, that suggesting the most important perceived benefits were concerned with physical appearance (Lovell, et al., 2010). It was also consistent with those reported by Samara, et al. (2015) conducted with female students in the KSA, which revealed that participants had good knowledge of the benefits of physical activity. (Alsahli M, 2016) concluded that female Saudi students attend universities in the KSA or USA, they both appear to similarly perceive the strength of their Exercise Benefits to physical activity. The reason is cultural, females tend to be less social with strangers, especially in public areas. For example, Saudi females in sports clubs are less likely to approach and engage in conversation with other females they do not know.

Regarding Mean benefit, barrier and total score among study sample, the current study revealed that higher total mean benefits score 3.29 compared to a total Mean barrier score 2.69 . The current study finding was consistent with (Dalibalta & Davison , 2016) who demonstrated that university students perceive higher levels of benefits than barriers to exercise with a total benefits mean value of 3.09, compared to a total barriers mean value of 2.16.

Regarding physical activity among studied students. The current study revealed that about 35% of students were active, While 65% were inactive this means that the benefit/barrier ratio of 1.22 was not enough to motivate these students to be active. The present study findings were supported by a study that was carried out by (Daskapan et al, 2006) at Turkish university students who stated that the prevalence of physical inactivity increased in the 15-18-year-old age group in both sexes.

Conclusions:-

The female university students perceive higher levels of benefits than barriers to exercise. The highest mean of benefits was the psychological outlook then followed by Physical performance, Life Enhancement, Preventive health, Social interreaction subscale respectively. The highest mean of barriers was the Time expenditure subscale then followed by the Exercise milieu, Physical exertion), Family discouragement subscale respectively. Applied interventions need to assist female university students to overcome their barrier to participate in physical activity.

Recommendations:-

For future studies, young population provision of good physical activity health promotion program early in life to overcome any perceived barriers and to avoid future risk of chronic disease. Appropriate places should be available for females to encourage them to participate in physical activity, a larger number of public facilities for sports and exercise should established specifically for women and adolescent girls.

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