

Saudi Women's Attitudes toward Physical Activity: An Interventional Approach to Improving Future Health

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Abstract

The aim of this research was to provide evidence to support physical activity initiatives that improve the quality of life of women in Saudi Arabia. Research on Saudi women correlates higher incidence of obesity, diabetes, hypercholesterolemia, and osteoporosis to the lack of exercise in Saudi women's lifestyle. Hence, this study uses an interventional approach to support efforts that encourage physical activity in Saudi women. A pilot sample of 80 females was interviewed to secure the validity and reliability of the preliminary instrument. The final version of the instrument, consists of (63) items, was distributed to a sample consists of 1233 females aged 15 and up from four main regions in KSA. The results indicate that awareness and positive attitudes toward physical activity exist. Improvement of quality of life can be as simple as lessening the practical impediments. Hopefully, this kind of evidence can better inform decision makers to be more proactive in providing government funded facilities.

Keywords: physical activity, women, KSA

1. Introduction

One of the most important variables that deemed as risk factors was physical inactivity, with which numerous chronic diseases were related i.e., chronic heart disease, diabetes mellitus II, obesity and hypertension (Al-Nozha et al., 2007). Physical inactivity among females was related to different factors such as poverty or socioeconomic group, low level of education, technological changes result in sedentary behaviours, lack of social support, lack of time, parental demands, limited access to services, body image, and health conditions (Gómez et al., 2004 and Women's Health Victoria, 2010). For Arab countries, statistics show a lack of physical activity between adults range from 33% to 86% in seven countries, namely, Egypt, Iraq, Jordan, Kuwait, Saudi Arabia, Sudan, and Syria (Regional Office of World Health Organization, Cairo). In Gulf States, the percentage of obesity was ranged from 8 to 9% among children before school age (The University Center for Obesity Research, 2010). As for Saudi society, local research show that obesity and diabetes had spread across all age groups. Statistics show that 28% of citizens are suffering from obesity, accordingly threatening around 4 million Saudi citizens, including 4% of children with obesity percentage reaching 35%, and 40% for adults. According to reports from the World Federation of Diabetes, the Kingdom ranks second worldwide in obesity (University Center for Obesity Research, 2012). Al-Eisa and Al-Sobayel (2012) conducted a study in order to explore the level of physical activity among Saudi females. Their findings pointed out a low level of physical activity among participants.

Perhaps one of the facts unknown to many people is the historical stages that women's sports went through in Saudi society where some studies show the time when women's sports began was 1966 (Al-Bakr, 2003; Al-Maena, 2013). This initiative included a limited number of private schools, for example, Dar Al-Hanan School in Jeddah, in addition to a few women private sports clubs in the western province. However, after the second gulf war and the Salafi movement, which extended to educational institutions, the decision of total

prohibition of women's practicing of physical activities was enforced in these facilities, accordingly, these facilities were totally closed (Addosari, 2011; Al-Eesa, 2011; Al-Khodir, 2010). Consequently, all women formal participation in physical activities became forbidden (Al-Jebro'o and Al-Mohaisn, 2011; Al-Baker, Al-Haramlah, & Mreza, 2013; Al-Haramlah, Al-Bakr, & Merza, 2015; Al-Baker, Al-Haramlah, & Mreza, 2016). It is apparent that the ban of women participation in sports is based on the hesitance of institutions that have authority to make such decision; or the activation of royal decree number (7/ B/ 36132) in 22/9/2003 which stated the agreement of ministry council approval to undertake a study by the General Presidency of Youth Welfare to summon its feasible contribution to women physical activities within Islamic boundaries. But it appears according to Al-Jebro'o and Al-Mohaisn (2011), the reason of not enforcing the decision by authorities is the social and intellectual barrier of the society. Hence, the aim of this study is to investigate the level of physical activity among Saudi women and to explore differences in terms of factors such as place of residence, age, weight, educational level, profession and marital status.

2. Study Questions and Hypotheses

The present study is driven by two main questions: what are the attitudes of Saudi women towards practicing physical activities? And, are there any significant statistical differences in Saudi women's attitudes towards practicing physical activities that are based on the provinces of residents, age group, weight, educational level, nature of profession or marital status?. Consequently, six hypotheses were drawn: there are no significant statistical differences at $\alpha \leq 0.05$ in the attitudes of Saudi women's towards practicing physical activities based on the province residence, there are no significant statistical differences at $\alpha \leq 0.05$ in the attitudes of Saudi women's towards practicing physical activities based on age group, there are no significant statistical differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on weight, there are no significant statistical differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on the educational level, there are no significant statistical differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on the nature of profession. Finally, there are no significant statistical differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on marital status.

3. Methodology

The research team chose to employ the descriptive analytical method in order to achieve the study goals by reviewing the literature and previous studies that dealt with Saudi women's attitudes towards practicing physical activities. The team has developed a questionnaire to achieve the objectives of the study by collecting the required data, then analyzing it and answering the questions to infer the results and present a set of recommendations based on these results.

3.1 Participants

The study population consisted of all Saudi women at the level of all major geographic provinces in Saudi Arabia; and because of difficulties in counting the original population; the researcher limited the study to include employed and un-employed women and female students in the educational institutions over all provinces. The researchers included a random sample of 1500 women that represent the characteristic of the population. The questionnaire was distributed by hand and via email. Out of the distributed questionnaires, 1327 questionnaires were returned and 94 questionnaires were excluded due to incompleteness and insatiability for the statistical analysis. The total number of questionnaire used was 1233 questionnaires. Table 1 shows the characteristics of the selected sample.

Table 1. Sample characteristics

The Variable	Variable Category	Sample	Percentage
Residents	Central Province	772	62.6
	Eastern Province	65	5.30
	Western Province	95	7.70
	Northern Province	46	3.70
	Southern Province	255	20.7
Age	18-25	892	72.3
	26-33	155	15.5
	34-41	104	8.40
	42-51	65	5.30
	52 and above	17	1.40

The Variable	Variable Category	Sample	Percentage
Approximate weight in kg	45-50	303	24.6
	51-56	265	21.5
	57-62	222	18.0
	63-68	144	11.7
	69-74	112	9.10
	75-79	141	11.4
	80 and over	46	3.70
	not educated	6	0.50
Educational level	read and doesn't write	14	1.10
	primary	21	1.70
	intermediate	3	0.20
	secondary	187	15.2
	Bachelor	971	78.8
	Master	29	2.40
	Ph.D.	2	0.20
	housewife	70	5.70
Profession	teacher	283	23.0
	administrator	82	6.70
	professional	49	4.00
	Business woman	7	0.60
	other	742	60.2
Marital status	single	739	59.9
	married	448	36.3
	divorced	40	3.20
	widow	6	0.50

3.2 Instrument

The research team developed a questionnaire for measuring Saudi women's attitudes towards practicing physical activities based on literature review and group of previous studies that discuss various aspect of practicing physical activities. The goal is to explore employed tools in this research such as in Abd Al-A'ati (2011), Kana'an (2010), and Al-Khadoori (2010). In order to verify the validity and the stability of the tool, the questionnaire initially included 77 items, so that the researchers held personal interviews with an exploratory sample consisting of 85 Saudi women which represent the original population of the study. Therefore, the final version to the study tool of the questionnaire included two parts after validation: The research team devoted the first part to collect the demographic data of the sample, while the second part devoted to assist Saudi women attitudes towards practicing physical activities and contain 29 items in addition to one open question. The researchers have used Liker Scale to analyze the questionnaires answers and classify them to determine the weight of the items as follows: "always" represents 5 points, "often" represents 4 points, "sometimes" represents 3 grades, "rarely" represents 2 grades, and "never" represents 1 point. With respect to determining Saudi women's attitudes towards practicing physical activities, the research team depended on Likert Scale to, considering that 3 represents a neutral point "no attitude" according on Likerts's five-points scale. While moving away from this grade reflects the tendency type; so one point distant away from the neutral point by "1, 2" reflects negative tendency, while, two points distant away from the neutral point by "4, 5" reflects positive tendency. Accordingly, evaluating the tendency according to this scale is considered a positive one if the mean of attitudes of the sample was above 3, but if the mean was less than 3 points then the tendency will be considered a negative one.

3.3 Validity and Reliability

The draft version of the questionnaire was delivered to seven professionals in educational and sports psychology from four Saudi universities, namely King Saud University, Qassim University, King Saud University, and the University of Northern Border. The goal was to validate the items of the questionnaire in assign Saudi women's attitudes towards practicing physical activities, and to limit their focus to suggestions pertaining to requirements in sport clubs. Also to validate and make sure of the questionnaire cover the different domains. The team

considered the validation of the valuator's suggestion, and rewards some items accordingly. The researchers relied on Cronbach's alpha formula to determine the coefficient of internal consistency of the questionnaire; these coefficients were high for the questionnaire as a whole and all of its items ($\alpha=0.80$)

3.4 Statistical Analysis

In order to answer the study questions, the researchers employed the Statistical Package for Social Science SPSS, was used as follows: the repetitions and percentages to recognize the characteristics of the study sample, the averages and the standard deviations to answer the first two questions, analysis of variance (ANOVA), Scheffe test for the post testing comparisons to test the hypotheses of the study.

4. The Study Results

In order to answer the first question, means and the standard deviations of Saudi women attitudes towards practicing physical activities was extracted, and the overall average for all items that showed positive attitude (Mean=3.75, standard deviation= 0.422). It seems that Saudi women in general would like to practice physical activities if they had the opportunity and suitable place. Table 2 shows means, standard deviations and tendency of attitudes scale items.

Table 2. The sample justifications for participation in physical activities

Items	Mean	SD	Tendency
I believe physical activities help maintain human health	4.65	.7970	positive
Physical activities help maintain consistency and beauty of woman's body	4.65	.7160	positive
I encourage physical activities for women within the social and religious framework of the society	4.58	.7910	positive
I prefer physical activities that maintain fitness	4.43	.8820	positive
The main goal of practicing sports is to acquire health and fitness	4.42	.9410	positive
I prefer physical activities that do not involve risk	4.37	.9940	positive
Sports contribute to revive one's desire for life	4.35	.8450	positive
Sport contributes to revive women's intellectual activities	4.34	.8800	positive

Table 2 shows that Saudi women believe that practicing physical activities maintain human health and achieve their body fitness and beauty, this item come first with a mean of 4.65 and standard deviation of 0.716 respectively. The second item was "encouraging the idea practicing physical activities for women within the social and religious boundaries", the mean; is 4.58 and standard deviation is 0.791. This is the same as the means with following averages confirm, such as maintaining body fitness with a mean of 4.43; and with the same strength, Saudi women saw that sport contributes to reviving women's intellectual activities with mean of 4.43, which reflects the high level of Saudi women's knowledge about the effective role of practicing physical activities within the field of physical, psychological and mental health, while observing the social boundaries that fit the woman and give her the required privacy for practicing such activities.

Table 3. Woman's tendency towards incorporating sports in schools and public clubs

Items	Mean	SD	Tendency
I prefer physical activities that maintain fitness	4.43	.8820	positive
Sport activities are a healthy way to reduce psychological disorder	4.30	.8650	positive
I consider incorporating physical activities that contain health benefits within the educational curriculum to be very important	4.30	1.039	positive
I would practice sports activity if a women's club membership becomes available	4.29	1.055	positive
Physical activities provide a chance to relax	4.14	.9900	positive
Physical activities should be accompanied by a healthy diet	4.10	.9990	positive
The daily practice of physical activities is very important to me as a woman	4.06	1.069	positive
I prefer group physical activities that involve my friends	3.88	1.221	positive
Exercising sports helps me to interact socially and build a successful relationships	3.87	1.129	positive

Table 3 shows that Saudi women support positively the idea of providing women's sport clubs, and also the idea of incorporating physical activities within girl schools regardless the high controversy in the local newspapers and social media to repel any attempt in this regard. Obviously, Saudi women realize and respect the social dimension of practicing physical activities in groups which this can develop friendships and help build successful social relationships according to the sample's point of view with a mean of 3.87.

Table 4. Attitudes towards sport activities to reach social, psychological and familial goals

Items	Mean	SD	Tendency
Women keen to accustom kids to exercise	3.87	1.154	Positive
The time I spend at home or in shopping can be exploited much better by healthy sport activities	3.78	1.088	Positive
I prefer sport activities that woman can exercise by her own	3.76	1.209	Positive
Women's club keen to organize mass sport activities	3.55	1.234	Positive
I prefer the diverse sport activities that include a Competitive nature	3.54	1.300	Positive
There is a lot of activities that make me relaxed better than sport activities	3.54	1.153	Positive
I interested in the issues that talk about sports	3.52	1.101	Positive

In the same way, Table 4 shows the cognitive awareness of the study sample of benefit gains from practicing physical activities by encouraging their children to consider sports as an important part of their lives, and their understanding of its competitive nature. However, the research team didn't find justification for the sample's attitude for the mean that state: There are several activities that make me relaxed better than physical activities. This item got a high approval with a mean of 3.54 and standard deviation of 1.153.

Table 5. Some problems related to practicing physical activities according to the study sample

Items	Mean	SD	Tendency
Women may be exposed to serious injuries during exercise	2.73	1.101	Negative
Women can invest their time in useful activities other than sports	2.46	1.237	Negative
Sport activities may lead women to neglect their children and housekeeping	2.27	1.225	Negative
Women's exercise of sports is considered a waste of their time and physical strength	1.82	1.205	Negative
Establishing Women's sports facilities is considered a waste of public money	1.79	1.201	Negative

Table 5 shows, the means that has been shown to the sample as possible problems which women may be exposed to during exercise with means less than 3. This item is negative in the sense that the sample doesn't agree on it. This confirms the positivity of the overall attitude of the sample towards practicing physical activities. The sample doesn't consider practicing physical activities makes women neglect their children and home or consider it waste of public budget.

5. Hypotheses Testing

The first hypothesis states there are no significant statistical differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on the province of resident. The one way Analysis of variance (ANOVA) was used to test this hypothesis Table 6 shows the results of this test.

Table 6. ANOVA and Scheffé tests of dimensional comparisons for the differences in Saudi woman's attitudes towards sport activities based on the provinces of residents

Province	Mean	SD	F	Sig.	CP	EP	WP	NP	SP
CP	3.75	.411	7.234	0.000*		*			
EP	3.53	.415							*
WP	3.73	.471							
NP	3.70	.570							
SP	3.83	.382							

CP: central province, EP: east province, WP: west province, NP: north province, SP: south province. * $p \leq 0.05$

On the basis of results in Table 6, there are significant statistical differences in Saudi women's attitudes towards practicing physical activities based on the provinces of residents. However, Scheffe results indicated that these differences were between women from the eastern provinces and those from the central and southern provinces. The attitudes of Saudi women living in the eastern province were less than the attitudes of those living in the central and southern provinces. Therefore, this hypothesis was rejected and the alternative one states that there are significant statistical differences in Saudi women's attitudes towards practicing physical activities based on the provinces of residents was accepted.

The second hypothesis states that there are no significant statistical differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on age group. ANOVA test was used in order to test this hypothesis, and Table 7 shows the results.

Table 7. ANOVA and Scheffe tests of dimensional comparisons for the differences in Saudi woman's attitudes towards sport activities based on age

Age	Mean	SD	F	Sig.	18-25	26-33	34-41	42-51	52 and over
18-25	3.76	.416	15	0.000*					
26-33	3.76	.377							
34-41	3.92	.380							
42-51	3.54	.512							
52 and over	3.25	.245							

* $p \leq 0.05$

Table 7 confirmed the statistically significant differences in Saudi women's attitudes towards practicing physical activities based on age ($F=15$, $P=0.000$). Scheffe test results indicate that these differences were between women who aged 33 or less and 34 or more. The attitude of Saudi women' where higher among women who aged 33 or less in comparison with those who aged 34 or more. Therefore, this hypothesis was rejected to accept the alternative one that presumed that there are statistically significant differences in Saudi women's attitudes towards practicing physical activities based on age group.

The third hypothesis postulated that there are no statistically significant differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on weight. ANOVA test was used in order to test this hypothesis, and Table 8 shows the results.

Table 8. ANOVA and Scheffe tests of dimensional comparisons for the differences in Saudi woman's attitudes towards sport activities based on weight

Approximate Weight	Mean	SD	F	Sig.	1	2	3	4	5	6	7
1	3.74	.433	3.33	0.000*							
2	3.75	.386									
3	3.80	.390									
4	3.65	.492								*	
5	3.78	.455									
6	3.83	.401									*
7	3.65	.356									

1: 45-50, 2: 51-56, 3: 57-62, 4: 63-68, 5: 69-74, 6: 75-79, 7: 80 or over. * $p \leq 0.05$

The results shown in Table 8 asserted the existence of statistically significant differences in Saudi women's attitudes towards practicing physical activities based on weight ($F=3.33$, $P=0.000$). Scheffe test's indicated that these differences were between women who weigh 75-79 kg and those who weigh 63-68 kg and 80 kg or over. The attitudes of Saudi women' where higher among women who weigh 75-79 kg. Therefore, the study hypothesis was rejected to accept the alternative one that suggested that there are statistical significant differences in Saudi women's attitudes towards practicing physical activities based on weight. ANOVA test was used in order to test this hypothesis, and Table 9 shows the results.

Table 9. ANOVA and Scheffe tests of dimensional comparisons for the differences in Saudi woman's attitudes towards sport activities based on the educational level

EDL	Mean	SD	F	Sig.	NE	RNW	P	I	S	B	M	PhD
NE	3.07	.189	4.805	0.000*						*		
RNW	3.67	.415										
P	3.52	.497										
I	3.34	.000										
S	3.70	.420										
B	3.78	.419										
M	3.70	.319										
PhD	4.03	.000										

EDL: education level, NE: not educated, RNW: read and but not write, P: primary, I: intermediate, S: secondary, B: bachelor, M: master. * $p \leq 0.05$

The results shown in Table 9 indicated that there are statistically significant differences $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on the educational level ($F=4.805$, $P=0.000$). Scheffe test results indicated that these differences were between women who earned bachelor degree and the uneducated women, the attitudes of Saudi women were higher among women who earned bachelor degree. Hence, the hypothesis was rejected to accept the alternative one that there are statistical significant differences in Saudi women's attitudes towards practicing physical activities based on the educational level.

The fifth hypothesis presumed that there are no statistical significant differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on the nature of profession. ANOVA test was used in order to test this hypothesis, and Table 10 shows the results.

Table 10 indicated that there are statistically significant differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on the nature of the profession, ($F=6.496$, $P=0.000$). Scheffe test results indicated that these differences were between the housewives and women who work in other jobs and between teachers, where the attitudes of the teachers were higher. Therefore, the study hypothesis was rejected to accept an alternative one that there are statistically significant differences in Saudi women's attitudes towards practicing physical activities based on the nature of profession.

Table 10. ANOVA and Scheffe tests of dimensional comparisons for the differences in Saudi woman's attitudes towards sport activities based on the nature of profession

Profession	Mean	SD	F	Sig.	HW	TE	AD	PR	OT
HW	3.63	.383	6.496	0.000*		*			
TE	3.85	.390							*
AD	3.81	.426							
PR	3.76	.414							
OT	3.72	.430							

HW: housewife, TE: teacher, AD: administrator, PR: professional. OT: other. * $p \leq 0.05$

The sixth hypothesis suggested that there are no statistically significant differences at $\alpha \leq 0.05$ in Saudi women's attitudes towards practicing physical activities based on marital status. ANOVA test was used in order to test this hypothesis, and Table 11 shows the results.

The results in Table 11 indicated that there are no statistically significant statistical differences in Saudi women's attitudes towards practicing physical activities based on marital status ($F=2.014$, $P=0.110$). Therefore, the hypothesis was accepted.

Table 11. ANOVA of dimensional comparisons for the differences in Saudi woman's attitudes towards sport activities based on marital status

Marital Status	Mean	SD	F	Sig.
Single	3.76	.423	2.014	0.110
Married	3.74	.419		
Divorced	3.72	.429		
Widow	3.36	.132		

6. Discussion and Conclusion

The aim of the present study was to investigate Saudi women's attitudes toward physical activity. Six hypotheses were proposed in order to investigate these attitudes towards physical activity among Saudi women. The hypotheses were related to differences between attitudes in favor of residence, age, weight, educational level, profession and marital status. The results indicated that Saudi women in general would like to practice physical activities if they had the opportunity and suitable place, since they positively support the idea of providing women's sport clubs, and the idea of incorporating physical activities within girl schools. Obviously, Saudi women realize and respect that practicing physical activities in groups help building successful social relationships. In the same way, the results confirmed the cognitive awareness of participants in regard to benefits physical activities as they encourage their children to consider sports as an important part of their lives. However, the research team didn't find justification for the sample's attitude for the item related to subjects' viewpoint that there are several activities that make them relaxed better than physical activities. In relation to study hypotheses, the findings revealed that there are statistically differences in Saudi women's attitudes toward practicing physical activities that can be attributed to provinces of residents, age, weight, educational level and the nature of the profession. On the other hand, there are no statistically significant differences in Saudi women's attitudes towards practicing physical activities in favor of their marital status. Similar results were reached in previous results. In their study on physical activity and health beliefs among Saudi women, Al-Eisa and Al-Sobayel (2012) found a high level of physical activity among Saudi women. Concerning pace of residence, Al-Nuaim (2012) found significant differences in the physical activity levels of youth with regard to gender and geographical areas. According to Al-Nozha et al. (2007), the highest prevalence level of physical inactivity was highest in the central region of KSA in comparison with the southern region. Additionally, they stated that the prevalence of physical inactivity level among Saudis was increased in parallel with increasing age. As for educational level, it was concluded by Al-Hazzaa (2007) that there was no significant relationship between physical activity and educational levels of Saudi males and females. In relation to marital status, Khalaf et al. (2013) indicated that married participants have higher levels of physical activity. The results of Al-Nozha et al. (2007) revealed that level of physical activity prevalence among Saudis was lower for single than married participants. On the basis of these findings, the study concluded that there are numerous factors that play a critical role in practicing physical activity by Saudi women; i.e. place of residence, age, weight, educational level, and the nature of the profession.

7. Study Limitations and Future Research

The most important limitation of this study was the large size of the sample. It consisted of 1233 females from different regions in KSA. As many previous studies indicated, there were significant relationship between physical activity and numerous chronic diseases along with the findings of the current study related to differences among Saudi women in favor of various variables such as place of residence, age, educational level, nature of the profession, and weight; a future research may examine the mediation role of demographic characteristics in the relationship between physical activity and chronic disease.

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