

University of Glasgow

**CHALLENGES AND BARRIERS PREVENTING SAUDI ARABIAN WOMEN FROM
PARTICIPATING IN SPORTS AND PHYSICAL ACTIVITY: A SCOPING REVIEW**

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Abstract

Background: Several challenges contribute to reduced physical activity (PA) among Saudi women. To improve participation rates in sports and PA, and ultimately achieve Saudi Arabia's Vision 2030 goals of a 40% increase in the population's PA rates by 2030, these barriers must be addressed. This scoping review explores the challenges and barriers preventing Saudi women from participating in sports.

Methods: A scoping review utilizing Arksey and O'Malley's framework was undertaken to identify and map available literature addressing the challenges preventing Saudi women from participating in sports and PA. The databases searched included PubMed and Saudi Digital Library (SDL). Additional searches were performed using Google Scholar, Trove, and gray literature.

Results: An initial search yielded 286 articles (PubMed n = 125; SDL n = 13; Google Scholar, Trove and gray literature n=148) After the removal of all duplicates, 281 articles remained. Abstract and title screening reduced the field to 79 publications. After full-text reviews were conducted, nine articles were included in the final review. Four themes were identified during the analysis of the articles: i) physical activity rates, ii) motivating factors and attitudes toward sports, ii) barriers and challenges, and iv) Vision 2030 changes.

Conclusion: Findings confirm that the reduced physical activity participation rate among Saudi women can be attributed to barriers to participating in sports and PA. One of the goals of Saudi Arabia's Vision 2030 is to increase physical activity levels in Saudi Arabia by 40% by 2030. Addressing these challenges will improve women's participation rates in sports and will eventually contribute to the achievement of the country's Vision 2030 health and wellness strategic goals

Keywords: Saudi women, physical education, Saudi Arabia Vision 2030, Saudi female exercises.

Introduction

Physical activity (PA) has long been acknowledged as an essential part of a healthy lifestyle. Recent scientific evidence has linked regular PA to a wide range of physical and mental health benefits. PA participation can reduce all-cause mortality and improve cardiorespiratory, metabolic, musculoskeletal, functional, and mental health. In addition, preventing noncommunicable diseases such as heart disease, stroke, diabetes, and several types of cancers. As well as improving quality of life.¹⁻³

The World Health Organization (WHO) defined PA as any movement requiring energy expenditure that can be performed during leisure time or to transport from one place to another. The studies recommend at least 150 minutes per week of moderate-intensity PA to gain the health benefits.⁴

There are many ways to achieve PA, whether through running, walking, cycling, or any other active recreation or play which can be done at any level. Sports are also a way to achieve PA, although it is organized in nature and usually aims to improve overall fitness level, competition, or mental well-being.

Despite the well-known benefits of PA, the topic of PA is poorly addressed in Saudi Arabia (SA), especially for females. According to 2015 WHO report, it found that 75% of Saudi females are insufficiently active; furthermore, the obesity rate has reached epidemic proportions among Saudi females, 34%, compared to their male counterparts, 24%.⁵

A study exploring the global prevalence of PA among countries found that Saudi women are the least active.⁶ Moreover, physical inactivity could lead to serious complications as it has been linked to endometrial cancer and breast cancer.⁷

In terms of health, women have a longer life expectancy than men, but they are also more prone to illnesses. Meanwhile, females are less active than males at most ages, and both girls and women have a considerably higher percentage of body image dissatisfaction, low self-esteem, and eating disorders than boys and men. PA is particularly important for girls since it has been shown to aid in the development of good self-esteem as well as the maintenance of functional ability and the maintenance of a positive quality of life.⁸ Several Western studies investigated which barriers impact PA participation among women.^{9,10} However, different characteristics, on the other hand, are most likely present in SA. Traditional gender stereotypes, for example, have prevented women from engaging in PA. Women's active engagement in any sport is influenced by social expectations for public behavior. Saudi ladies may be limited in their ability to exercise outside their house and that lead to lower PA levels. Additionally, urbanization, crowded traffic, extreme weather, the absence of a female school physical education program, and lack of time and resources make PA a difficult choice for the Saudis.¹¹

From early years, Saudi females were disproportionately less active than males; 91.2% of Saudi girls were inactive compared to 84% males.¹² Another contributing factor relates to gender constraints: even where fitness facilities are available, accessibility is a problem, particularly for women.

Women worldwide continue to be at a disadvantage. Although, these gaps have been steadily narrowing across the world as women overcome the cultural and structural barriers to full equality. However, due to the gender segregation system in the country, women are not equally represented in terms of the availability of sport clubs and gym membership fees.¹³

In other instances, Saudi women have exceeded gender parity resulting in 'reverse gender gaps in areas such as university education, where women now outnumber men. The newly built female

universities include sports facilities. Yet, this has not been translated into greater opportunities for Saudi women to increase their PA level nor representing the country in various international sports events. Removing the obstacles to female participation in PA and sports will ensure that investments in their education and health are put to productive use. It will also put development on a more inclusive track, benefitting both women and future generations.

In April 2016, Saudi Arabia announced Vision 2030 which outlines specific goals among them, a program aims to increase the participation in PA and sports by 40% by 2030.¹⁴

Since over 50% of Saudi university graduates are women, this program will contribute to developing talents. Also, to support the goals of the 2030 vision, it is essential to create the infrastructure and provide the appropriate atmosphere to facilitate Saudi women's participation in sports and PA.¹⁵

In line with 2030 vision goals, the ban on women driving has been lifted, which is expected to raise the PA and sports participation. In addition, guardianship was alleviated as Saudi women are legally allowed to travel without the permission of a male relative; this could promote their participation in international events and enhance their social role.

Understanding the barriers and challenges as well as the attitude of Saudi women towards PA and sports will contribute to the improvement in the quality of life which is part of the national program Vision 2030. However, it remains unclear what kind of information is available in the literature about what Saudi women problem and needs to facilitate their engagement in sports. For this reason, a scoping review was conducted in order to systematically map the research done in this area, as well as to identify any existing gaps in knowledge. The following research question was formulated: What are the challenges and barriers preventing Saudi women from participating in sports and physical activities?

Aims:

- Report on physical activity levels
- Report on Saudi women attitude towards sports and physical activity.
- Explore the barriers preventing Saudi women from participating in sports

Methods

A scoping review is using manual search to identify and map available literature on a selected topic. They are thought to be particularly beneficial for determining the range of evidence available on a topic, visually displaying the current evidence, and sharing an overview of the existing knowledge base.^{16,17} A scoping review was deemed the most appropriate methodological approach, given the broad nature of the research question to be addressed, and could act as a valuable platform to identify topics for more focused systematic reviews and/or meta-analyses¹⁸. This scoping review is based on the methodological stages described by Arksey and O'Malley and informed by Levac et al's framework, as well as the work of the Joanna Briggs Institute and previously published relevant scoping reviews.^{16,17,19,20} The completed Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)-Scoping Review (ScR) checklist was used.¹⁸ The stages are: 1) identify the research question; 2) identify relevant studies; 3) select studies; 4) chart the data; 5) collate, summaries and report the results; and 6) consult experts (optional).

Stage 1: Identify the Research Question

The research question guiding the scoping review was: What is known from the literature about the constraints and challenges preventing Saudi women from participating in wide range of sports and physical activities?

The research question reflects the review's population, context, and content, which is essential for highlighting relevant studies and establishing appropriate eligibility criteria.¹⁸

Stage 2: Identify Relevant Studies

The three-step search strategy (an initial limited search, followed by the identification of key words and index terms, and then further searching of references and citations) using two research databases. The two databases searched included: PubMed and the Saudi Digital Library (SDL). Additionally, Google Scholar www.scholar.google.com and Trove www.trove.nla.gov.au was included in the search. The search strategy was limited to English and Arabic studies published between 2011 and 2021. The searches resulted in 286 Records, which were exported to EndNote X9 for screening.

Stage 3: Study Selection

Articles were considered for inclusion if they met the following criteria: 1) quantitative, qualitative or mixed-method in design; 2) addressed challenges or obstacles preventing Saudi women from participating in physical activities or sports; 3) full-text peer-reviewed articles and grey literature reported in English or Arabic language and published between 2011 and 2021, as Saudi Arabia has taken a progressive role in human rights after the year of 2011 by sending the first Saudi females to participate in London 2012 Olympic games. Studies in geographical location other than Saudi Arabia were excluded, as well as opinions, books, magazines and newspapers.

A preliminary limited search for articles on Google Scholar was conducted, searching all fields with a combination of the keywords: Saudi AND women AND sport, Saudi women AND physical activity, "Saudi women" AND "sports participation", Physical education and Saudi Arabia. The first 100 search results were reviewed, and 24 studies were identified as potentially relevant. These

articles' citations were also examined in order to identify additional relevant studies. The preliminary narrow search yielded relevant studies, which influenced the choice of keywords and index terms for the main searches. To attain greater inclusivity, it was determined that sports, physical activity, physical education, Olympic games, Gulf Cooperation Council (GCC), Saudi Arabia, and Muslim countries (searched in title and abstract fields) will be used on SDL and PubMed. As well as search terms (physical activit*, physical fitness, sport*, fitness, GCC, Saudi Arabia, Muslim countr*) in combination with the Boolean operator OR and later combined with the women term using AND to facilitate the retrieval of relevant articles on PubMed and SDL. Publication year and language filters were applied to further exclude irrelevant search results. Finally, the citations of relevant studies were searched to find additional relevant studies.

The search yield from the databases was: PubMed (n=125), SDL (n=13), and Google Scholar and gray literature (n=148). Following the removal of all duplicates (n=281) and irrelevant studies, the selection process was divided into two stages: title and abstract review and full-text review. The inclusion criteria were used to screen the titles and abstracts of selected studies. The full text of potentially eligible studies (n=9) was reviewed in the second stage. The scoping review included the remaining 9 articles. *Figure 1* depicts a PRISMA flowchart of article selection.

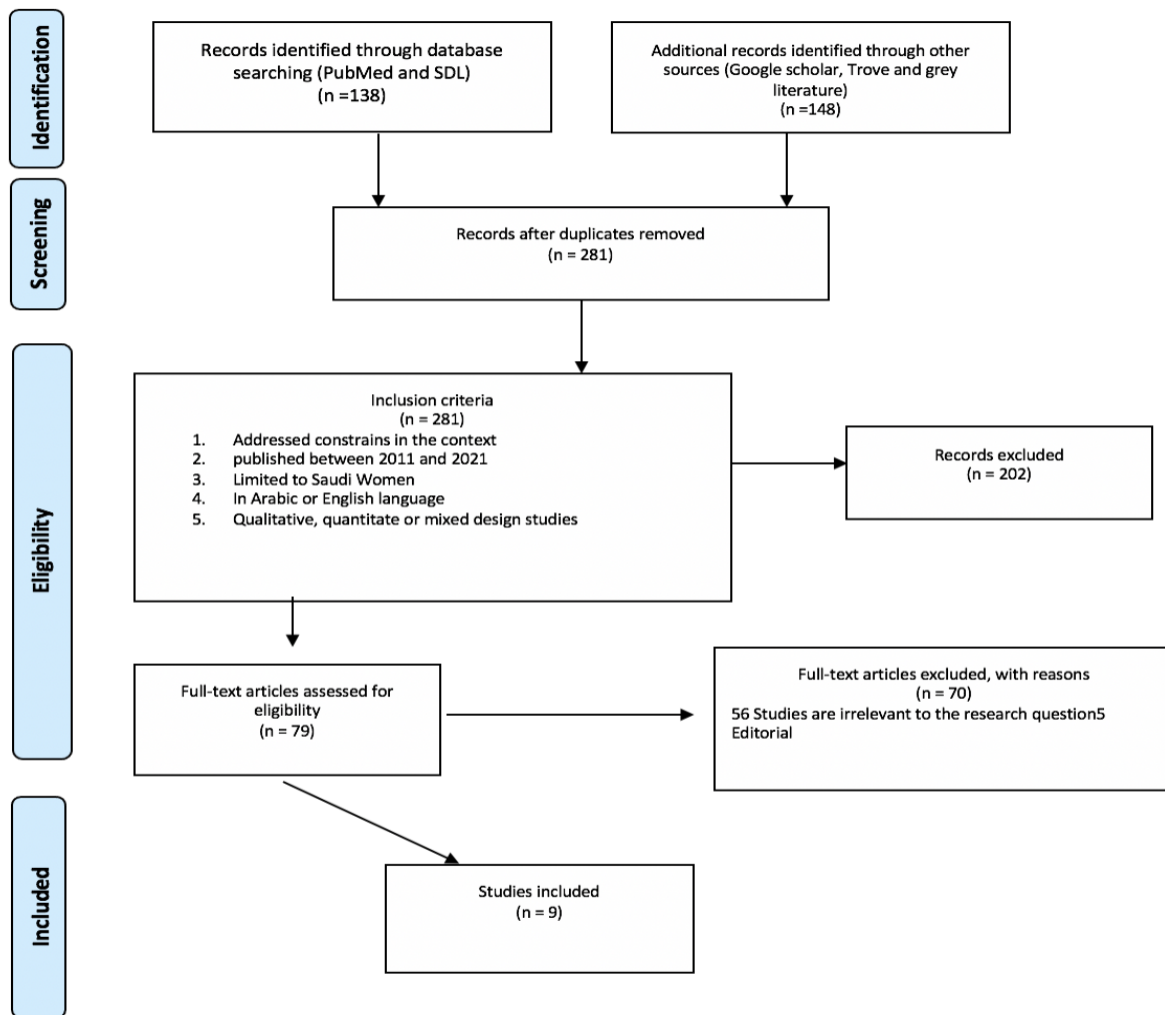


Figure 1 Scoping review study selection flowchart.

Stage 4: Charting the Data

Arksey and O'Malley's framework at this stage allows to extract data from the included studies. Data from the studies were extracted using a narrative review method. Narrative reviews summarize studies from which conclusions can be drawn to form more comprehensive interpretations. To ensure consistency with the research question and objectives, data extraction tool was developed and trailed on randomly selected articles. Following this, data was extracted

from the nine studies included. The following information was collected: authors and year of publication, origin of the study, aims, study design and participants if applicable, key findings, as well as the themes. Four themes emerged from the full-text review and synthesis of the nine articles:

1. Physical activity rate
2. Motivating factors and attitude towards sports
3. Barriers and challenges
4. Vision 2030 changes

Stage 5: Collating, Summarizing and Reporting

Table 1 summarizes the data extracted from the included studies. It presents data on the various findings, elucidating the barriers and challenges that prevent women from participating in sports. The key findings from the included studies are presented besides the themes exacted from the analysis which includes the general attitude towards physical activity among Saudi women, changes following the introduction of Vision 2030 and PA rates among women.

Discussion

This scoping review provides an overview of barriers and challenges to Saudi women's participation in PA and sports. These factors can be described in the four prominent themes within the reviewed literature. These themes are:

1. Physical activity rates
2. Motivating factors and attitudes toward sports
3. Barriers and challenges
4. Vision 2030 changes.

All the nine reviewed studies covered the common obstacles experienced by Saudi women in participating in sports and PA and the general attitude on female sports, and women's motivations to increase their participation rates. Moreover, the review provides reports of low PA levels among Saudi women in comparison with their male counterparts and with women from other parts of the world. These disparities have been steadily closing around the world as women have overcome cultural and structural barriers to full equality in many aspects of life. However, Saudi women continue to face numerous obstacles in their lives that limit their ability to practice sports and PA. Furthermore, the first strategic goal of Saudi Arabia's Vision 2030 is to increase the number of sports practitioners above the age of 15 who participate at least once a week by up to 40% by 2030.¹⁴ Women are vital contributors to this goal since they represent half of the population.

Physical activity rate

The two articles thematically listed under physical activity rate were undertaken in Saudi Arabia. Both articles were conducted on the Saudi population and were tied with the singular idea that the PA rate among Saudis is very low. A systematic review conducted by Al-Hazzaa¹¹ that included different regions in SA found that the majority of the Saudi population is adopting a sedentary behavior and not meeting the recommended PA guidelines, especially for moderate and vigorous PA. In the study, the prevalence of physical inactivity generally ranged from 43% to 91% among Saudi females, compared to 26% to 85% in Saudi males.¹¹ In regard to regional variations, the study found that women living in the central region of SA tend to be less active than women living in the southern region. This may be due to the central region being more urbanized, which affects the lifestyle habits of its inhabitants. Worldwide, the prevalence of insufficient PA is 27.5%.²¹ Saudi Arabia was found to be among the countries where the prevalence of physical

inactivity exceeded 50%, along with Kuwait and Iraq.²¹ Also, big differences in physical inactivity levels between men and women were observed in south and central Asia, the Middle East and North Africa, where women tend to be significantly less active than men.²¹

Another study by Al-Hazzaa et al¹² on Saudi youth aged between 14 and 19 found that females exhibit sedentary behavior. Female youth were found to participate in only 38 minutes of daily physical activity, rather than the recommended 60 minutes or more of moderate-to-vigorous intensity PA for adolescents.²² Male youth spent 72 minutes on PA. This finding is supported by the report published in 2019 by the Saudi Arabia General Authority for Statistics, which reported that only 12% of Saudi females aged 15 years and older practice 150 minutes or more in PA per week. In comparison, the report found that 33% of Saudi male youth practice sports.²³ The major factors contributing to female youth inactivity are depending on automobiles to commute to schools and the lack of physical education programs in girls' public schools. Globally, 91% of all countries provide equal opportunities for both gender groups to participate in PE.²⁴ In 2017, and as part of Vision 2030, Saudi Arabia finally approved of having a physical education curriculum available to girls in public schools. However, due to the policy's recent implementation, there is currently no data on the impact of participation in physical education classes in SA.²⁴ Also, the General Authority of Statistics reported that the most practiced PA among Saudi women is walking, accounting for 82.45% of activity, followed by Swedish exercises at 15.94%, while the least practiced sports is football at 0.73%.²³ The statistics are not surprising as there are some sports activities that are easier to practice for women than others when considering the cultural and the religious background of the country. Muslim women, for example, find it easier to participate in archery, volleyball, tennis, and table tennis than in swimming and gymnastics.²⁵

Motivating factors and attitudes towards sports

Four studies grouped under the motivating factors and attitudes toward sports theme were undertaken in different regions in Saudi Arabia. Alruwaili²⁶ examined the attitudes toward sports among the Saudi population in Dammam and Al-Jouf city. The study reported that most women in both cities showed acceptance toward their allowance in sports participation as long as it respects the sex segregation system in the spaces. Moreover, there was a relationship seen between educational level and degree of liberal attitudes; in both cities, women with university educations tend to adopt liberal attitudes about sports participation in general.²⁶ It is worth mentioning that, unlike Al-Jouf, Dammam is considered a metropolitan city in which people tend to be more open to changes and less conservative. Therefore, educated women in Dammam city were less resistant to encouraging women to engage in sports than educated women from Al-Jouf city. Al-Naiem²⁷ supports the previous finding by concluding that the motivation to practice sports is stronger with Saudi women who hold a bachelor's degree or higher. Psychological motivations were found to be the greatest, followed by health-related motivations and finally social motivations. The study did not report significant differences towards sports when it comes to women's marital status, as married and single women tend to exhibit the same motivations toward PA. However, a systematic review by Engberg et al. found that changes to marital status in young women tend to reduce PA level.²⁸

In 2018, Samargandi²⁹ examined PE teachers' attitudes toward teaching PE to girls, as this topic remains a controversial issue in the country. For girls to accept the new PE curriculum, 90.3% of the educators said that females should have a better awareness of health and PE. In the study, 92.2% of the participants agreed that girls must be strong to promote good health. The educators have strong beliefs that culture, and traditions influence the teaching of PE to female students. The

banning of PE in schools is not a religious decision, as Islam encourages participation in sports for all and promotes equality in both genders.²⁴ Furthermore, there is an agreement that Islam encourages women to be physically active.²⁴ This assertion can be backed by other Islamic countries, such as Pakistan, which send female athletes to participate in international sports events. For this reason, the PE teachers did not see Islam as a barrier to providing PE for girls; rather, the society's culture and traditions were the most distinct reasons.

It was clearly the girls' or their parents' choices to not participate in PE, and this finding can only be understood in the contexts of either the lack of knowledge about the importance of PE or the governmental educational policy that did not support PE for girls before 2017.²⁹ Al-Ohali¹³ investigated the attitude of the undergrad students of a female university in Riyadh and reported similar findings to Al-Naiem's results. Al-Ohali found that most of the participants agreed that exercise promoted emotional aspects, which translated into feeling more confident and happier. This is supported by previous literature that established a positive dose-response association between PA volume and happiness.³⁰

Like Alruwaili's finding, most students preferred off-campus exercise, despite the presence of a recreational center, and this is attributed to lack of time. Moreover, students found that social media figures and the presence of athletic role models motivated them to practice sports. Now that Olympic participation is finally permitted, the first female Saudis to participate in the London 2012 Olympics have helped create new role models and shift social beliefs.³¹ However, there are not many female Saudi sports role models since females and sports are still a fairly new topic in the society.

Barriers and challenges

Three articles were grouped under the barriers and challenges theme. Al-Hazaa¹¹, Al-shahrani,³² and Mohamed et al.³³ addressed the factors preventing Saudi women from practicing sports and PA. Al-Hazaa attributed the lack of PA to the economic status of the individual. This was also reported in a study by Al-Ohlai,¹³ where the students suggested that a reduction of sports club fees would increase their involvement in sports. It is worth noting that there is a gap between men's and women's annual membership fees and the quality of the services provided. This discrepancy may be why 40% of women are not engaging in sports due to the prohibitive prices of gym services fees.³⁴ For instance, a woman pays around 2900 pounds for an annual gym membership fee, while men pay 1800 pounds for their annual membership.^{35,36} The three studies agree that university students have fairly good knowledge about the benefits of PA.^{11,13,26} However, a large percentage of women lack the knowledge on how to use gym equipment, which makes them fear the effects of equipment on their health.³² In addition, a lack of time and the unavailability of appropriate facilities made most women prefer off-campus or home exercises.^{11,13,32}

As the country shifts toward a less conservative culture, the female dress code has also been lifted. This was previously shown as one of the factors that hindered Muslim women's participation in sports.²⁵ Therefore, in the most recent studies, religion was no longer the most reported barrier to participating in sports.^{26,32} The more prominent obstacles to participating in sports were reported to be extreme weather, the lack of spare time, and the absence of PE programs for girls, which eliminated the opportunity to play competitive or team sports.^{29,32,37}

Alruwail²⁶ reported that the socio-cultural traditions of the society and male authority remain a barrier in the way of women's participation in sports. Different barriers are found in different

parts of the world; for instance, for Western women, for example in Australia, decreased PA was associated with marriage and childbirth.³⁸ This finding contradicts Al-Naiem's finding that marital status of Saudi women does not affect the motivation towards sports.²⁷ But agrees with Mohamed et al findings that single women have more spare time to exercise, while women with children struggles to balance between family responsibilities and PA.³³ Other barriers reported in studies of the developing countries were lack of time, childcare, and personal safety.³⁹ Nurseries in gyms were found to be a major factor for Saudi women to be motivated to exercise outside the home.³²

Vision 2030 changes

One study addressed the changes following the announcement of Saudi Arabia's Vision 2030 in the context of promoting Saudi women's personal training careers in social media. Basabain et al mentioned that previously religious values, such as veiling and gender segregation, conflicted with attractive appearances and athletic performance presentations since women are expected to behave in a certain way in public.⁴⁰ For example, it is socially unacceptable for women to run in public, which affected Saudi female personal trainers from expanding their client bases on social media.

A positive move was made in 2016 when the General Authority for Sports, which functions like a sports ministry, announced a new female department and appointed a Saudi women as its head.⁴¹ After that, licensing of female-only gyms and sports clubs, which had been banned previously, was made possible by the end of 2017. This change contributed to an increase in the number of female-only gyms around the kingdom.³⁴ Furthermore, until 2018, women were prohibited from attending public sporting events as spectators. Lifting this ban was important to motivate women to practice sports, since fans are seen as enthusiastic consumers, meaning that women will be more motivated to engage in sports-related behaviour.⁴²

In addition, the 2017 approval of the implementation of physical education classes is crucial to initiate women's sports in the Kingdom²⁴. However, the lack of female professionals of Saudi origin who can train girls during PE classes could conflict with the achievement of the Vision 2030 goals to increase sports participation for all.²⁹

Limitations and future research

This scoping review of nine articles had several limitations. First, the use of gray literature was a result of the unavailability of published articles. Additionally, the quality of the evidence was not checked. Furthermore, my own inclusion and exclusion criteria were used due to the lack of protocol from similar studies; this might increase the level of bias. To address this limitation, I applied a filter by search for studies in Arabic and English to expand my search to relevant articles. However, this study used a novel approach to identify areas that need improvement in sports for Saudi women. Future research should focus on addressing the post-change era and its effect on Saudi women's participation in sports, and should identify factors to improve Saudi women's performances in international competitions.

Conclusion

This scoping review aimed to describe the challenges preventing Saudi women from participating in sports and PA. The nine articles analyzed yielded information categorized under three broad thematic headings: physical activity rate, attitudes toward sports, barriers and challenges, and changes after Vision 2030. Although separated by theme, there was an apparent link across the themes and articles reviewed. For example, decreased PA rates were attributed to factors such as the unavailability of specialized sports clubs for women, lack of PE education for girls, culture and tradition, and lack of time.

One of the aims of Saudi Arabia Vision 2030 is to increase the participation rate. In line with Vision 2030, Saudi Arabia has made significant progress in gender parity. These gaps have been steadily narrowing across the kingdom, as one of the vision's goals is to raise physical activity levels in Saudi Arabia by 40% by 2030. To achieve this goal, women's contribution to sports is crucial since they represent half of the population.

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Author/Year	Country	Aim of Study	Study Design	Key Outcomes	Themes
Al-Hazzaa (2018) ¹¹	Saudi Arabia	Examine major barriers to PA among Saudi population	Systematic review	• Saudi females were less active than males. • The prevalence of physical inactivity among females' adolescents was between 73% to 91. • The study also found that the most prominent barriers are the lack of time followed by accessibility to designated places for sports for women.	Barriers and challenges / PA rate
Al-Hazzaa (2011) ¹²	Saudi Arabia	Report on the level of PA and sedentary behavior among Saudi adolescents in different cities in Saudi Arabia.	Cross-sectional study Included 1507 females aged 14-19 years	• Females are leading a sedentary lifestyle and not meeting the required PA guidelines recommendations especially for the vigorous PA. females found to spent 38 minutes of daily PA. • Major factors for youth inactivity include the absence of PE programs in girls' schools.	PA rate

AL-shahrani, (2020) ³²	Saudi Arabia	To investigate the motivating factors and challenges that affects Saudi women involvement in sports.	Mixed methods: case study, questionnaire included 342 female participants	• Better fitness and health concerns found to be the main motive to practice sports for women • Increase in gym membership prices and ignorance on the use of gym equipment's prevent them from exercising. • Lack of nurseries in gyms, not holding sports competitions in schools and universities, lack of PE program in schools all considered factors contributing to decreased PA participation.	Barriers and challenges
Mohamed et al. (2020) ³³	Saudi Arabia	To examine the association between PA and its factors among females with type 2 diabetes.	Mixed method: cross-sectional study, interviews included 372 participants	• Low levels of PA for Saudi women attributed to family responsibilities around the house, unavailability of recreational facilities in the neighborhoods. • Single women are more active than married women. • Age of children affects the mother's level of PA.	Barriers and challenges

Alruwaili (2020) 26	Saudi Arabia	To have better understanding on the relationships between sport, gender, education, region, and religion.	Mixed methods: Exploratory survey and questionnaire 444 distributed in Dammam and Al Jouf city	• Gender segregation in sport and PA is preferred for all the participants. • 98% of university educated women are on the side of allowing women to participate in sport. • Relationships between education level and region was established. Educated women from Dammam are less resistant to encouraging women to sport unlike educated women from Al Jouf city. • In Al Jouf, 86% of the university-educated women preferred sex segregation which scored a higher agreeable percentage than in Dammam respondents. • Tradition and male authority were the most obvious barriers in women's participation in sports, while religion was the least reported	Attitude towards sports
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Samargandi (2018) ²⁹	Saudi Arabia	To explore the attitude of PE teachers towards teaching PE for girls in public schools	Cross sectional, included 300 female PE teachers	• 90.3% of the teachers believe students should have better knowledge of their health, and 92.2% of them stated that girls need to be physically strong to promote good health. • PE teachers believed that culture and traditions play a negative effect on the concept of teaching PE for girls. • Teachers did not find religion as a barrier to PE. • PE ban in SA is linked to factors such as family and government policies.	Attitude towards sports
Al-Ohali (2020) ¹³	Saudi Arabia	To investigate the attitude, challenges experienced by female students to participate in sports for all.	Cross sectional, included 375 undergrad students	• The undergrad students have a positive attitude towards sports • Most of the participants agreed that exercise promote their emotional aspects. • Students prefer off campus exercise	Attitude towards sports

				• Following figures in social media motivate them to practice sports. • The obstacles preventing from practicing sports include temperature and weather fluctuations and the lack of spare time • The student disagrees on that the customs and traditions hinder sports • Discounts and gym fee reduction will help to increase the involvement in sports	
Basabain et al.(2021) ⁴⁰	Saudi Arabia	To analyze Saudi Muslim female personal trainer experience in social media platforms to promote their work.	mixed-methods approach	• Before Vision 2030, cultural and personal challenges and governmental rules affected athlete branding strategies choices • As the conservative rules diminished after 2018. Women started to use social media to promote wellness and PA engagement as well as to increase their client base.	Changes after vision 2030

Luluh AbdulHameed Al-Naiem. (2020) ²⁷	Saudi Arabia	To identify the most important motivations for women going to sports centers in the city of Al- Ahsa.	Cross Sectional , included 150 female participants	It was found that motive to engage on PA and sports is stronger with women who have a bachelor's degree and higher and there is no significant change when it comes to material status.	Attitude towards sports