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Article

Challenges and barriers toward conducting research at a tertiary hospital in Saudi Arabia

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Abstract: Background: In healthcare, research is essential for improving disease diagnosis and treatment, patient outcomes, and resource management, while fostering evidence-based practice. However, conducting research in this sector can be challenging, and healthcare workers may face various obstacles while engaging in research activities. Therefore, understanding healthcare workers' attitudes toward research participation is essential for overcoming barriers and increasing research engagement. In this study, these aspects are examined through the analysis of survey data from a tertiary healthcare institution in Saudi Arabia. **Method:** Data obtained via a survey conducted between April and November 2022 among the healthcare workers and employees at a tertiary care hospital in Saudi Arabia were analyzed using descriptive and bivariate statistics. **Results:** The study sample comprised 713 respondents, 61.71% of whom were female, 58.06% were 26–41 years old, and 72.93% had not undertaken any research as employees or affiliates. A significant association was noted between age group and time constraints (p = 0.004) and lack of opportunity for research (p = 0.00), which were among the identified barriers to research participation. A significant association was also found between gender and barriers to pursuing research (p = 0.012). When the 193 (27.07%) participants who conducted research were asked about the challenges they encountered during this process, gender was significantly associated with difficulties in allocating time for conducting research (p = 0.042) and challenges in accessing journals and references (p = 0.016). **Conclusion:** The study findings highlight the importance of addressing the barriers and challenges in promoting positive attitudes toward research participation among healthcare workers considering their gender and age. In this manner, healthcare institutions can adopt an environment conducive for professional research engagement.

Keywords: research; barriers; challenges; healthcare; Saudi Arabia

1. Introduction

In healthcare, research is essential for the improvement in diagnosis, disease prevention, and the assessment of the effectiveness and efficiency of medical procedures and public health policies. Healthcare organizations should thus strive to implement a strong research culture that incorporates research into their organizational structure, processes, and core practices, such as strategic plans and mission statements, using a framework that enables service planning, decision-making, and sustained integration of evidence-based healthcare (Luckson et al., 2018; Slade et al., 2018).

Emphasizing research involvement and the cultivation of research skills is essential for advancing medical professionals' medical knowledge, improving patient care, and fostering evidence-based practice (Al Saeed et al., 2022). Doing so can

enhance patient outcomes and the clinical expertise of healthcare workers (Khalaf et al., 2019; Selby and Autier, 2011). However, conducting research can be challenging, as healthcare workers may face various obstacles that hinder their ability to engage in research activities (Institute of Medicine, 2010). Thus, understanding the attitudes of healthcare workers toward research is essential for increasing their research participation (Alsaleem et al., 2021).

There are several constraints which affect research in healthcare, including complex and cumbersome institutional frameworks that slow down the flow of events. Multi-stage ethical approval process restraints researchers, especially when there are no clear guidelines (Kengia et al., 2023). Research is also hindered by the lack of funding, since scholars find it difficult to secure research grants early in their career (Pickard et al., 2022). This has profound implications for the general research environment, while lack of institutional support limits access to mentorship and training (Singh, 2018). These and other institutional barriers should therefore be addressed in order to improve the research output of healthcare institutions.

Available literature indicates that the main challenges associated with research in tertiary healthcare institutions include time constraints, lack of research skills, and financial barriers (AlEnezi and Owaifeer, 2022; Alsaleem et al., 2021; Higgins et al., 2010; Institute of Medicine, 2010). Therefore, addressing these challenges and gaining a better understanding of the attitudes of physicians, healthcare workers, and employees is important to increase research productivity. These measures may include issuing healthcare policies as well as providing adequate education and training to increase the understanding of the research process, emphasizing the importance of research and its potential to improve patient care (Higgins et al., 2010; Shanmukhappa et al., 2020).

In Saudi Arabia, healthcare is undergoing a paradigm shift. In 2016, the Saudi government introduced Vision 2030, a comprehensive initiative that aims to transform the country's economy into a knowledge-based economy with the goal of achieving sustainability and driving development (Vision 2030, n.d.). Thus, fostering research and development has become a primary pillar for restructuring and enhancing the capabilities of the health sector (Khan and Khan, 2020). This necessitates promotion of research culture in healthcare institutions as well as the development of healthcare infrastructure to meet the current and future health needs of the population.

Healthcare research in Saudi Arabia is crucial for achieving Saudi Vision 2030, which seeks to transform healthcare systems. A significant concern here is the digital health technologies' ability to improve access to patient records and medical services, which is essential to realize the vision of digitization in practice. Workforce empowerment is also crucial for the nation's readiness for combating specific health issues, such as non-communicable diseases (Al-Kahlan and Khasawneh, 2023), as well as ensuring high quality of care and patient safety (Mani and Goniewicz, 2024). Addressing these challenges will ensure that KSA is recognized as a pioneer in successfully managing national healthcare transformation.

This study aims to contribute to this endeavor by assessing the attitudes of the healthcare workers at the King Faisal Specialist Hospital and Research Centre (KFSHRC) in Saudi Arabia toward research engagement. The findings will be valuable in promoting a culture of research and improving the research output at this

and other institutions. Moreover, they will provide a basis for future research in this field.

Objectives

The study has the following objectives:

(i) Assess the challenges in conducting research from the perspective of the healthcare workers and employees of KFSHRC.

(ii) Identify barriers to pursuing research from the perspective of the healthcare workers and employees of KFSHRC.

(iii) Examine the prevalence of research engagement among the healthcare workers and employees of KFSHRC.

2. Materials and methods

2.1. Study design and setting

This cross-sectional study was conducted between April and November 2022 at KFSHRC in the Research Concierge booth area, targeting healthcare workers and employees. The Research Concierge was launched in 2019 under Research & Innovation, with the aim of facilitating the collaboration with KFSHRC clinicians and researchers, as it provides a one-stop gateway for all hospital staff seeking to progress on their research journey. Data was gathered via a face-to-face interviewer-administered questionnaire, which was designed to optimize the research productivity and improve the quality of the research services provided by the hospital.

2.2. Survey population

Physicians, healthcare workers, and other employees with indirect clinical involvement with patients who are expected to conduct research, including administrators and scientific and information technology technical staff, were eligible for participation.

2.3. Sampling

The survey was completed by 713 individuals, which exceeded the minimum sample size of 600, calculated using the Epi Info software (Dean et al., n.d.) on the basis of 10,000 population size (with the assumption that 50% of the employees do not conduct research), a 95% confidence interval, and a degree of accuracy of 4%. To account for 20% non-response rate, the target sample size was set to 720. After excluding seven incomplete questionnaires, data pertaining to 713 respondents were retained for analysis.

2.4. Data collection tool

The data collection tool was a paper-based face-to-face interviewer-administered questionnaire. The survey was conducted in English language and took approximately 2–5 min to complete. Before proceeding with the interview, the aim of the survey was explained to the participants, who were also made aware that their participation in the study was voluntary and that they could withdraw at any time. They were also assured

that the data they provide would be used for research purposes only while maintaining total anonymity of the participants.

The survey instrument was developed through a comprehensive literature review and consultations with research experts to incorporate necessary modifications. Prior to formal data collection, the questionnaire underwent pilot testing with 10 Saudi citizens to ensure the questions' clarity and comprehensiveness.

The survey comprised nine items across three sections, respectively pertaining to sociodemographic characteristics (age, gender, job category, and employed or affiliated with KFSHRC), prior research engagement, and challenges associated with research participation. The second section included two items that assessed respondents' prior research conduct at KFSHRC. Only participants who answered that they conducted research at KFSHRC were asked about the number of research papers they had published and were required to comment on the challenges they encountered, as well as note the most challenging aspect faced while conducting research. Meanwhile, participants who had never conducted research as a KFSHRC employee or affiliate were asked to identify the reasons for not pursuing research at KFSHRC.

The following questions related to conducting research were asked:

- Have you conducted any research as an employee or affiliate at KFSHRC?
- How many research papers have you published as a KFSHRC employee or affiliate?
- What are the challenges you faced while conducting research as a KFSHRC employee or affiliate?
- What is the most challenging obstacle you faced while conducting research as a KFSHRC employee or affiliate?
- If you have never pursued research, why not?

To maintain accurate records for documentation and analysis, the data collected from the respondents were entered electronically into the Research Electronic Data Capture (REDCap) database (Harris et al., 2019). The stored data were accessed from 28 July 2023 to 3 December 2023 to conduct the analysis.

2.5. Data analysis

Statistical analyses were performed using the STATA software package, version 18 (StataCorp, 2023). Categorical variables were presented as frequencies and percentages, while chi-squared test was conducted to assess the associations between variables, considering $p < 0.05$ statistically significant.

3. Results

3.1. Demographic characteristics

Table 1 presents the demographic characteristics of the 713 KFSHRC employees and affiliates that participated in the survey.

Table 1. Demographic characteristics of the study participants ($N = 713$).

Characteristic		Number (*n*)	Percentage (%)
Gender	Male	273	38.29
	Female	440	61.71
Age	25 or younger	226	31.70
	26–41	414	58.06
	42–57	64	8.98
	Older than 57	9	1.26
Job category	Nurse	121	16.97
	Allied healthcare	152	21.32
	Consultant	30	4.21
	Trainee	106	14.87
	Resident/intern	136	19.07
	Fellow	6	0.84
	Other	162	22.72

Figure 1 indicates that only 193 (27%) of the surveyed KFSHRC employees or affiliates have previously conducted research.

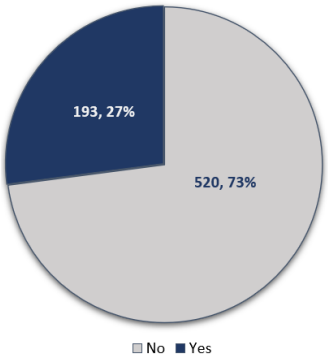

Figure 1. Prevalence of research engagement among the surveyed KFSHRC employees.

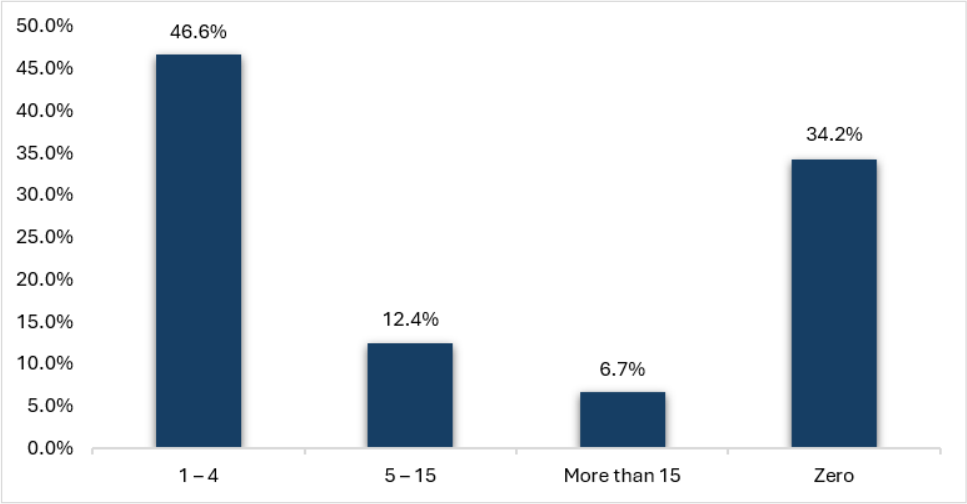

Figure 2. Publication percentages among the surveyed KFSHRC employees ($n = 193$).

Approximately 47% of the participants who conducted research had between one and four publications, while nearly 34% have never published a research paper (**Figure 2**).

3.2. Research challenges

When the respondents who conducted research as a KFSHRC employee or affiliate (27.07%, n = 193) were asked about the challenges they faced while conducting research, several associations were noted between their responses and demographics. As shown in **Table 2**, although a significant association was noted between all job categories and lack of biostatistical support ($p \leq 0.0001$), this challenge was most frequently reported by the consultants. Moreover, according to **Table 3** focusing on the challenges faced by KFSHRC employees while conducting research, there is a significant association between gender and issues with time allocation for research ($p = 0.042$), as well as access to journals and references ($p = 0.016$), whereby male participants were more prone to report both challenges. On the other hand, as shown in **Table 4**, no associations between the challenges faced by the participants and their age group were established.

Table 2. Association between job category and challenges while conducting research.

	Challenges While Conducting Research									
	None	**Biostatistical support**	**Finding and collecting data**	**Access to journals and references**	**Proper guidance/dedicated mentor**	**Funding**	**Collaborators**	**Finding time**	**Approval process**	**Other**
Job Category	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Allied Healthcare	4 (11.11)	5 (13.89)	14 (38.89)	10 (27.78)	4 (11.11)	5 (13.89)	7 (19.44)	15 (41.67)	12 (33.33)	2 (5.56)
Consultant	0 (0)	15 (71.43)	7 (33.33)	5 (23.81)	1 (4.76)	9 (42.86)	5 (23.81)	10 (47.62)	7 (33.33)	3 (14.29)
Fellow	0 (0)	2 (50.00)	2 (50.00)	3 (75.00)	0 (0)	2 (50)	2 (50)	2 (50)	3 (75)	0 (0)
Nurse	2 (8.33)	6 (25.00)	9 (37.50)	3 (12.50)	5 (20.83)	7 (29.17)	5 (20.83)	10 (41.67)	10 (41.67)	1 (4.17)
Other	4 (8.89)	16 (35.56)	7 (15.56)	8 (17.78)	8 (17.78)	14 (31.11)	7 (15.56)	17 (37.78)	14 (31.11)	3(6.67)
Resident/intern	4 (11.76)	17 (50.00)	10 (29.41)	6 (17.65)	10 (29.41)	7 (20.59)	7 (20.59)	18 (52.94)	11 (32.53)	0 (0)
Trainee	3 (10.34)	10 (34.48)	11 (37.93)	7 (24.14)	3 (10.34)	7 (24.14)	1 (3.45)	9 (31.03)	5 (17.24)	2(6.90)
Total	17 (8.81)	71 (36.79)	60 (31.09)	42 (21.76)	31 (16.06)	51 (26.42)	34 (17.62)	81 (41.97)	62 (32.12)	11 (5.70)
p-value	0.794	0.001*	0.242	0.145	0.167	0.221	0.235	0.702	0.287	0.489

*$p < 0.05$.

Table 3. Association between gender and challenges while conducting research.

	Challenges While Conducting Research									
	None	**Biostatistical support**	**Finding and collecting data**	**Access to journals and references**	**Proper guidance/dedicated mentor**	**Funding**	**Collaborators**	**Finding time**	**Approval process**	**Other**
Gender	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Male	4 (5.06)	30 (37.97)	28 (35.44)	24 (30.38)	12 (15.19)	22 (27.85)	16 (20.25)	40 (50.63)	27 (34.18)	4 (5.06)
Female	13 (11.40)	41 (35.96)	32 (28.07)	18 (15.79)	19 (16.67)	29 (25.44)	18 (15.79)	41 (35.96)	35 (30.70)	7 (6.14)
Total	17 (8.81)	71 (36.79)	60 (31.09)	42 (21.76)	31 (16.06)	51 (26.42)	34 (17.62)	81 (41.97)	62 (32.12)	11 (5.70)
p-value	0.126	0.776	0.277	0.016*	0.784	0.709	0.423	0.042*	0.611	0.751

*$p < 0.05$.

Table 4. Association Between age group and challenges while conducting research.

	Challenges While Conducting Research									
	None	**Biostatistical support**	**Finding and collecting data**	**Access to journals and references**	**Proper guidance/dedicated mentor**	**Funding**	**Collaborators**	**Finding time**	**Approval process**	**Other**
Age Group	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
≤ 25	4 (10.53)	15 (39.47)	12 (31.58)	13 (34.21)	10 (26.32)	10 (26.32)	8 (21.05)	13 (34.21)	11 (28.95)	2 (5.26)
26–41	11 (9.32)	40 (33.90)	35 (29.66)	21 (17.80)	16 (13.56)	28 (23.73)	19 (16.10)	52 (44.07)	41 (34.75)	4 (3.39)
42–57	2 (6.67)	13 (43.33)	10 (33.33)	6 (20.00)	5 (16.67)	10 (33.33)	6 (20.00)	14 (46.67)	6 (20.00)	4 (13.33)
≥ 57	0 (0)	3 (42.86)	3 (42.86)	2 (28.57)	0 (0)	3 (42.86)	1 (14.29)	2 (28.57)	4 (57.14)	1 (14.29)
Total	17 (8.81)	71 (36.79)	60 (31.09)	42 (21.76)	31 (16.06)	51 (26.42)	34 (17.62)	81 (41.97)	62 (32.12)	11 (5.70)
p-value	0.795	0.752	0.887	0.188	0.182	0.542	0.881	0.585	0.205	0.145

*$p < 0.05$.

The participants who conducted research as KFSHRC employees or affiliates were asked to select the most challenging factor when conducting research. According to **Figure 3**, the top two challenges faced by the respondents were lack of biostatistical support and difficulties in finding time for research.

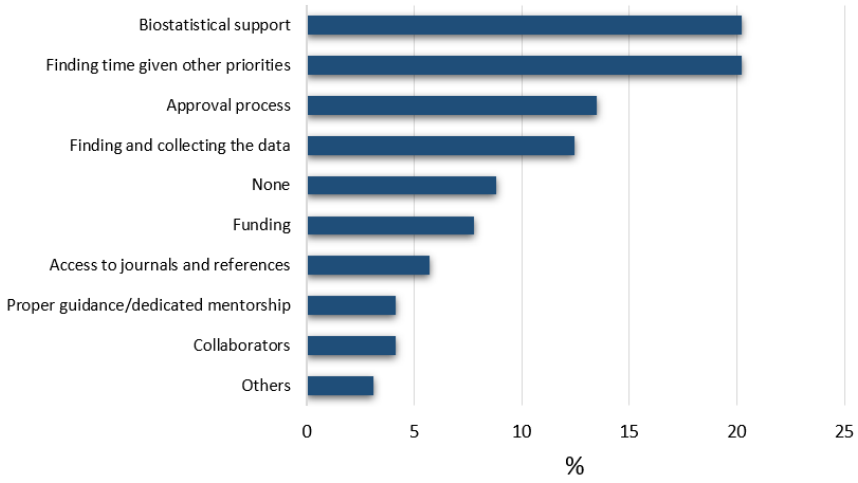

Figure 3. Most challenging obstacles faced by the 193 surveyed KFSHRC employees who conducted research.

3.3. Barriers to pursuing research

The 520 (72.93%) participants who did not conduct research were asked about their reasons for not pursuing research. Notable associations were observed between the barriers they faced in pursuing research and their job category, gender, and age.

As can be seen from **Table 5**, a significant association was found between the job category and the lack of opportunities ($p = 0.022$), especially among residents/interns (59.80%). Another significant association was observed with lack of interest ($p = 0.005$), which was primarily reported by nurses (24.74%). Similarly, **Table 6** indicates a significant association between male sex and having a busy schedule ($p = 0.012$), whereas **Table 7** shows that this issue was also reported by respondents aged 42–57 years (64.71%, $p = 0.004$). On the other hand, those aged 25 years or less (60.11%) mostly complained about the lack of research opportunities ($p = 0.00$).

Table 5. Associations between job category and barriers to conducting research.

	Barriers to Conducting Research					
	Busy schedule	**Lack of opportunities**	**No knowledge regarding research methodology**	**Lack of support/encouragement**	**Lack of interest**	**Inability to obtain ethical clearance**
Job Category	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Allied Healthcare	55 (47.41)	42 (36.21)	19 (16.38)	21 (18.10)	16 (13.79)	3 (2.59)
Consultant	4 (44.44)	4 (44.44)	2 (22.22)	1 (11.11)	0 (0)	0 (0)
Fellow	0 (0)	1 (50.00)	1 (50.00)	0 (0)	0 (0)	0 (0)
Nurse	50 (51.55)	41 (42.2)	13 (13.40)	17 (17.53)	24 (24.74)	0 (0)
Resident/intern	41 (40.20)	61 (59.80)	10 (9.80)	14 (13.73)	6 (5.88)	2 (1.96)
Trainee	27 (35.06)	41 (53.25)	11 (14.29)	11 (14.29)	10 (5.88)	2 (2.60)
Other	51 (41.88)	51 (43.59)	20 (17.09)	11 (14.29)	24 (20.51)	1 (0.85)
Total	226 (43.46)	241 (46.35)	76 (14.62)	75 (14.42)	80 (15.38)	8 (1.54)
p-value	0.267	0.022*	0.506	0.560	0.005*	0.733

*$p < 0.05$.

Table 6. Association between gender and barriers to conducting research.

	Barriers to Conducting Research					
	Busy schedule	**Lack of opportunities**	**Lack of knowledge regarding research methodology**	**Lack of support/encouragement**	**Lack of interest**	**Inability to obtain ethical clearance**
Gender	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Male	98 (50.52)	81 (41.75)	29 (14.95)	22 (11.34)	33 (17.01)	1 (0.52)
Female	128 (39.26)	160 (49.08)	47 (14.42)	53 (16.26)	47 (14.42)	7 (2.15)
Total	226 (43.46)	241 (46.35)	76 (14.62)	75 (14.42)	80 (15.38)	8 (1.54)
p-value	0.012*	0.105	0.868	0.123	0.428	0.144

*$p < 0.05$.

Table 7. Association between age group and barriers to conducting research.

	Barriers to Conducting Research					
	Busy schedule	**Lack of opportunities**	**Lack of knowledge regarding research methodology**	**Lack of support/encouragement**	**No interest**	**Inability to obtain ethical clearance**
Age Group	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
25 or below	65 (34.57)	113 (60.11)	25 (13.30)	23 (12.23)	24 (12.77)	5 (2.66)
26–41	138 (46.62)	114 (38.51)	45 (15.20)	46 (15.54)	51 (17.23)	3 (1.01)
42–57	22 (64.71)	13 (38.24)	6 (17.65)	6 (17.65)	5 (14.71)	0
Older than 57	1 (50.00)	1 (50.00)	0 (0)	0 (0)	0 (0)	0 (0)
Total	226 (43.46)	241 (46.35)	76 (14.62)	75 (14.42)	80 (15.38)	8 (1.54)
p-value	0.004*	0.00*	0.817	0.647	0.544	0.447

*$p < 0.05$.

4. Discussion

Identifying the barriers and challenges faced by employees in conducting research as well as the prevalence of research participation among the employees and affiliates of KFSHRC is essential for improving the research quality and productivity at this institution.

4.1. Prevalence of research participation

Analysis of the survey data revealed that only 27% of the respondents have conducted research as KFSHRC employees, concurring with the findings yielded by a 2010 study conducted in France, indicating that 24% of the participants were involved in research projects (Rhondali et al., 2014). The parallel between these findings underscores a broader, global challenge: the lack of implementation of research findings in clinical practice in the care delivery settings at all levels. This can be due to organizational goals, resource availability, and staff incentives that require redirection to create a research-focused environment within the healthcare facilities. These results imply that, while the healthcare systems in different countries and sectors have a diverse research workforce, there remain institutional constraints to engagement. Solving these problems is imperative to boost the research output, which helps the Kingdom achieve the Saudi Vision 2030 objectives.

4.2. Barriers to pursuing research

As research barriers can significantly hinder advances in the field, study participants who never conducted research were asked about the barriers they faced in pursuing research as KFSHRC employees or affiliates. Subsequent analyses revealed a significant association between job category and lack of opportunities as well as lack of interest in conducting research. A number of residents and interns mentioned that they lacked opportunities to conduct research, differing from the results obtained in a study conducted in Hormozgan Medical University, Iran, which focused on medical students. The major personal barrier was inadequate knowledge about research methodologies and insufficient skills for engagement in research activities (Dadipoor et al., 2019). More recently, Al Saeed et al. (2022) conducted a study to identify

barriers to research participation among medical students of ophthalmology. The residents pointed to preoccupation with other activities, lack of allocated time for research, and excessive regulations in obtaining ethical approval. As these findings underscore specialty-specific barriers to research engagement, understanding them is crucial for implementing targeted interventions and support systems to overcome these obstacles.

In the present study, a significant association was also noted between age group and the barriers to research involvement, countering the findings reported by Dadipoor et al. (2019), who noted no significant association between age and barriers to conducting research in Iran. On the other hand, our results are supported by those pertaining to Malaysia (Soe et al., 2018). These discrepancies may be related to the differences between countries and the variations according to the field of research.

These findings reaffirm the need to promote a research culture within healthcare facilities to improve staff capabilities and patient outcomes. Thus, healthcare institutions should implement policies and practices promoting equal access to research for all employees, irrespective of their role, age, and gender. Creating strong mentorship programs and incorporating research into the medical curriculum would also be beneficial.

4.3. Challenges while conducting research

Research performance and quality directly impact the research practice in almost all healthcare delivery systems while also affecting patient care. The findings yielded by the present study indicate that the challenges faced while conducting research are significantly associated with the respondents' gender and job category. For example, 71.43% of consultants that took part in the survey indicated that they required biostatistical assistant. In addition, male researchers were more likely than their female counterparts to struggle with accessing journals and references (30.38%) and finding time for research activities (50.63%). Such differential patterns call for strategies for improving research participation across different demographic groups.

These findings concur with those reported by Khalaf et al. (2019) based on the research conducted in Bahrain. Thus, further work should be dedicated to identifying and mitigating obstacles to research engagement, including studies on the efficacy of research skills training for the healthcare workforce and the impact of supportive policies on participation in research.

Currently, KFSHRC is applying several initiatives, including performance improvement projects, to support research productivity. In addition, its tertiary hospital provides a wide range of research and consultation services to help healthcare workers and employees maximize their research efforts. However, interventions at the organization and system level are needed to enhance the institution's research capacity, eliminate wastage of resources, and support high-quality research projects.

Practical implications and recommendations

The barriers that have been highlighted in this study have profound policy and practice implications for healthcare organizations. To address them effectively, the following measures should be taken:

- Research-Focused Training Programs: Current and potential researchers in healthcare organizations should be trained to undertake strong and comprehensive research programs that include research design as well as statistical analysis to ensure that healthcare professionals are well prepared (Rhondali et al., 2014).
- Structured Research Opportunities: With the help of formal and informal designated research time and funding allocation for research projects, all healthcare workers, including junior ones, can have significant chances for engaging in research (Rhondali et al., 2014).
- Mentorship Programs: Adoption of a more formal and extensive mentorship system can aid in closing the gap between more experienced workers and their less experienced colleagues, leading to a more equitable and productive research setting (Singh, 2018).
- Policy and Institutional Alignment: National healthcare initiatives like Saudi Vision 2030 already contain aspects that would require research as a part of the frontline healthcare practice, hence fostering a continued research culture throughout the healthcare pyramid (Rhondali et al., 2014).
- Collaborative Opportunities: Creating opportunities for collaboration among health professionals, researchers, and academic institutions will promote the advancement of high-quality research practice (Bonfim et al., 2023).
- Recognition and Reward: Acknowledging and rewarding those that engage in research activities would motivate others to participate (Bonfim et al., 2023).
- Financial Support and Incentives: Providing sufficient financial support and incentives such as recognition, career advancement opportunities, and financial rewards would encourage research participation (Diong et al., 2021).
- Support Services: Developing advanced support services and systems such as data management plans and statistical consulting services would facilitate the implementation of efficient research practices (Khalaf et al., 2019).
- Increase Time Allotted for Research: Allocating more time for healthcare workers to engage in research activities would increase their engagement and thus institutional research output (Khalaf et al., 2019).

Strengthening the research capacity within healthcare organizations is essential for enhancing employees' medical knowledge and improving patient care. These strategic outcomes signify the possibility of enhancing the system performance to support the national development objectives and meet the international benchmarks for healthcare quality.

4.4. Study limitations

The main study limitations stem from the use of self-reported data, gathered via a survey conducted at the Research Concierge area in the Research & Innovation lobby in Riyadh. Thus, the information provided may not reflect the demographics and opinions of all employees and affiliates working at the KFSHRC, Riyadh. Accordingly, these findings cannot be generalized to the entire KFSHRC community. As a larger sample size would overcome this limitation, it would be beneficial to adopt a multi-city design to cover all KFSHRC sites in future studies of this type.

5. Conclusion

This study has revealed several significant barriers healthcare employees face in conducting research, emphasizing the urgent need for strategic interventions to foster a research-supportive environment. By addressing these challenges, healthcare institutions can enhance the effectiveness of services offered to their patients, while aligning with the strategic goals of Saudi Vision 2030. For instance, healthcare organizations must adopt mechanisms to increase access to research opportunities, including research supervision and biostatistics support. Moreover, healthcare professionals should be allocated specific time to conduct research activities. There is also a need to improve the existing training programs to ensure that all employees gain the knowledge and skills required to conduct quality research.

As policy changes are also essential, it is recommended that governments enact legislation that actively promotes engagement in research endeavors. Proposed initiatives may include cash rewards for publications and the inclusion of research contributions to the career ladder. Furthermore, developing networks that link hospitals with universities would allow both knowledge and equipment sharing, resulting in greater research output.

In addressing these recommendations, the goal is not only to eliminate the existing barriers but also to build a positive attitude towards research among the healthcare workers. The application of these strategies would guarantee that the healthcare sector in KSA is strong, competitive, and progressive, and is capable of meeting the needs of the populace and the goals of Vision 2030. As a result, this study lays crucial groundwork for further academic and practice-oriented investigations concerned with improving the quality and relevance of research in the healthcare domain, creating an evidence-based healthcare environment.

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