

Factors Associated with Participation in Research Activities among Oral Health Providers in Jazan, Saudi Arabia: A Cross-sectional Study

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ABSTRACT

Aims and objectives: This study aimed at quantifying participation in dental research-related activities reported by the Saudi Ministry of Health-associated oral healthcare providers in Jazan and to investigate its association with sociodemographic and professional characteristics, as well as practitioners' perceptions of the Research and Development (R&D) index.

Materials and methods: An online cross-sectional questionnaire was sent to oral health providers in Jazan using a convenience sampling technique. The questionnaire collected data on demographic characteristics and the 16 items of the R&D index. One-way ANOVA and t-tests were used to establish factors associated with R&D index scores. Multiple regression analyses with adjusted effects were conducted to identify the significant predictors for the factors associated with participation in dental research.

Results: In total, 113 study participants completed the questionnaire with a response rate of 56.5%. Just over half (53.1%) of the participants were working in primary healthcare centers, and 46.9% were working in hospitals. Most of the study samples were dentists (92.0%), while a small percentage were dental hygienists (4.4%) and assistants (3.4%). The sample's participation in dental research was low with a mean of 3.57 (standard deviation = 3.69). The R&D support ($p < 0.001$) and intentions ($p = 0.050$) significantly predicted the providers' participation in dental research.

Conclusion: The current study found that R&D support and intention significantly predicted the providers' participation in dental research. Hence, it is recommended that comprehensive educational and training programs on dental research be developed that focus on the increase and implement it in their practice.

Clinical significance: This study provides insights into factors and obstacles that influence dental research, which may be useful for future investigations.

Keywords: Dental research, Online questionnaire, Oral health providers, Research and Development index.

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INTRODUCTION

Dental research initiatives are important in order to continually improve oral health status, whether by producing new knowledge or finding new ways of making the existing knowledge available to those who need it.¹ According to the National Research Council, the field of dentistry continually needs researchers to develop new and better dental technologies; however, the field is being threatened with the small number of researchers doing research in the field.² Dental research is defined as the formalized acquisition and investigation of topics related to the dental profession.³ Dental research creates new knowledge and information about the latest innovations related to dentistry, to the oral cavity, and to the associated structures in oral and health disease. With the rapidly growing body of scientific dental research, oral healthcare professionals must also be able to implement and transfer this knowledge into the clinical practice. This process requires research skill and knowledge to select and critically evaluate the published literature thus using innovative technologies and clinical practices that will ultimately lead to improvement of healthcare practice and provide overall better outcomes for the patients and populations. Although scientific research is used to inform health policy decision-making, this process is often more complex. Paustudied the factors associated with the involvement of dental faculty in research initiatives and postgraduate research training, both of which emerged as significant influences in the state-of-the-art in

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dental research and practice.⁴ Despite awareness of the importance of research and development (R&D) in health care, a number of professionals remain unengaged.⁵

In Saudi Arabia, there is a promising growth in dental research.⁶ A quantitative analysis of the number of publications in the field of dentistry indicates a significant annual growth (17.97%) during the two-decade period from 1998 to 2017.⁶ Most of the published

research originated from higher educational institutions such as universities and colleges, while the Ministry of Health and Hospitals produced a low number of publications. In terms of the quality of the published dental research, the citation index of the research carried out in hospitals was higher compared with that of the academic institutions.⁶

Jazan region reflects the general tendencies throughout the country in terms of dental research. Indeed, research on oral health issues and associated behaviors of the residents in the region has been conducted mostly by faculty members in the College of Dentistry of Jazan. Dr. Shankargouda Patil, a faculty member in the College of Dentistry of Jazan University, was ranked among the top five Saudi dental researchers; he authored 33 publications, which accounted for more than 30% of all the publications produced by Jazan University over a 10-year period (2009–2018).⁶ Due to the prevalence of oral cancer in Jazan, dental public health specialists in the region are actively seeking to determine factors associated with the perceptions of dentists and dental health students on dental disease.⁷

The R&D index provides an efficient process for determining the strength of an organization's R&D culture, as it captures the role of both individual practitioners and the organizational environment.⁸ The R&D index analysis consists of 16 items in three domains: R&D support, personal skills and aptitude, and intentions toward R&D.⁹ The R&D index can help to determine which units need further encouragement in order to increase their overall research productivity.⁵ Thus, continuous efforts must be made to promote R&D within dental healthcare organizations to address the needs of the dental health practitioners as well as their organizations. In addition, R&D has direct implications for the dental health of the general population.

This study aimed at quantifying participation in dental research-related activities reported by the Saudi Ministry of Health-associated oral healthcare providers in Jazan and to investigate its association with socio demographic and professional characteristics, as well as practitioners' perceptions of R&D index.

MATERIALS AND METHODS

Study Design and Sample

The current study used a cross-sectional online survey to collect data on dental research activities among oral health providers (dentists, dental hygienists, and assistants) who work in Ministry of Health (MOH) primary health care and hospitals in Jazan, Kingdom of Saudi Arabia (KSA). Ethical approval was granted from the Institutional Review Board (REC41/5/132) at the College of Dentistry of Jazan University, as well as the Human Ethics Board (RA/4/20/6236) at the University of Western Australia. Oral health providers working in private clinics were excluded from the study.

The most recent statistics released by the MOH in 2019 do not specify oral health hygienists and dental assistants as stand-alone professional categories.¹⁰ Therefore, it is difficult to estimate the number of oral health providers working in Jazan region. However, the number of dentists was 222 in 2019 distributed among 110 primary healthcare centers (PHCs) and 21 hospitals in 17 major cities in Jazan.¹⁰

Data Collection Process

An online survey was conducted between July and December 2020, and a prevalidated questionnaire via Qualtrics was sent

to the target sample for data collection. The online survey link was distributed through social media (Facebook, Twitter, and WhatsApp) and via e-mail among a convenience sample of oral health providers. The survey was open for 6 months and the anonymity of respondents was maintained throughout the process. The post specified that the study targets only MOH-based dentists, dental assistants, and hygienists. The survey included information on the research team and study aims. Before starting the study, participants gave consent by clicking on a button after the consent paragraph with information on the voluntary nature of the study, risks, and benefits of participating, and procedures for maintaining confidentiality.

Study Instrument

The questionnaire was developed in English with slight modifications from a previously validated and published questionnaire.⁴ The questionnaire was based on an R&D cultural index that was initially developed by the University of Northumbria.⁹ The questionnaire covered every construct that was helpful in meeting the aims and objectives of the current study. Two dental public health faculties at Jazan University were asked to review and provide suggestions regarding the survey questions to improve the clarity and accuracy before distributing the survey to the study sample. In addition, a pretest was conducted by e-mail among 24 oral providers to confirm the reliability and validity of the questionnaire (ICC = 0.79).

Study Variables and Measures

The first part of the questionnaire included questions on gender, age, type of dental facility, work location, education level, profession, job title, years of experience, direct contact with patients, involvement in dental research, and presentations at dental-related conferences in the past 12 months. The second part included questions based on the R&D index (support, personal skills and aptitude, and intentions toward R&D), which consists of 16 items graded on a four-point Likert scale: strongly disagree/disagree/agree/strongly agree. The items are worded so as to give a unidirectional response. Possible total scores on the R&D culture index range from 16 to 64, with higher scores indicating a more positive perception of the organization's R&D culture.

Data Analysis

Descriptive statistics (percentages and means) were utilized to provide an overview of each variable. One-way ANOVA and *t*-tests were used to establish factors associated with R&D construct scores. Multiple regression analyses with adjusted effects were conducted to identify the significant predictors for the factors associated with participation in dental research. The significance level was set at 0.05, and all the analyses were performed using the IBM SPSS Statistics V25.0.

RESULTS

Table 1 shows the characteristics of the study sample. Out of 200 overall respondents, 113 oral health providers completed the questionnaire and were considered in the final sample, with an overall response rate of 56.5%. The majority of study participants were male (85.8%) and aged ≤ 35 years (67.3%). About also, 53.1% of the participants were working in primary healthcare centers, and 46.9% were working in hospitals, with the majority (88.5%) working in the central area of Jazan. With regards to participants'

Table 1: Descriptive statistics of study participants (*n* = 113)

<i>Variables</i>	<i>N (%)</i>
Gender	
Male	97 (85.8)
Female	16 (14.2)
Age	
≤35 years	76 (67.3)
>35 years	37 (32.7)
Facility type	
Primary healthcare center (PHC)	60 (53.1)
Hospital	53 (46.9)
Current work location	
North area	4 (3.5)
Central area	100 (88.5)
South area	9 (8.0)
Education level	
<Bachelors	9 (8.0)
=Bachelors	99 (87.6)
>Bachelors	5 (4.4)
Professional type	
Dentist	104 (92.0)
Dental hygienists	5 (4.4)
Dental assistants	4 (3.4)
Job title	
Clinician	96 (85.0)
Clinical director	4 (3.5)
Administrative	13 (11.5)
Years of experience	
≤10 years	71 (62.8)
>10 years	42 (37.2)
Direct contact with patients through your position	
Yes	100 (88.5)
No	13 (11.5)
Number of days/week have direct contact with patients (<i>n</i> = 100)	
None	13 (11.5)
1–2 day	10 (8.8)
3–4 days	22 (19.5)
5 days	68 (60.2)
Average time of any treatment procedure for each patient	
None	13 (11.5)
<30 minutes	9 (8.0)
30 minutes	63 (55.8)
>30 minutes	28 (24.8)
Number of patients every day	
None	13 (11.5)
<8 patients	11 (9.7)
8 patients	49 (43.4)
>8 patients	40 (35.4)
Involved in dental research activities in past 12 months	
Yes	40 (35.4)
No	73 (64.6)

Contd...

Named on a research funding application in the past 12 months	
Yes	40 (35.4)
No	73 (64.6)
Have you been an author of a peer reviewed research publication in the past 12 month	
Yes	68 (60.2)
No	45 (39.8)
Presented a conference research paper in the past 12 months?	
Yes	68 (60.2)
No	45 (39.8)

qualifications, only 4.4% had higher than a bachelor's degree, 87.6% had a bachelor's degree, and 8.0% had less than a bachelor's degree (e.g., diplomas and certificates). Most of the participants were dentists (92.0%), while a small percentage were dental hygienists (4.4%) and assistants (3.4%). With regards to their experience, 62.8% had 10 years or less of experience, and about 37.2% had more than 10 years of experience. With consideration to direct contact with patients, 88.5% of the participants indicated that they had direct contact with patients on a regular basis. Of those participants, most (60.2%) had contact with patients 5 days a week. In addition, most (43.4%) of the oral health providers served eight patients daily, with 55.8% of participants taking about 30 minutes on average for each patient. About 35.4% reported participating in a dental research project and had been named in a research funding application in the previous 12 months.

Table 2 presents the distribution of means and standard deviations (SDs) for participation in dental research, R&D support, R&D skills/aptitude, and R&D intentions as predictors of dental research activity, with a Cronbach's alpha of 0.78. The Cronbach's alpha for the oral health providers' participation in dental research was 0.71. The participation in dental research score ranged from 0 to 12, with a mean of 3.57 (SD = 3.69). This indicated that the oral health providers had lower participation in dental research. The Cronbach's alpha for the providers' perception of R&D support toward dental research activities was 0.83. A mean of 34.27 (SD = 3.85) indicates that study participants had less support toward dental research. Subsequently, the Cronbach's alpha for R&D skills/aptitude and intentions was 0.91 and 0.87, respectively. The R&D skills/aptitude and intentions scores were less positive, with mean values of 10.80 (SD = 2.82) and 7.73 (SD = 2.91), respectively. The R&D index's 16-item questionnaire scores range from 0 to 64. In this study (*n* = 113), the mean of 43.77 (SD = 6.22) made it evident that the study participants lacked a positive attitude toward dental research.

Table 3 shows the results of the independent *t*-test and one-way ANOVA test to determine differences in the mean of the R&D index domain scores based on gender, age, facility type, current work location, education level, professional type, job title, years of experience, contact with patients, and participation in dental research projects in the past 12 months. Gender (*p* = 0.02), age (*p* < 0.001), job title (*p* < 0.001), years of experience (*p* = 0.01), direct contact with patients (*p* = 0.02), average time with patients (*p* = 0.05), number of daily patients (*p* = 0.03), and participation in dental research in the last year (*p* = 0.002) were significantly associated with participation in dental research. The older male

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Table 2: Distribution of means and standard deviation of participation in dental research, R&D support, R&D skills/aptitude, and R&D intention as predictors of dental research activity ($n = 113$)

Variables	Final no. of items	Mean	SD	Minimum score	Maximum score	α
Dental research activities in past 12 month	4	3.57	3.69	0	12	0.71
R&D support	9	24.27	3.85	18	35	0.83
R&D skills/aptitude	4	10.80	2.82	4	16	0.91
R&D intention	3	7.73	2.91	2	12	0.87
R&D index score	16	43.77	6.22	29	56	0.83

Notes: R&D, research and development index; α , cronbach's alpha

providers—who generally worked as clinical directors—have more than 10 years of experience and do not have direct contact with patients for treatment showed significantly higher participation in dental research than the other groups. In addition, the providers' gender, age, education level, years of experience, and number of daily patients were significantly associated with R&D support ($p < 0.05$). Older females with higher education levels, who had more than 10 years of experience, and daily had fewer than eight patients for treatment, had more positive perceptions of participating in dental research. More positive perceptions of R&D skills and aptitude were associated with gender, age, facility type, job title, years of experience, number of working days, and participation in dental research last year ($p < 0.05$). The older male group, who works in PHCs, has more years of experience, works as clinical directors, and works with patients 1–2 days per week showed significantly more positive R&D skills and aptitude than other groups. Therefore, males from the older group with more experience who worked as clinical directors showed significantly positive intentions to participate in research.

Multiple linear regression was conducted to investigate the predictors for dental research participation in the past year among oral health providers. R&D support ($p < 0.001$) and intentions ($p = 0.050$) significantly predicted the participants' involvement in dental research, and they accounted for 8.6% of the variance. The findings also showed standardized coefficients of 0.144, 0.032, and 0.270 for R&D support, skills/aptitude, and intentions, respectively. For each percentage increase of these variables, the participation in dental research increases by about 14.4, 3.2, and 27.0%, respectively (Table 4).

DISCUSSION

This study was carried out to provide insights on participation in research activities among oral health providers who work in MOH health facilities in the Jazan region of Saudi Arabia. Findings demonstrated that only 35.4% of oral health providers had participated in dental research activities in the past 12 months. This is also supported by a study conducted by Pau.⁴ However, the result of the current study is higher than a study conducted in 2020, which found the publication rate of MOH-based health providers was only 2.4%, and about 4.2% in dentistry specifically.¹¹ The higher rates of participation in the current study were associated with the sample being older male providers who were working as clinical directors with more than 10 years of experience, and who do not have direct contact with patients. There are more male dental providers than females in Saudi Arabia,^{10,12} and other studies found that males publish more research than female providers.^{13,14} This may indicate that females were busier with their workplace duties than male

providers, as well as affected by societal demands and higher work burdens within the home.¹⁵ In addition, getting older and having more free time were associated with greater participation in research activities.⁴

This study also found that there was a significant difference in the mean R&D support of participation in dental research based on the variables of gender, age, education level, years of experience, and number of daily patients. The older female providers who had a higher education level, more than 10 years of experience, and a daily patient load of fewer than eight patients for treatment showed favorable perceptions toward participating in dental research. One possible explanation might be due to the dramatic changes in the Saudi government's plan Vision 2030, which includes a greater focus on education and improving research to attain an international standard of excellence in higher education.¹¹

Next, the current study found that there was a significant difference in the mean of R&D skills and aptitude by the variables of gender, age, facility type, job title, years of experience, and number of days working with patients. The older male providers who worked in PHCs, had more years of work experience, and worked as clinical directors, and worked only 1–2 days per week showed higher R&D skills and aptitude than the other groups. Providers who spend less time in the clinical setting and have spent a longer time in academia or on training may be more likely to report a positive perception. The finding is consistent with an earlier study by Milgrom et al.¹⁶ The male, older age-group with more experience who worked as clinical directors showed significantly more positive intentions to participate in research activities. This could be because participants who had more experience and had fewer clinical duties in the dental field were able to participate in the creation of new knowledge and research, which increased their intentions to participate in dental research.^{4,16}

R&D support and intentions significantly predicted oral health providers' participation in dental research activities in the past 12 months. In this study, intention seemed to be a greater contributor to participation in dental research than R&D support. This indicates that three main things are necessary in order to improve participation in dental research among oral health providers: increased participation by regular trained staff; offering more research training and activities, such as research writing and research mentoring strategies; and developing more support for postgraduate programs that encourage R&D activities by up-and-coming oral providers. Finally, an important finding from the current study is that a fairly high number of the providers in Jazan, Saudi Arabia do not take part in research activities, which concurs with a study conducted by Pau.⁴ Possible remedies could be to consider supporting postgraduate programs, including providing scholarships for providers to pursue higher levels of education that

Factors associated with Participation in Research Activities

Table 3: Associations of the R&D index domain scores with participants' characteristics

Variables	N (%)	Dental research activities in past 12 months		R&D support		R&D skills/aptitude		R&D intention	
		Mean (SD)	p	Mean (SD)	p	Mean (SD)	p	Mean (SD)	p
Gender									
Male	97 (85.8)	3.67 (3.84)	0.02^a	24.19 (4.13)	<0.001^a	11.34 (2.24)	<0.001^a	8.19 (2.59)	0.03^a
Female	16 (14.2)	2.94 (2.62)		24.75 (1.25)		7.50 (3.39)		4.94 (3.28)	
Age									
≤35 years	76 (67.3)	3.03 (3.12)	<0.001^a	23.13 (2.85)	0.02^a	10.33 (3.33)	<0.001^a	7.24 (3.12)	<0.001^a
>35 years	37 (32.7)	4.68 (4.50)		26.59 (4.57)		11.76 (0.43)		8.73 (2.13)	
Facility type									
Primary healthcare center (PHC)	60 (53.1)	3.75 (4.01)	0.27 ^a	24.72 (4.18)	0.40 ^a	11.08 (2.32)	0.03^a	7.80 (2.85)	0.30 ^a
Hospital	53 (46.9)	3.36 (3.33)		23.75 (3.41)		10.47 (3.29)		7.45 (2.98)	
Current work location									
North area	4 (3.5)	4.00 (0.00)	0.97 ^b	26.00 (0.00)	0.27 ^b	12.00 (0.00)	0.58 ^b	8.00 (4.00)	0.80 ^b
Central area	100 (88.5)	3.56 (3.82)		24.35 (4.04)		10.80 (2.91)		7.77 (2.93)	
South area	9 (8.0)	3.44 (3.12)		22.56 (0.53)		10.22 (2.08)		7.11 (2.36)	
Education level									
<Bachelors	9 (8.0)	4.33 (3.74)	0.70 ^b	25.00 (0.00)	<0.001^b	12.00 (0.00)	0.23 ^b	7.89 (2.71)	0.33 ^b
=Bachelors	99 (87.6)	3.45 (3.58)		23.00 (3.26)		10.63 (2.97)		7.62 (2.97)	
>Bachelors	5 (4.4)	4.40 (6.07)		35.00 (0.00)		12.00 (0.00)		9.60 (1.34)	
Professional type									
Dentist	104 (92.0)	3.50 (3.70)	0.72 ^b	24.20 (4.01)	0.84 ^b	10.69 (2.91)	0.41 ^b	7.71 (2.94)	0.71 ^b
Dental hygienists	5 (4.4)	3.80 (5.22)		25.00 (0.00)		12.00 (0.00)		8.60 (2.19)	
Dental assistants	4 (3.4)	5.00 (0.00)		25.00 (0.00)		12.00 (0.00)		7.00 (3.37)	
Job title									
Clinician	96 (85.0)	3.36 (3.61)	<0.001^b	24.36 (4.09)	0.12 ^b	11.25 (2.26)	<0.001^b	7.99 (2.85)	0.002^b
Clinical director	4 (3.5)	4.00 (0.00)		27.00 (0.00)		12.00 (0.00)		9.50 (1.00)	
Administrative	13 (11.5)	2.77 (2.17)		22.69 (0.48)		7.08 (4.05)		5.23 (2.52)	
Years of experience									
≤10 years	71 (62.8)	2.92 (3.20)	0.01^a	23.14 (2.95)	0.03^a	10.21 (3.41)	<0.001^a	7.18 (3.22)	<0.001^a
>10 years	42 (37.2)	4.64 (4.24)		26.17 (4.44)		11.79 (0.42)		8.64 (2.01)	
Direct contact with patients through your position									
Yes	100 (88.5)	3.29 (3.59)	0.02	24.27 (4.04)	0.97	10.96 (2.64)	0.08	7.83 (2.91)	0.29
No	13 (11.5)	5.69 (3.90)		24.23 (1.92)		9.54 (3.84)		6.92 (2.84)	
Number of working days									
None	13 (11.5)	5.69 (3.90)	0.08	24.23 (1.92)	0.86	9.53 (3.84)	0.03	6.92 (2.84)	(0.66)
1–2 days	10 (8.8)	1.80 (2.82)		24.50 (1.58)		12.50 (0.53)		7.70 (2.87)	
3–4 days	22 (19.5)	3.59 (3.81)		23.64 (2.65)		11.59 (0.50)		8.23 (2.07)	
5 days	68 (60.2)	3.41 (3.61)		24.44 (4.63)		10.53 (3.08)		7.72 (3.17)	
Average time of any treatment procedure for each patient									
None	13 (11.5)	5.69 (3.90)	0.05	24.23 (1.92)	0.19	9.54 (3.84)	0.19	6.92 (2.84)	0.59
<30 minutes	9 (8.0)	2.78 (3.07)		20.33 (1.58)		10.78 (2.64)		7.56 (3.36)	
30 minutes	63 (55.8)	3.76 (3.92)		24.90 (4.43)		10.71 (3.09)		7.68 (3.10)	
>30 minutes	28 (24.8)	2.39 (2.79)		24.10 (2.79)		11.57 (0.96)		8.25 (2.35)	
Number of patients every day									
None	13 (11.5)	5.69 (3.90)	0.03	24.23 (1.92)	0.004	9.54 (3.83)	0.13	6.92 (2.84)	0.23
<8 patients	11 (9.7)	2.63 (3.83)		27.36 (5.08)		11.09 (1.64)		8.09 (3.05)	
8 patients	49 (43.4)	4.04 (4.12)		24.71 (4.16)		11.38 (1.73)		8.29 (2.75)	
>8 patients	40 (35.4)	2.55 (2.60)		22.87 (2.92)		10.40 (3.56)		7.20 (3.03)	

SD, standard deviation; R&D, research and development index; Notes: a, t-test used for significance; b, ANOVA test used to test for significance
 Bold font indicates statistical significance

Table 4: Adjusted estimates from for participation in dental research in the past year as predicted by R&D index domain scores ($n = 113$)

Variable	B	SE (B)	t	p
R&D support	0.144	0.089	1.608	<0.000
R&D skills/aptitude	0.032	0.141	0.228	0.111
R&D intention	0.270	0.138	1.957	0.050

R&D, research and development index; Notes: $R^2 = 0.086$; Adjusted $R^2 = 0.061$; $N = 113$

Bold font indicates statistical significance

include research activities.^{11,17} There is a need for collaboration between educational institutions and the Jazan Regional MOH in terms of conducting dental research, which is supported by work conducted by Shehatta and Mahmood.¹⁸

As a cross-sectional study, one of the strengths of the study is that it allowed the researchers to capture a snapshot of the target population's participation in dental research activities in Jazan at a specific time, when movement was restricted because of the COVID-19 pandemic. This study helps to pinpoint appropriate measures to improve their participation in dental research and, consequently, improve dental health care in general. However, the study is limited by the sample, which skewed toward higher participation by males (85.8%), which might be explained by the disproportionate number of male dental providers in Saudi Arabia.¹⁰ A low response rate resulted in a smaller than expected sample size based on approximately 200 providers in the region.¹⁰ The questionnaire was posted on social media consequently participants that during the period of data collection or in general are more active on social media had higher chances to respond which may have introduced selection bias. Of 222 dentists (total of MOH dentists in Jazan), 104 responded to the questionnaire and this coupled with the above-mentioned selection bias may hinder the generalizability of the study results. The active on social media during the short period of data collection was the only ones that had the chance to participate in the study. Although the response rate was low, it is similar to the response rate of three earlier studies.¹⁷⁻²¹ Lastly, the cross-sectional data collection can only be interpreted as an association rather than a cause-effect relationship.

CONCLUSION

The current study showed an overall low level of participation in dental research activities among oral health providers in Jazan. The R&D support and intentions significantly predicted the providers' participation in dental research. Comprehensive educational and training programs on dental research need to be developed that focus on implementation in their practice as well. In addition, further research is needed in order to identify the reasons why general dental practitioners are engaging less with research, which will allow for promoting research among more dentists in Saudi Arabia.

SIGNIFICANCE OF THE STUDY

The current study is the first to apply the R&D index to determine the factors that influence oral health providers' participation in dental research in Jazan, Saudi Arabia. This study provides insights into factors and obstacles that influence dental research, which may be useful for future investigations. Finally, we hope the findings from this study will stimulate health policy research in this area.

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