

Shared Decision-Making, Dental Visit Satisfaction, and Intention to Return Among Adults in Saudi Arabia: A Cross-Sectional Study

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Research Article

Keywords: Shared decision-making, Patient satisfaction, Dental care, Return intention, Patient-centered care, Saudi Arabia

Posted Date: October 22nd, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-11034785/v1>

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Additional Declarations: No competing interests reported.

Abstract

Background

Shared decision-making is a key component of patient-centered care and may affect patients' experience and satisfaction with dental care. This is specifically the case in dentistry. Despite the growing emphasis on patient-centered care in Saudi Arabia, evidence regarding the association between shared decision-making and patient satisfaction in dental settings remains limited. This study aimed to analyze the satisfaction with dental visits and shared decision-making and explore their association among adults in Riyadh, Saudi Arabia.

Methods

This study was conducted between March and April 2024 among adults who had received dental treatment over the past 12 months. The participants were conveniently sampled, and data were obtained through an online survey. Patient satisfaction was examined and shared decision-making measured. Descriptive statistics, group comparisons, correlation analysis, multiple linear regression, and binary logistic regression analyses were performed.

Results

In total, 473 participants were included in the analysis. The mean 10-item Dental Visit Satisfaction Scale and 9-item Shared Decision-Making Questionnaire scores were 3.90 ± 0.70 and 65.82 ± 23.55 , respectively. The two scales showed good internal consistency. Shared decision-making was positively and highly associated with patient satisfaction. Higher shared decision-making was substantially associated with increased patient satisfaction in the adjusted linear regression model. Moreover, the clinic sector, age group, and educational level were substantially associated with satisfaction. A significant interaction was detected between shared decision-making and the clinic sector. Participants who were expected to return to the same clinic had higher satisfaction and shared decision-making scores. In the adjusted logistic regression model, patient satisfaction was highly associated with return intention. Shared decision-making was independently associated with return intention.

Conclusion

Collaborative decision-making was strongly associated with patient satisfaction with dental services, and both were associated with the intention to return to the clinic. However, there was a gap between providing patient information and actively involving patients in discussions, articulating their wishes, and making joint decisions about treatment. These results demonstrate the value of going beyond information provision to facilitate patient engagement at a level that matches patient preferences.

Integrating shared decision-making measures with patient satisfaction can improve patient experience and promote patient-centered dental treatment.

Background

Shared decision-making (SDM) is at the heart of patient-centered care in modern healthcare systems and influences patients' experiences and satisfaction levels (1, 2). In addition, the ongoing digital advancements in the global and Saudi healthcare systems have enhanced care quality, transparency, and patient involvement in treatment decisions. This phenomenon is specifically true in the dental field, as treatment decisions often combine medical needs with patient preferences, such as orthodontics and cosmetics treatments (3). The development of dental technologies, including artificial intelligence simulation tools, has enabled patients to see results and actively participate in treatment decisions (4). Another key point is the complexity of the dental clinic's decision-making environment, which is influenced by patient anxiety, fear, and the multitude of available treatment options (5). Therefore, patients' confidence in the dentist's expertise along with their preferences and values are crucial factors in determining health outcomes and patient satisfaction (6).

Accordingly, when dentists make decisions solely without involving patients, the likelihood of noncompliance with the treatment plan increases, along with decreased trust, reduced satisfaction, and patients missing follow-up appointments (7, 8). This may ultimately lead to worsening the long-term health outcomes in terms of prevention, maintenance of treatment, or aesthetics (9). In other words, just as there is a high probability of errors in complex medical settings, there is also a high probability of dissatisfaction and interruption of care continuity. The SDM approach is effective in improving patient understanding and engagement in dental treatment (10). SDM can strengthen patient trust and support treatment adherence by promoting greater patient involvement and communication during decision-making (11, 12).

In light of this, SDM is defined as a collaborative approach where healthcare providers seek to involve patients effectively through sharing information, exploring patients' values and care preferences, and aligning the treatment plan with patients' priorities and health conditions (11, 13). Consequently, patients feel more empowered and controlled, making them an integral part of the treatment process (11). SDM is becoming more popular in dental practice because of the aesthetic and functional characteristics of the discipline that influence patient expectations and satisfaction (14). Patient satisfaction in dental clinics is a multifaceted indicator encompassing the quality of communication, clarity of information, respect and attentiveness of the dentist, service environment, patient comfort during the visit, and clinical results (14, 15).

This topic is evolving as a key priority in Saudi Arabia, as the health sector reforms align with the Vision 2030 goals, aimed at addressing societal needs by improving the quality of healthcare services, enhancing patient-centered care, and improving patient experience (16). Despite growing interest in this area, to the best of our knowledge, evidence regarding the association between SDM and patient

satisfaction in the dental sector in Saudi Arabia remains limited (17). Although SDM is essential for effective treatment, many dentists overemphasize technical performance and overlook effective communication with patients, which may adversely affect patient satisfaction, experience, and overall oral health outcomes (8, 17).

This cross-sectional study aimed to assess the dental visit satisfaction level and SDM and determine the correlation between these variables while considering various sociodemographic factors to support national efforts aimed at improving the quality of dental care and increasing patient satisfaction levels.

Methods

This cross-sectional study was conducted between March and April 2024 to examine the association between SDM and satisfaction levels among patients attending public and private clinics in Riyadh, Saudi Arabia.

Study participants and context

This study targeted Saudi residents (age ≥ 18 years) who received dental treatment, including preventive, restorative, prosthodontic, and/or cosmetic treatments, in the past 12 months. The eligibility criteria were self-reported and acknowledged through consent and survey questions. Therefore, responses that did not meet the inclusion criteria and those that were incomplete or duplicate were excluded from the analysis. Participants were selected through a convenience sampling method used through social media platforms (e.g., LinkedIn and institutional mailing lists).

Data collection tool

Data were collected through a confidential online survey to enhance and obtain a more regionally representative sample. The survey instrument consisted of closed-ended questions divided into three sections. The first section assessed patient satisfaction with their dental visit using the Dental Visit Satisfaction Scale (DVSS) —a scale previously developed and published by Corah and colleagues (1984) — where participants rate their satisfaction on a five-point Likert scale ranging from “strongly disagree” to “strongly agree.” The DVSS consists of 10 questions with three main dimensions, including information and communication, patient understanding and acceptance, and dentist technical competence (18). The second section measured patients’ perception of the SDM application using a Shared Decision-Making Questionnaire (9-item Shared Decision-Making Questionnaire [SDM-Q-9]), a scale previously developed and published by Kriston et al. (2010). The SDM-Q-9 scale consists of nine questions, where participants rate their answer on a six-point Likert scale ranging from “completely disagree” to “completely agree.” These questions cover essential steps for collaborative decision-making, including explaining treatment options, discussing treatment benefits and risks, and involving patients in the decision-making process (19). Both tools have shown their validity and reliability among different populations, with Cronbach’s alpha scores ranging from 0.92 to 0.94 (17, 19). The instruments

were adapted and translated into Arabic following forward-backward translation procedures to ensure content validity and linguistic equivalence. The final section includes queries on demographic, sociodemographic, contextual, and behavioral factors, including sex, education, income, region of residency, reason for dental visit, and classification of the dental clinic.

The final survey was designed as a Google Form and piloted on 27 participants to ensure face and content validity. The study protocol was reviewed and approved by the Institutional Review Board of King Saud University (approval no: KSU-HU-24-166). Participation was voluntary, and electronic informed consent was obtained prior to survey initiation.

Data collection and analysis

Data were collected between March and April 2024. The survey was initially distributed through WhatsApp to groups of dental medical staff, including dentists, oral hygienists, and dental therapists. Moreover, other social media platforms, such as Telegram and X (previously Twitter), were used to recruit more participants, thus enhancing the diversity and representativeness of the sample. Data were collected through the Google Form survey. Responses that did not meet the inclusion criteria were excluded from the final analysis.

Statistical analyses were performed using R version 4.3. Descriptive statistical analyses were performed for all variables, with categorical variables reported as frequencies and percentages and continuous variables reported as means, standard deviations, medians, and interquartile ranges. Cronbach's alpha was used to evaluate the internal consistency reliability of the two scales, with acceptable values ≥ 0.70 and good values ≥ 0.90 . Patient satisfaction and SDM scores were correlated using Pearson's correlation coefficient, with 95% confidence intervals (CIs) estimated using Fisher's z-transformation. As a robustness check, we also calculated Spearman's rank correlation.

Given the non-normal distribution of scores, comparisons of satisfaction and SDM scores across demographic groups were conducted using Mann–Whitney U tests for two-group comparisons and Kruskal–Wallis H tests for comparisons involving three or more groups. Multiple linear regression analysis was performed to examine the association between SDM and patient satisfaction while controlling for demographic covariates (sex, age group, educational level, income, and clinic sector). Binary logistic regression was used to identify predictors of return intention (yes/no). All statistical tests were two-tailed, and p-values < 0.05 were considered statistically significant.

Results

Participant characteristics

Most participants were female (82.0%) and within the 18–35 age group (43.8%) (Table 1). Over half held a bachelor's degree (56.2%), and approximately half reported a monthly income ≤ 9000 SR (52.9%). Most

participants had visited private dental facilities (74.8%) and were not first-time visitors (86.9%). Most participants expressed willingness to return to the same clinic (82.7%). Regarding the recency of dental care, 41.2% reported that their last visit occurred 1 year previously.

Table 1
Participant characteristics (n = 473)

Characteristic	Category	n (%)
Sex	Female	388 (82.0%)
	Male	85 (18.0%)
Age group	18–35	207 (43.8%)
	36–50	168 (35.5%)
	51+	98 (20.7%)
Educational level	High school or less	86 (18.2%)
	Diploma	71 (15.0%)
	Bachelor	266 (56.2%)
	Postgraduate	50 (10.6%)
Monthly income	≤ 9000 SR	250 (52.9%)
	10,000–20,000 SR	185 (39.1%)
	> 21,000 SR	38 (8.0%)
Clinic sector	Government	119 (25.2%)
	Private	354 (74.8%)
Visit type	First visit	62 (13.1%)
	Not the first visit	411 (86.9%)
Return intention	No	82 (17.3%)
	Yes	391 (82.7%)
Time since last visit	Two weeks	63 (13.3%)
	A month	72 (15.2%)
	Three months	78 (16.5%)
	Six months	65 (13.7%)
	One year	195 (41.2%)

Categorical variables are presented as counts and percentages. Percentages are based on the total valid responses.

Patient satisfaction and shared decision-making

Both the scales demonstrated excellent reliability. The Patient Satisfaction Scale (DVS-10) had a Cronbach's alpha of 0.920 (95% CI, 0.909–0.930), and the SDM-Q-9 had a Cronbach's alpha of 0.947 (95% CI, 0.939–0.953).

Responses to the **DVS-10** items were at the positive end of the scale (Fig. 1). High proportions of participants selected "Agree/Strongly Agree" for understanding their oral condition (78.0%), understanding expected changes (68.7%), receiving sufficient information (74.4%), feeling understood (69.8%), perceiving the dentist's concern about pain (77.0%), feeling accepted (72.9%), perceiving the dentist as thorough (78.9%), being satisfied with treatment (81.4%), and perceiving the dentist as competent (86.1%).

Responses to the **SDM-Q-9** items showed greater dispersion across categories (Fig. 1). Items assessing recognition of the need for a decision and the patient's desire to be involved in decision-making had 83.1% and 82.9% of the participants selecting "somewhat agree/strongly agree/completely agree," respectively. Items regarding the explanation of treatment options and their advantages and disadvantages showed similar patterns (81.1% and 79.0%, respectively). In contrast, items reflecting more active patient participation, such as stating preferences and selecting an option together with the dentist, had lower proportions of responses in the upper categories (approximately 40%–47%).

Percentages reflect the proportion of participants selecting each response category for every item. Satisfaction items were scored on a 5-point Likert scale (strongly disagree to strongly agree), with the negatively worded roughness item reverse-interpreted. SDM-Q-9 items were scored on a 6-point scale (completely disagree to completely agree). Higher response categories indicate more positive satisfaction or higher perceived shared decision-making.

Satisfaction and shared decision-making across participant characteristics

Across the demographic subgroups, the average **DVS-10** and **SDM-Q-9** scores were comparable, with no statistically significant differences, except for return intention ($p < 0.001$ for both) (Table 2). The mean DVS-10 scores did not significantly differ in terms of sex (female 3.90 ± 0.70 vs. male 3.94 ± 0.72 , $p = 0.563$), age group (18–35: 3.98 ± 0.72 , 36–50: 3.84 ± 0.66 , 51+: 3.86 ± 0.73 , $p = 0.122$), educational level (range, 3.82–4.02; $p = 0.419$), income category (range, 3.86–4.03; $p = 0.245$), or clinic sector (government 3.86 ± 0.83 vs. private 3.92 ± 0.65 , $p = 0.383$). Similarly, the SDM-Q-9 scores did not significantly differ in terms of sex (65.69 ± 23.30 vs. 66.40 ± 24.77 , $p = 0.799$), age group (range, 62.72–67.26; $p = 0.308$), educational level (range, 60.80–68.23; $p = 0.338$), income group (range, 63.84–70.00; $p = 0.132$), or clinic sector (65.62 ± 25.31 vs. 65.88 ± 22.96 , $p = 0.917$). Participants indicating they would return to the same

clinic reported higher DVS-10 (4.06 ± 0.57 vs. 3.17 ± 0.81 , $p < 0.001$) and higher SDM-Q-9 scores (70.24 ± 21.11 vs. 44.74 ± 23.26 , $p < 0.001$), with both scores being lower among participants who did not intend to return than those who intended to return.

Table 2
DVS-10 and SDM-Q-9 scores according to demographic characteristics (n = 473)

Variable	Group	DVS-10 Mean $\pm$ SD	SDM-Q-9 Mean $\pm$ SD
Sex	Female	3.90 ± 0.70	65.69 ± 23.30
	Male	3.94 ± 0.72	66.40 ± 24.77
	p-value	p = 0.563	p = 0.799
Age group	18–35	3.98 ± 0.72	66.11 ± 24.88
	36–50	3.84 ± 0.66	67.26 ± 21.22
	51+	3.86 ± 0.73	62.72 ± 24.39
	p-value	p = 0.122	p = 0.308
Educational level	High school or less	3.87 ± 0.72	67.31 ± 21.67
	Diploma	4.02 ± 0.78	68.23 ± 28.17
	Bachelor	3.90 ± 0.65	65.63 ± 22.46
	Postgraduate	3.82 ± 0.81	60.80 ± 25.05
	p-value	p = 0.419	p = 0.338
Income	≤ 9000 SR	3.86 ± 0.67	63.84 ± 23.09
	10,000–20,000 SR	3.94 ± 0.70	67.63 ± 24.09
	$> 21,000$ SR	4.03 ± 0.85	70.00 ± 23.22
	p-value	p = 0.245	p = 0.132
Clinic sector	Government	3.86 ± 0.83	65.62 ± 25.31
	Private	3.92 ± 0.65	65.88 ± 22.96
	p-value	p = 0.383	p = 0.917
Return intention	Yes	4.06 ± 0.57	70.24 ± 21.11
	No	3.17 ± 0.81	44.74 ± 23.26
	p-value	p < 0.001	p < 0.001

Values are presented as the means $\pm$ standard deviations. P-values derived from the Mann–Whitney U or Kruskal–Wallis tests. Superscript letters are shown only when post-hoc comparisons identified significant differences; groups not sharing the same letter differed at $p < 0.05$.

Overall patient satisfaction, shared decision-making, and their association

The mean DVS-10 score was 3.90 ± 0.70 (range, 1.4–5), whereas the mean SDM-Q-9 score was 65.82 ± 23.55 (range, 0–100) (Fig. 2).

A strong positive correlation was observed between the SDM-Q-9 and DVS-10 scores overall ($r = 0.72$, $p < 0.001$), with similarly strong correlations when stratified according to clinic sector (government $r = 0.78$, $p < 0.001$; private $r = 0.70$, $p < 0.001$) (Fig. 3).

Predictors of patient satisfaction

Higher SDM scores were significantly associated with greater patient satisfaction ($B = 0.03$, $p < 0.001$), indicating that for every 10-point increase in SDM score, satisfaction increased by approximately 0.3 points on the 1–5 scale (Table 3). Patients attending private clinics reported significantly higher satisfaction than those attending government facilities ($B = 0.50$, $p = 0.001$). A significant interaction between SDM and clinic sector was also observed ($B = -0.01$, $p = 0.002$). Middle-aged participants (36–50 years) reported significantly lower satisfaction than younger adults ($B = -0.19$, $p < 0.001$), whereas those with diploma-level education reported higher satisfaction than those with high school education or less ($B = 0.17$, $p = 0.032$). Sex and income were not significantly associated with satisfaction. The model explained 55.0% of the variance in patient satisfaction ($R^2 = 0.550$, adjusted $R^2 = 0.539$).

Table 3
Multiple linear regression analysis of predictors of patient satisfaction

Predictor	B	95% CI	p-value
(Intercept)	2.13	1.86–2.39	< 0.001
SDM score (0–100)	0.03	0.02–0.03	< 0.001
Clinic sector: private (ref: government)	0.50	0.21–0.78	0.001
Sex: male (ref: female)	0.01	–0.11–0.13	0.895
Age: 36–50 (ref: 18–35)	–0.19	–0.29 to – 0.09	< 0.001
Age: 51+ (ref: 18–35)	–0.06	–0.18–0.06	0.337
Education: diploma (ref: high school or less)	0.17	0.01–0.32	0.032
Education: bachelor	0.07	–0.05–0.19	0.279
Education: postgraduate	0.07	–0.11–0.26	0.439
Income: 10,000–20,000 SR (ref: ≤ 9000 SR)	0.02	–0.09–0.12	0.765
Income: > 21,000 SR	0.07	–0.12–0.25	0.469
SDM × clinic sector (interaction)	–0.01	–0.01 to – 0.00	0.002

Predictors of return intention

Patient satisfaction was the strongest predictor of return intention (Table 4). For each one-unit increase in satisfaction score, the odds of intending to return to the same clinic increased nearly fivefold (odds ratio [OR] = 4.83; 95% CI, 2.67–9.12; $p < 0.001$). SDM was also a significant independent predictor after controlling for satisfaction. Each one-point increase in SDM score was associated with 2% higher odds of return intention (OR = 1.02; 95% CI, 1.00–1.04; $p = 0.036$). This translates to approximately 22% higher odds for every 10-point increase in SDM score. Sex, age group, and clinic sector were not significantly associated with return intention in the adjusted model. The model demonstrated acceptable discriminative ability (Tjur's $R^2 = 0.285$), indicating a moderate separation between participants who intended and did not intend to return.

Table 4
Binary logistic regression analysis of predictors of return intention

Predictor	OR	95% CI	p-value
(Intercept)	0.01	0.00–0.04	< 0.001
Patient satisfaction score (1–5)	4.83	2.67–9.12	< 0.001
SDM score (0–100)	1.02	1.00–1.04	0.036
Sex: male (ref: female)	1.12	0.53–2.53	0.767
Age: 36–50 (ref: 18–35)	0.84	0.45–1.58	0.590
Age: 51+ (ref: 18–35)	1.67	0.76–3.88	0.218
Clinic sector: private (ref: government)	0.68	0.33–1.32	0.272

Discussion

This study demonstrated a relatively high level of patient satisfaction with dental care (DVS-10 = $3.90 \pm 0.70/5$), along with a generally positive level of SDM (SDM-Q-9 = $65.82 \pm 23.55/100$). However, there was a noticeable distinction between the components of SDM. Although most participants reported recognizing the need to make a decision and were willing to participate and received information about treatment options, advantages, and disadvantages, active participation in expressing preferences and co-choosing treatment with a dentist was less common. SDM was also strongly and positively correlated with patient satisfaction ($r = 0.72$, $p < 0.001$) and remained associated with satisfaction in multivariate analysis. Finally, patient satisfaction was the strongest predictor of clinic return intention (OR = 4.83; 95% CI, 2.67–9.12), whereas joint decision-making remained independently associated with return intention after adjusting for satisfaction level (OR = 1.02 per point; 95% CI, 1.00–1.04).

The overall patient satisfaction in our study was high, which is consistent with the overall trend in recent Saudi research on dental treatment. Othman and Kadasah (2025) also reported a satisfaction level of 3.89/5, which is equivalent to that of our study (20). Other Saudi studies reported satisfaction levels between 3.61 and 4.51/5, demonstrating considerable fluctuations in satisfaction ratings despite the overall favorable trend (15, 21). The results of Alshareef et al. (2020) are especially important, as the situation was comparable and a dental visit satisfaction measure was applied. This study reported a greater level of satisfaction (approximately 4.5/5), with high scores for completeness of the examination, explanation of the treatment plan, and competence of the dentist (22). This is consistent with our results, in which competence, thoroughness of the examination, and happiness with therapy were among the most positively rated aspects of the visit. Differences in satisfaction levels between studies may be due to differences in the context of care delivery, sample characteristics, and assessment methods; hence, caution is advised in direct numerical comparisons. To summarize, our findings demonstrate the importance of both the technical and communicative aspects of the care experience in determining dental patient satisfaction.

Overall, a good picture of SDM seems to conceal considerable differences between its phases, with information provision being more common than components requiring actual patient involvement in deliberation and choice. This pattern coincides with that of Alshareef et al. (2020), who also used the SDM-Q-9 and reported information comprehension as the top-rated item, whereas weighing options, expressing preferences, and co-choices were significantly lower (17). Consistent with the results of our study, Jung et al. (2026) reported that assessing treatment alternatives was the least rated part of SDM, and Reissmann et al. (2019) found that the actual roles that patients experienced were more negative than they preferred (6, 23). The findings suggest that information provision and readiness to participate do not automatically lead to the progression to deliberation, preference expression, and co-choice. However, this should not be construed as all patients wanting the same level of engagement, as Benecke et al. (2020) revealed that participation preferences were dependent on the type of dental choice (24). Thus, our results show the need to examine the individual components of collaborative decision-making, rather than only the overall level of joint decision-making to identify the stages in which information may not be translated into actual participation in the decision.

The association between SDM and patient satisfaction was a key finding of this study and remained strong even after adjusting for other factors. This is consistent with the findings of Alshareef et al. (2020), who showed a positive association between SDM and satisfaction in a Saudi dentistry environment; however, the correlation was stronger in our study (17). This is further corroborated by Aldossary et al. (2023), who found that patient involvement in decision-making and explanations of treatment alternatives were substantially associated with satisfaction (25). Furthermore, Touati et al. (2022) showed that participation in decision-making and communication during dental care was associated with higher satisfaction (26). This association may be related to the effects of communication, patient preferences, and knowledge of autonomy on the care experience. However, broader evidence suggests that the association between SDM and patient outcomes is inconsistent across all studies and appears more pronounced when SDM is measured from the patient's perspective, and satisfaction is one of the outcomes (27). Thus, our results reinforce the evidence that patients' experience of active participation in decision-making is an important aspect of their satisfaction with dental care, although the direction of this association remains inconclusive owing to the cross-sectional design of the study.

Our results suggest that the healthcare sector's role in patient satisfaction is more complex than simple differences between public and private clinics. No difference was found between the two sectors in the unadjusted analysis, whereas private sector care was associated with higher satisfaction after adjusting for other factors. Satisfaction was differentially associated with SDM in each sector. The trend in the adjusted score is in line with Aman et al. (2025) and Chandrakiran et al. (2023), who found higher satisfaction in private compared with public dental facilities, differing in access to appointments, waiting times, communication, and organization of services (28, 29). However, these differences were inconsistent in all studies. Lixandru et al. (2024) observed a tendency toward better ratings in the private sector, but the differences were not uniform for different satisfaction measures, whereas Saudi government clinics in Fairaq et al.'s study (2025) received high satisfaction levels (30, 31). Therefore,

discrepancies within sectors may reflect greater differences in service organization, patient experience, and expectations, rather than an intrinsic advantage of one sector over another. The interaction observed in our study also implies that the care environment may be a significant factor to consider when examining the association between SDM and satisfaction.

In our study, patient satisfaction was the strongest predictor of return intention. However, SDM was independently associated with return intention after accounting for the level of satisfaction. This is consistent with Park et al. (2021), who found a significant association between dental patient satisfaction and return intention (32). Tao and Liu (2025) also demonstrated a significant association between satisfaction and return intention in dental clinics (33). Zhao et al. (2024) added an important dimension to this association (34). Satisfaction with technical competence and treatment was associated with higher return intention, and this association was even stronger with higher satisfaction with information, communication, and a sense of understanding and acceptance. Our study adds to this body of evidence by showing that SDM is independently associated with return intention and overall satisfaction. This finding suggests that return intention may be associated not only with the patient's evaluation of care but also with the patient's experience of communication and participation in decision-making. However, it should be considered within the context that intention to return was measured, not the return itself, and that the cross-sectional design of the study does not allow for a causal association between these variables.

Our results show that strengthening SDM in dental care may need to move beyond information giving and encourage more active involvement of patients in conversation and decision-making. This is consistent with Jung et al. (2026), who highlighted the need for a more structured approach to explore and incorporate patient preferences into final treatment decisions and with Reissmann et al. (2019), who suggested empowering patients to take their preferred role by providing information tailored to their needs and helping them think about treatment options (6, 35). However, the promotion of participation should not presume that all patients want the same degree of involvement in decision-making. Benecke et al. (2020) showed that participation preferences varied according to the patient and their decision (24). Thus, our findings encourage a more structured approach to SDM that includes not only providing and discussing options but also evaluating patient preferences, promoting deliberation, and taking their chosen level of participation in the ultimate treatment decision.

The study has several strengths, such as a large sample size, involving dental care users in both the public and private sectors, and the concurrent measurement of patient satisfaction and SDM using two measures with excellent internal consistency. Moreover, multivariate analyses were performed to explore the associations among SDM, satisfaction, and return intention, controlling for various participant characteristics and the setting of care delivery. However, the results should be interpreted with caution. A cross-sectional design cannot sequence events in time or establish causal associations among SDM, satisfaction, and return intention. Reliance on self-reported patient experiences of care may render certain estimates subject to differences in recall accuracy, particularly with eligibility for dental visits extending for up to 12 months. Furthermore, the use of a convenience sampling approach and the

predominance of female and private sector patients suggest caution in generalizing the results to all users of dental services or other settings. Finally, this study examined return intention, not actual return visits; thus, no assumptions can be made that reported intention will necessarily transfer into subsequent behavior. Future studies should explore these associations using longitudinal designs and more diverse and balanced probability samples, including measures of SDM closer to the visit and following actual return behavior. The results showed that at the level of practice and policy, the measurement of patient experience in dental care could be enhanced by the addition of SDM indicators to conventional satisfaction measures. This would allow doctors and policymakers to identify what needs to be improved in the patient experience, particularly the transition from merely providing information to actively engaging patients to express their preferences and be part of the decision and treatment choice. This would also result in quality improvement initiatives and patient-centric care in dental services.

Conclusions

Our study findings suggest that a positive patient experience in dental services relates not only to satisfaction with care but also to patient participation in treatment decisions. The results showed a considerable difference between presenting patients with information and participating them in deliberation, expressing their preferences and deciding on treatment jointly, although SDM was typically good. The high association between SDM and satisfaction and the association between both and the intention to return to the clinic underline the relevance of participatory components in understanding patient experience in dental care. In addition, these findings suggest that improving the patient experience should not only involve satisfaction measurement or information delivery but should also include an assessment of the extent to which patient preferences are explored and the degree of support provided for participation in decision-making. Incorporating these dimensions into evaluations of patient experience provides dental professionals and decision-makers with a more concrete basis for guiding quality improvement efforts and fostering patient-centered treatment.

Abbreviations

SDM shared decision-making

DVSS Dental Visit Satisfaction Scale

SDM-Q-9 9-item Shared Decision-Making Questionnaire

CIs confidence intervals

OR odds ratio

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with Declaration of Helsinki, and the study protocol was approved by the Institutional Review Board of King Saud University (approval no: KSU-HU-24-166). Participation was voluntary, and electronic informed consent was obtained prior to survey initiation.

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interests.

Funding

The authors declared that financial support was received for this work and/or its publication. This research was funded by the Ongoing Research Funding Program (ORF-2026/2186), King Saud University, Riyadh, Saudi Arabia. The funder had no role in the study design, data collection, analysis, interpretation of data, writing of the manuscript, or the decision to submit the article for publication.

Author Contribution

Nouf Alsaheil contributed to the conceptualization and methodology of the study, interpretation of the results, initial manuscript drafting, and critical review and editing of the manuscript. Nuha Alzaaqi contributed to the conceptualization, data collection, data analysis, and manuscript writing. Both authors reviewed and approved the final version of the manuscript.

Acknowledgement

The author would like to acknowledge the support provided through the Ongoing Research Funding Program, King Saud University, Riyadh, Saudi Arabia (ORF-2026-1129).

Data Availability

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

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Figures

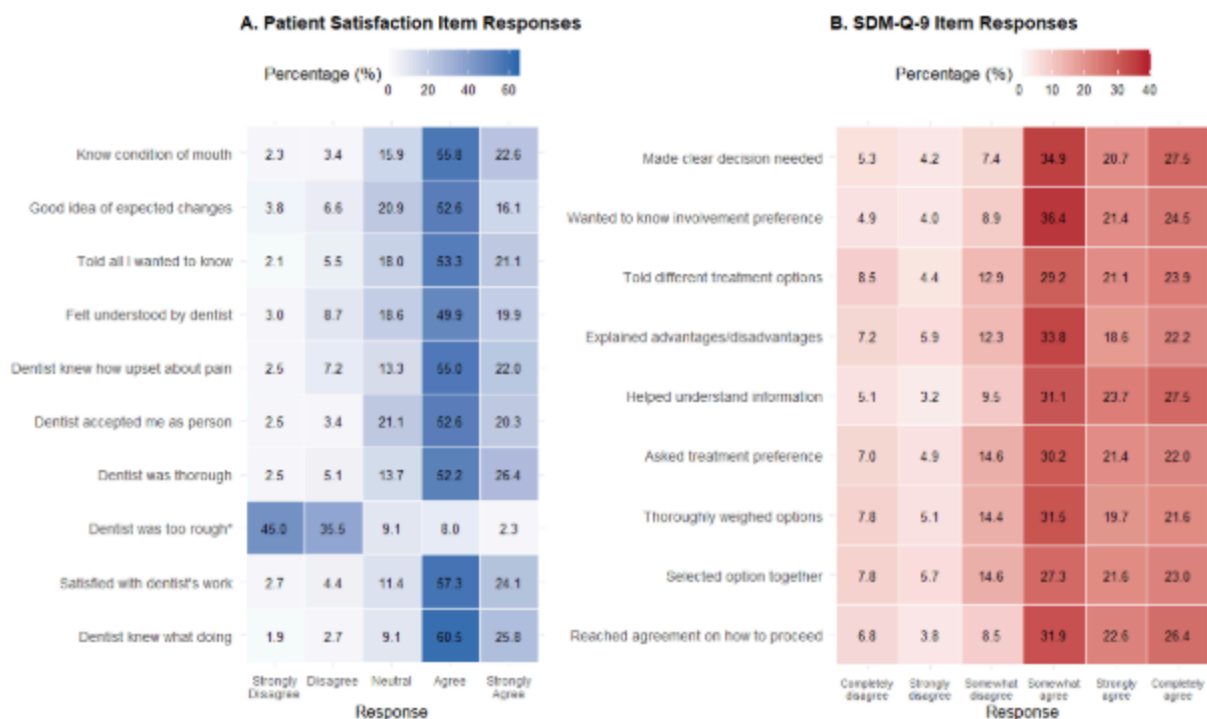


Figure 1

Distribution of patient satisfaction and SDM item responses

Percentages reflect the proportion of participants selecting each response category for every item. Satisfaction items were scored on a 5-point Likert scale (strongly disagree to strongly agree), with the negatively worded roughness item reverse-interpreted. SDM-Q-9 items were scored on a 6-point scale (completely disagree to completely agree). Higher response categories indicate more positive satisfaction or higher perceived shared decision-making.

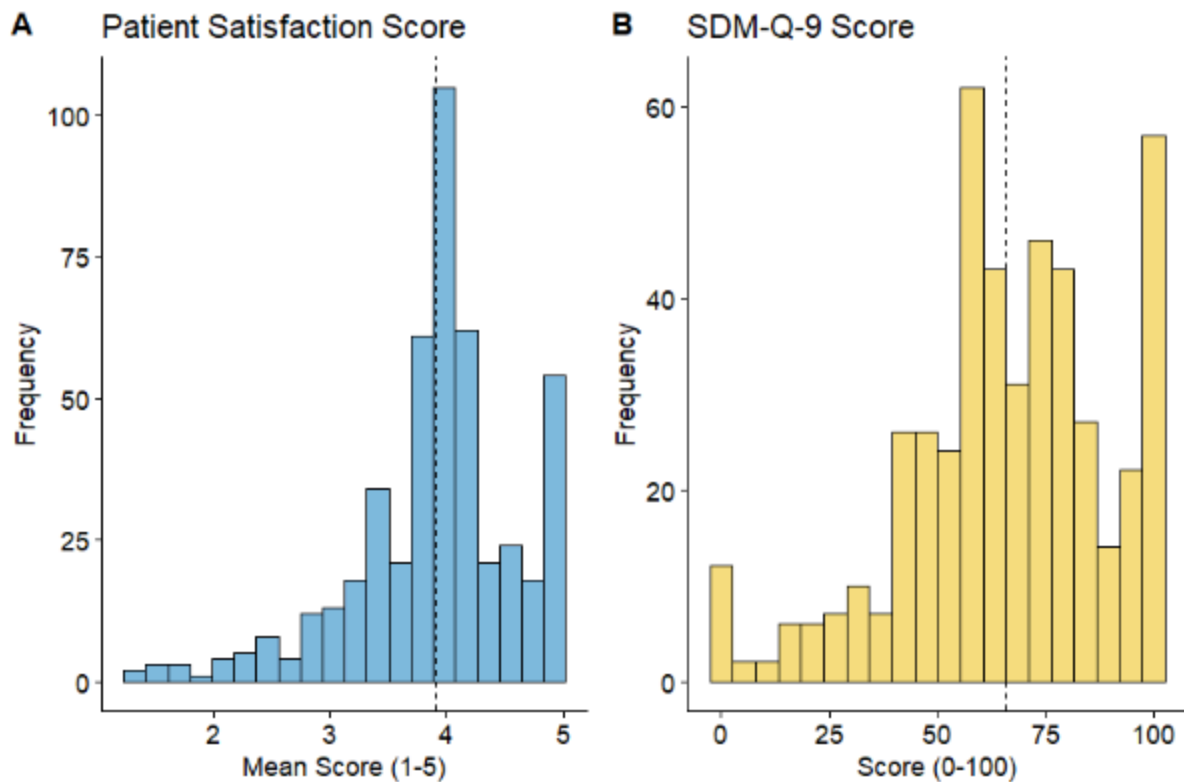


Figure 2

Distribution of DVS-10 and SDM-Q-9 total scores

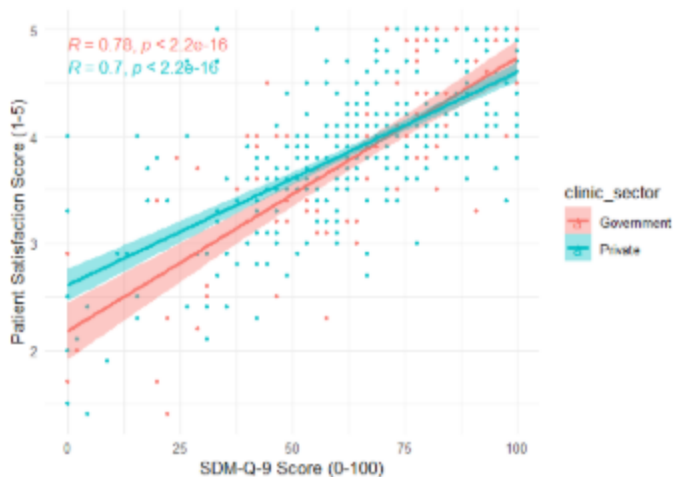


Figure 3

Association between patient satisfaction and SDM according to clinic sector