A scoping review to explore patient trust in dentistry

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A scoping review to explore patient trust in dentistry: the definition, assessment and dental professionals' perception

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Key points

- No consensus is found on the trust definition or an instrument to measure patient trust in dentistry.
- Communication is recognised by dental professionals as significant in building trust with patients.
- Given the complexity of trust, more robust investigations are needed to develop a good measurement of trust and explore widely dental professionals' perception of patient trust.

Abstract

Background A trusting dentist-patient relationship is pivotal in providing person-centred care. This scoping review aims to identify how trust is defined, measured and perceived by dental professionals.

Methods The Joanna Briggs Institute framework was adopted. A search strategy was developed using MeSH (Medical Subject Headings) terms and key words. Medline/PubMed, Embase, PsycINFO and CINAHL were searched. Data were synthesised using thematic analysis.

Findings In total, 16 studies were included that frequently used quantitative research methodology. Only four studies provided definition of trust. Many studies employed either Dental Trust Scale or Dental Beliefs Survey to measure dentist-patient trust, although others developed their own items. Limited research suggested that the dental professionals appreciated communication was paramount to building a trusting relationship with patients.

Conclusion No consensus was found on the definition of trust, nor on a preferred assessment tool to measure dentist-patient trust. The limited evidence intimated that dental professionals acknowledged the importance of effective communication in building a trusting alliance with patients. The scarcity of relevant research highlights the need for more robust investigations of trust in dental care.

Background

Trust, within the healthcare arena, is defined as the relationship that exists between individuals, as well as between individuals and a system, in which one party accepts a vulnerable position and believes the other will act for the benefit for their interests.[1] To put it simply, trust is defined as 'the physician acting as an advocate of the patient's interest'.[2] A trusting relationship with a patient is crucial in providing person-centred care.[3] Empirical research highlights the importance of a trusting provider-patient relationship in the process of delivering care. For years, research has shown that patients who trust their health provider are more likely to engage with their care,[4] more likely to follow treatment regimen, and gain good control over their chronic conditions.[5,6] This in turn will lead to good health outcomes.[7,8] Conversely, lack of trust can decrease patient satisfaction, increase anxiety, diminish compliance to dentist recommendations, and result in a poor patient oral health outcome.[9,10,11,12]

Trust is essential for a good dental provider-patient relationship that brings mutual benefits for both patients and providers. Trust facilitates dentist-patient interaction, creates a strong feeling of patient satisfaction with dental care, and fosters a therapeutic treatment alliance.[13] Moreover, trust encourages dentists to achieve a sense of work satisfaction and reduces work-related mental stress.[14,15]

While trust is seen as fundamental to the provider-patient relationship, its definition remains ambiguous. This ambiguity may stem from its complexity and multi-dimensionality that encompasses dimensions such as communication, ethics and competence when measuring trust.[16] These dimensions are used in differing combinations in various scales to measure trust.[16,17] Furthermore, trust has been used interchangeably with 'distrust', 'trustworthiness' and 'confidence'.[2] This adds extra complexity to its definition.

Although much has been studied in patient-physician trust, little has been explored in patient-dental provider trust. In general, it is considered that poor conceptual clarity of a construct results in assessments with questionable validity. Only recently has the measurement of trust in the dentist-patient relationship been investigated,[18] with most of the scales adapted from medicine.[19]

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It remains unclear which measurement is most appropriate in a dental context. Furthermore, while research shows trust has been valued by patients, little evidence has been presented to show how dental providers perceive patient trust.

For the above reasons, this scoping review aims to explore the available evidence to identify how trust is defined and assessed in the dental literature, as well as how dental professionals perceive patient trust.

Methods

Scoping reviews were considered appropriate to identify the knowledge gap and clarify the key concept based on the existing evidence when little is known about the topic. This study adopted the Joanna Briggs Institute (JBI) approach using population, concept and context (PCC) to guide the development of the research question and the eligibility criteria.[20,21] Given the interpersonal feature of trust, we included both patients and dental professionals as participants:

- Population – adult patients and dental professionals
- Concept – trust
- Context – dental settings.

Eligibility criteria

Informed by the JBI approach, the inclusion and exclusion criteria were developed (Table 1) to assist selecting appropriate papers.[20] Children and patients with learning disabilities[22] were excluded due to the complexity of the triadic interaction. Different types of studies were included, such as review studies, quantitative research, qualitative and mixed-method studies.

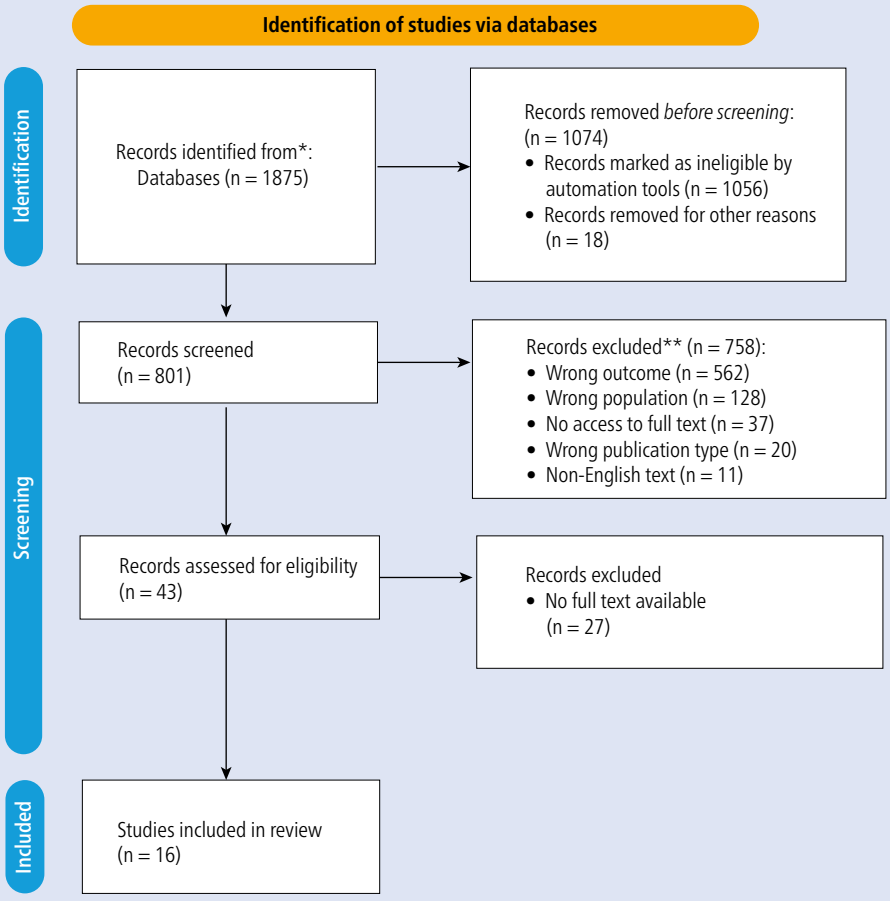
Search strategy

A search was conducted for published literature between 1980 and November 2021 on electronic databases, including Medline/PubMed, Embase, PsycINFO and CINAHL. The search was piloted and refined based on the research question and the key components.[23] Articles that had the following keywords or MeSH (Medical Subject Heading) terms were included: 'Dental care OR Dentist OR Dental Hygienist OR Dental Professional OR Dentistry OR Dental OR Dental Staff AND Dentist-Patient Relations OR Professional-Patient Relations OR Patients OR Physician-Patient Relations AND Trust OR Distrust OR Mistrust OR Entrust'.

Table 1 Eligibility criteria

PCC framework	Inclusion criteria	Exclusion criteria
Population	• The participants should include patients and dental professionals, including dentists, dental nurses, dental hygienists and dental therapists • The participants should be at least 18 years old	• If the study includes any non-dental professionals such as practice managers and receptionists • If the study participants include children, the intellectually disabled or family members of patients
Concept	• The study should include information that is relevant to at least one of the objectives	• If the study does not should include information that is relevant to at least one of the objectives
Context	• The study should be carried out in a dental setting including clinics and hospitals	• If the study is carried out in a non-dental setting such as community centres
Language	• English publications	• Non-English publications

Fig. 1 PRISMA flowchart



*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all database/registers).

**if automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

Data selection

Following the initial search, all the eligible articles were uploaded into Endnote X9. The title and the abstract of all the eligible articles were blindly screened (DJ and SS) on Rayyan.[24] Full texts were read (DJ and SS) and reference lists were hand-searched for additional papers. A flowchart was created based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses: Scoping Review (PRISMA-ScR)[25] (Fig. 1).

Table 2 A summary of trust measurements

References	Scales/measurements	Factors	Number of items	Example of item	Psychometric findings
Kulich *et al.* (2001)[28] Skowron *et al.* (2017)[31]	Dental Belief Scale	• Belittlement • Communication • Lack of control • Trust	15	• Dentists say things to fool me • I am not sure I can believe what dentists say	Cronbach's alpha has been used to measure reliability, which was 0.91, which shows good reliability
Kvale *et al.* (2004)[32] Abrahamson *et al.* (2006)[33]	Dental Belief Scale – revised	• Ethics • Communication • Control • Trust	28	• I have heard dentists say one thing and do another • I feel dentists do not provide clear explanations	Cronbach's alpha has been used to measure reliability, which was 0.96, which shows good reliability
Song *et al.* (2020)[29] Song *et al.* (2020)[30] Armfield *et al.* (2017)[19]	Dentist Trust Scale	• Fidelity • Competence • Honesty • Global Trust	11	• Dentists do not pay full attention to patients • Dentists would never mislead you	DTS has good internal consistency and a single-factor structure. Cronbach's alpha was 0.94 for trust
Yuan *et al.* (2020)[34]	Items from the UK Adult dental health survey	• Trust • Communication	18	• Dentist listened carefully • Had confidence and trust in dentist • Was treated with respect • Dentist explained reason for treatment	The fit measurement model with the sample is excellent which confirms that the trust scale is both an internally consistent latent variable and also a distinct construct from other variables including dental anxiety, shame and communication processes (comparative fit index = 0.996; Tucker–Lewis index = 0.995; root mean square error of approximation = 0.018 [95% CI: 0.016, 0.020]). Alpha coefficient for trust factor is 0.75
Ashley E. Fico and Carolyn Lagoe (2018)[36]	Dental mistrust	• Mistrust	3	• Sometimes dental procedures are done on people without their consent	Shows good internal consistency with alpha = 0.81
Ried *et al.* (2014)[35]	Ideal dentist vs dentist in general	• Trustworthiness	2	• Know when to refer a patient to a specialist • Are completely trustworthy	N/A
Muirhead *et al.* (2014)[27]	Item from the UK Adult dental health survey	• Confidence and trust	1	• Felt confident and trusted dentist	N/A
Graham and Logan (2004)[26]	Selected characteristics of respondents with complete data	• Trust level	1	• High • Medium • Low	N/A

Data charting and synthesis

A data extraction was adapted from JBI to record key information relevant to the review questions. All the selected articles were summarised (see online Supplementary Information).

Results

An initial search yielded 1,875 articles and further reduced to 801 after removing duplicates. In total, 43 articles were included after screening the title and the abstract following the eligibility criteria, and their full texts were read and screened. A further 27 articles were excluded, yielding a total of 16 studies (Supplementary Table 1).

Study characteristics

Most of the articles were published after 2000, with 12 published after 2010 and one published in 1980. All the articles were published from western countries, including Australia (n = 4), the United States (n = 4), the United Kingdom (n = 3), Sweden (n = 3), the Netherlands (n = 1) and Poland (n = 1). Most of the participants were dental patients, while one study explored the views of dental hygienists, and another explored dental teams' perspectives as part of the stakeholders. In total, 12 studies used a quantitative method, two studies a qualitative method, one a mixed method, and one was a review article.

Definitions of trust

Only four[15,19,26,27] of 16 articles had some form of definition of trust. These were referenced to previous studies encompassing two definitions which focused on: i) patient's expectations for care; and ii) the acceptance of their personal vulnerability due to illness or unequal provider-patient relationship. Two studies[26,27] defined trust as 'expectation for care' that would be met when trust was established or maintained. This definition underlined the pre-requisite for trust to be developed when a patient's expectation of care was met during their health care encounters. However, the other two studies defined trust as a potentially vulnerable situation of the patients that relies on health providers to act in patients' best interests.[15,19] Although the definition has not been explored in-depth in dentistry, Armfield and co-authors have discussed the most pertinent components of trust, including reliability, competence, dependability, compassion, confidentiality and communication.[19]

Existing instruments to measure trust

In total, 12 articles[19,26,27,28,29,30,31,32,33,34,35,36] used either various scales or single items to measure trust (Table 2). A limited number of scales were used more often, with three using the Dentist Trust Scale (DTS)[19,29,30] and four applying the Dental Belief Survey (DBS).[28,31,32,33]

Dental Trust Scale

The DTS was adapted from the Physician Trust Scale with minor changes. The DTS

covered four dimensions of trust, namely, fidelity, competence, honesty and global trust. Armfield *et al.*[19] added two new items to explore: i) patient trust in the previous dentist they visited; and ii) reasons of changing dentist. These two items were designed to help identify reasons for poor trust in the dentists.

Dental Belief Survey

The original DBS initially had 15 items which aimed to measure the dentist-patient relationship exploring four dimensions, that is, communication, belittlement, lack of control and trust, with answers ranging from 1 = 'highly positive' to 5 = 'highly negative'.[28] As part of the DBS, only two items were used to measure trust which focused on distrust rather than trust. These two items explored how sceptical and distrustful the patient felt about their dentist, that is: 'I am not sure I can believe what the dentist says' and 'dentists say things to try and fool me'. This, however, highlights a potential question of whether two items could measure a complex construct like trust.[28] The DBS was then revised by adding 13 more items while retaining or slightly modifying the original 15 questions to cover three aspects: ethics (which replaced 'belittlement' and 'trust' in DBS), communication and control. The revised scale, DBS-R,[32] was evaluated for its psychometric properties. The trust dimension was suggested to be reintroduced to improve the stability of the scale and reliability of this dimension. Trust dimension had six items when reintroduced. One item, however, was strongly loaded also on the ethics dimension, indicating the close relation between these two sub scales.[32]

2009 UK Adult dental health survey: measures of trust

Although both derived from the 2009 UK *Adult dental health survey*,[37] Muirhead's work[27] used a single item to measure patient feeling of 'confidence and trust' in dentists, whereas Yuan *et al.*[34] explored more broadly the concept of trust through four items, in addition to the 'confidence and trust' item. The three additional items explored dentists' listening and explanation skills when discussing treatment, as well as whether patients were treated with respect.

Other instruments to measure trust

Although trust and mistrust should not be regarded as the opposite side of the concept, one study adopted three items from the measure of medical mistrust to test patient mistrust of dental providers.[36] Groenstijn's work used a single item to test global trust by directly asking the patients how much they trust their dental care provider,[38] whereas Reid *et al.* used a 32-item survey, developed based on health care ethics literature, to measure trust and therefore to assess the differences in patients' views of an ideal dentist and their dentists.[35]

Dental professionals' perception of patient trust

Only two qualitative studies[39,40] were found to report dental professionals' views on patient trust. One study explored dental hygienists' perspectives on communication and interpersonal processes during the dental encounter.[39] The dental hygienists admitted their responsibility and the importance of building trust with the patient. For them, trust could be established through creating a 'reliable relationship' and being responsive to patients' requirements. The hygienists also emphasised the importance of a first appointment in the building of trust, and how a negative attitude of the patient could affect the development of trust. Patient-centred communication was regarded as essential in building a trustful relationship and treatment success.

The other study explored dentists' perceived barriers and facilitators to preventing oral diseases in six European countries.[40] Trust was seen as a key factor in the dentist-patient relationship. The dentists recognised the importance of patient-centred communication rather than using 'victim blaming' or 'lecture' approaches to communicating with the patient. Interestingly, dentists thought they were perceived negatively by patients.

Discussion

This scoping review sought to identify definitions and instruments to measure trust, as well as to explore dental professionals' perceptions of patient trust. The findings were discussed under the following themes.

Lack of definition of trust

Four[15,19,26,27] out of 16 studies identified two definitions adapted from the medical literature. The remaining 12 papers include ten papers using items or scales to measure trust and two qualitative studies exploring dental professionals' perception of trust. Despite the scarcity of the trust definition in dentistry, some validated instruments, such as the DBS and DTS, showed multiple domains to measure trust, such as fidelity, professional competence, honesty and communication.[19,28,29,31,32,33,34,35,38] This might suggest how trust was conceptualised based on these interrelated dimensions.

One definition focused on 'expectations of care', as patients expected their health care providers to act for their benefit through their technical competency. This definition underlines patient-centredness, as trust will be developed if a dental provider meets a patient's expectation of care. To do so, dental providers need to listen to their patients, understand their needs and involve them in the decision-making process, which will help to reach their 'expectation of care'.[14]

The other definition highlights the contextual factor of patient vulnerability due to illness or the unequal provider-patient relationship. This puts patients into a 'dependent position' where they rely on the providers to act on their behalf to help them maintain good oral health. The focus of 'vulnerability' was in line with Moore's[18] recent work, discussing trust in a scenario of dental anxiety, which also underscored patients' 'dependency' in the dentist-patient relationship as a pre-requisite to trust. Although no consensus was reached in the literature, both definitions acknowledged the central role of the patient's needs, expectations and welfare in the delivery of care.

No consensus on instruments to measure trust

Various tools to measure trust in dental settings were identified from 13 of 16 included studies. All of the instruments used patient self-reported data. Two groups of trust measurements were found from this review. One group was complex and contained various domains due to the 'multidimensionality' of trust,[15] represented by the DTS and DBS, which covered multiple domains, such as fidelity, competence, honesty and professionalism.[29] Others used single items to measure global trust instead of using diverse but interconnected domains of trust.[26,27,34,35,36,38]

Returning to the complex scales, such as DTS and DBS, their items focused more on interpersonal processes, particularly on dentist-patient communication. The importance of communication as a tool to help build trust was echoed in a recent work by a group of dentists in the USA.[41] This might be due to the key role that communication plays

in building rapport and engendering trust on dental professionals. Communication, dental anxiety and dental attendance were found to co-vary with trust.[34] Research showed that patients with positive communication tended to have regular dental attendance, improved trust and reduced dental anxiety.[26,34]

A repeated theme when studying trust in dentistry was the study of the mechanism between trust and dental anxiety. As discussed, the 'vulnerability' of patients in fear and feeling anxious stimulates dental settings questions on how trust is developed in a dentist-patient relationship.[30,34] In other words, trust serves as a possible prerequisite for the anxious patient to build a positive dentist-patient relationship. Such a positive relationship will affect the patient's reception of treatments, adherence to the dentist's advice and future dental-health-seeking behaviours.

Paucity of empirical research about dental professionals' views on patient trust

There is a paucity of research in this area as only two studies were found. Similarly, the dental professionals from both studies appreciated the importance of trust and the role of patient-centred communication in building patient trust. This might be due to the valued benefit of trust on job satisfaction and reduced stress from the positive relationship with the patient.[15] That is, the therapeutic dentist-patient relationship seemed to provide reciprocity for both sides. Nevertheless, neither study explored explicitly how dental professionals valued patient trust or how this perception affected their practice. A response to these two issues might help to persuade dentists to shift from dentist-dominating practice to patient-centred practice through the building of trust with their patients. Interestingly, a recent study has shown that dentists value trust, as it affects patients' confidence in the dentist and increases the likelihood that they will consider them as their regular dentist.[41] It is clear that more research is needed to explore further this area, as detailed below.

Research implications

There was no consensus on the definition of trust due to its complexity and multi-dimensional nature. The review supported exploring the concept of trust in the dental literature to attempt to gain a more expansive view of this construct. One consideration of this exploration was the diversity of how the assessment of trust was operationalised. Moreover, all the trust scales used patient self-reported data which suggested a lack of objective measurement. Furthermore, Armfield *et al.* argued trust should be seen as 'dynamic' rather than 'static',[19] depending on patients' experiences of interactions with the professional. Yet, this has been rarely studied. Future research is needed to investigate changes of trust over treatment stages and detect implications on patients' dental service use and their treatment compliance behaviours. Although dental professionals see patient trust as important through positive communication,[39,40] the value of trust has not been fully explored, which could motivate dental professionals to provide more patient-centred care.

Limitations

This scoping review had a few limitations. First, the search strategy was limited to online resources. Second, the study included papers only written in English which might exclude papers from non-English speaking countries. Furthermore, when compared to a systematic review, a scoping review was considered less rigorous. However, the use of the PRISMA-ScR partly overcame this limitation.

Conclusion

There was no consensus on the definition of trust or a scale to measure trust in dentistry. Moreover, dental professionals' perceived patient trust was insufficiently explored, despite their acknowledged importance of patient-centred communication in building patient trust. Given the complexity of trust, more robust investigations are needed to develop a good measurement of trust and widely explore dental professionals' perception of patient trust. This will bring meaningful implications to delivery of care by addressing patient-centredness.

Ethics declaration

The authors received no funding for this work and declare no conflicts of interest.

No ethical approval was needed given the study nature as a scoping review. The data are retrieved and analysed based on the previous published studies in which consent was obtained by primary investigators.

Author contributions

Siyang Yuan: contributed to conception, design, data synthesis and interpretation and drafted and critically revised the manuscript. Deepti John and Shambhunath Shambhunath: contributed to data extraction and analysis, reviewed drafts and critically revised the manuscript. Gerry Humphris: contributed to conception and interpretation and critically revised the manuscript. All authors gave their final approval and agreed to be accountable for all aspects of the work.

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