The definition, assessment and perception of patient trust by dental professionals– A scoping review

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Research

Keywords:

Posted Date: September 8th, 2022

DOI: https://doi.org/10.21203/rs.3.rs-1985443/v1

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 in the dental literature and how trust is perceived by dental professionals.

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

Findings: Sixteen studies were included frequently using quantitative research methodology. Only 4 studies provided definition of trust. Many studies used either Dental Trust Scale or Dental Beliefs Survey to measure dentist-patient trust, although others developed their own items. Communication is a key aspect to measure trust. Limited research confirms that the dental professionals appreciated communication in building a trusting relationship with patients.

Conclusion: No consensus was found on the definition of trust, nor on an assessment tool to measure dentist-patient trust. The limited evidence has found 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.

Key Points

- Given the complexity and multidimensionality, no consensus is found in dental literature on the trust definition, nor on a validated instrument to measure patient trust.
- Communication is recognised by dental professionals as significant in building a trusting relationship with the patient.
- More research is needed to develop validated trust instruments in dentistry and to explore the cost-benefit implications of developing trust in delivering person-centred care.

Background

Trust, within the healthcare sector, 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, assuming the best interests and competence of the other, in exchange for a reduction in decision complexity[1]. A trusting relationship with a patient is crucial in providing patient-centred care[2]. Empirical research highlights the importance of a trusting provider-patient relationship in the process of delivering care. Lack of trust can decrease patient satisfaction, increase anxiety, diminish compliance to dentist recommendations, and result in a poorer patient oral health outcome[3].

While trust has been seen as a fundamental part in the clinician-patient relationship, its definition remains ambiguous given its complexity. Trust has been used interchangeably with 'distrust', 'trustworthiness' and 'confidence'[4]. Despite the widely recognised role of trust in dentistry, trust appear to have not been studied sufficiently. It remains as an underlying value during healthcare encounters, rather than a clearly defined concept with an adequately studied measurement profile. Poor conceptual clarity of a construct will result in indistinct assessments. Limited research indicates that trust is associated with patients' care experience, compliance of treatment regimen, and quality of life[3]. Yet, it is not clear which measurement is appropriate to assess trust in a dental context. More interestingly, studies identified how patients perceived trust, with a scarcity of research exploring how health professionals perceive their patients' trust.

For the above reasons, the purpose of the scoping review is 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

The scoping review used Joanna Briggs Institute (JBI) approach using Population, Concept and Context (PCC) to identify the research question and the eligibility criteria[5].

- Population: adult patients and dental professionals
- Concept: Trust
- Context: dental clinical settings

Eligibility criteria

Informed by the JBI approach, the inclusion and exclusion criteria were developed (Table 1) to assist selecting appropriate papers[5]. Different types of studies that can be included are review articles, quantitative research, qualitative studies and mixed-method studies that focus on dental professional-patient trust.

Table 1
Eligibility criteria

PCC FRAMEWORK	INCLUSION CRITERIA	EXCLUSION CRITERIA
Population	1. The participants include patients and dental professionals, including dentists, dental nurses, dental hygienists, and dental therapists. 2. The participants are aged at least 18 years.	1. Any non-dental professionals such as practice managers and receptionists 2. Participants include children, the intellectually disabled or family members of patients
Concept	The study includes information that is relevant to at least one of the objectives.	The study does not include information that is relevant to at least one of the objectives.
Context	The study should be carried out in a dental clinical setting.	The study is carried out in a non-dental setting.
Language	English	Non-English

Search strategy

A search was conducted for published literature on the research area between 1980 and November 2021 on the electronic databases including Medline, EMBASE, PsycInfo and CINAHL.

The search was piloted and refined based on the research question and the key components[6]. Articles that have the following keywords or Medical Subject Heading (MeSH) 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".

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[7] based on eligibility criteria. Full texts of the included articles were then read (DJ and SS) and reference lists were hand searched for additional papers. A flow chart was therefore created to demonstrate the review process based on the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses: Scoping Review) (Fig. 1).

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 (Table 2) in relation to the research question and the context of the overall study purpose.

Table 2
Data charting

Author/Year	Aim	Study method	Key findings
Abrahamson et al. (2006)	To test the psychometric properties of the Swedish version of the DBS-R.	Quantitative	DBS-R subdimension of communication and control/or trust, respectively were significant predictors of dental fear. The DBS-R is a reliable and valid instrument to assess attitudes to dentists.
Armfield et al. (2017)	To adapt a trust measure in physicians to dentists and to assess its psychometric features.	Quantitative	Most respondents seemed to trust their dentists. The DTS shows promising reliability and validity.
Fico & Lagoe (2018)	To explore the patient's perception of the communication with dentists and dental hygienists.	Mixed methods	Three items from medical mistrust were modified to measure participants' perceived mistrust of dental providers. Participants with positive communication had lower level of mistrust, whereas those with negative communication reported significantly higher level of mistrust.
Graham & Logan (2004)	To test the hypothesis that sociodemographic psychosocial variables including trust to predict having a regular dental home.	Quantitative	Trust is a significant predictor of having a regular dentist, and it is independent of socio-demographic factors.
Groenestijn et al. (1980)	To determine patients' attitudes about dentists utilising a scale analysis of variables.	Quantitative	Trust has been labelled as confidence in the dentist. People who have confidence in dentists tend to deny that dentists have a mercenary, remote attitude. Regular attenders seem to have more confidence in the dentist.
Kulich et al. (2001)	To investigate the factor structure of the 15-item DBS in dental phobic patients.	Quantitative	Trust is a complex phenomenon. The results did not confirm the original factor structure suggested by the constructors of the DBS.
Kvale et al. (2004)	To test the factor structure of the DBS-R and explore the model fit.	Quantitative	The reduced DBS-R model with dimensions of Ethics, Communication and Control as well as the reintroduced Trust dimension (from DBS) plus a global factor including all items, yielded an acceptable fit.

Author/Year	Aim	Study method	Key findings
Leggett et al (2021)	To explore barriers and facilitators to oral disease prevention from a multi-stakeholder perspective.	Qualitative	Dentists recognized the importance of trust and agreed that the message needed to be given in a way that does not blame the patients but to be tailored to each patient.
Muirhead et al (2014)	To assess the relationship between OHRQoL and dentist-patient relationships.	Quantitative	People who had less trust and confidence in dentists tended to experience poor OHRQoL.
Reid et al. (2014)	To describe patients' characterisations of an ideal dentist and compared to their dentist in general.	Quantitative	The study revealed gaps between patients' expectation of the ideal dentist and their impression of a dentist in general.
Skowron et al. (2017)	To determine the utility of the visual analog scale for dental anxiety assessment.	Quantitative	There is a weak correlation between MDAS scores and the trust in the dentist assessed by DBS.
Song et al. (2020)	To examine the association between DPR variables and OHRQoL.	Quantitative	Favourable DPR variables including greater satisfaction and less dental fear are positively associated with better OHRQoL.
Song et al. (2020)	To explore the concepts relevant to trust and to illustrate the dentist-patient relationship among the concepts in visual guide maps.	Review	Trust in dentist-patient relationships needs to be assessed in a multidisciplinary approach for interconnectedness among relevant concepts. There is a lack of empirical studies about trust in dentistry.
Song et al. (2020)	To compare the similarity of trust and satisfaction constructs and revise the scales for better psychometric properties.	Quantitative	The constructs of trust and satisfaction are unidimensionally different yet highly correlated factors in dental settings concurrently.
Stenman et al. (2010)	To explore the dental hygienists' views on communication and interpersonal processes during periodontal treatment and prevention.	Qualitative	Good communication with the patient was central in order to build trust with the patient.
Yuan et al. (2020)	To understand dental attendance using a mediator-moderator model with communication as the principal predictor, patient trust and dental anxiety as mediators and patient shame as a moderator.	Quantitative	Trust in the dentist was significantly negatively related to dental anxiety and strongly associated with communication.

Results

An initial search yielded 1875 articles and further reduced to 801 after removing duplicates. Forty-three 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, resulting in a total of 16 studies (Fig. 1).

Study characteristics

Most of the articles were published after 2000, with 12 published after 2010 and 1 published in 1980. All the articles were published from western countries including Australia(n = 4), United States (n = 4), United Kingdom (n = 3), Sweden (n = 3), Netherlands (n = 1) and Poland (n = 1). Most of the participants were dental patients, while one study explored the views of dental hygienists and the other explored dental team members' perspectives as part of the stakeholders. Twelve of 16 studies used quantitative method, two studies used qualitative method, one used mixed method, and one was a review article.

Key findings

The results of the included 16 articles were synthesised based on the focus of the review. The following themes were identified to answer the research questions.

[1] Definitions of Trust

Only 4 of 16 articles have some form of definition of trust. These are referenced to previous studies encompassing two types of definitions which focus on (i) patient's expectations for care and (ii) the acceptance of their personal vulnerability due to illness.

Two studies [8, 9] define trust as an expectation for care that will be met when trust is established or maintained. Trust is therefore understood as an expectation of the patient for their care that clinician-patient trust will be built on the condition that their expectation of care is met through their healthcare encounters. Nevertheless, the other two studies define trust as a potentially vulnerable situation of the 'truster' (i.e. patients) which will be acted by the trustee (i.e. health professionals) in the best interest of 'truster' [10, 11]. Here the vulnerable situation is created due to an illness as a 'vulnerable situation'. This acts as a requirement for the patient to engender trust to the health professional for their best interests. That is, as Hall et al. suggested[12] "if there is no vulnerable situation, then there is no need for trust". Although the definition of trust 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[10].

[2] Existing instruments to measure trust

Thirteen articles used various scales to measure trust despite a limited number of scales were used more often. These are the dentist trust scale (DTS) and the dental belief survey (DBS) with three studies using the DTS and 4 applying DBS.

Dental Trust Scale (DTS)

The DTS is adopted from the physician trust scale that adapted to the dental scenario with minor changes. The DTS covered four dimensions of trust, namely, fidelity, competence, honesty and global trust. Armfield et al.[10] added two new items to explore (i) the trust patients had in the previous dentist they visited, and (ii) any reason the patients have changed the previous dentist. These two items were designed to help identify reasons for poor trust in the dentists.

Dental Belief Survey (DBS)

The DBS initially had 15 items which aimed to measure dentist-patient relationship exploring four dimensions, namely communication, belittlement, lack of control and trust. Only two items were used to measure trust which focussed on the negative aspect of trust, that is, measuring distrust rather than trust. These 2 items include 'I am not sure I can believe what the dentist says' and 'Dentists say things to try and fool me'. This highlights a potential question of whether two items could measure a complex item like trust. The DBS was then revised by adding thirteen more items to cover three aspects: ethics (which replaced 'belittlement' and 'trust' in DBS), communication and control. The revised scale DBS-R [13] was evaluated for its psychometric properties. Trust dimension was suggested to be re-introduced to improve the stability of the scale and reliability of this dimension.

2009 UK Adult Dental Health Survey: measures of trust

Although both derived from the 2009 UK Adult Dental Health Survey, Muirhead's work[8] used a single item to measure patient's felt 'confidence and trust' in dentists, whereas Yuan[14] explored more broadly the concept of trust through four items in addition to the 'confidence and trust' item. The 3 additional items were to explore dentists' listening and explanation skills when discussing treatment as well as whether patients were treated with respect.

Other instruments to measure trust

One study adopted three items from the measure of medical mistrust to test mistrust of dental providers[15]. Groenstijn's work used a single item by asking the patients how much they trust their dental care provider[16], whereas Reid et al. used a 32-item survey developed based on healthcare ethics literature to measure trust and to assess the differences in patients' view of an ideal dentist and their dentists[17].

[3] Dental professionals' perception of patient trust

Only two qualitative studies are found to report dental professionals' views on patient trust. One study explored dental hygienists' perspectives on communication and interpersonal processes when providing periodontal treatment and prevention[18]. The dental hygienists admitted their responsibility and the importance of building a trusting relationship with the patient. From the hygienists' perspective, trust could be established through creating a 'reliable relationship' and being responsive to 'patient's

requirements'. Moreover, they highlighted the significance of patient-centred communication in building a trustful relationship for a successful treatment.

The other study explored dentists' perceived barriers and facilitators to preventing oral diseases in six European countries[19]. Trust in dentist-patient relationship has been identified as a key factor. The dentists recognised the key role of patient centred communication rather than 'victim blaming' or giving a 'lecture' to the patient. Interestingly, dentists thought they were perceived negatively by patients.

Discussion

The scoping review sought to identify definitions and instruments to measure trust as well as to explore dental professionals' perceptions of patient trust. We discuss our findings in the following themes.

Lack of definition of trust

Four out of 16 studies identified two types of definitions of trust adapted from the medical literature. One type focuses on 'expectations of care' as patients expect their healthcare providers will act for their benefit through their technical competency. To do so, the health professional 'must place the medical good in the context of the patient's assessment of what is good… [as] the patient is the expert when it comes to determining what is good for him or her in terms of his or her values, beliefs, and aspirations' [20]. The other definition, however, highlights the vulnerable situation of patients due to illness. Vulnerability occurs in a clinical setting when a patient has to rely on a health professional to act on their behalf for their best interest by treating their illness. Instead of exploiting patient's vulnerability, the health professional must protect it by identifying patient's values, perspectives as well as expectations[20].

More recently, Moore[21] revisited Hupcey et al's interdisciplinary conceptualisation of trust and reinforced its conceptual components including preconditions, attributes, boundaries and outcomes. Moore used dental anxiety as examples to interpret the concept of trust. It is the anxious patient who has to assess whether the dentist is trustworthy, to weigh the risks and benefits and then to decide whether to accept the treatment by putting themselves into a 'dependent position'[21].

No consensus on instruments to measure trust

Various tools to measure trust in dental settings are identified from 13 of 16 included studies. Our review finds two groups of trust measurements. One group is complex and contains various domains due to the 'multidimensionality' of trust[11]. This is represented by DTS and DBS which covers multiple domains such as fidelity, competence, honesty and professionalism[22]. Others used single item(s) to measure global trust instead of using diverse but interconnected domains of trust [8, 9, 14–17].

Returning to the complex scales, such as DTS and DBS, their items focused more on interpersonal processes, particularly on dentist-patient communication. This may be due to the key role communication plays in building rapport and engendering trust on dental professionals. Communication, dental anxiety,

and dental attendance have been found to covary with trust[14]. Research shows that patients with positive communication tend to have regular dental attendance, improved trust and reduced dental anxiety[9, 14].

A repeated theme, when studying trust in dentistry, is the study of the mechanism between trust and dental anxiety. As discussed, the 'vulnerability' of patients in fear and anxiety stimulating dental settings has questioned how trust can develop in dentist-patient relationship[14, 23]. 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 dentists' 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 identified studies explore dental professionals' perspectives on patient trust. Similarly, the dental professionals from both studies have appreciated the importance of trust and also the role of patient-centred communication in building patient trust. This might be partly interpreted given the valued benefit of trust on dentists' job satisfaction and less stress from the relationship with the patient[11]. That is, the therapeutic dentist-patient relationship seems to provide reciprocity for both sides. Future research is needed to explore further this area.

Research Implications

Of note is the paucity of empirical research to measure trust over time as Armfield et al argued trust should be regarded as dynamic rather than static[10]. This is because patients establish trust through the first encounter and the trust may change during the following interactions with the health professional, or the health systems. Yet, this has been rarely studied in the healthcare literature. The proposed model between communication, dental attendance and dental anxiety by Yuan et al can be used as a theoretical framework when measuring trust over time periods[14]. Future research could use this framework to investigate changes of trust over treatment stages and detect implications on patients' dental service use and compliance of treatment and health advice.

More importantly, we agree with Moore[21] that more evidence is needed to explore the cost-benefit that trust may bring to clinicians and health systems through the patient-centred processes. Such potential benefits could encourage dentists to shift from dentist dominating practice to patient-centred care by empowering the patient through building a trusting treatment alliance.

Limitations

This scoping review was not intended to be comprehensive. It has a few limitations. First, the search strategy was limited to online resources. Second, the study included only papers written in English leading to the articles being included from developed countries. Furthermore, when compared to a systematic review, a scoping review is often considered less rigorous. However, the use of the PRISMA-ScR partly overcame this limitation.

Conclusion

There is no consensus on the definition of trust and for a scale to measure trust in dentistry. Moreover, dental professionals' perceived patient trust has not been sufficiently explored despite their acknowledged importance of patient-centred communication in building a trusting patient relationship. Given the complexity of trust, more robust investigations are needed to develop a good measurement of trust and explore widely the dental professionals' perception of patient trust. This will have meaningful implications to delivery of care by addressing patient centredness.

Declarations

The authors receive no funding for this work and declare no conflicts interests.

AUTHORS CONTRIBUTION

SY: contributed to conception, design, data synthesis and interpretation, drafted and critically revised the manuscript. DJ & SS: contributed to data extraction, analysis, reviewed drafts, and critically revised the manuscript. GH: contributed to conception, interpretation and critically revised the manuscript. All authors gave their final approval and agreed to be accountable for all aspects of the work.

ACKNOWLEDGEMENT

The study team thanks Mr Scott McGregor, Librarian at the University of Dundee, for his expertise and assistance.

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Figures

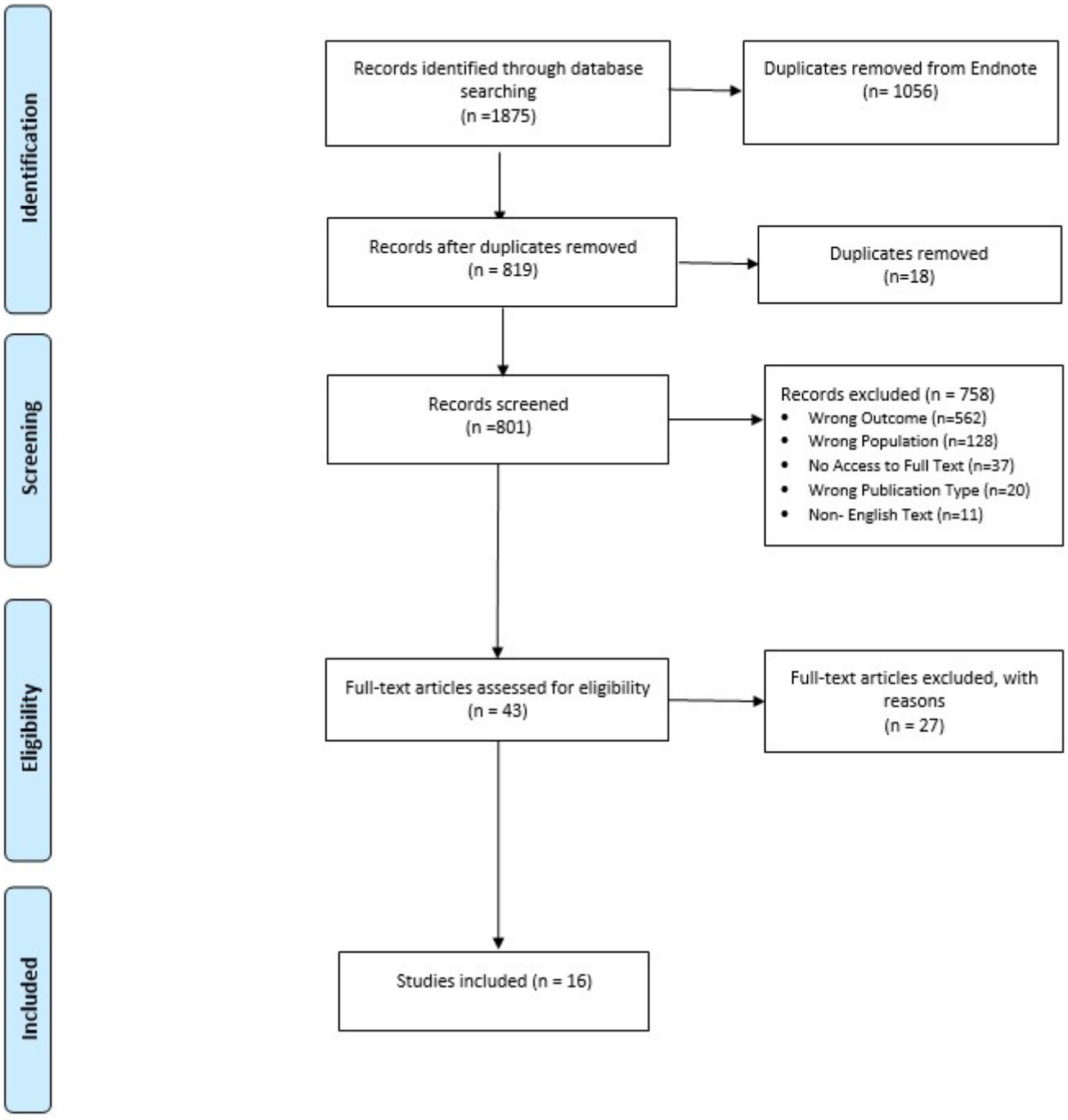

Figure 1

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