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APPLIED THEORY ARTICLE

Building consensus in defining and conceptualizing acceptability of healthcare: A Delphi study

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Abstract

Background: The concept of healthcare acceptability is important for nursing staff spending most of their time with patients. Nevertheless, acceptability remains confusing without a collective definition in existing literature.

Objective: This study aimed to create a consensus among experts on definition and conceptual framework of healthcare acceptability.

Methods: We conducted two rounds of Delphi surveys to collect opinions from experts on definition and conceptual framework of healthcare acceptability proposed following thematic content analysis. We calculated the consensus among experts using the modified Appraisal of Guidelines for Research & Evaluation II (AGREE II) instrument and followed the guidance on conducting and reporting Delphi studies (CREDES) best practices.

Results: A total of 34 experts completed two rounds of Delphi survey. The definition was validated through consensus as: *"a multi-construct concept describing the nonlinear cumulative combination in parts or in whole of experienced or anticipated specific healthcare from the relevant patients/participants, communities, providers/researchers or healthcare systems' managers and policy makers' perspectives in a given context."* The overall quality rating was 92.6% and 95.1% for the proposed definition and conceptual framework respectively.

Conclusion: Opinions collected from experts provided significant insights to build a consensus on healthcare acceptability advancing public health nursing.

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KEYWORDS
conceptual framework, definition, Delphi technique, healthcare acceptability, public health nursing

1 | INTRODUCTION

Acceptability of healthcare is a dominant topic in setting the agenda to improve healthcare service delivery around the globe (Bucyibaruta et al., 2018; Sekhon et al., 2018, 2017; Valentine et al., 2009). Acceptability is considered a critical concept to reduce stigma, nervosity and discomfort in affected patients by healthcare providers in particular the nurses who spent most of their time with the patients (Pinto-Foltz et al., 2011; Rao et al., 2012; Wood et al., 2018). Acceptability of healthcare impacts all stakeholders (i.e., patients, communities, healthcare providers, researchers, managers, or policymakers) involved in healthcare (Bucyibaruta et al., 2018; Gilson et al., 2007; Sekhon et al., 2017). It is noteworthy that stakeholders often have different powers and frames of reference concerning acceptability of healthcare (Cleemput et al., 2015). Accordingly, it is important to acknowledge, understand and address all the stakeholders' views, regardless of their power to influence perspectives on the concept of acceptability.

Acceptability of healthcare first appeared in scientific literature four decades ago (Penchansky & Thomas, 1981). It was introduced as one of the dimensions of access to healthcare services (Penchansky & Thomas, 1981). Since then, many scholars have attempted to improve the original definition (Donabedian, 1993; Hausmann-Muela et al., 2003; Penchansky & Thomas, 1981; Sekhon et al., 2017) and have developed diverse definitions of acceptability (Table 1). Nonetheless, acceptability of healthcare remains poorly defined without a shared theoretical framework among health professionals. Therefore, the present study pursued the following objectives: (1) to propose a common definition of healthcare acceptability; and (2) to provide a shared conceptual framework of healthcare acceptability.

2 | METHODS

2.1 | Study design and justification

The research team identified Delphi technique as an appropriate method to collect and build a consensus of opinions from a range of experts on a proposed definition and conceptual framework of healthcare acceptability (Niederberger and Spranger, 2020; De Villiers et al., 2005, Falzarano & Zipp, 2013). The Delphi technique was also chosen to establish and validate a joint definition and conceptual framework of healthcare acceptability (Falzarano & Zipp, 2013).

2.2 | Proposed definition and conceptual framework of healthcare acceptability

The research team carried literature search from existing online databases including MEDLINE/PubMed, Cochrane Library and Google

TABLE 1 Diverse definitions of acceptability definitions as examples from existing literature

No	Acceptability definition	References
1	*"Conformity to the wishes, desires and expectations of patients and responsible members of their families"*	(Donabedian, 1993)
2	*"Social and cultural distance between health care systems and their users"*	(Hausmann-Muela et al., 2003)
3	*"Providers' attitudes to and expectations of patients which are influenced by age, sex, ethnicity, language, cultural beliefs, socio-economic status, etc., and vice versa"*	(McIntyre et al., 2009)
4	*"Specific features of the stakeholders such as age, co-morbidity and the reason for involvement in a healthcare service or intervention"*	(Fitzpatrick, 2009)
5	*"Individual perceptions influenced by social representations and modified in social interactions, suggesting a 'fit' or match between providers and clients with regard to their understandings of disease"*	(Dillip et al., 2012)
6	*"Attitudes and beliefs of consumers about the health care system to the personal and practice characteristics of health care providers"*	(Russell et al., 2013)
7	*"Overall ability of the patient and caregiver (defined as 'user') to use a medicinal product as intended (or authorised)"*	(Kozarewicz, 2014)
8	*"Healthcare or intervention found likable by the stakeholders"*	(Rothstein et al., 2016)
9	*"Households' expectations of women [patient]'s self-esteem and assertiveness, community and cultural preferences, stigma and a lack of health awareness"*	(Kyei-Nimakoh et al., 2017)
10	*"Multi-faceted construct reflecting the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experienced cognitive and emotional responses to the intervention"*	(Sekhon et al., 2017)

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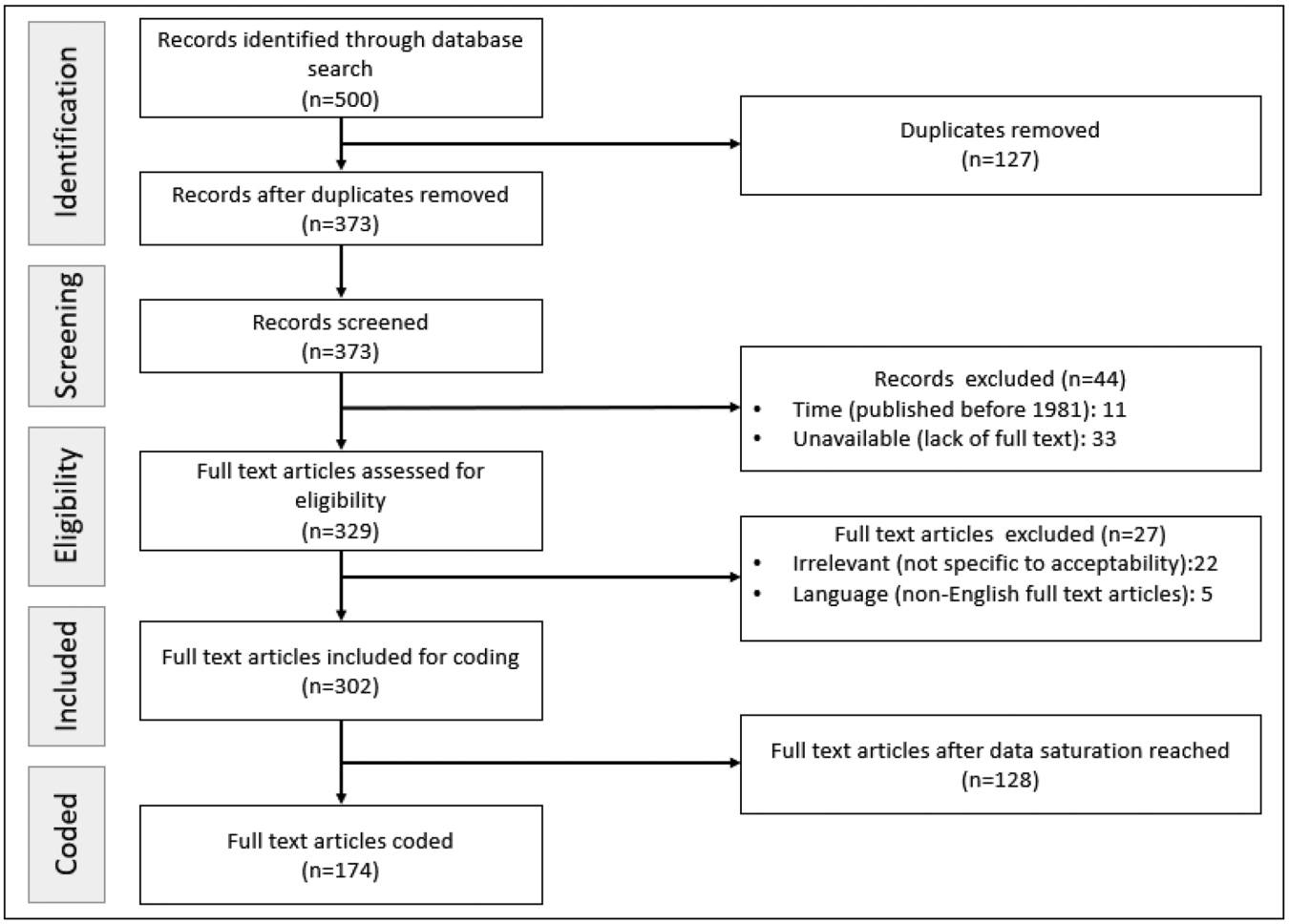

FIGURE 1 PRISMA-ScR flow diagram

Scholar for relevant articles using "healthcare acceptability" as key word. The search strategy was refined by using additional Medical Subject Headings (MeSH) terms such as "concept," "definition," and "framework" in different combinations. The snowball strategy was used to check the reference lists of retrieved studies as well as 'cited by' articles to identify additional sources. Inclusion criteria consisted of literature in English and published between 1981 and 2020. These inclusion criteria were guided by English as a common language of the researcher team and the concept of healthcare acceptability being first described in 1981 (Penchansky & Thomas, 1981). We excluded studies that have approached acceptability of healthcare as a unitary component construct or proxy terms such as acceptance, satisfaction, and feasibility. This exclusion criteria were informed by a growing body of evidence supports acceptability as a multi-construct dimension of access (Bucyibaruta et al., 2018; Burger & Christian, 2020; McIntyre et al., 2009; Penchansky & Thomas, 1981; Silal et al., 2012). We adhered to a process of inclusion and exclusion of identified articles as demonstrated by the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) flow diagram (Figure 1). Five hundred retrieved articles were initially imported into Atlas.ti 8.4 software, of which 174 were retained for thematic content analysis and coded until no new information emerged (data saturation) (Fusch & Ness, 2015).

During the analytical process, data were deductively and inductively coded and categorized into themes and sub-themes related to definitions of healthcare acceptability. The research team proposed a definition of acceptability as *"a multi-construct concept describing the nonlinear cumulative combination in parts or in whole of the fit between the expected and experienced specific healthcare from the relevant patient, provider or healthcare systems and policy perspectives in a given context."*

The research team also proposed the conceptual framework of healthcare acceptability (Figure 2).

2.3 | Planning and process

During the preparation phase, the principal investigator (PI) prepared open-ended questions for experts to provide their input on proposed definition and conceptual framework of healthcare acceptability. The PI also prepared the rating scale questions by modifying the Appraisal of Guidelines for Research & Evaluation II (AGREE II) instrument for

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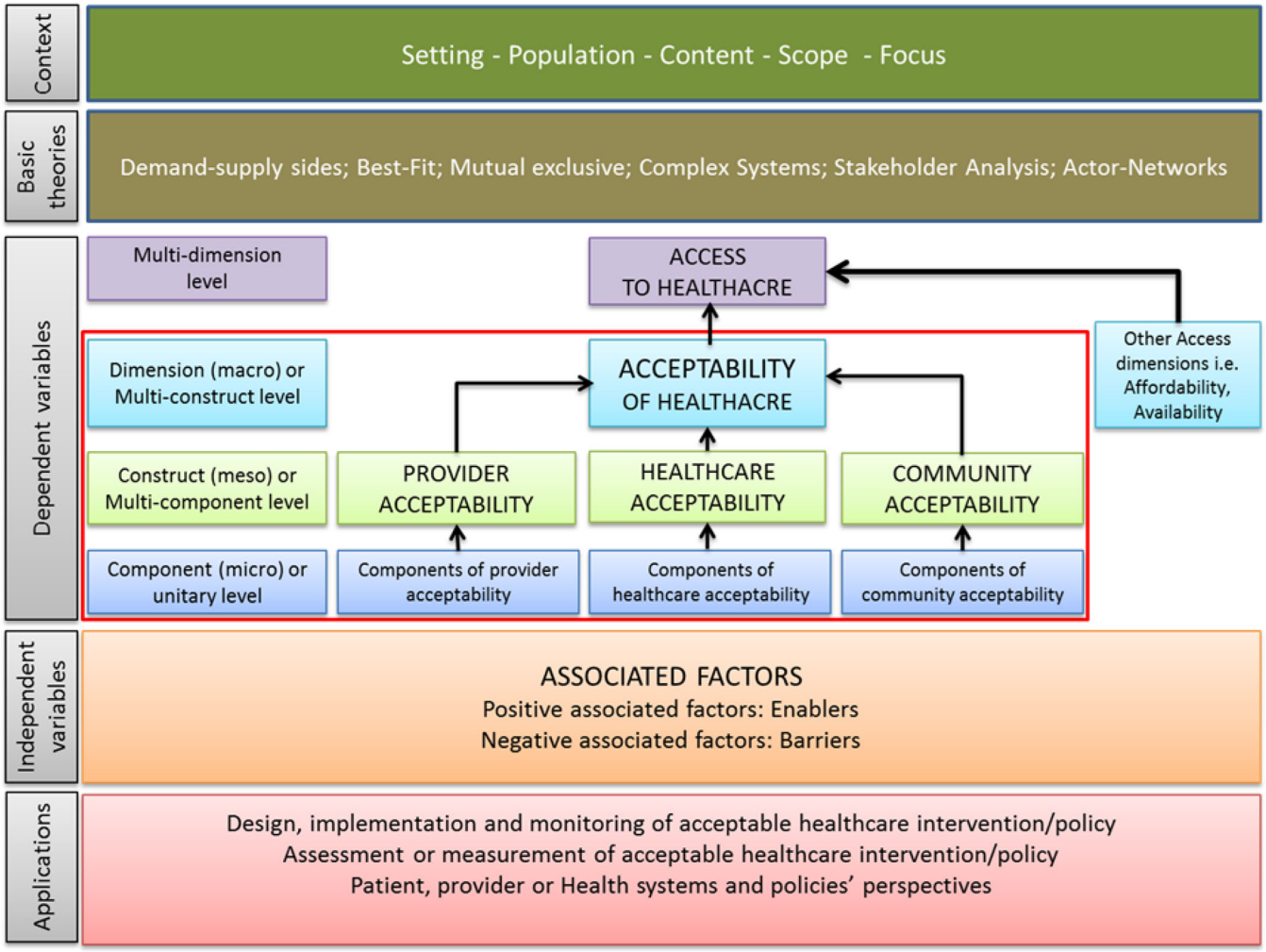

FIGURE 2 Proposed conceptual framework of healthcare acceptability [Color figure can be viewed at wileyonlinelibrary.com]

the purpose of this study. The research team discussed, improved and adopted both rating scale and open-ended questions for the pilot phase. The AGREE II instrument was originally developed for appraisal of clinical practice guidelines as a basis of their recommendation for a wide range of topics in the continuum of healthcare (Consortium, 2009). The research team modified the item questions for the purpose of this study to be applicable to the definition of healthcare acceptability and its conceptual framework. The modifications made by the research team were in keeping with the flexibility of Delphi technique to be adjusted to the aim and objectives of this study and to enhance the rigour in results reporting (Jünger et al., 2017). To ensure transparency, the original AGREE II instrument and modified item question used in this study are both publicly available from Open Science Framework (OSF) and can be accessed by using this link: https://osf.io/w7pfm/

The modified AGREE II instrument comprised of 26 item questions — for both the proposed definition and conceptual framework of healthcare acceptability — organized in six domains (Consortium, 2009). Domain 1 covered the scope and the purpose of the overall definition or conceptual framework, and the target population (items 1–3). Domain 2 related to stakeholder involvement, focusing on the extent to which the definition or conceptual framework represented the views of its intended users (items 4–6). Domain 3 considered the rigour of development, relating to the process used to gather and synthesize the information to define or conceptualize healthcare acceptability, the methods to formulate the recommendations, and to update them (items 7–14). Domain 4 covered the clarity of presentation and how it dealt with the language, comprehension, structure, and format of the definition or conceptual framework (items 15–17). Domain 5 considered applicability and likely barriers and facilitators to implementation, strategies to improve uptake, and resource implications of applying the definition or conceptual framework (items 18–21). Domain 6 concerned editorial independence and assessed any competing interests or biases in the process (items 22–23) and the overall assessment, which included a rating of the overall quality of the definition and conceptual framework and whether they would be recommended for use in practice (items 24–26).

The research instrument used in this study presented rating scale and open-ended questions for the participants to rate and provide detailed comments on both definition and conceptual

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framework of healthcare acceptability proposed by the research team.

2.4 | Definition of consensus

The AGREE II instrument does not provide the minimum domain scores for consensus and recommendation (Consortium 2009). Moreover, the literature on the application of the Delphi technique does not offer a definite percentage for expert consensus (Falzarano & Zipp, 2013; Keeney et al., 2006). However, the research team set a domain score of 80% to indicate consensus among experts, to validate and recommend the definition and conceptual framework of healthcare acceptability. This domain score is in keeping with other Delphi technique publications (Falzarano & Zipp, 2013; Keeney et al., 2006). Each item is rated on a 7-point scale; from 1 (strongly disagree) to 7 (strongly agree). A scaled domain percentage score was calculated by adding all the scores of individual items and scaling the total as a percentage of the maximum possible score for that domain as follow: scaled domain (%) = (obtained score−minimum possible score)/(maximum possible score−minimum possible) (Consortium, 2009).

2.5 | Pilot

The research team discussed the survey questions and refined them before they were sent to a pilot group that was not recruited as part of the study participants. The survey was piloted between February 1 to April 20, 2021 with 11 experts in the field including patients, health providers, health researchers, and health managers, prior to sending the survey to the participants. The item questions were further refined based on the pilot outcomes and then participants were invited to provide their opinions to move towards a consensual definition and shared conceptual framework of healthcare acceptability

2.6 | Proposed definition after the pilot phase

The pilot findings were used to refine the questions and to improve the proposed definition. The latter was then considered as *"a multi-construct concept describing the nonlinear cumulative combination in parts or in whole of the fit between the expected and experienced specific healthcare from the relevant patient, provider or healthcare systems and policy perspectives in a given context"*. The word "specific" was added as a qualifier of healthcare because experts that participated in the pilot study strongly believed that healthcare is a wide spectrum of services that each has specific aspects that differ from others. This definition was the objective of the first round of the Delphi study.

2.7 | Participants' selection

The number of participants in Delphi Technique can vary based on the purpose of the study, its complexity and available resources. Large groups with more than 30 participants rarely improve the results, are difficult to manage, and often yield low response rates (Clayton, 1997; De Villiers et al., 2005; Fink et al., 1984; Murry & Hammons, 1995). Sample sizes of 15 to 30 experts from the same field, or five to ten experts from different fields, are often recommended (Linstone & Turoff, 1975; Moore, 1987; De Villiers, De Villiers et al., 2005). We defined an expert as a person holding a master's or higher degree or who had knowledge, skills, experience or had published on this topic. For the purpose of this study, experts were divided into four groups: (1) patients; (2) healthcare providers; (3) healthcare researchers; and (4) healthcare managers/policy makers.

Participants were purposively selected to meet the characteristics of experts of interest in this study. We identified experts from authors who published on this topic and through academic pool with interest on this topic. We also applied snowball sampling strategy in experts' selection process by request any recruited expert to recommend additional experts from her/his cycle as expert patients, healthcare providers, healthcare researchers or healthcare managers/policy makers for potential recruitment. However, only the PI knew experts who have been recruited to maintain anonymity of experts participating in this study. For replicability and generalizability in line with Delphi studies, we aimed for a sample size of five to ten experts from each field. However, we invited 92 experts considering potential loss of follow up common in Delphi studies. Experts were invited by email to participate in this study by completing the Google form including both rating scale and open-ended questions on proposed definition and conceptual framework of healthcare acceptability.

2.8 | Setting

This study was open to participants residing in any country. This global approach was taken to counteract the low response rate in Delphi studies (Keeney et al., 2006). Furthermore, experts on the topic resided in different countries and worldwide participation would contribute to get internationally relevant definition and framework of healthcare acceptability. Despites our effort to recruit the participant globally, of the 34 participant who responded to both rounds, 28 came from South Africa, followed by the United Kingdom with two participants. Other countries represent were Canada, Lesotho, Rwanda and Zambia with one participant respectively.

2.9 | Data collection

Data collection was semi-anonymous. Only the PI was aware of the identity of participants and read their responses. This allowed the PI to send reminder emails and provide individualized responses to queries. Important characteristics of the sample included demographic, professional and expertise data as well as the date of submission of the responses. The research team closely followed the opinions from experts.

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This study conducted the Delphi process in two rounds (Figure 2). The first round occurred between 10 May and 14 June and the second between June 20 and August 5, 2021. The PI analyzed responses from the first round and provided feedback to participants. The PI also organized a non-compulsory online session (via Zoom) with participants to further discuss the outcomes from the first round. Participants' comments, questions and suggestions provided during the first round were taken into consideration to refine the definition and conceptual framework item questions before they were sent for the second round.

2.10 | Validation

The results from the second round were discussed among the contributors including the research team and participants who showed interest to become collaborators of this paper. Thus, all contributors were experts in this field keeping the project congruent with guidance on conducting and reporting Delphi studies (CREDES) best practices (Jünger et al., 2017).

3 | RESULTS

3.1 | Participants

Of 92 experts invited to participate, 47 submitted answers in the first round of questions (51.1% response rate). Of those responding in the first round, 13 did not participate in the second, leaving 34 experts who participated in both Delphi rounds (27.6% loss to follow up rate). The demographic characteristics of 34 experts who participated in both rounds have been collected (Table 2).

TABLE 2 Demographic characteristics of participants

Characteristics	*n* (%)
Self-identified gender	
Male	17 (50.0)
Female	17 (50.0)
Age group	
≤35 years	15 (41.1)
>35 years	19 (55.9)
Expert category	
Patients	10 (29.4)
Healthcare providers	8 (23.5)
Healthcare researchers	9 (26.5)
Healthcare managers/policymakers	7 (20.6)
Institution	
Public	24 (70.6)
Private	10 (29.4)
Country	
South Africa	28 (82.4)
Other countries	6 (17.6)

3.2 | Defining healthcare acceptability

3.2.1 | Change in the proposed definition

There were some changes in the proposed definition of healthcare acceptability. During the first round, most of experts suggested change in words' order with "experiences" coming before "anticipated" which was considered to be a better word than "expected" to reflect on perception more broadly. The conjunction "and" was replaced by "or" because expectations or anticipations or a combination of both may be of interest in different circumstances.

During the second round, the experts preferred the use of plural for specific stakeholders, and they added "participants" and "researchers" to extend the application of the concept of acceptability on healthcare research activities or interventions.

After the second round, the experts reached a consensus on healthcare acceptability as: *"a multi-construct concept describing the nonlinear cumulative combination in parts or in whole of experienced or anticipated specific healthcare from the relevant patients/participants, communities, providers/researchers or healthcare systems' managers and policy makers' perspectives in a given context."*

This definition was adopted and recommended by experts as a consensual definition of healthcare acceptability after the second round.

3.2.2 | Domain scores for the definition of acceptability

In Delphi round one, the domain scores for the definition of acceptability were above 80%, except for *clarity of presentation* with a score of 79.6%, which was the minimum score, and the highest score was 87.0% for *editorial independence* during. The overall quality rating was 83.3% with 88.2% of participants recommending the definition without modification (Table 3). During the second round, the convergence in scores was above 90% across all six domains with a minimum score of 91.1% for *applicability* and a highest score of 94.9% for *editorial independence*. The overall quality rating increased from 83.3% to 92.6% with as many as 94.1% of participants recommending the definition without modification. After the second round, 5.9% of participants recommended the proposed definition with modification but without making suggestions to amend it (Table 3).

3.2.3 | Validation

Eleven contributors recommended the consensual definition of acceptability during the validation process. They did not suggest additional

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TABLE 3 Experts' consensus on domain scores for acceptability definition

No.	Domains	Round 1	Round 2	Change in rating
1	Scope and the purpose	86.8%	93.3%	+6.5%
2	Stakeholder involvement	84.3%	94.8%	+10.5%
3	Rigour of development	83.9%	92.6%	+8.7%
4	Clarity of presentation	79.6%	93.0%	+13.4%
5	Applicability	80.9%	91.1%	+10.2%
6	Editorial independence	87.0%	94.9%	+7.8%
7	Overall assessment			
7.1	Overall quality rating	83.3%	92.6%	+9.3%
7.2	Recommendable definition			
7.2.1	Yes	88.2%	94.1%	+5.9%
7.2.2	Yes, with modification	11.8%	5.9%	−5.9%
7.2.3	No	0.0%	0.0%	0.0%

TABLE 4 Experts' consensus on domain scores for the conceptual framework of acceptability

No.	Domains	Round 1	Round 2	Change in rating
1	Scope and the purpose	86.1%	93.8%	+7.7%
2	Stakeholder involvement	84.3%	94.1%	+9.8%
3	Rigour of development	84.1%	94.2%	+10.1%
4	Clarity of presentation	82.0%	93.8%	+11.8%
5	Applicability	81.9%	93.6%	+11.7%
6	Editorial independence	87.5%	95.3%	+7.8%
7	Overall assessment			
7.1	Overall quality rating	83.3%	95.1%	+11.3%
7.2	Recommendable framework			
7.2.1	Yes	94.1%	97.1%	+3.0%
7.2.2	Yes, with modification	5.9%	2.9%	−3.0%
7.2.3	No	0.0%	0.0%	0.0%

relevant analysis by looking at the data collected and validated the findings on the definition of acceptability.

3.3 | Conceptualizing healthcare acceptability

3.3.1 | Change in the proposed conceptual framework

The proposed conceptual framework of healthcare acceptability (Figure 2) initially proposed by the research team following thematic content analysis of existing literature on the topic remained unchanged throughout the Delphi process. The experts reached a consensus to confirm, validate and recommend the proposed conceptual framework.

3.3.2 | Domain scores for the conceptual framework of acceptability

During Delphi round one, the domain scores were above 80% during both rounds for the conceptual framework of acceptability. *Applicability* had the lowest score in both rounds, but it increased from 81.9% to 93.6% between the two. *Editorial independence* had a consistently high score of 87.5% and 95.3% during the first and second rounds respectively. The overall quality rating increased from 83.3% in the first round to 95.1% in the second (Table 4). By the end of the second round, almost all participants (97.1%) recommended the proposed conceptual framework of acceptability. The remainder (2.9%) recommended the conceptual framework with modification but did not suggest how to improve it (Table 4).

3.3.3 | Validation

All 11 contributors involved in the validation process recommended the consensual conceptual framework of acceptability. They validated the findings on the conceptual framework of acceptability. They looked at the data collected and confirmed that there was no additional analysis required.

4 | DISCUSSION

This study has confirmed the difficulty in defining and conceptualizing healthcare acceptability reported by other authors (Burger & Christian, 2020; Dyer et al., 2016; Gilson et al., 2007; Hausmann-Muela et al., 2003; Rothstein et al., 2016; Sekhon et al., 2017). However, we achieved developing a consensus-based definition of healthcare acceptability and a conceptual framework through review and synthesis of the literature and deployment of a Delphi process with two rounds.

To our knowledge, this is the first study of this kind as our work used a novel approach with a wide range of experts enabling representation from key stakeholders (patients, healthcare providers, researchers, and managers/policy makers) unlike earlier studies in this area (Dillip et al., 2012; Kozarewicz, 2014; Russell et al., 2013; Sekhon et al., 2017). Involving the stakeholders in the processes of defining a controversial concept is considered as one of the important steps to get widespread adoption and recommendation of the proposed definition (Hare, 2011). Expert input with these diverse stakeholders meaningfully improved the initially proposed definition and the conceptual framework of healthcare acceptability.

The consensus among experts on the overall quality rating increased from 83.3% to 92.6% and from 83.3% to 95.1% respectively for

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definition and conceptual framework from the first Delphi round to the second. At the end of round two, the experts' consensus scores varied between 91.1% and 94.9% for all domains of the definition of healthcare acceptability. Drawing on existing literature and considering experts' opinion, we defined acceptability as, *"a multi-construct concept describing the nonlinear cumulative combination in parts or in whole of experienced or anticipated specific healthcare from the relevant patients/participants, communities, providers/researchers or healthcare systems' managers and policy makers' perspectives in a given context."*

The proposed definition provided additional insights in responding to "acceptability of what?" and " acceptable to whom?" as critical questions in understanding the complex nature of healthcare acceptability. Regarding "acceptability of what" question, this definition described cumulative result of nonlinear combination of acceptable and/or unacceptable interactions between patient and healthcare provider, healthcare system and/or community. Those interactions may be combined in parts or in whole reflecting multiple definitions of healthcare acceptability identified in existing literature (Dillip et al., 2012; Donabedian, 1993; Gilson et al., 2007; Sekhon et al., 2017). Concerning "acceptable to whom" question, the proposed definition offered a far-reaching list of actors whose interests are invested in healthcare acceptability. This definition upheld the healthcare acceptability perspectives from identified actors in literature such as patients, healthcare providers or community (Dillip et al., 2012; Donabedian, 1993; Gilson et al., 2007; Russell et al., 2013; Sekhon et al., 2017). It also provided the viewpoints of health system managers and health policy makers from whom existing literature offers relatively little information in relation to healthcare acceptability.

Similar to the definition, this paper upheld the findings from existing literature about the long-standing issue with the lack of a common conceptual framework of healthcare acceptability (Bucyibaruta et al., 2018; Dyer et al., 2016; Sekhon et al., 2017). Furthermore, the authors acknowledged the challenges in conceptualizing such a complex theory as acceptability of healthcare (Dillip et al., 2012; Rothstein et al., 2016; Valentine et al., 2009). However, using the Delphi approach underpinned by a substantial review of the literature, we proposed conceptual framework that is in line with suggested interactions between patients and community, healthcare providers, health systems and policy (Gilson et al., 2007).

The proposed conceptual framework allowed for the recognition of acceptability as a complex phenomenon consistent with existing literature (Dyer et al., 2016; Sekhon et al., 2017). Unlike previous studies without description of the complexity of healthcare acceptability (Dillip et al., 2012; McIntyre et al., 2009; Penchansky & Thomas, 1981), the proposed framework indicated three levels of complexity: component, construct and dimension levels.

The component or micro level illustrates any given component used to explain healthcare acceptability such as satisfaction, respect, facility cleanliness, stigma, or community support often used as proxy term of healthcare acceptability (Dyer et al., 2016; Sekhon et al., 2017). The construct or multi-component or meso level depicts a set of components explaining together the relationships related to one specific construct of healthcare acceptability either patient-provider, patient-healthcare or patient-community interactions. It is worth noting that the components have broad and often overlapping meanings and their classification into specific healthcare acceptability construct should be guided by the best-fit judgment (Dyer et al., 2016; McIntyre et al., 2009). The dimension or multi-construct or macro level represents all relationships describing patient-provider, patient-healthcare or patient-community interactions in their different possible combinations (Bucyibaruta et al., 2018; Dyer et al., 2016; Gilson et al., 2007; Sekhon et al., 2017). Moreover, this framework recognizes acceptability as one of the dimensions of access to healthcare (Gilson et al., 2007; McIntyre et al., 2009).

Furthermore, the proposed conceptual framework provides additional elements necessary to build a shared understanding and interpretation of healthcare acceptability unlike most of existing frameworks discussed in the curent literature. (Bucyibaruta et al., 2018; Sekhon et al., 2017). Those additional elements necessary for a consensual conceptual framework include context, basic theories, dependant and independent variables as well as applications of healthcare acceptability. The context consists of the setting, population, content, scope and focus. The basic theories that can be used to generate a shared understanding of acceptability include demand-supply sides, best-fit, mutual exclusivity, complex phenomenon, stakeholder analysis, and actor-network (Dyer et al., 2016; Sekhon et al., 2018). The dependent variables comprise a set of components and constructs describing the complexity levels of healthcare acceptability from key stakeholders' perspectives (Gilson et al., 2007; McIntyre et al., 2009). The independent variables denote factors that are not included in the components or constructs explaining the concept of healthcare acceptability but can impact the later positively or negatively. Furthermore, this framework provides practical applications such as designing, implimenting, assessing or measuring healthcare acceptability from patient, healthcare provider or researcher as well as health system and policy perspectives (Bucyibaruta et al., 2018; Sekhon et al., 2017).

To the best of our knowledge, this is the first publication attempting to unpack the complexity of acceptability by proposing a framework with specific and clear hierarchical levels of the complexity of acceptability. Furthermore, the paper puts the conceptual framework of acceptability into the context of access to healthcare consistent with existing literature on this topic (Bucyibaruta et al., 2018; Donabedian, 1993; McIntyre et al., 2009).

4.1 | Limitation/Bias

The experts were recruited on a voluntary (non-randomized) method based on their expertise on acceptability of healthcare to participate in this study and this could have led to selection bias (Keeney et al., 2006). However, the authors of this paper minimized this bias by opening the selection of participants worldwide and inclusion of different stakeholders such as patients, healthcare providers and healthcare researchers. The response bias is often an issue in surveys applying

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the Delphi technique especially with high number of rounds leading to high rates of drop out (Keeney et al., 2006). To overcome this bias, this study used only two rounds of questions. The participants' comments from the first round were carefully analyzed and considered for the second round of the survey. Furthermore, although effort was made to attempt for global input and therefore universal usage/relevance in high-, middle- and low-income countries, the participants were based in a relatively narrow range of countries. Consequently, it was difficult to say with certainty that the definition and conceptual framework have universal applicability.

5 | CONCLUSION

Acceptability is increasingly recognized as a key factor in the design and implementation of healthcare services. Nevertheless, acceptability remains poorly understood without a common definition and shared conceptual framework within the scientific community. Defining and conceptualizing healthcare acceptability can be achieved through a Delphi consensus process. Opinions collected from expert patients, healthcare providers, researchers, and managers or policy makers provided significant inputs to build consensus on acceptability among different stakeholders. The findings from this study have been reviewed and approved by all contributors who are experts in this field keeping with guidance on conducting and reporting Delphi studies (CREDES) best practices. Implications from the proposed definition and conceptual framework of acceptability go beyond public health nursing and are relevant to the broader spectrum of health sciences. Thus, further studies are recommended to substantiate the concept of acceptability applicability across health science disciplines in different countries.

AUTHOR CONTRIBUTIONS

Dr. Joy Blaise Bucyibaruta is the PI and corresponding author. He is the project administrator and he was involved in conceptualization, data curation, formal analysis, investigation, methodology, writing — original draft preparation, and subsequent corrections — editing, formatting and approval of article submission. Prof. Doriccah Peu, Prof. Lesley Bamford, and Prof. Alfred Musekiwa read the article as the PI's supervisors and provided suggestions on how to improve the article. Prof. Annatjie van der Wath read the article as an external researcher and provided some suggestions on how to improve the article. Dr. Thomas Dyer, Dr. Andrea Murphy, Dr. Paul Gatabazi, Dr. Rafiat Ajoke Anokwuru, Dr. Innocent Muhire, Ms Clarissa Anna Coetzee and Ms Helene Coetzee participated in the validation of the research findings, read the article as co-authors and provided suggestions on how to improve the article.

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DATA AVAILABILITY STATEMENT

To ensure transparency, the data collected and analysed during the current study are publicly available from Open Science Framework (OSF) and can be accessed by using this link: https://osf.io/w7pfm/.

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