



Identifying Critical Issues in the Perception of Caregivers about Quality of Child Health Care Accommodations Utilizing a Modified Delphi Technique

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Abstract:

Identification of the elements of the perception users of health accommodations is a critical step in the development of quantification scales to assess such perception. This study is the second of a three phase approach to engender a validated implement for the assessment of caregiver's perceived quality of child health care in Primary health care (PHC) facilities. The first phase was exploratory utilizing qualitative methods to assess the perceptions of caregivers about quality of child health care accommodations; it yielded 39 quality-of-care items. In this current study, we subjected the 39 quality of care items to expert review utilizing the modified Delphi method. This method is subsidiary for corroborating content validity in quantitative scale design. A total of 33 experts, including public health specialists, paediatricians and medical sociologists, participated in three iterative rounds. In each round the experts awarded score to the items and consensus amongst experts was tenacious by calculating inter quartile range of the assigned scores.

Key Words:

Perceived quality of care, Child healthcare, Infant care, Delphi technique

Introduction:

Quality of care is a paramount determinant of health accommodations utilization ultimately influencing health outcomes of public health paramountcy. It is known that the perception of the users about the quality of accommodation offered in a health facility is a determinant of call of provider and inclination to utilize or pay for the accommodations. There are gaps in the literature addressing assessment of perceived quality of child health care in Africa. For instance, studies on quality of care in Nigeria have mostly not reported the processes of validation of the implements utilized as such there are varying degrees to which their reports are reproducible. Additionally, review of African health literature yielded only one locally developed quantitative implement for assessing users' perspectives of quality of care in health facilities that had been subjected to systematic, quantitative content validation. The implement was however not categorically for child health care accommodations.

We utilized a three phase approach to engender a validated implement for the assessment of caregiver's perceived quality of child health care. In the first phase we conducted an explorative study utilizing focus group discussions (FGD) sessions to accumulate qualitative data on perception about the quality of child health care accommodations in PHC facilities.

Participants were men and women culled from some communities in South West Nigeria. Analytical framework and codes that fixated on identifying recurrent, ascendant and divergent opinions were developed. The exchanges in the FGD sessions relating to perception of quality of child health care were organized into 39 quality cognate items. The 39 items fell into three major areas corresponding to: Perception about health workers; perception about the health accommodations; and perception about the health facility. The report of this first phase is documented elsewhere.

In the second phase we utilized a modified Delphi technique to identify the critical issues amongst the 39 quality of care cognate items earlier identified predicated on expert opinion. The Delphi method is a structured communication technique, pristinely developed as a systematic, interactive forecasting method which relies on a panel of experts. It is predicated on the principle that forecasts (or decisions) from a structured group of individuals are more precise than those from unstructured groups. Typically the panellists are requested to contribute their opinions on the subject of interest in a listing fashion or otherwise provide answers to a questionnaire. They are additionally required to score the opinion predicated on their priority to the issue of interest. Descriptive statistics are acclimated to analyse scores by calculating betokens, medians, and standard deviations for each item data for each iteration.

Consensuses on opinions are resolute by computing the inter-quartile range (middle 50% of replication) for each of the identified items or priority verbalization.

Though pristinely formulated by military strategists, it has been widely utilized in such fields as public policy, inculcation and health customarily in an acclimated form for instance: the modified Delphi method. While the pristine version commences with the expert panel contributing items, modified method conventionally commences with the researcher developing a list of items from literature review or analysis of qualitative data on the subject of interest. The panellists are then requested to rank the items during several iterations. The method is subsidiary for corroborating content validity in quantitative scale design, Expert opinions provide vigorous substratum for including or omitting items in the scale. The third phase of the study tested the scale amongst caregivers of under-five children in culled PHC facilities. This paper reports findings of the second phase.

Methods:

This study was carried out between October and November 2014. The study population consisted of public health medicos, anthropologist, sociologists and pediatricians practicing in Nigeria. Some of the experts were engaged by peer recommendation and others through their sodality mailing list, in particular, Sodality of Public Health Medicos of Nigeria (APHPN). Thirty-three experts practicing in 11 states of the Federal Republic of Nigeria responded to the survey. Of the thirty-three, 27 had post graduate qualification in Public Health, two in Pediatrics, two in Sociology and two others were medically qualified public health practitioners.

An online survey platform was utilized via a commercial online survey website: www.createsurvey.com. The online method was adopted because it sanctioned for reaching a significantly immensely colossal number of potential respondents without requiring their physical presence. The 39 'quality' items that were identified from the FGD were modified to be read as questions and uploaded on the platform. Each expert respondent received an electronic mail which contained a link to the online questionnaire. The experts were requested to rate each item on the questionnaire on the opportuneness of the question for soliciting users' perception of quality of child health care accommodations from caregivers. It was five-point rating scale where 1 represented 'not appropriate' and 5 represented 'very appropriate'.

The expert review was done in three iterative rounds. In each round the experts rated the questionnaire items, gave suggestions for rephrasing any of the questions where they deemed fit and gave suggestion of any other item/question that they believed should be included in the list. The inter-quartile range (IQR) of the scores for each question item from each round was calculated. For each question item, the lower the IQR the higher consensus amongst the reviewers. This betokens that the items with lower IQR were the more usefulness items for assessing perception of quality of care predicated on expert consensus. After each of rounds, the questionnaire was modified to include comments and suggestions of reviewers in precedent rounds.

Results:

The 1st round of the modified Delphi process commenced with 39 quality cognate question items derived from FGD sessions. The replications of the reviewers showed that about only 41% of the question items had IQR more preponderant than 1.5

Health Workers	Mean	Median	Mode	SD	IQR
In your opinion, the health workers in this health facility are friendly and accommodating	4.45	5	5	0.791	
The health workers in this health facility explain the prescription to caregiver	4.36	5	5	0.931	
The health workers in this health facility give appropriate health education	4.33	4	5	0.821	
The health workers in this health facility explain the side effect of drugs/immunization	4.3	5	5	0.951	
The health workers in this health facility spend adequate time with the patients	4.27	4	4	0.81	
In your opinion, the health workers in this health facility are diligent with their work	4.06	4	5	1.091	
The health workers in this health facility refer your child to the next appropriate hospital only as necessary	3.88	4	4	1.051	
The health workers in this health facility show favoritism	3.85	4	4	1.121.5	
The health workers allow for confidentiality and privacy with their patients	3.91	4	5	1.132.00*	
The number of health workers available in this health facility are sufficient	3.82	4	4	1.162.00*	
In your opinion, the health workers in this health facility	3.03	3	4	1.292.00*	

Health Workers	Mean	Median	Mode	SD	IQR
about themselves from work					
The health workers are involved dubious and corrupt practices with the drugs and other resources of the health facility	2.85	3	2	1.282.00*	
The health workers request in this health facility appropriate lab investigation before treatment	3.76	4	4	1.232.50*	
In your opinion, the health workers in this health facility are qualified and competent	3.73	4	5	1.312.50*	
The health workers in this health facility arrive at work late	3.55	4	4	1.313.00*	

SD: Standard Deviation; IQR: Interquartile Range; *Items with IQR>1.5

Health Services	Mean	Median	Mode	SD	IQR
The patients wait for long time before they are attended to in this health facility	4.42	5	5	0.941	
The drugs given in this health facility are effective	4.27	5	5	1.011	
The cost of the services in this health facility are high	4.24	5	5	1.031	
Drugs and other medical supplies are sufficiently available in this health facility	4.12	4	5	1.031	
The services of this health facility are properly organized	4.12	5	5	1.141	
The drugs given at this health facility are of good quality	4.06	5	5	1.251.5	
The health service has sufficient immunization service	4	5	5	1.321.5	
The services in some health facilities are preferable to others in this community	3.82	4	4	1.162.00*	
In your opinion, this health facility has adequate equipment for care of the patient	3.76	4	5	1.252.50*	

SD: Standard Deviation; IQR: Interquartile Range; *Items with IQR>1.5

Health Facility	Mean	Median	Mode	SD	IQR
In your opinion, health facility is clean and hygienic	4.24	5	5	1.031	
The health facility has adequate water supply	4.12	4	5	1.171	
This health facility is near enough to where you live	4.06	4	5	1.091	
This health facility has good access road	4.03	4	4	1.021	
In your opinion, the surrounding of this health facility is clean neat and free from bushes	4.09	4	5	1.131.5	
This health facility has sufficient chairs for patients	4	4	5	1.151.5	
This health facility has regular supply of electricity	3.88	4	5	1.271.5	
In your opinion, health facility has adequate toilet facilities	3.88	4	5	1.361.5	
The windows and doors of health facility is well protected by mosquito net	3.88	4	5	1.272.00*	
The health facility is properly fenced	3.76	4	4	1.252.00*	
This health facility has adequate physical structure in terms of location, size and beauty	3.61	4	4	1.222.00*	

Health Facility	Mean	Median	Mode	SD	IQR
The number of health facilities in this community are adequate	3.45	4	4	1.28	2.00*
This health facility has sufficient beds for patients	3.7	4	4	1.26	2.50*
Others items					
Your children recover from their illness when they are treated in this health facility	3.85	4	5	1.25	2.00*
There is evidence of government monitoring and oversight of this health facility	3.52	4	4	1.3	3.00*

SD: Standard Deviation; IQR: Interquartile Range; *Items with IQR>1.5

Predicated on some of the comments of the reviewers, three question items were merged into one because of their kindred attribute. These are: “The drugs given in this health facility are effective”; “The drugs given in this health facility are of good quality”; and “Your children instaurate from their illness when they are treated in this health facility”. These were merged into the following single question item: “Children recuperate from their illnesses when they utilize the drugs provided/prescribed in this health facility”.

Items	Mean	Median	Mode	SD	IQR
Health workers allow for involvement of the community in monitoring and improving the quality of child health services delivered in this health facility	3.39	3	3	1.3	2.5*
The health facility is properly fenced	3.24	3	4	1.09	2.0*
The physical structure of this health facility is beautiful to see	3.3	4	4	1.1	2.0*
The health workers in this facility advise/request laboratory investigation before treatment	3.43	4	4	1.2	2.0*
The health workers in this facility give preferential treatment to some patients over others	3.64	4	4	1.27	2.0*
The number of health workers available to attend to users when they visit this health facility are sufficient	3.7	4	4	1.26	2.5*

SD: Standard Deviation; IQR: Interquartile Range; *Items with IQR>1.5

Of the remaining items, three that had IQR more preponderant than 1.5 were consummately omitted from the subsequent round. These are: “The number of health facilities in this community is adequate” [IQR=2.0]; “This health facility has ample beds for patients” [IQR=2.5]; and “In your opinion, this health facility has adequate equipment for care of the patients” [IQR=2.5]. Furthermore, the reviewers suggested the integration of three incipient question items as follows; “The health workers do follow up after treating children in this health facility”; “You are liable to utilize the child health accommodations of this health facility again or recommend it to others (friends, relatives etc)”; and “Health workers sanction for participation of users in monitoring and ameliorating the quality of child health accommodations in the health facility”. In all, round one commenced with 39 items, three items were merged into one, three items were omitted and three incipient items were integrated. Thus, thirty-seven question items went into the second round. Some of the reviewers’ comments from round one are:

“There are some uncomfortable questions for the clients especially if the study is facility predicated. The clients may not be entirely veracious in answering some questions bothering on the health workers’ posture especially on issues like favoritism, tardiness, and corrupt practices”.

“The question to ask is: is the patient in a good position to be cognizant about the issue he/she has been asked to comment on? In many of the questions, the client is not liable to have good erudition of the issue. e.g. drugs quality, equipment availability etc”.

“Some of the questions surmise that the users will have the competency to ascertain the claims e.g. clients may not be able to determine whether health workers are competent or not. They may additionally not be able to determine whether the lab request are congruous or not”.

“There is a desideratum to be more concrete with some of these questions and eschew having two or more conceptions in one question”.

What is the designation of “sufficiently available”, I cerebrate asking the patient whether drugs prescribed are conventionally available in the health facility is more congruous; “sufficient immunization service” is additionally an equivocal question, “are the immunization needed for the child always available” is more opportune.

Discussion:

The implement development which commenced with 39 quality cognate items ended with 23 in the third phase. The 23 items fitted into the three broad categories of perception on health workers, health accommodations and the health facilities. It is consequential that the number of question in surveys is circumscribed to the barest minimum without compromising on the internal structure and reliability of the implement during the development process. Scales composed of sizably voluminous numbers of items that are extraneous to the experiences of a concrete patient are more susceptible to receiving a partial rating. Furthermore, the shorter the implement the more cooperative the respondents are liable to be and the more likely that correct replications are provided. This is even more paramount if such implement will be administered as an exit interview in a diligent clinic setting. Albeit the description of the categorical expressions given to the items of the incipient implement were different, they did overlap with the items of the pre-substisting implement on perceived quality of care in primary health care facilities engendered by. The item of the incipient scale however concretely fixated on child health care. Table 4 contains the 23 final items.

Conclusion:

Modified Delphi technique is a very utilizable method of seeking expert opinion through consensus on technical issues. The method availed to engender a 23-item implement for assessment of user’s perception of child health care accommodations in PHC facilities in Nigeria from an initial list of 39. Methods such as this avail to corroborate validity of content when engendering quantitative scales from the scratch.