Designing a Conceptual Model for Patient-Centered Care – A Patient Perspective

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Abstract: Patient-centered care is the approach that could reduce health inequalities by preparing health care providers to deliver care that is respectful and responsive to the preferences of every patient. Patient-centered care is one advanced approach to the planning, distribution, and assessment of healthcare which is mutually valuable among patients, families, and providers. Patient-centered care is practiced in any healthcare setting which applies to all the patients of different age groups and that is why different models for patient-centered care are designed and used. There is a need for identifying an effective tool to develop a systematic measurement process. The main purpose of the study is to give out a model for patient-centered care management process. Through literature review, the aspects of patient-centered care has been identified which has also led to decreasing average length of stay of patients, efficient and effective treatments which in turn has improved patient satisfaction. Therefore, the patient-centered care model has been recognized as an important aspect for quality health care delivery system. After identifying the aspects, data collection was done from patients by the use of judgement sampling method. For analysis, Structural equation modelling was used. The results of the study shows which aspect of patient centered care has the greater impact on each other and finally leads to doctor’s relationship with patients.

Keywords: Patient-centered care, Health care delivery, Structural equation modelling

INTRODUCTION
During 1970s, numerous organizations from health care setup, their policy makers, and its regulatory and research agencies have recognized and encompassed the impression of patient-centered care. Patient-centered care has been listed as one of the six aims by The Institute of Medicine (2001) for improvement and it has given the definition of patient-centered care as “patient-centered care respects and responds to the individual patient’s preferences, needs and values and ensures that clinical decision incorporates patients’ values”. Rather than focusing on the disease patient-centered care suggests personalized patient care based on patient specific information. This creates a wide-range of healthcare approach, where the consultant attempts to see the disease through the view of the patients, and gives preferences to the needs of the patients.

OBJECTIVES OF THE STUDY
- To determine the aspects and factors of patient-centered care.
- To assess the perception of patients on patient-centered care aspects.
- To develop a model for patient-centered care.

METHODOLOGY
The process of doing this study is in aim of developing a suitable model for patients-centered care which is based on following steps:
1. Similar works available in the field of patient-centered care were studied in order to identify the definitions and the aspects of the study broadly.
2. In order to improve the aspects of the study, personal interviews were conducted with the experts. The questionnaire was distributed among the experts like statistician, hospital managers and experienced person. Around 10 to 15 experts were interviewed.
3. The model is measured by distributing the questionnaire to the patients and they were asked to give their opinion on a five point scale about the aspects of patient-centered care.

Table 1: Final aspects of the proposed model for patient-centered care

<table>
<thead>
<tr>
<th>ASPECTS</th>
<th>CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respect for Patient's Value and Needs</td>
<td>Attention towards Privacy, Encouraging independence, Patient as a person, time spent with patient</td>
</tr>
<tr>
<td>‘Coordination and Integration of care’ and Involvement of Family and Friends</td>
<td>Coordination and integration of clinical care</td>
</tr>
<tr>
<td></td>
<td>Coordination of ancillary and support service, Supporting and Involving family members in discharge planning</td>
</tr>
<tr>
<td>Information, Communication and Education</td>
<td>Patient information, Communication and Education</td>
</tr>
<tr>
<td>Physical Comfort and Emotional Support</td>
<td>Pain management, assistance with daily activities and hospital surroundings and environment, Emotional support, Information giving and Relaxation and stress reduction</td>
</tr>
<tr>
<td>Access to care for Patients</td>
<td>Access to the location of hospitals, clinics and physician offices, Scheduling appointments, Access to service</td>
</tr>
</tbody>
</table>

4. Structure equation methodology has been used to measure the patient-centered model. This approach is a statistical technique for testing and estimating causal relationships using a combination of statistical data and qualitative causal assumptions.

RESULTS:

Variables Used In Structural Equation Model

I. Observed, dependent variables
   1. Respect for patients’ values and needs
   2. Doctor’s relationship with patients
   3. Information, Communication and Education

II. Observed, Independent variables
   1. Physical comfort and Emotional support
   2. Coordination and Integration of care
   3. Access to care for patients

III. Unobserved, exogenous variables
   1. e1 – error for Respect for patients values and needs
   2. e2 – error for Information, Communication and Education
   3. e3 - error for Doctor’s relationship with patients

Hence Number of variables in the Structure Equation Model

Number of variables in your model: 9
Number of observed variables: 6
Number of unobserved variables: 3
Number of exogenous variables: 6
Number of endogenous variables: 3
Figure 1 Structural Equation Model for the aspects of patient-centered care

![Structural Equation Model](image)

**Table 2 Structure Equation Model with indicators**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unstandardized co-efficient</th>
<th>S.E.</th>
<th>Standardized co-efficient</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respect for patients values and needs</td>
<td>Physical comfort and Emotional support</td>
<td>0.419</td>
<td>0.026</td>
<td>0.485</td>
<td>15.832</td>
</tr>
<tr>
<td></td>
<td>Coordination and Integration of care</td>
<td>0.252</td>
<td>0.035</td>
<td>0.187</td>
<td>7.263</td>
</tr>
<tr>
<td></td>
<td>Access to care for patients</td>
<td>0.340</td>
<td>0.044</td>
<td>0.233</td>
<td>7.792</td>
</tr>
<tr>
<td>Information, Communication and Education</td>
<td>Physical comfort and Emotional support</td>
<td>0.210</td>
<td>0.031</td>
<td>0.232</td>
<td>6.752</td>
</tr>
<tr>
<td>Information, Communication and Education</td>
<td>Coordination and Integration of care</td>
<td>0.451</td>
<td>0.041</td>
<td>0.320</td>
<td>11.083</td>
</tr>
<tr>
<td>Information, Communication and Education</td>
<td>Access to care for patients</td>
<td>0.446</td>
<td>0.051</td>
<td>0.292</td>
<td>8.686</td>
</tr>
<tr>
<td>Doctor’s relationship with patients</td>
<td>Respect for patients values and needs</td>
<td>0.105</td>
<td>0.011</td>
<td>0.341</td>
<td>9.172</td>
</tr>
<tr>
<td>Doctor’s relationship with patients</td>
<td>Information, Communication and Education</td>
<td>0.077</td>
<td>0.011</td>
<td>0.262</td>
<td>7.036</td>
</tr>
</tbody>
</table>
Here the coefficient of ‘Physical comfort and Emotional support’ is 0.419 represents the partial effect of ‘Physical comfort and Emotional support’ towards ‘Respect for patients’ values and needs’, holding access to care for patients and Coordination & Integration of care as constant. The estimated positive sign implies that such effect is positive that ‘Respect for patients’ values and needs’ would increase by 0.419 for every unit increase in Physical comfort and Emotional support and this coefficient value is significant at 1% level.

The coefficient of ‘Coordination and Integration of care’ is 0.252 represents the partial effect of ‘Coordination and Integration of care’ towards ‘Respect for patients’ values and needs’, holding access and Physical comfort and Emotional support as constant. The estimated positive sign implies that such effect is positive that ‘Respect for patients’ values and needs’ would increase by 0.252 for every unit increase in ‘Coordination and Integration of care’ and this coefficient value is not significant at 1% level.

The coefficient of Access is 0.340 represents the partial effect of access towards Respect for patients values and needs, holding Physical comfort and Emotional support and ‘Coordination and Integration of care’ as constant. The estimated positive sign implies that such effect is positive that ‘Respect for patients’ values and needs’ would increase by 0.340 for every unit increase in access towards and this coefficient value is significant at 1% level.

The coefficient of ‘Physical comfort and Emotional support’ towards ‘Information, communication and education’ given to patients is 0.210 represents the partial effect of Physical comfort and emotional support towards ‘Information, communication and education’, holding ‘Coordination and Integration of care’ and access as constant. The estimated positive sign implies that such effect is positive that ‘Information, communication and education’ would increase by 0.210 for every unit increase in Physical comfort and Emotional support and this coefficient value is significant at 1% level.

The coefficient of ‘Coordination and Integration of care’ is 0.451 represents the partial effect of ‘Coordination and Integration of care’ towards ‘Information, communication and education’ given to patients, holding access and Physical comfort and emotional support as constant. The estimated positive sign implies that such effect is positive that ‘Information, communication and education’ would increase by 0.451 for every unit increase in ‘Coordination and Integration of care’ and this coefficient value is not significant at 1% level.

The coefficient of Access is 0.446 represents the partial effect of access towards ‘Information, communication and education’, holding ‘Physical comfort and Emotional support’ and ‘Coordination and Integration of care’ as constant. The estimated positive sign implies that such effect is positive that ‘Information, communication and education’ would increase by 0.446 for every unit increase in access and this coefficient value is significant at 1% level.

The coefficient of ‘Respect for patients’ values and needs’ towards performance is 0.105 represents the partial effect of ‘Respect for patients values and needs’ towards performance, holding ‘Physical comfort and Emotional support’, ‘Coordination and Integration of care’, ‘access’ and ‘Information, communication and education’ as constant. The estimated positive sign implies that such effect is positive that performance would increase by 0.105 for every unit increase in ‘Respect for patients’ values and needs’ and this coefficient value is significant at 1% level. The coefficient of ‘Information, communication and education’ is 0.077 represents the partial effect of ‘Information, communication and education’ towards performance, holding ‘Physical comfort and Emotional support’, ‘Coordination and Integration of care’, ‘Access’ and ‘Respect for patients’ values and needs’ as constant. The estimated positive sign implies that such effect is positive that performance would increase by 0.077 for every unit increase in ‘’ and this coefficient value is significant at 1% level.
Table 3. The fitness measures of the conceptual model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square value</td>
<td>5.358</td>
</tr>
<tr>
<td>P value</td>
<td>0.147</td>
</tr>
<tr>
<td>Goodness of fit index</td>
<td>0.945</td>
</tr>
<tr>
<td>Adjusted Goodness of fit index</td>
<td>0.936</td>
</tr>
<tr>
<td>Comparative fit index</td>
<td>0.929</td>
</tr>
<tr>
<td>Root mean score error of approximation</td>
<td>0.040</td>
</tr>
</tbody>
</table>

From the above table it is found that the calculated P value is 0.147 which is greater than 0.05 which indicates perfectly fit. Here ‘Goodness of fit index’ value and ‘Adjusted Goodness of fit index’ value is greater than 0.9 which represent it is a good fit. The calculated ‘Comparative fit index’ value is 0.9 which means that it is a perfectly fit and also it is found that ‘Root mean score error of approximation’ value is 0.040 which is less than 0.10 which indicated it is perfectly fit.

CONCLUSION:
The findings of the study may be used to identify the level of understanding the healthcare professionals have on the five dimensions in comparison with patients. Patients’ perception of the care they receive has become more and more important in terms of not only healthcare quality improvement but also administrative and financial aspects of hospitals. In addition to health care professionals’ clinical performance, their interactions with patients are viewed critically. The top management of hospitals can use the current findings of the study to develop the aspects like respecting patient’s values and needs, coordinating the care, communication with patients, providing physical comfort and emotional support, involving family and friends, access to the service.

REFERENCES