The Quality of Therapeutic Alliance between Patient and Provider Predicts General Satisfaction

Son Chae Kim, PhD RN*; Sinil Kim, MD†; CAPT Denise Boren, NC USN (Ret.)‡

ABSTRACT Objectives: Therapeutic alliance has been proposed as an ideal patient-provider relationship. The Kim Alliance Scale (KAS) measures the quality of therapeutic alliance, including patient empowerment. The objectives were to refine KAS and to measure the relationship between therapeutic alliance and patients’ general satisfaction. Methods: A total of 601 evaluable patients was recruited, 304 patients in exploratory series and 297 patients in validation series. Patients completed a demographics questionnaire, the KAS, and Patient Satisfaction with Health Care Provider Scale. Results: Using the exploratory series, KAS was refined into a 16-item KAS-R consisting of collaboration, integration, empowerment, and communication subscales. Internal consistency reliability of KAS-R was 0.89. Hierarchical multiple regression analyses of the two series showed that KAS-R accounts for 35% to 36% of the variance in general satisfaction scores. Conclusions: Therapeutic alliance, as measured by KAS-R, predicted approximately one-third of patients’ general satisfaction and empowerment was a significant predictor variable.

INTRODUCTION

The quality of the patient-provider relationship has a broad range of impact over the practice of medicine, including health care outcomes, patients’ general satisfaction, and malpractice litigation risks. More recently, the patients’ rating of the patient-provider relationship has been linked to incentive payments to physicians. Therapeutic alliance has been proposed as an ideal patient-provider relationship in the social-control continuum of compliance, adherence, and therapeutic alliance. In this continuum, compliance implies that the patient is being coerced and adherence implies conformation to an expected standard. In contrast, therapeutic alliance implies negotiation between the patient and health care provider. As an ideal patient-provider relationship, therapeutic alliance is defined as a dynamic interactional process in which the patient and provider collaborate to carry out negotiated mutual goals in a shared partnership. Therapeutic alliance is a multidimensional concept in the patient-provider relationship that encompasses communication, integration, collaboration, and patient empowerment. The empowerment dimension had been underrepresented in previous instruments that assess therapeutic alliance. The Kim Alliance Scale (KAS) was developed to measure the quality of therapeutic alliance and includes a patient empowerment dimension.

Although the quality of therapeutic alliance is thought to predict patients’ general satisfaction, the strength of this relationship has not been examined quantitatively using valid and reliable instruments. The objectives of this study were to refine KAS and to measure the relationship between therapeutic alliance and patients’ general satisfaction.

METHODS

Study Design and Subjects

The subjects were recruited from two outpatient clinics serving military family members and retirees in a metropolitan city of Southern California over a period of 8 months. These clinics provide a broad array of services including pediatrics, family medicine, internal medicine, and women’s health. Both clinics operate as a collaborative practice, with a total of 23 physicians (7 family practitioners, 6 internists, 9 pediatricians, and 1 combined internist/pediatrician), 7 nurse practitioners, and 2 physician’s assistants. The criteria for inclusion were: (a) age of 18 or older; (b) two or more encounters with the same health care provider within the past 2 years; and (c) ability to speak, read, and understand the English language.

The study procedures were reviewed and approved by the Institutional Review Board of the University of San Diego and by the Institutional Review Board and the Clinical Investigation Department of the military medical center. Patients entering the clinic waiting rooms during the various data collection hours were screened and invited to participate in the study if the eligibility criteria were met. After obtaining informed consent, a series of 304 evaluable patients in the exploratory series completed a packet containing a demographics questionnaire, the KAS, and the Patient Satisfaction with Health Care Provider Scale (PSHCPs) containing a general satisfaction subscale. A separate series of 297 evalu-
able patients in the validation series completed a larger packet containing the Agnew Relationship Measure (ARM) and Multidimensional Health Locus of Control (MHLC) tool, in addition to those instruments completed by the exploratory series. All evaluable patients completed the entire packet before leaving the clinic. The collected data were coded and entered into a computer using the SPSS Data Editor (SPSS, Chicago, Illinois). The accuracy of data entry was checked by two individuals against the source document.

**Measurements**

The 30-item KAS incorporating dimensions of collaboration, integration, empowerment, and communication was developed to measure the quality of therapeutic alliance between patient and provider.\(^{14}\) The response format for each item is a 4-point Likert-type scale ranging from 1 (never) to 4 (always). The internal consistency reliability (Cronbach’s \(\alpha\)) of KAS was 0.94. The demographics questionnaire collected the subject’s age, gender, ethnicity, and educational level, as well as type and gender of the patient’s health care provider, number of past visits with the same health care provider, and duration of the patient-provider relationship. The PSHCPS measures patient satisfaction with their health care provider with an internal consistency reliability of 0.88 for the 4-item general satisfaction subscale.\(^{16,17}\) This subscale measures the level of satisfaction with care received and includes items such as, “I am satisfied with the care I receive from my health care provider” and “The care I receive from my health care provider is just about perfect.” The ARM measures the quality of alliance between a psychotherapist and a client, with reported internal consistency reliability ranging from 0.55 to 0.87 for its five subscales.\(^{13,18}\) The ARM was included in the packet given to patients in the validation series for convergent validity testing of the KAS. The MHLC is an instrument that measures a client’s beliefs concerning control of his or her own health status, with reported internal consistency reliability ranging from 0.83 to 0.86 for its three subscales.\(^{19}\) The MHLC was included in the packet for the validation series for divergent validity testing of the KAS.

**Analyses**

The scores of the negatively oriented items were reversed for all instruments before analyses. The SPSS 13.0 was used for data analyses. The exploratory data set \((n = 304)\) was used to refine KAS into a shorter instrument, KAS-R. First, principal component factor analyses with varimax rotation were performed to determine the factor structure of the KAS. The criteria for interpreting factors were: eigenvalue >1.00 and item-factor loading of 0.45 or greater. Within each factor, four items with the highest item-total correlation were selected for inclusion to maximize the reliability with a minimum number of items.\(^{20}\) Cronbach’s \(\alpha\) was calculated to estimate the internal consistency reliability of the KAS-R. Pearson product-moment correlations between the general satisfaction subscale of PSHCPS and KAS-R subscales were calculated. Finally, a hierarchical multiple regression model was applied to the exploratory data set for an initial testing of the premise that therapeutic alliance, as measured by KAS-R, is a significant predictor for the general satisfaction score after controlling for the patient-provider variables.

Following the initial analyses of the exploratory data set, the validation data set \((n = 297)\) was then used to confirm the results obtained from the exploratory data set, as well as to test convergent and divergent construct validity of KAS-R against ARM and MHLC.

**RESULTS**

The patient-provider characteristics are summarized in Table I. A total of 641 patients agreed to participate. Thirty-six patients failed to complete the surveys, three did not meet the eligibility criteria, and one failed to give written consent. The remaining 601 patients, 304 in the exploratory series and 297 in the validation series, were evaluable and included in the respective data set.

**Results from the Exploratory Series**

The KAS was refined into a shorter instrument, KAS-R, consisting of 16 items and 4 final factors, which accounted for 63% of the variance. These four final factors were named collaboration, integration, empowerment, and communication subscales, based on the theoretical dimension represented by the items within each factor (Table II).

The patient responses to each KAS-R item are shown in Table I. The average rating for each item was calculated. Finally, a hierarchical multiple regression model was applied to the exploratory data set for an initial testing of the premise that therapeutic alliance, as measured by KAS-R, is a significant predictor for the general satisfaction score after controlling for the patient-provider variables.

**TABLE I. Patient-Provider Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Exploratory Series</th>
<th>Validation Series</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>((n = 304))</td>
<td>((n = 297))</td>
</tr>
<tr>
<td>Patient’s gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>64 (21)</td>
<td>58 (20)</td>
</tr>
<tr>
<td>Female</td>
<td>240 (79)</td>
<td>237 (80)</td>
</tr>
<tr>
<td>Patient’s ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>163 (54)</td>
<td>130 (44)</td>
</tr>
<tr>
<td>African American</td>
<td>37 (12)</td>
<td>37 (12)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>26 (9)</td>
<td>32 (11)</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>63 (21)</td>
<td>91 (31)</td>
</tr>
<tr>
<td>Native American</td>
<td>6 (2)</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Other</td>
<td>9 (3)</td>
<td>5 (2)</td>
</tr>
<tr>
<td>Patient’s provider type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>199 (65)</td>
<td>214 (73)</td>
</tr>
<tr>
<td>Nurse practitioner</td>
<td>75 (25)</td>
<td>63 (22)</td>
</tr>
<tr>
<td>Physician’s assistant</td>
<td>30 (10)</td>
<td>16 (5)</td>
</tr>
<tr>
<td>Patient’s provider gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>181 (50)</td>
<td>160 (55)</td>
</tr>
<tr>
<td>Female</td>
<td>122 (40)</td>
<td>132 (45)</td>
</tr>
<tr>
<td>Patient’s age (years)</td>
<td>39.2 ± 12.8</td>
<td>40.7 ± 12.6</td>
</tr>
<tr>
<td>Patient’s educational level (years)</td>
<td>13.6 ± 2.1</td>
<td>13.6 ± 2.2</td>
</tr>
<tr>
<td>No. of past visits</td>
<td>9.9 ± 15.0</td>
<td>9.0 ± 13.2</td>
</tr>
<tr>
<td>Duration of patient-provider relationship (months)</td>
<td>24.4 ± 24.4</td>
<td>26 ± 28</td>
</tr>
</tbody>
</table>

**Notes:**

1. Agnew Relationship Measure (ARM).
2. Multidimensional Health Locus of Control (MHLC).
4. Cronbach’s \(\alpha\).
5. Principal component factor analysis.
6. Varimax rotation.
7. Eigenvalue >1.00.
8. Item-factor loading >0.45.
9. Inclusion criteria.
11. Exploratory data set.
12. Validation data set.
13. Convergent validity testing.
14. Divergent validity testing.
15. Exploratory series.
16. Validation series.
17. KAS-R.
19. Integration subscale.
20. Empowerment subscale.

**References:**

- 1. Agnew Relationship Measure (ARM).
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- 9. Inclusion criteria.
- 10. Patient-provider variables.
- 12. Validation data set.
- 13. Convergent validity testing.
- 14. Divergent validity testing.
- 16. Validation series.
- 17. KAS-R.
- 20. Empowerment subscale.

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Table II. Seventy to 88% of patients gave the perfect rating of 4 (“always”) for the items within collaboration, integration, and communication subscales. However, lower percentages of patients gave the perfect rating for the items within the empowerment subscale (61%–70%). Similar results were obtained with KAS-R subscale scores as shown in Figure 1A. A majority of the patients gave the perfect subscale score of 16 for collaboration (54% of patients), integration (59% of patients), and communication (58% of patients) subscales. However, only 40% of the patients gave the perfect empowerment subscale score of 16. Conversely, a greater percentage of patients (18%) gave low empowerment subscale scores (≤12) than for the other three subscales (8%–12%).

Internal consistency reliability for collaboration, integration, empowerment, and communication subscales were 0.80, 0.76, 0.77, and 0.75, respectively, and for the entire KAS-R was 0.89. The Pearson product-moment correlations between the general satisfaction subscale of PSHCPS and the four KAS-R subscales, collaboration, integration, empowerment, and communication, were 0.43, 0.53, 0.49, and 0.59, respectively (p < 0.001 for each).

In the hierarchical multiple regression analysis, the patient-provider variables accounted for 9% of the variance in the general satisfaction subscale score (R² = 0.09; p < 0.05). The combination of the patient-provider variables and the four KAS-R subscales accounted for 45% of the variance in the general satisfaction subscale score (R² = 0.45; p < 0.001), which indicated that therapeutic alliance alone accounted for 36% of the variance (45%–9%) in patients’ general satisfaction (Fig. 2A). All four subscales, collaboration (p < 0.05), integration (p < 0.001), communication (p < 0.01), and empowerment (p < 0.001), reached statistical significance as predictor variables for general satisfaction. The only patient-provider variables reaching statistical significance as predictor variables were the patients’ educational level (β = −0.16; p < 0.01) and number of past visits (β = 0.14; p < 0.05). The residual analyses of normality, homoscedasticity, and linearity confirmed that the linear model assumptions were satisfied.21

Results from the Validation Series
A significant correlation between the KAS-R and the ARM was found (r = 0.77, p < 0.001), demonstrating the convergent validity of the KAS-R. On the other hand, there was no significant correlation (p > 0.05) between the KAS-R and any of the MHLC subscales (r = 0.10, 0.08, and −0.11, respectively), demonstrating the divergent validity of KAS-R.

Figure 1B shows a summary of patient responses to the KAS-R subscales, which confirmed the results obtained from the exploratory series. Again, a majority of the patients gave the perfect subscale score of 16 for collaboration (50% of patients), integration (54% of patients), and communication (56% of patients) subscales, but only 38% of patients gave the perfect empowerment subscale score of 16. Conversely, a greater percentage of patients (23%) gave the low empowerment subscale scores (≤12) than for the other three subscales (10%–18%). The Pearson product-moment correlation between the general satisfaction subscale and KAS-R subscales,
collaboration, integration, empowerment, and communication, confirmed the results from the exploratory series (0.37, 0.47, 0.61, and 0.61, respectively, with \( p < 0.001 \) for each).

The hierarchical multiple regression analysis also confirmed the results obtained from the exploratory series. The patient-provider variables accounted for 18% of the variance in the general satisfaction subscale score (\( R^2 = 0.18; p < 0.001 \)). The combination of patient-provider variables and four KAS subscales accounted for 53% of the variance in the general satisfaction subscale score (\( R^2 = 0.53; p < 0.001 \)), which indicates that therapeutic alliance alone accounted for 35% of the variance in general satisfaction (Fig. 2B). Only communication (\( p < 0.001 \)) and empowerment (\( p < 0.001 \)) among the KAS-R subscales reached statistical significance as predictor variables for general satisfaction. Again, patients’ educational level (\( \beta = -0.13; p < 0.05 \)) and number of past visits (\( \beta = 0.16; p < 0.01 \)) were the only patient-provider variables reaching statistical significance as predictor variables for general satisfaction, confirming the results from the exploratory series.

**DISCUSSION**

In this study, the KAS-R was shown to be a reliable and valid tool for measuring therapeutic alliance in outpatient clinics.

The factor analyses of the KAS-R grouped the items into four subscales, collaboration, integration, empowerment, and communication, which incorporate the broad dimensions of the patient and provider relationship. In the collaboration process, the patient and provider participate in establishing mutual goals and commit to reaching them. Integration involves a process of reducing the power differential between patient and provider and increasing respect for each other. In the empowerment process, the patient develops self-confidence and becomes a partner in the decision-making process. Finally, communication is a process where information is exchanged and patient-provider bonding occurs.

It is interesting that the empowerment item scores and subscale score were relatively lower than those of the other three subscales in both the exploratory and validation series (Table II and Fig. 1). This may indicate that fewer patients perceive themselves to be empowered by their health care providers. Enhancing patient empowerment may help patients better manage their own care. The recent changes in the health care system have resulted in earlier discharges from hospitals, shorter clinic visits, and patients managing more of their own health care in the community. Furthermore, as the American population ages, more patients with chronic conditions face long-term health problems, requiring greater self-care and lifestyle modifications. The lower patient empowerment score found in this study could indicate an opportunity for further improving this aspect of the patient-provider relationship. Since completion of this study, a chronic disease...
Quality of Therapeutic Alliance

In the exploratory series, the quality of therapeutic alliance between patient and provider, as measured by KAS-R, was found to be a significant predictor variable for patients’ general satisfaction, accounting for approximately one-third (36%) of the patients’ general satisfaction. This result was confirmed in a separate validation series, strengthening the findings. Among the subscales of KAS-R, only the communication subscale ($p < 0.01$ in the exploratory series; $p < 0.001$ in the validation series) and the empowerment subscale ($p < 0.001$ in both series) were consistent predictor variables for the patients’ general satisfaction. Although this cross-sectional study does not show cause-and-effect relationships, enhancing patient empowerment and communication could result in higher patient satisfaction.

Among the patient-provider variables, the patients’ educational level and the number of past visits were consistently significant predictor variables for the patients’ general satisfaction. It is interesting that the number of past visits was positively related to the general satisfaction, whereas the educational level was negatively related. It is reasonable to expect that patients become progressively more satisfied with their providers as the number of visits increases. An alternate hypothesis is that satisfied patients tend to stay with the same providers and accumulate higher number of visits, whereas dissatisfied patients would leave. In contrast, patients with higher levels of education were less satisfied with their providers. Highly educated patients may expect more from their providers as the number of visits increases. An alternate hypothesis is that satisfied patients tend to stay with the same providers and accumulate higher number of visits, whereas dissatisfied patients would leave. In contrast, patients with higher levels of education were less satisfied with their providers. Highly educated patients may expect more from their providers and thus have a greater mismatch between patient expectation and reality.

There are other instruments that share certain similarities with the KAS-R, but focus on narrower aspects of the patient-provider relationship. For example, the Participatory Decision-Making style focuses on the decision-making process rather than the overall patient-provider relationship. Trust in the Physician Scale, as a measure of the patient-physician relationship, also narrowly focuses on the degree of the patients’ confidence in the physician. Also, the Communication with the MD domain of the Consumer Assessment Survey, which has been used to award incentive payments to physicians, focuses on patient-provider communication alone. These instruments do not capture the rich multidimensionality of the patient-provider relationship. In contrast, KAS-R does capture the four salient dimensions of the ideal patient-provider relationship, including patient empowerment.

There are certain limitations of this study. Although sequential patients entering the waiting area of the clinics during the various data collection hours were approached for participation in this study, the subjects were not randomly selected and were derived from military-associated clinics in one geographical area. The sample population also included a high percentage of Asian/Pacific Islanders and females. Therefore, the results of this study may not be generalizable to other clinical settings. Because this study was a cross-sectional study, therapeutic alliance predicting the patients’ general satisfaction should not be taken as a cause-and-effect relationship. Future longitudinal and interventional studies are needed to elucidate such a causal relationship. Potential future research questions may also include whether KAS-R is useful for predicting other health care outcomes, such as adherence to a medication regimen in chronic conditions, as well as for assessing humanistic training of health care providers.

In conclusion, therapeutic alliance predicts about one-third (35% to 36%) of patients’ general satisfaction, and KAS-R is a reliable, valid instrument for measuring therapeutic alliance. Availability of a reliable and valid instrument that is short and easy to use, yet captures the rich multidimensionality of therapeutic alliance, including patient empowerment, may facilitate further understanding and improvements in the patient-provider relationship, patient satisfaction, and quality of care.

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REFERENCES

    assessed by the Agnew Relationship Measure (ARM). Br J Clin Psychol
14. Kim SC, Boren D, Solem SL: The Kim Alliance Scale: development and
15. Leopold N, Cooper J, Clancy C: Sustained partnership in primary care.
16. Cherkin DC, Hart LG, Rosenblatt RA: Patient satisfaction with family
    physicians and general internists: Is there a difference? J Fam Pract
17. Marsh GW: Measuring patient satisfaction outcomes across provider
    the Agnew Relationship Measure and the Working Alliance Inventory.
19. Wallston KA, Wallston BS: Development of the Multidimensional
    Health Locus of Control (MHLC) scales. Health Educ Monogr 1978; 6:
    160–9.
20. Nunnally JC, Bernstein IH. Construction of conventional tests. In: Psy-
22. Cooper-Patrick L, Gallo JJ, Gonzalez JJ, et al: Race, gender, and
    partnership in the patient-physician relationship. JAMA 1999; 282:
    583–9.
    with participatory decision-making styles. Ann Intern Med 1996; 124:
    497–504.
24. Thom DH, Stanford Trust Study Physicians: Physician behaviors that
25. Pearson SD, Raeke LH: Patients’ trust in physicians: many theories, few
26. Gordon HS, Street RL, Sharf BF, Kelly PA, Soucek J: Racial differ-
    ences in trust and lung cancer patients’ perceptions of physician com-

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