Quality of hospital to community care transitions: the experience of minority patients

EFRAT SHADMI

The Cheryl Spencer Department of Nursing, Faculty of Social Welfare and Health Sciences, University of Haifa, Haifa 31905, Israel
Address reprint requests to: Efrat Shadmi. Tel: +972-48288012; Fax: +972-48288017; E-mail: eshadmi@univ.haifa.ac.il

Abstract

Objectives. Care transitions are an especially vulnerable juncture in the course of patient care. Patients from ethnic minority populations face additional unique challenges during hospital to community care transitions due to language and cultural barriers, yet, this phenomenon is understudied. This study examines the quality of care transitions of minority patients (immigrants) versus the general population, and specifically assesses the association between in-hospital provider–patient communication and the quality of minority care transitions.

Design. Prospective study of older hospitalized adults.

Setting. A large teaching hospital.

Participants. Participants (n = 385) were patients hospitalized for non-disabling medical conditions, from one of the two groups: the general Israeli population (Hebrew speakers) or immigrants from the former Soviet Union (Russian speakers).

Main outcome measures. One-month phone follow-up assessed the quality of patients’ transitional care using the care transitions measure.

Results. Russian speakers rated their transitional care on average 10% lower than Hebrew speakers (54.4 versus 64.2, respectively, P = 0.002). On average, Russian speakers’ ratings on the physician interpersonal-communication scale were significantly lower than Hebrew speakers’ ratings. For Russian speakers, but not Hebrew speakers, the interpersonal physician communication scale was significantly positively associated with the quality of care transitions in multivariate analyses (P = 0.01), controlling for gender, education, economic status and length of stay.

Conclusions. Minority patients experience lower quality of care transitions than the general population. Interpersonal physician–patient communication during the hospital stay is associated with better care transitions of ethnic minority patients and should be considered in efforts to improve the quality of minority patients’ care transition processes.

Keywords: care transitions, ethnic minority, provider–patient communication

Introduction

Patients from minority ethnic populations face unique challenges during transitions between care settings due to language and cultural barriers. Provider–patient communication is central for effective transitions as the patient is often the only link between care settings. Health-care systems with a hospitalist [1] type of structure (or similar care arrangements that lack in-hospital primary care involvement) place patients at an especially vulnerable position in which they are the focus of transition from hospital to community care. Delays and deficits in inter-physician communication are common [2] and information regarding the follow-up care and instructions that patients need to act upon at discharge are often provided only to the patients themselves. This central point at which the patient is positioned may be especially challenging for those from minority groups.

Language barriers affect patients’ understanding of discharge instructions and may impede their ability to effectively manage their care during transitions. Low health literacy and limited language proficiency are regarded as major reasons for the lack of understanding of instructions at discharge [3, 4]. Difficulty in understanding physicians’ instructions results in lower likelihood of the follow-up on discharge recommendations and greater susceptibility to resultant complications including re-admission. Persons of low education and new immigrants are especially vulnerable to experience non-planned re-admissions, as they face language and cultural barriers that may affect their ability to understand discharge instructions [5].
It is widely accepted that, for effective transitions to occur, brief counseling at the point of discharge is not enough and there is a need for patient education about relevant post-hospital care aspects throughout the entire hospitalization [6]. Reciprocal provider–patient communication, throughout the entire hospital stay, provides opportunities for asking questions and clarifying ongoing care issues. Recent studies point to the importance of tailoring patient counseling and self-management support to meet the needs of minority populations [7]. Studies, however, have rarely examined differences in the care transition experience of minority patients versus the general population. Specifically, there is a lack of knowledge on the degree to which in-hospital interpersonal communication is linked to the transition experience of minorities. To address this gap, the current study prospectively examines the association between patients’ ratings of their in-hospital interpersonal communication experience and the quality of transitional care in a cohort of hospitalized older adults, specifically investigating the differential effect of interpersonal communication on the quality of care transitions of minority patients (immigrants) versus the general population.

Methods

This study is a part of a larger prospective observational study, Hospitalization Process Effects on Functional Outcomes and Recovery, in acutely ill older adults [8]. Its participants were older adults (70 years or older) admitted to any one of the five general medical units of a tertiary-care teaching hospital in Israel. Physician services in Israeli hospitals are based on a hospitalist type of model and follow-up primary care is provided in the community setting through one of the four nationally operating health plans covering every citizen. The hospital’s and the Ministry of Health’s Review Boards gave ethics approval.

The study was conducted from February to November 2009. Patients were eligible for inclusion if they were admitted for a non-disabling condition, such as stroke, coma or mechanical ventilation. Eligibility criteria are described elsewhere [8]. Of the 734 patients screened, 40 (5.5%) declined to participate; 16 (2.2%) were excluded due to death and 107 (14.1%) discontinued participation due to deterioration in the medical status. An additional 86 patients were excluded due to stays of <2 days and inability to collect baseline or discharge data. Of the 734 patients screened, 40 (5.5%) declined to participate; 16 (2.2%) were excluded due to death and 107 (14.1%) discontinued participation due to deterioration in the medical status. An additional 86 patients were excluded due to stays of <2 days and inability to collect baseline or discharge data.

The eligible sample included a total of 480 patients; some were Hebrew speakers and others were Russian speakers. These groups were chosen because Hebrew is the official language in Israel, and the largest immigrant population is from the former Soviet Union. In general, the main wave of immigration from the former Soviet Union to Israel occurred during the 1990s. The main spoken language of former Soviet Union adult immigrants is generally still Russian, with limited to moderate Hebrew proficiency [9]. ‘Russian speakers’ were all patients who immigrated since the 1990s, had indicated that Russian is their main spoken language and preferred to be interviewed in Russian. Complete baseline, discharge and 1-month follow-up questionnaires were available for 385 patients. There were no statistically significant differences between the study sample and those exclude in terms of the main demographic characteristics. Importantly, the proportions of excluded Russian and Hebrew speakers matched those in the final sample.

Baseline demographic, cognitive [10] and functional data [11] were collected at admission. Interpersonal provider–patient communication was assessed at discharge, to reflect the care experience throughout the hospital stay. A subscale of the Perceived Hospital Environment Quality Indicators (PHEQIs) scale [12] with three items was used: ‘Medical visits (rounds) are satisfactory’, ‘Doctors generally provide poor information on medical procedures’ (reversed scoring) and ‘Doctors are generally not very understanding toward patients’ (reversed scoring). Answers are rated on a Likert-type scale ranging from 1 = ‘completely disagree’ to 5 = ‘completely agree’. In this study, the internal reliability (Cronbach’s α) of the PHEQI subscale was 0.72.

Patients’ rating of their transitional care was assessed at 1-month follow-up through a telephone interview using the care transitions measure (CTM) which assesses the quality of preparation for care transitions from hospital to community care. Patients are asked to rate their understanding of how to manage their health, how far their preferences have been taken into account and whether they understand their medication treatment plan. Patients rate their transitional care experience on a four-point scale from ‘strongly disagree’ to ‘strongly agree’ [13]. The short form (three items) of the CTM was used in this study. The CTM was translated into Hebrew and Russian and was validated in an Israeli patient cohort [14]. Internal reliability (Cronbach’s α) in this study was 0.90.

The study was powered to detect differences in CTM scores according to the ratings of satisfaction on the PHEQI subscale applying G power analysis for linear multiple regression random model, based on estimates of a >10% explained variance with a maximum of 10 predictors, with power of 80% and α = 0.05, requiring at least 184 for each group separately.

Differences in baseline characteristics of Hebrew and Russian speakers were assessed using t-tests and χ² analysis for continuous and categorical variables, respectively. Variables significantly associated with the CTM in the bivariate analysis (Pearson and χ² for continuous and categorical variables, respectively) at P < 0.05 in at least one of the groups were entered into a multivariate regression model. Based on the results of the bivariate analysis, multivariate analysis was performed for the entire sample and for each group separately. Data were analyzed with STATA statistical software version 10.

Results

Patients were on average 78.2 (standard deviation (SD) = 5.8) years old, with relatively high cognitive status, and highly functioning. Average length of hospital stay was 5.8 (SD = 5.7) days. Russian speakers comprised ~40% of the sample
(150 respondents), consistent with the proportion of the former Soviet Union population in this age group in the general population in the northern Israel region (the study’s catchment area) [15]. Russian speakers had predominantly more female (63 versus 48%) and were more educated (12.6 versus 9.7 years of schooling) than Hebrew speakers (Table 1), consistent with this population’s demographic characteristics.

Overall, patients rated their transition from the hospital moderately positively (mean score 60.4, SD = 32.7). Russian speakers rated their transition on average 10 points lower than Hebrew speakers (54.4, SD = 28.6 versus 64.2, SD = 34.6, respectively) (P = 0.002). Ratings on the CTM items were lower (P < 0.001) for Russian versus Hebrew speakers only on two of the three items, reflecting differences in their understanding of the transitional care process (Table 2).

Table 1 Characteristics of total sample and according to primary language (n = 385)

<table>
<thead>
<tr>
<th></th>
<th>Mean ± SD (unless otherwise specified)</th>
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<tbody>
<tr>
<td></td>
<td>Total, n = 385</td>
</tr>
<tr>
<td>Age, mean ± SD</td>
<td>78.2 ± 5.8</td>
</tr>
<tr>
<td>Gender (females), n (%)</td>
<td>206 (53.5%)</td>
</tr>
<tr>
<td>Education, in years, mean ± SD</td>
<td>10.9 ± 5.1</td>
</tr>
<tr>
<td>Economic status (poor), n (%)</td>
<td>65 (17.5%)</td>
</tr>
<tr>
<td>Surrogate respondent, n (%)</td>
<td>75 (19.5%)</td>
</tr>
<tr>
<td>SPMSQT (0–10)</td>
<td>8.3 ± 2.0</td>
</tr>
<tr>
<td>Charlson index (0–19)</td>
<td>2.1 ± 1.9</td>
</tr>
<tr>
<td>Length of stay in hospital (days)</td>
<td>5.8 ± 5.8</td>
</tr>
<tr>
<td>Total ADL at admission (0–100)</td>
<td>78.9 ± 28.4</td>
</tr>
</tbody>
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SPMSQT: Short Portable Mental Status Questionnaire; ADL, activities of daily living.
*P-values are derived from t-tests for continuous variables and χ²-tests for categorical variables.

Table 2 Patients’ ratings on the CTM according to primary language

<table>
<thead>
<tr>
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<th>Mean (SD)</th>
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<tr>
<td></td>
<td>Russian speakers, n = 150</td>
</tr>
<tr>
<td>Item 1: the hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left the hospital</td>
<td>52.3 (29.9)</td>
</tr>
<tr>
<td>Item 2: when I left the hospital, I had a good understanding of the things I was responsible for in managing my health</td>
<td>53.7 (29.8)</td>
</tr>
<tr>
<td>Item 3: when I left the hospital, I clearly understood the purpose for taking each of my medications</td>
<td>57.3 (30.0)</td>
</tr>
<tr>
<td>CTM3: total scoreb</td>
<td>54.4 (28.6)</td>
</tr>
</tbody>
</table>

SD, standard deviation.
*aP-values are derived from t-tests for continuous variables.
*bCTM three items score transformed to a 0–100 scale.

Ratings of the interpersonal communications scales averaged 3.8 (SD = 0.9), with lower scores for Russian versus Hebrew speakers (3.5, SD = 0.9 versus 3.9, SD = 0.9, respectively) (t = 4.2, P < 0.001). Bivariate analysis was conducted separately for each group. In the Russian-speaking group, the physician interpersonal communication scale was moderately positively associated with CTM scores (r = 0.31, P < 0.001) (Table 3). Additional correlates of CTM scores in the Russian-speaking group were gender, economic status and length of stay. In Hebrew speakers, only education was significantly associated with the CTM (data not reported).

Multivariate analyses for the entire sample shows that language (Russian: β = −0.11, P = 0.04) and physician interpersonal communication (β = 0.18, P = 0.001) were the only variables significantly correlated with CTM scores. As bivariate analysis showed markedly different patterns between the
Table 3  Association between communication and CTM scores

<table>
<thead>
<tr>
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<th>Pearson correlation coefficients</th>
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<tbody>
<tr>
<td></td>
<td>Russian speakers, n = 150</td>
<td>Hebrew speakers, n = 235</td>
<td></td>
</tr>
<tr>
<td>Interpersonal communication with physician (total score)</td>
<td>0.31**</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>Interpersonal communication with physician (subscores)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with medical round</td>
<td>0.18*</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>Doctors provide little information on med procedures</td>
<td>0.31**</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>The med staff do not care for patients interests</td>
<td>0.25**</td>
<td>0.08</td>
<td></td>
</tr>
</tbody>
</table>

*P < 0.05; **P < 0.01.

Table 4  Multivariate regression model of possible predictors of CTM scores

|                                | Russian speakers, n = 150         |              | Hebrew speakers, n = 235 |
|                                | Standardized \( \beta \)-coefficients |              | Standardized \( \beta \)-coefficients | P-value       | Standardized \( \beta \)-coefficients | P-value       |
| Interpersonal communication with physician (total score) | 0.28                             | 0.001        | 0.12                     | 0.08          |
| Gender (females)               | −0.16                            | 0.06         | 0.05                     | 0.50          |
| Education, in years            | 0.03                             | 0.31         | −0.01                    | 0.89          |
| Economic status (poor versus all other) | 0.13                             | 0.13         | −0.07                    | 0.30          |
| Length of stay in hospital, in d | 0.06                             | 0.49         | 0.07                     | 0.33          |
| The model explained variance \( R^2 \), P-value    | 0.14                             | 0.001        | 0.03                     | 0.33          |

two groups in regards to the correlation with the main independent variable (as given in Table 3), multivariate analysis was performed for each group. Analyzed separately by language (Table 4), interpersonal communication remained significantly related to the CTM only in the Russian-speaking group \( \beta = 0.28, P = 0.001 \). The percentage of explained variance in both groups was low. This low percentage, nonetheless, in the Russian-speaking group is almost five times that in the Hebrew-speaking group (14 versus 3%, respectively), indicating the higher explanatory power of interpersonal communication and background variables in the minority Russian versus the Hebrew-speaking group.

Discussion

This study shows that minority patients, immigrants from a foreign-language speaking country, experience lower quality of hospital-to-community care transitions than patients from the general population. This difference is directly related to minority patients’ understanding of aspects related to ongoing care needs, as reflected by the lower scores on two of the three CTM items that directly rate patients’ (self-reported) understanding. Overall ratings of the Russian-speaking group were 10 points lower than those of Hebrew speakers. This may be indicative of variation in outcomes, as previous research has shown that a 5- to 6-point difference in CTM scores was associated with the difference in re-admission and emergency care use [16]. Moreover, especially alarming is the significantly lower score reported by minority patients (Russian speakers) on the degree to which they clearly understood the purpose for taking each of their medications \( 57.3 \text{ versus } 70.2 \text{ for Russian versus Hebrew speakers, respectively} \). The fact that patients did not differ in their ratings of the degree to which their priorities were considered suggests that the quality gap is related to the levels of native language proficiency and/or health literacy, rather than to a systematic gap in patient-centered care between minorities and other patients. This possibility, however, should be further tested.

Literature on hospital-to-community transitions of minority patients is limited [17]. A previous study with a national sample of adults in the USA examined minority patient reports on care transitions using the CTM, demonstrated similar ratings across diverse population groups [18]. Other US studies indicated that poor host language proficiency, together with unfamiliarity with the local health system, may limit immigrants’ ability to communicate with providers and effectively utilize medical services, thus increasing their vulnerability [19].

Preparing patients for their transitions requires comprehensive, ongoing communication throughout the entire transition process, spanning early stages of the hospital stay through discharge [4, 7]. Findings reported here show that...
in-hospital interpersonal care is associated with the perceived quality of care transitions, especially in the Russian-speaking group. Policies and intervention to promote minority patients’ understandings of discharge instructions should be implemented as part of larger initiatives aiming to improve transitions and prevention of emergency re-admission and other types of adverse post-hospitalization events. A study on primary language and hospital outcomes found that non-English-speaking Latino and Chinese patients have higher risk for re-admission [20]. Native language speakers might be less adversely affected by poor in-hospital interpersonal communication, perhaps finding other ways to compensate for their ongoing information needs. That the model explained a greater percentage of the variance in Russian than in Hebrew speakers supports this interpretation. This hypothesis, however, should be further tested.

This study has several limitations. A sample of older adults of one ethnic minority in one tertiary medical center may impede generalizing the results. In Israel, to date, hardly any official interpreter services for discharge or other in-hospital services exist. Unofficial interpreters generally manage language barriers. Importantly, ~30% of the workforce (physicians or nurses) in the study’s hospital are of Russian-speaking background. Thus, the lower interpersonal communication ratings should be interpreted in light of the availability of at least some language concordant care. Moreover, the interpersonal communication scale included patients’ ratings of physicians’ concern for their needs and general satisfaction with physician services, not merely an assessment of information transfer. Interpersonal communication affects patients’ ability to understand and follow medical regimens due to processes surpassing language proficiency [5, 21]. Furthermore, even in health-care systems where such services are officially required, high-quality interpreter services are not uniformly available [22], and are only part of the solution to the communication needs of ethnically diverse groups [5]. Therefore, the present findings are of relevance to other populations and health systems which utilize various approaches to appropriate language and cultural care [23]. Additionally, the low explanatory power of the models (as measured by the \( R^2 \)) indicates that the contribution of other confounders, such as the extent of explanations provided during the discharge briefing, as well as the type of post-hospitalization care received, should also be assessed in future studies.

An additional limitation of this study is that the CTM was administered at the 1-month follow-up, with 20% lost to follow-up. Moreover, reports could have been affected by the follow-up care, as the primary care follow-up can affect post-hospitalization outcomes [24, 25] and has been shown to directly affect CTM scores [16]. Nevertheless, the CTM is reported to be applicable for administration up to 12 weeks following discharge.

Another limitation is the indirect measure of language proficiency used here. Though there is no direct measure of language proficiency or health literacy in this study, the group assessed here comprised immigrants who primarily used the non-host language. Patients were classified as Russian speakers if they preferred to be interviewed in Russian (rather than Hebrew). Our cohort of older patients had immigrated to Israel in their mid-1950s or 1960s (or older) and are generally assimilated in a Russian-speaking subculture and have poor to medium command of the Hebrew language [9]. This broad distinction between patients according to a simple measure of their preferred spoken language may be useful in practice, where it is usually not feasible to assess the levels of language proficiency and health literacy. Classifying patients according to their preference to communicate in a second language, as indicated by those classified as Russian speakers in our sample, may be a useful way to identify patients who might be in need for special facilitation during the transition process. Nonetheless, future research should examine the use of more direct measures of language proficiency/health literacy, as well as outcomes of care transitions of minority patients.

Conclusions

This study shows that minority patients, of a different cultural and language background, face significant barriers to effective care transitions. These findings may have important implications for outcomes, as difficulty in understanding physicians’ instructions have been previously linked to lower likelihood of the follow-up on discharge recommendations and greater susceptibility to resultant complications including re-admission. Interpersonal physician–patient communication during the hospital stay can potentially lower some of these barriers, as it was found here to be related to the quality of the care transition process.

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Conflict of interest statement

None declared.

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