The relationship between partner information-seeking, information-sharing, and patient medication adherence

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Abstract

Objectives—We describe the medication information-seeking behaviors of arthritis patients' partners and explore whether partner medication information-seeking and information-sharing are associated with patient medication adherence.

Methods—Arthritis patients and their partners (n=87 dyads) completed an on-line questionnaire. Partners indicated how often they obtained medication information from 14 sources, how much they trusted these sources, and whether they shared medication information with the patient. Patients reported their medication adherence. Bivariate associations were calculated to explore the relationships between partner information-seeking, information-sharing, and patient medication adherence.

Results—Partners sought little information about the patient's medications. Partners sought more information if the patient's medication regimen was more complex ($r=0.33$, $p= 0.002$). Most partners (~98%) shared medication information with the patient; older partners shared more information with the patient ($r=0.25$, $p=0.03$). Neither partner information-seeking ($r=0.21$,

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p=0.06) nor partner information-sharing (r=0.12, p=0.31) were significantly associated with patient medication adherence.

Conclusions—Although partners of arthritis patients do not seek large amounts of medication information, the vast majority share this information with the patient.

Practice Implications—Involving partners in medical consultations can help them better understand the patient's medications, have questions answered by providers, and engage in more informed discussions with patients about their medications.

Keywords

Arthritis; Partner; Information-seeking; Information-sharing

1. Introduction

Emotional and instrumental support from partners can increase patient medication adherence [1, 2], but the effects of partner-provided medication-related informational support remain unexplored. The Information-Motivation-Behavioral Skills Model (IMB) posits that better informed, more motivated patients are more adherent [3, 4]. Studies of the IMB model show that medication information and perceptions of adherence-related support positively affect adherence behavioral skills [5-10] and medication adherence [5, 9, 10]. Thus, when partners provide patients with medication information, the information itself, as well as patient perceptions of partner support, could improve patient medication adherence.

Because arthritis is painful and can impact patients' ability to engage in daily activities, partners may seek information about the patient's medications as an adaptive coping mechanism or to supplement information from professional sources [11, 12]. Using cross-sectional data from 87 arthritis patient-partner dyads, we: 1) describe which medication information sources partners use and trust; 2) explore whether patient and partner demographic/clinical characteristics, including patient arthritis type, are associated with partners' medication information-seeking and information-sharing; and 3) examine whether partner information-seeking and information-sharing are associated with patient medication adherence.

2. Methods

2.1 Participants and methods

Online questionnaire data were collected as part of a larger study [13, 14]. Eligible patients had a self-reported diagnosis of osteoarthritis (OA) or rheumatoid arthritis (RA), were 18 years old, could read English, had Internet access, and were currently taking 1 medication to treat their arthritis on a routine basis. Individuals taking medications "as needed" were ineligible. The 30-45 minute patient and partner surveys included 84 and 52 questions, respectively. This study was approved by (name blinded) Institutional Review Board.

We mailed recruitment letters to patients with an OA or RA (ICD-9 diagnosis code of 714 or 715) diagnosis listed in the (name blinded) hospital's electronic health record (Figure 1). We also advertised the study on arthritis websites and in local media publications, distributed

brochures at local clinics and support groups, and mailed recruitment letters to patients who participated in other (university) arthritis studies.

Patients' partners were recruited by a snowball technique in which patients were asked to share the study website with their partners. Participants received a $10 incentive.

2.2 Measures

2.2.1 Information source use and trust—We asked partners, "when your spouse/ partner begins taking a new arthritis medicine, how much information do you get from the people and places listed below?" Responses ranged from 1= "none" to 4= "a lot." A mean partner source use score was created by averaging use across 14 sources.

Partners also reported, "with regards to your partner's arthritis medicines, how trustworthy do you consider the following source to be?" Responses ranged from 1= "not at all trustworthy" to 4= "very trustworthy."

2.2.2 Partner information-sharing—Partners reported how often they shared arthritis medicine information with the patient. Responses ranged from 1= "never" to 4= "often." Partners also reported how often they discussed seven topics, including drug effectiveness and side effects, with the patient; responses ranged from 1= "we never discuss it'" to 4= "we discuss it a lot."

2.2.3 Patient medication adherence—Patients self-reported medication adherence using a validated Visual Analog Scale [15-17]. Patients were asked, "All things considered, how much of the time do you take ALL of your medications EXACTLY as directed?" Responses ranged from 0-100; higher scores indicated better adherence.

2.2.4 Sociodemographic and clinical characteristics—Partners and patients reported their gender, race, age, education, and marital status. Patients reported their disease duration, years taking arthritis medications, arthritis type, health insurance status, perceived complexity of their medication regimen (1= "not at all complex" to 10= "extremely complex"), and perceived arthritis severity (1= "not at all severe" to 10= "extremely severe"). Patients who reported both RA and OA were categorized as having RA.

2.3 Data analysis—We used IBM SPSS Statistics v19 to generate univariate statistics to characterize the sample. Non-parametric tests of association were calculated to explore the relationships between all partner and patient demographic/clinical characteristics with partner information-seeking, information-sharing, and patient medication adherence; $\alpha=0.05$.

3. Results

Table 1 summarizes the sample of 87 patient-partner dyads. Partners sought minimal medication information (M=1.92, SD=0.54). Table 2 presents the amount of medication information partners of OA and RA patients obtained from each source, and Table 3 presents partners' perceived trust of each source. Partners obtained the most medication

information from the patient and physicians and trusted physicians, pharmacists, nurses, and the patient most.

Most partners (97.7%) shared arthritis medication information with the patient; 15.1% shared rarely, 41.9% shared sometimes, and 40.7% shared often. Medication effectiveness was the topic partners discussed most with patients (Table 4).

Partner information-seeking and information-sharing were positively associated (r=0.51, p<0.001). Partners sought more information about the patient's arthritis medications if the patient reported a more complex medication regimen (r= 0.33, p= 0.002). Older partner age was associated with sharing more information with the patient (r=0.25, p=0.03). No other variables were associated with partner information-seeking or information-sharing (supplementary materials).

Neither partner information-seeking (r=0.21, p=0.06) nor partner information-sharing (r=0.12, p=0.31) were significantly associated with patient medication adherence.

4. Discussion and Conclusion

When partners provide patients with medication information, the medication information itself, as well as patient perceptions of partner support, could lead to improved medication adherence [3, 4]. In our sample, however, partner information-seeking was not significantly associated with better patient adherence. Partners sought more information if the patient reported a more complex medication regimen. A complex regimen may cause patients to explicitly ask their partners for treatment-related support, which may trigger partners to seek treatment-related information. Older partners in our sample shared more information about the patient's medications than younger partners, which may reflect that older adults are more likely to search for treatment information than younger adults [12, 18].

Partners also highly trusted and used the patient for medication information, which could be due to ease of access to the patient [19, 20]. Although partners' trusted professional sources, they used these sources minimally, possibly due to previous negative experiences during clinical encounters [21-23].

4.1.2 Limitations

Several limitations deserve mention. First, past research suggests that patients may over-report medication adherence [24, 25]. Partners may have also over-reported their information-seeking and information-sharing. The information-seeking and information–sharing measures have not been validated and ask partners to recall information-seeking at one point in time: when the patient receives a new arthritis medication, which may occur rarely. Furthermore, patients may interpret discussions about medications as general support rather than informational support. Partners in our convenience sample may have used more medication sources because they had Internet access and could have been more supportive than the general population of partners. Thus, our results may overestimate the amount of medication information partners seek and share and may not generalize to the larger population of arthritis patient-partner dyads.

4.2 Conclusion

This study adds new knowledge about partner use and trust of medication information sources. Although our sample of arthritis patients' partners did not seek large amounts of medication information, the vast majority shared that information with the patient. Future qualitative studies should investigate the nature of medication information exchange between patients and partners and explore why partners seek medication information for the patient and how they intend to use information to support the patient. Research that examines patient-partner variation in acquisition and discussion of medication information would provide a more in-depth understanding of the relationships between information, support, and adherence. Longitudinal studies using daily diaries may reveal interesting patterns in partner information-seeking and sharing since source use and preferences may change over time [26, 27].

4.3 Practice Implications

Partners share medication information with the patient. Providers can invite patients to involve partners in their health care. Involving partners in medical consultations can help them better understand the patient's medications, engage in more informed discussions with the patient, and have their medication questions answered by providers, who are their most trusted source of medication information.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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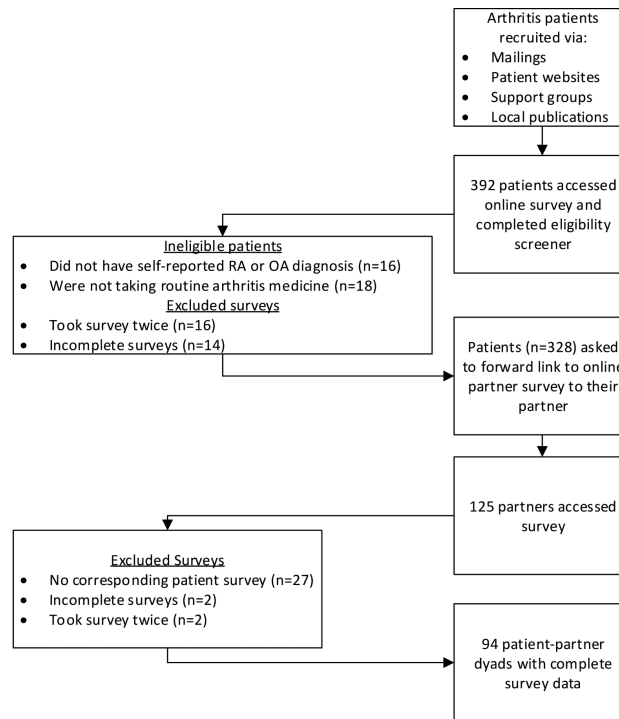
Note: RA=rheumatoid arthritis and OA=osteoarthritis

Figure 1.
Recruitment flow chart for arthritis patients and their partners

Table 1

Characteristics of arthritis patients and their partners (n=87 dyads)

Characteristic	Patient		Partner	
	Mean (*SD*) or n(%)	Range	Mean (*SD*) or n (%)	Range
Age	55.9 (13.8)	22.0-85.0	54.7 (13.6)	24.0-83.0
Female	60 (69.0)		27 (31.0)	
Race				
White	74 (85.1)		75 (86.2)	
Black	8 (9.2)		9 (10.3)	
Other	5 (5.7)		3 (3.4)	
Education				
High school diploma or less	20 (23.0)		23 (26.4)	
Some college	19 (21.8)		17 (19.5)	
Associates degree or more	48 (55.1)		47 (54.0)	
Years married/partnered	25.5 (16.5)	1.0-59.0		
Patient arthritis type				
Osteoarthritis	44 (50.6)			
Rheumatoid arthritis	43 (49.4)			
Patient disease duration (in years)	11.4 (8.7)	0.5-42.5		
Patient perceived disease severity	6.2 (1.8)	1.0-10.0		
Patient perceived regimen complexity	2.9 (2.2)	1.0-9.0		
Partner has arthritis			20 (23.0)	

Table 2

Partners' use of medication information sources (n=87)

Source	Patient has OA (n=44) n(%)			Patient has RA (n=43) n(%)		
	None	A little/some	A lot	None	A little/some	A lot
Patient	2(4.5)	26(59.1)	16(36.4)	5(11.6)	15(44.9)	23(53.5)
Physicians	16(36.4)	16(34.1)	13(29.5)	12(27.9)	19(44.2)	12(27.9)
Medicine package inserts	13(29.5)	24(54.5)	7(15.9)	13(30.2)	23(53.5)	6(14.0)
Internet	21(47.7)	19(43.2)	4(9.1)	12(27.9)	18(41.9)	11(25.6)
Pharmacists	20(45.5)	15(34.1)	9(20.5)	17(39.5)	18(41.9)	7(16.3)
Brochures/pamphlets	16(36.4)	23(52.3)	5(11.4)	13(30.2)	23(53.5)	7(16.3)
Research articles/books	25(56.8)	17(38.6)	2(4.5)	16(37.2)	23(53.5)	4(9.3)
Family members	20(45.5)	23(52.2)	1(2.3)	21(48.8)	21(48.8)	1(2.3)
Nurses/other health professionals	25(56.8)	15(34.1)	4(9.1)	26(60.5)	13(30.3)	3(7.0)
Media sources (TV, magazines, radio)[*]	28(63.6)	16(36.3)	0(0.0)	16(37.2)	23(53.5)	4(9.3)
Friends	21(47.7)	21(47.7)	1(2.3)	23(53.5)	18(41.9)	2(4.7)
Newsletters	34(77.3)	9(20.4)	0(0.0)	27(62.8)	13(30.2)	2(4.7)
Support groups	37(84.1)	7(15.9)	0(0.0)	35(81.4)	7(16.3)	1(2.3)
Podcasts	40(90.9)	2(4.5)	0(0.0)	39(90.7)	2(4.7)	0(0.0)

Note: response options included: 1= "none", 2= "a little", 3= "some", and 4= "a lot"

Some rows do not total to 100% due to missing data

[*] RA partners more likely to use media sources $\chi^2(2)=8.52$; p=0.01

Table 3

Partners' perceived trust of medication information sources (n=87)

Source	Patient has OA (n=44) n(%)			Patient has RA (n=43) n(%)		
	Not at all trustworthy	A little/somewhat trustworthy	Very trustworthy	Not at all trustworthy	A little/somewhat trustworthy	Very trustworthy
Patient	1(2.3)	20(45.4)	22(50.0)	2(4.7)	10(23.3)	29(67.4)
Physicians	0(0.0)	12(27.3)	32(72.7)	0(0.0)	19(44.2)	24(55.8)
Medicine package inserts	0(0.0)	27(61.3)	16(36.4)	2(4.7)	27(62.8)	13(30.2)
Internet	5(11.4)	35(79.5)	4(9.1)	4(9.3)	34(79.0)	3(7.0)
Pharmacists	0(0.0)	14(31.8)	30(68.2)	0(0.0)	21(48.9)	20(46.5)
Brochures/pamphlets	2(4.5)	35(79.5)	7(15.9)	4(9.3)	32(74.5)	4(11.6)
Research articles/books	2(4.5)	32(79.7)	10(22.7)	3(7.0)	31(72.1)	9(20.9)
Family members	2(4.5)	34(77.3)	7(15.9)	6(14.0)	30(69.8)	4(9.3)
Nurses/other health professionals	1(2.3)	24(54.6)	18(40.9)	0(0.0)	30(69.8)	10(23.3)
Media sources (TV, magazines, radio)	9(20.5)	33(75.0)	1(2.3)	14(32.6)	28(65.1)	1(2.3)
Friends	6(13.6)	33(75.0)	5(11.4)	7(16.3)	28(65.1)	5(11.6)
Newsletters	10(22.7)	30(68.1)	3(6.8)	7(16.3)	30(69.7)	2(4.7)
Support groups	13(29.5)	29(65.9)	1(2.3)	8(18.6)	27(62.8)	2(4.7)
Podcasts	20(45.5)	19(43.2)	3(6.8)	17(39.5)	16(37.2)	0(0.0)

Note: response options included: 1= "not at all trustworthy", 2= "a little trustworthy", 3= "somewhat trustworthy", and 4= "very trustworthy"

Some rows do not total to 100% due to missing data

Table 4

Medication topics partners discussed most often with patients (n=87)

Topic	Patient has OA (n=44) n(%)		Patient has RA (n=43) n(%)	
	Never/Hardly ever	A fair amount/A lot	Never/Hardly ever	A fair amount/A lot
How effective arthritis medicines are at treating your spouse/partner's symptoms	15(34.1)	29(65.9)	7(16.3)	35(81.4)
Arthritis medicines (general)	16(36.3)	28(63.6)	12(27.9)	30(69.8)
Arthritis medicines' side effects	17(38.6)	27(61.3)	16(37.2)	26(60.4)
How arthritis medicines interact with other medicines your spouse/partner is taking	23(52.3)	21(47.7)	17(39.6)	25(58.1)
How to take arthritis medicines (with meals, with water, in the morning)	23(52.3)	22(45.4)	21(48.9)	21(48.9)
The financial costs of your spouse/partner's medicines	23(52.3)	21(47.7)	24(55.9)	18(41.8)
Alternative/ complementary/ holistic medicines or therapies	27(61.4)	17(38.6)	26(60.5)	16(37.2)

Note: response options included: 1= "we never discuss it", 2= "we hardly ever discuss it", 3= "we discuss it a fair amount", and 4= "we discuss it a lot"

Some rows do not total to 100% due to missing data