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The relationship between peer support, medication adherence, and quality of life among patients with vasculitis

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Sirs,

Management of vasculitis can be challenging because it requires lifestyle modifications, such as taking new medications that are associated with serious side effects. Support from physicians has been shown to improve medication adherence and self-efficacy among vasculitis patients (1–3). Although never formally tested in vasculitis patients, support from peers may also play a vital role in alleviating anxiety about the disease, improving health outcomes (4–5), and promoting medication adherence. Our objective was to examine whether adherence-related support from peers affected vasculitis patients' medication adherence, physical quality of life, and mental quality of life (QOL).

Adult vasculitis patients (n=172) completed online questionnaires at baseline and 3-month follow-up that assessed demographics and clinical characteristics, vasculitis medication adherence, and QOL (1). In this study, a peer was defined as an “individual who is living with vasculitis including someone from a vasculitis support group, a neighborhood, church, or clinic.” Peer support for medication adherence was assessed with nine items measured on a 5-point scale (range 1= “not applicable” to 5= “does this a lot”) ($\alpha=0.92$). Medication adherence was measured using the Vasculitis Self-Management Survey ($\alpha=0.87$); higher scores indicate greater adherence (range 1–5) (6). Participants' QOL was assessed using the Physical Component Summary ($\alpha=0.82$) and the Mental Component Summary ($\alpha=0.86$) scores from the Rand 36-item health survey v.1.0 (7); higher scores indicate better QOL (range 0–100). Using SPSS v.21.0, descriptive statistics were calculated and Pearson correlations were computed to assess the relationship between peer support, medication adherence, and physical and mental QOL. Linear regressions examined whether peer medication adherence-related support at baseline predicted patients' vasculitis medication adherence, physical QOL, and mental QOL at follow-up ($\alpha=0.05$). All regressions controlled

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for participant's age, gender, race, perceived vasculitis severity, disease duration, and physician diagnosed vasculitis type.

Table I displays the sociodemographic and clinical characteristics of the sample. Participants reported low physical (M=38.2; SD=9.9) and mental (M=45.3; SD=12.8) QOL, and high levels of vasculitis medication adherence (M=4.3; SD=0.7). On average, patients reported little medication adherence-related support from peers (M=2.1; SD=0.9). Approximately 36% of participants believed support from peers was "not applicable". Correlations between peer support and vasculitis medication adherence ($r=0.011$, $p=0.89$), physical QOL ($r=-0.003$, $p=0.97$), and mental QOL ($r=0.077$, $p=0.33$) were insignificant. Peer support was not significant in any of the three regression models. Younger age ($p<0.03$) was associated with worse vasculitis medication adherence. Older age ($p<0.01$), female gender ($p<0.04$), higher perceived vasculitis severity ($p<0.001$), and shorter disease duration ($p<0.02$) were all associated with worse physical QOL. Less severe vasculitis ($p<0.001$) was associated with better mental QOL.

Adherence-related support from peers did not predict vasculitis medication adherence or QOL. Conversely, other studies have found that peer support was associated with better outcomes among patients with chronic diseases (8–9). Many participants reported that adherence-related support from their peers was "not applicable." In a recent study, Carpenter and colleagues found that vasculitis negatively impacted patients' friendships and decreased social participation. Reduced social participation was often attributed to a friend's lack of understanding about vasculitis, the fatigue arising from the disease, and lifestyle changes related to medication (10). Prior analyses from this dataset have shown that provider support was related to better medication adherence (3). Thus, adherence-related support from peers may impact vasculitis patient medication adherence less so than adherence-related support from other social network members, such as physicians. Future studies should examine which types of support (disease-specific *vs.* general) vasculitis patient's desire from their peers, recruit a diverse sample (*i.e.* education, insurance status, and racial/ethnic diversity), and provide a comprehensive instrument that incorporates structural, practical, and emotional support.

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Table I

Sample characteristics (n=172).

Characteristics	Mean \pm SD or n (%)	Range
<i>Sociodemographics</i>		
Age	49.9 \pm 13.3	21.0–82.0
Gender		
Male	43 (25.0)	
Female	129 (75.0)	
Race/Ethnicity		
African American	1 (0.6)	
Asian	5 (2.9)	
Hispanic/Latino	3 (1.7)	
White	158 (91.9)	
Other	5 (2.9)	
Years of education	15.6 \pm 2.8	4.0–22.0
Health insurance		
Insured	159 (93.5)	
Uninsured	11 (6.5)	
Peer support for medication adherence ^a	2.1 \pm 0.9	1–4
<i>Clinical</i>		
Years with vasculitis	6.4 \pm 6.2	0.5–36.5
<i>Relapse status</i>		
Currently relapsing	53 (31.0)	
Less than 1 year ago	54 (31.6)	
More than 1 year ago	44 (25.7)	
Never experienced	20 (11.7)	
Perceived severity ^b	4.5 \pm 2.2	1–10
<i>Self-reported vasculitis type</i>		
Granulomatosis with polyangiitis (GPA; formerly Wegener's granulomatosis)	106 (61.6)	
Microscopic polyangiitis (MPA)	14 (8.1)	
Eosinophilic granulomatosis with polyangiitis (EGPA) (formerly Churg-Strauss syndrome)	21 (12.2)	
Anti-Neutrophil Cytoplasmic Autoantibody (ANCA) disease	1 (0.6)	
Takayasu arteritis (TA)	8 (4.7)	
Polyarteritis nodosa (PAN)	8 (4.7)	
Behçet's disease	3 (1.7)	
Don't know	2 (1.2)	
Other	9 (5.2)	
Vasculitis medication adherence ^c	4.3 \pm 0.7	1.6–5.0
Physical Quality of life ^d	38.2 \pm 9.9	16.7–62.4
Mental Quality of life ^e	45.3 \pm 12.8	14.6–65.2

^aOverall peer support using 4 categories (“not applicable” and “does not do this” were combined); higher scores indicate more support.

^bPerceived severity ranged from “not at all severe” to “extremely severe.”

^cPossible score range=1 to 5, higher scores indicate greater adherence.

^dPossible score range= 0 to 100, higher scores indicate higher physical quality of life.

^ePossible score range= 0 10 100, higher scores indicate higher mental quality of life.

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