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Coping Strategies, Psychological Impact, and Support Preferences of Men With Rheumatoid Arthritis: A Multicenter Survey

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Objective. To investigate the existence and distribution of 2 typologies (termed “factors”) of men with rheumatoid arthritis (RA) identified through our previous Q-methodology study (n = 30) in a larger sample of men with RA, and whether differences in psychosocial impact or support preferences exist between the 2 factors, and between men and women with RA.

Methods. A postal survey was sent to 620 men with RA from 6 rheumatology units across England, and the support preferences section of the survey was given to 232 women with RA.

Results. A total of 295 male patients (47.6%) and 103 female patients (44.4%) responded; 15 male participants had missing data, and thus 280 were included in the analysis. Of these, 61 (22%) were assigned to factor A (“accept and adapt”), 120 (35%) were assigned to factor B (“struggling to match up”), and 99 (35%) were unassigned. The two factors differed significantly, with factor B reporting more severe disease, less effective coping strategies, and poorer psychological status. For support, men favored a question and answer session with a consultant (54%) or specialist nurse (50%), a website for information (69%), a talk by researchers (54%), or a symptom management session (54%). Overall, women reported more interest in support sessions than men, with ≥50% of women reporting interest in nearly every option provided.

Conclusion. Some men accept and adapt to their RA, but others (43%) report severe disease, less effective coping, and poor psychological status. Men’s preferences for support are practical, with a focus on expanding their knowledge.

INTRODUCTION

Rheumatoid arthritis (RA) is a long-term condition, characterized by painful, swollen, and stiff joints and fatigue (1,2). RA affects more women than men (approximately 30% of all patients are men) (3) and may take a different course in women compared to men, with male sex being a potential predictor of remission in RA (4). A recent literature review (5) found that the majority of gender-based research on the psychosocial impact and self-management in rheumatology either addressed the differences between men and women, reflecting the preponderance of women with the condition, or focused solely on women. Very little research has focused solely on men, and there is no consensus on whether gender affects a person’s ability to cope with RA. Qualitative research has begun to address the experiences and coping styles of men with RA and its impact on their masculine identity (6–9), suggesting a need to renegotiate masculine identity and rewrite scripts on masculinity (10) to adapt to life with RA.

In a previous phase of this research, a Q-methodology study used qualitative and quantitative methods to group men with RA (n = 30) according to their level of agreement with statements about living with and managing their condition (11). Two groups (termed “factors” in Q-methodology) were identified; the first group (Q-factor A: accept and adapt) were able to take control of other areas of their lives to enable them to accept the loss of control due to RA, and found ways to adapt to their condition. The second group (Q-factor B: struggling to match up) tried to continue taking part in the masculine activities they had taken part in before their diagnosis, despite the further pain this caused them. However, they were reluctant to accept physical or emotional support from others.
Evidence from several long-term conditions indicate that there are gender differences in the impact of illness and in the ways of coping with it (12,13), suggesting that men need a health strategy tailored to them (14). The similarities between the qualitative and Q-methodology findings in men with RA, and those identified as specific to men with other long-term conditions, suggest that men with RA may need their own tailored support, which has not previously been investigated. Due to their different approach to coping, the men in Q-factors A and B may require different support approaches from each other and from women with RA. However, it is possible that there may be overlap in the support preferences of women and the men in Q-factor A, who seem able to accept and adapt to their condition.

The nature of qualitative and Q-methodology research involves relatively small numbers of participants; it would therefore be useful to understand whether the issues raised by the qualitative work, and the 2 groups of men identified in the Q-methodology study, exist in a wider population of men with RA. If these 2 groups do exist, it is important to understand whether they have different preferences for support provision, and whether these preferences differ sufficiently from those of female patients to justify the development of a support intervention tailored toward men with RA. Thus, in this study we had 2 aims: to investigate whether factors A and B (from the Q-methodology study) are generalizable across men with RA, and whether these factors can be explained by demographics, disease status, coping strategies, or psychological status; and to understand whether there is a difference in the support preferences of the men in factor A, men in factor B, and women with RA.

SUBJECTS AND METHODS
A questionnaire using validated measures and items created by the research team was developed based on themes and issues that emerged as important in the previous qualitative and Q-methodology studies. Two questionnaires were mailed to male participants in a single survey packet. The first collected demographic and clinical information, and asked patients to use a numeric rating scale (NRS) to

### Table 1. Items included in the questionnaire*

| Section                        | Validated | Measure                          | Description                                                                 |
|--------------------------------|-----------|----------------------------------|----------------------------------------------------------------------------|
| About you                      | No        | Age                              | Open response                                                              |
|                                | No        | Comorbidities                    | Open response                                                              |
|                                | No        | Marital status                   | Tick options                                                               |
|                                | No        | Employment status                | Tick options                                                               |
|                                | No        | Level of physical activity in job| NRS 1–5                                                                    |
|                                | No        | Level of autonomy in job          | NRS 1–5                                                                    |
| About your RA                  | No        | Medication                       | Open response                                                              |
|                                | No        | Disease duration                  | Open response                                                              |
|                                | Yes       | Patient-based disease activity    | Patient-reported measure of disease activity                              |
| score (40)                     |           | Distinguishing statements from    | 21 statements taken from our previous research (20); NRS 0–10 asking how   |
|                                |           | 2 Q-methodology factors          | much each statement relates to their experience of living with RA          |
| Your experience of RA          | No        | Medical Coping Modes             | 19 items measuring the extent to which participants are using 3 coping     |
|                                |           | Questionnaire (41,42)            | strategies (confrontation, avoidance, and acceptance-resignation) in      |
|                                |           |                                  | dealing with their RA                                                     |
| Coping with RA                 | Yes       | Acceptance of Illness Scale (43)  | 8 items measuring the extent to which participants have accepted their RA |
| Your feelings about your RA    | Yes       | Short Form Perceived Stress Scale| 4-item measure of stress that focuses on elements of control               |
| Life in general                | Yes       | Hospital Anxiety and Depression  | 14-items measuring levels of anxiety and depression                        |
|                                |           | Scale (44)                       |                                                                           |
|                                | Yes       | Short Form Warwick and Edinburgh | 7-items measuring mental well-being                                        |
|                                |           | Mental Well-Being Scale (46,47)   |                                                                           |

* NRS = numeric rating scale; RA = rheumatoid arthritis.
respond to the statements used in the Q-methodology study that distinguished the 2 Q-methodology factors from each other. Distinguishing statements were chosen if the average scores between the 2 factors were sufficient to highlight the differences in the experience of living with RA (15). Statements were included if there was a ≥4-point difference between the composite scores for each factor, as this was a natural cutoff point at which there were a manageable number of statements for participants to rate. From the original sample of 64 statements, 12 statements were included in the survey, with each factor represented by 6 distinguishing statements.

The first questionnaire also measured coping strategies, acceptance of illness, perceived stress, depression and anxiety, and mental well-being. The measures used for each assessment are shown in Table 1. The second questionnaire concerned patient preferences for self-management support, including mode of delivery and practical issues (e.g., time of day). Options for self-management support came from previous qualitative work (8,9) and a systematic review of effectiveness and acceptability of self-management support for men with long-term conditions (16,17). To assess whether men and women have different preferences for support, the questionnaire for female participants contained the sections on demographic and clinical information, and self-management support preferences. The Q-methodology distinguishing statements were not included since they were developed with men, and may not be appropriate for a female population. The (longer) male questionnaire was piloted with a male patient research partner (RN), who gave advice about the order of some items and indicated that the questionnaire took 30–40 minutes to complete.

To capture a range of views, participants were recruited through rheumatology units in 6 regional hospitals across England, selected to reflect diverse geographical locations and serving different communities in relation to urbanity/rurality and socioeconomic status. Patients were included who were over 18 years old and with a confirmed diagnosis of RA from their rheumatologist reported in their records. To recruit sufficient male participants within a reasonable time, at each hospital a member of the local team screened their database for male RA patients. A questionnaire was then mailed to either a random selection of 100 patients (using a random number generator in Excel) or every male RA patient in the database (whichever was smaller). For the female participants, at each hospital a member of the local team handed questionnaires to consecutive female patients attending an outpatient appointment. A convenience sample of female participants is sufficient to broadly compare the support preferences of men and women. If there is a clear difference between support preferences, this would be apparent in any group of women approached, without the need for strategic sampling. Both male and female participants were assigned a study number, and if no response was received, they were sent a reminder approximately 2 weeks later. All responses were returned directly to the central research team in a prepaid envelope.

Questionnaire data were entered into SPSS for Windows, and Brown’s factor index scoring method (15,18) was used to investigate the likely membership of each survey study

| Table 2. Calculation of Brown’s factor index score using participant M049 as an example* |
|-----------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Distinguishing statements by factor          | Factor A      | Factor B      | Mean NRS      | M049 NRS      | M049 factor index |
|                                              | scores        |               | statement, all| statement     |               |
| Factor A                                     | +5            | +1            | 7.1           | 8             | 40            |
| Keeping active helps me manage my RA         | +5            | -1            | 6.8           | 6             | 30            |
| symptoms                                     |               |               |               |               |               |
| I am able to find different ways of doing    | +3            | -3            | 6.7           | 4             | 12            |
| things I want to, or different activities to |               |               |               |               |               |
| replace those I have lost                    |               |               |               |               |               |
| I still socialize as much as I used to before|               |               |               |               |               |
| having RA                                    |               |               |               |               |               |
| RA has taken away my independence            | -5            | +2            | 6.7†          | 2†            | 10            |
| I worry more about money now that I          | -5            | +1            | 6.9†          | 0†            | 0             |
| have RA                                      |               |               |               |               |               |
| Since being diagnosed with RA I have lost    | -4            | 0             | 6.5†          | 2†            | 8             |
| a lot of confidence                          |               |               |               |               |               |
| Factor B                                     |               |               |               |               |               |
| I feel frustrated because of my RA          | -2            | +7            | 5.3           | 10            | 70            |
| I get angry because of my RA                | -7            | +6            | 4.2           | 9             | 60            |
| I sometimes feel guilty about the effect my  | -1            | +5            | 4.6           | 10            | 50            |
| RA has on the people around me               |               |               |               |               |               |
| My faith helps me cope with my RA           | -1            | -7            | 7.7†          | 9†            | 63            |
| If I need a tool/device/gadget to help with  | 0             | -5            | 7.1†          | 9†            | 45            |
| my RA, I will make it myself                |               |               |               |               |               |
| I don’t mind having to ask a stranger for    | +1            | -5            | 6.8†          | 9†            | 45            |
| help when I need to                          |               |               |               |               |               |

* NRS = numeric rating scale; RA = rheumatoid arthritis.
† Item scores of statements with a negative factor score were reverse scored.
therefore results in the grouping of expressed opinion profiles similar opinions based on their Q-sorts. Q-methodology analysis, meaning that statistical analysis is not performed by this method, data analysis uses correlation and by-person factor participant to the 2 Q-methodology factors. In Q-methodology, data analysis uses correlation and by-person factor analysis, meaning that statistical analysis is not performed by variable, but by person. People correlate with others with similar opinions based on their Q-sorts. Q-methodology therefore results in the grouping of expressed opinion profiles based on the similarities and differences in which the statements are arranged by each participant (19). Thus, to retain this by-person analysis, Brown’s factor index scoring method was chosen to identify how common the previously identified experiences (Q-factors A and B) are in the wider population, and whether they relate to patients’ coping styles, psychological status, and support preferences.

Participant scores on the numeric rating scale (NRS) for each distinguishing statement are used to calculate a standardized index score for each participant for each factor, which indicates to what extent the participant is associated with each factor. The scoring procedure for 1 participant (M049) is shown in Table 2. The Q-factors, the selected distinguishing statements, and the Q-factor scores of the statements in the original Q-methodology study are shown in the first 4 columns. In column 5, the mean item score for each statement, representing mean agreement with the statements across participants, is shown. For example, “keeping active helps me manage my RA symptoms” has a mean score of 7.1, indicating that male patients in the overall sample tend to agree with this statement. NRS scores of statements with negative factor scores were reverse scored. Statement index scores and factor index scores were calculated for each participant. The statement index score is calculated as the product of the absolute value of the factor score (which is fixed across participants, as it originates from the previous Q-methodology study) and the item score (which varies between participants, based on their NRS scores). For example, the statement “I still socialize as much as I used to before having RA” had a ranking of +3 for Q-factor A in the Q-methodology study, and participant M049 gave this statement an NRS score of 4, giving participant M049 a statement index score of 12. Thus, the statement index score takes into account the weighting given to each item within the relevant Q-factor as determined by the previous Q-methodology study (11). Factor index scores were calculated for each factor as the sum of the statement index scores of each participant for the relevant factor. Participant M049 had a factor index score of 100 for factor A in the Q-methodology study, and participant M049 had a factor index score of 333 for factor B, indicating that while this participant had some agreement with factor A, there was clearly stronger agreement with factor B. The mean statement and factor index scores for the participants in the current study are shown in Table 3.

T-tests, Mann-Whitney tests (as appropriate) and chi-square tests were used to assess demographic, clinical, and psychosocial differences between factors A and B. Distributions of responses were used to describe support preferences. Chi-square tests were used to test whether there were any differences in support preferences between factors A and B, and between male and female participants.

| Table 3. Mean statement and factor index scores for Q-methodology factor A and factor B* |
|-----------------------------------|---|---|---|---|---|
| **Distinguishing statements by factor** | **Factor** A | **Factor** B | **Mean statement score†** | **Statement index score, mean ± SD** | **Range** |
| **Factor A** | | | | | |
| Keeping active helps me manage my RA symptoms | +5 | +1 | 7.1 | 35.4 ± 12.1 | 0–50 |
| I am able to find different ways of doing things I want to, or different activities to replace those I have lost | +5 | –1 | 6.8 | 33.8 ± 12.9 | 0–50 |
| I still socialize as much as I used to before having RA | +3 | –3 | 6.7 | 19.8 ± 18.8 | 0–60 |
| RA has taken away my independence | –5 | +2 | 6.7 | 33.3 ± 16.4 | 0–60 |
| I worry more about money now that I have RA | –5 | +1 | 6.9 | 34.5 ± 16.6 | 0–50 |
| Since being diagnosed with RA I have lost a lot of confidence | –4 | 0 | 6.5 | 26.1 ± 12.8 | 0–40 |
| **Factor B** | | | | | 209.4 ± 66.5 |
| I feel frustrated because of my RA | –2 | +7 | 5.3 | 37.2 ± 23.1 | 0–70 |
| I get angry because of my RA | –7 | +6 | 4.2 | 25.2 ± 20.8 | 0–60 |
| I sometimes feel guilty about the effect my RA has on the people around me | –1 | +5 | 4.6 | 23.2 ± 17.7 | 0–50 |
| My faith helps me cope with my RA | –1 | –7 | 7.7 | 54.2 ± 22.3 | 0–70 |
| If I need a tool/device/gadget to help with my RA, I will make it myself | 0 | –5 | 7.1 | 35.3 ± 17.5 | 0–50 |
| I don’t mind having to ask a stranger for help when I need to | +1 | –5 | 6.8 | 33.9 ± 16.8 | 0–50 |
| * RA = rheumatoid arthritis. | | | | | |
| † Item scores of statements with a negative factor score were reverse scored. | | | | | |

**Mean**

**Factor** A and B

**Statement index score, mean ± SD**

**Range**

**Factor index score, range**

**203.1 ± 64.4**

**24–310**

**209.4 ± 66.5**

**32–350**
| Variable                  | Men, factor A (n = 61) | Men, factor B (n = 120) | Men, unassigned (n = 99) | Men, total (n = 280) | Women, total (n = 103) |
|---------------------------|------------------------|-------------------------|--------------------------|----------------------|------------------------|
| Age, years                |                        |                         |                          |                      |                        |
| Mean ± SD                 | 68 ± 10.1              | 64 ± 10.9               | 67 ± 11.0                | 65.7 ± 10.9          | 62 ± 12.0              |
| Range                     | 37–85                  | 28–82                   | 32–90                    | 28–90                | 28–83                  |
| Comorbidities, %          |                        |                         |                          |                      |                        |
| Yes                       | 61                     | 71                      | 68                       | 68                   | 66                     |
| Marital status, %         |                        |                         |                          |                      |                        |
| Married                   | 69                     | 77                      | 77                       | 75                   | 65                     |
| Single                    | 10                     | 8                       | 6                        | 7                    | 3                      |
| Divorced                  | 6                      | 4                       | 6                        | 7                    | 6                      |
| Widowed                   | 8                      | 5                       | 7                        | 5                    | 15                     |
| Living with partner       | 7                      | 4                       | 4                        | 5                    | 10                     |
| Prefer not to say         | 0                      | 2                       | 0                        | 1                    | 1                      |
| Employment status, %      |                        |                         |                          |                      |                        |
| Full time                 | 21                     | 26                      | 24                       | 24                   | 11                     |
| Part time                 | 13                     | 7                       | 13                       | 10                   | 18                     |
| Retired                   | 66                     | 54†                     | 62                       | 60                   | 55                     |
| Unemployed (due to RA)    | 0                      | 12                      | 1                        | 5                    | 13                     |
| Unemployed (other)        | 0                      | 0                       | 0                        | 0                    | 2                      |
| Prefer not to say         | 0                      | 1                       | 0                        | 1                    | 1                      |
| Level of PA in job, %     |                        |                         |                          |                      |                        |
| None                      | 3                      | 1                       | 3                        | 2                    | 5                      |
| A little                  | 5                      | 3                       | 8                        | 5                    | 8                      |
| Some                      | 2                      | 6                       | 10                       | 6                    | 3                      |
| Quite a bit              | 10                     | 15                      | 12                       | 13                   | 7                      |
| A great deal              | 16‡                    | 10                      | 4                        | 9                    | 5                      |
| No answer                 | 64                     | 64                      | 63                       | 65                   | 72                     |
| Level of autonomy in job, %|                        |                         |                          |                      |                        |
| None                      | 2                      | 1                       | 3                        | 2                    | 1                      |
| A little                  | 0                      | 6                       | 1                        | 3                    | 3                      |
| Some                      | 2                      | 8                       | 7                        | 6                    | 5                      |
| Quite a bit              | 10                     | 14                      | 15                       | 13                   | 13                     |
| A great deal              | 22§                    | 7                       | 11                       | 11                   | 6                      |
| No answer                 | 64                     | 64                      | 63                       | 65                   | 72                     |
| Disease duration, years   |                        |                         |                          |                      |                        |
| Mean ± SD                 | 15.0 ± 10.1            | 14.6 ± 11.1             | 14.2 ± 12.2              | 14.6 ± 11.2          | 12 ± 11.2              |
| Range                     | 1–37                   | 1–53                    | 0.5–69                   | 0.5–69               | 0.2–55                 |
| PtGA, mean ± SD           | 18.3 ± 17.3            | 51.0 ± 24.9†            | 35.2 ± 26.3              | 38.2 ± 27.1          | 47.4 ± 26.8            |
| PDAS, mean ± SD           | 3.3 ± 0.6              | 4.7 ± 0.9               | 4.0 ± 1.1                | 4.2 ± 1.9            | 4.5 ± 1.0              |
| Medication, %             |                        |                         |                          |                      |                        |
| DMARDs                    | 50                     | 92                      | 79                       | 81                   | 88                     |
| Biologics                 | 18                     | 40‡                     | 29                       | 31                   | 40                     |
| Steroids                  | 26                     | 28                      | 31                       | 30                   | 31                     |
| None                      | 8                      | 4                       | 5                        | 5                    | 5                      |
| Coping strategies, mean ± SD|                     |                         |                          |                      |                        |
| Confrontion               | 16.0 ± 3.2             | 17.3 ± 3.2#             | 17.1 ± 3.7               | 17.0 ± 3.5           | –                      |
| Avoidance                 | 13.5 ± 3.3             | 15.7 ± 3.0†             | 14.5 ± 3.5               | 14.8 ± 3.4           | –                      |
| Resignation               | 7.3 ± 1.0              | 8.8 ± 1.7†              | 7.7 ± 1.5                | 8.1 ± 1.6            | –                      |
| Acceptance                | 35.0 ± 5.2†            | 21.6 ± 6.7              | 28.9 ± 7.0               | 27.1 ± 8.4           | –                      |
| Depression, %             |                        |                         |                          |                      |                        |
| Case                      | 2                      | 22†                     | 5                        | 11                   | –                      |
| Borderline case           | 2                      | 25†                     | 8                        | 15                   | –                      |
| Noncase                   | 96                     | 53†                     | 87                       | 74                   | –                      |
| Anxiety, %                |                        |                         |                          |                      |                        |
| Case                      | 2                      | 22†                     | 10                       | 13                   | –                      |
| Borderline case           | 2                      | 23a                     | 14                       | 15                   | –                      |
| Noncase                   | 96                     | 55a                     | 76                       | 72                   | –                      |
| Perceived stress, mean ± SD| 2.5 ± 2.7              | 6.6 ± 3.3†              | 4.3 ± 3.1                | 4.9 ± 3.5            | –                      |
| Mental well-being, mean ± SD| 27.7 ± 4.9†            | 21.7 ± 4.2              | 25.1 ± 5.1               | 24.3 ± 5.3           | –                      |

* Factor A defined as "accept and adapt" and factor B defined as "struggling to match up." RA = rheumatoid arthritis; PA = physical activity; PtGA = patient global assessment; PDAS = patient-based disease activity score; DMARDs = disease-modifying antirheumatic drugs.

† P < 0.001.
‡ P = 0.040.
§ P = 0.007.
¶ P = 0.010.
# P = 0.15.
RESULTS

Are factors A and B generalizable across men with RA, and can they be explained by demographics, disease status, coping strategies, or psychological status? Responses were received from 295 of 620 male participants (47.6%) and 103 of 232 female participants (44.4%). A total of 280 male participants fully completed the Q-methodology NRS and were therefore included in the analysis. Of these, 61 (22%) had factor index scores that indicated that their opinions belong to factor A (“accept and adapt”), 120 (43%) could be assigned to factor B (“struggling to match up”), and 99 (35%) had less than 1 standard deviation between their factor index scores and were therefore unassigned to a factor. The proportions of factor A, factor B, and unassigned male participants in the present survey study were similar to those of the original Q-methodology study.

Demographic and clinical data are shown in Table 4. For male participants, these data and coping strategies and psychological status are presented combined and separately for the groupings according to Q-methodology factors. There were no significant differences between the men assigned to factor A and those assigned to factor B in age, comorbidities, marital status, or disease duration. However, participants assigned to factor B (“struggling to match up”) were less likely to be retired (P < 0.000) and if working were significantly less likely to consider their role to be particularly physically active (P = 0.040) or autonomous (P = 0.007). Those assigned to factor B reported a significantly higher patient global score (P < 0.001), and more of them were receiving biologic therapies (P = 0.010).

Participants assigned to Factor B were more likely to use the coping strategies of confrontation (P = 0.15), avoidance (P < 0.001), and resignation (P < 0.001) and were less accepting of their RA (P < 0.001). Participants assigned to factor B reported poorer psychological status, with significantly more cases or borderline cases of both anxiety and depression than those assigned to factor A (P < 0.001 for both), as well as higher levels of perceived stress (P < 0.001) and lower levels of mental well-being (P < 0.001).

Is there a difference in the support preferences of men in factor A, men in factor B, and women with RA? Preferences for self-management support are shown in Table 5. The most popular methods of support selected by men with RA (reaching ≥50%) were: a one-on-one session with a consultant (83%), specialist nurse (80%), or physical therapist (53%); a question-and-answer session with a consultant (54%) or specialist nurse (50%); a website for information (69%); an organized talk by research experts (54%); or an education session on symptom management (54%). Factor B participants were significantly more likely than factor A participants to select an education session on managing stress and anger (factor A 18%, factor B 34%) or an education session on symptom management (factor A 54%, factor B 63%). Men were least interested in a one-on-one (28%) session or a question-and-answer session with another patient (20%). Although these were not the most popular options with the female participants (49% and 45%, respectively), female participants were significantly more interested in interacting with another patient than male participants were (P = 0.003 and P < 0.001, respectively).

Generally, women reported being interested in support sessions more than men, with ≥50% of women reporting interest in nearly every support option provided. Thus, there were no options selected more highly by men than women. The preferred time of day for a support intervention for men was in the morning (9 AM to midday, 39%) and for women it was in the afternoon (2–5 PM, 43%). Both men and women would prefer a modular approach to self-management support, with an advertised program that they could access at their convenience (72% and 76%, respectively). The majority of both men (63%) and women (68%) reported no preference over group gender. Further, only 17% of men and 9% of women reported that a support group should be for people with RA only. Conversely, 41% of men and 55% of women would like to have the option of inviting a friend or family member, while 42% of men and 35% of women report that although they would not bring someone they would not mind if others did. Men and women reported being more likely to be motivated to attend a self-management session if they were sent an appointment letter (men 52%, women 61%), or invited to attend by their rheumatologist (men 68%, women 69%) or specialist nurse (men 56%, women 71%).

DISCUSSION

The current study found that in a large and diverse sample of patients with RA there are 2 types of coping styles among men. One group (factor B: “struggling to match up”) reported using less effective coping strategies, having less acceptance, and lower psychological well-being than the other group (factor A: “accept and adapt”). The experience of RA and coping styles of men in factor A support the suggestion that men perceive ill health as a threat to their masculine identity, and addressing health concerns can challenge their health-related beliefs of men being self-reliant and resilient (20). However, dealing with health concerns can be perceived as taking action to gain control when men’s health status begins to threaten their independence (21), which may be the cognitive mechanism being employed by the participants in factor A.

The characteristics of participants in factor B indicate that these men would be less likely to engage with health care and therefore less likely to take part in a research study. It is therefore possible that we may have under-recruited participants who would be factor B participants (52.4% of invited participants declined to take part). Therefore, the size of the factor B group as reported here (43% of participants) may be an underestimate of the number of men with RA who have these coping strategies.

These groups had previously been identified as factors in a Q-methodology study (11), but they might have been a reflection of the relatively small sample size of that study. The current results show that these groups do exist in a wider sample of men with RA, and that a significant proportion of male RA patients (43% in the current study) are in need of an appropriately targeted support or self-management intervention from their rheumatology team.
Table 5. Preferences for self-management support services compared by gender and Q-methodology factor*

| Mode of delivery for support† | Men, factor A (n = 61) | Men, factor B (n = 120) | Men, unassigned (n = 99) | Men, total (n = 280) | Women, total (n = 103) |
|-------------------------------|------------------------|-------------------------|--------------------------|----------------------|------------------------|
| **Discussion group**          |                        |                         |                          |                      |                        |
| About experiences of RA       | 32                     | 35                      | 30                       | 34                   | 59‡                    |
| To exchange tips about RA     | 36                     | 44                      | 40                       | 41                   | 64 (10th)‡             |
| To discuss research (e.g., papers) | 34                  | 24                      | 31                       | 29                   | 53‡                    |
| **One-on-one consultation**   |                        |                         |                          |                      |                        |
| With consultant               | 82 (1st)               | 82 (1st)                | 84 (1st)                 | 82 (1st)             | 86 (1st)               |
| With specialist nurse         | 79 (2nd)               | 80 (2nd)                | 81 (2nd)                 | 79 (2nd)             | 87 (2nd)               |
| With physical therapist       | 55 (5th)               | 53 (6th)                | 51 (6th)                 | 53 (6th)             | 56                     |
| With occupational therapist   | 40                     | 49 (10th)               | 40                       | 43                   | 59§                    |
| With psychologist             | 27                     | 21                      | 26                       | 23                   | 39¶                    |
| With another patient          | 32                     | 26                      | 27                       | 27                   | 49‡                    |
| **Question-and-answer session** |                       |                         |                          |                      |                        |
| With consultant               | 55 (6th)               | 54 (5th)                | 53 (5th)                 | 54 (5th)             | 67 (7th)               |
| With specialist nurse         | 50 (9th)               | 51 (7th)                | 48 (7th)                 | 51 (7th)             | 67 (7th)§              |
| With physical therapist       | 41                     | 31                      | 37                       | 35                   | 43                     |
| With occupational therapist   | 34                     | 31                      | 29                       | 31                   | 45                     |
| With psychologist             | 30¶                   | 20                      | 20                       | 22                   | 45§                    |
| **Organized talks**           |                        |                         |                          |                      |                        |
| Lifestyle experts             | 54 (7th)               | 45                      | 42 (8th)                 | 45 (8th)             | 76 (4th)‡              |
| Expert patients               | 30                     | 24                      | 28                       | 27                   | 55‡                    |
| Research experts              | 63 (4th)#              | 49 (9th)                | 56 (4th)                 | 55 (4th)             | 70 (6th)#              |
| **Education sessions**        |                        |                         |                          |                      |                        |
| Managing stress/anger         | 18                     | 34**                   | 23                       | 27                   | 48‡                    |
| Managing symptoms             | 54 (8th)               | 63 (4th)††              | 42 (8th)                 | 53 (6th)             | 75 (5th)†              |
| **Physical activity sessions**|                        |                         |                          |                      |                        |
| To develop skills (e.g., balance) | 36               | 35                      | 40                       | 37                   | 64 (10th)‡             |
| To improve fitness            | 39                     | 51 (8th)                | 39                       | 44 (9th)             | 53                     |
| Organized game (e.g., walking football) | 23               | 25                      | 23                       | 24                   | 24                     |
| **Raising awareness of RA event** |                    |                         |                          |                      |                        |
| Attend                        | 39                     | 38                      | 34                       | 36                   | 65 (9th)‡              |
| Take part in                  | 18                     | 22                      | 18                       | 19                   | 27                     |
| Help organize                 | 13                     | 12                      | 17                       | 14                   | 25                     |
| **Online services**           |                        |                         |                          |                      |                        |
| To read information           | 73 (3rd)               | 65 (3rd)                | 71 (3rd)                 | 69 (3rd)             | 81 (3rd)               |
| To read other patients’ stories | 46 (10th)             | 45                      | 42 (8th)                 | 44 (9th)             | 64 (10th)‡‡            |
| To read questions and answers | 21                     | 20                      | 30                       | 24                   | 27                     |
| To communicate with other patients about emotions | 20 | 23 | 24 | 23 | 44‡ |
| To communicate with other patients about practical issues | 27 | 27 | 30 | 28 | 49‡ |
| Chat room                     | 18                     | 17                      | 20                       | 18                   | 27                     |
| Message board                 | 49                     | 39                      | 39                       | 42                   | 59§                    |
| **Time of day for support services** |                |                         |                          |                      |                        |
| Early morning (pre-9 AM)      | 12                     | 6                       | 13                       | 10                   | 6                      |
| Morning (9 AM–midday)         | 44                     | 32                      | 45                       | 40                   | 30                     |
| Lunchtime (midday–2 PM)       | 18                     | 26                      | 28                       | 24                   | 33                     |
| Afternoon (2–5 PM)            | 28                     | 32                      | 32                       | 31                   | 43                     |
| Evening (after 5 PM)          | 24                     | 29                      | 24                       | 25                   | 22                     |
| **Frequency**                 |                        |                         |                          |                      |                        |
| Single on/off group           | 17                     | 9                       | 20                       | 15                   | 10                     |
| Fixed time period (e.g., 1/week for 6 weeks) | 6 | 17 | 17 | 14 | 17 |
| No fixed commitment, an advertised timetable to dip into | 77 | 76 | 64 | 72 | 76 |
| **Gender of the group**       |                        |                         |                          |                      |                        |
| Same gender                   | 6                      | 4                       | 9                        | 7                    | 4                      |
| Mixed, equal number of men and women | 14 | 18 | 31 | 19 | 17 |
| Mixed, my gender should outnumber the other | 2 | 0 | 0 | 1 | 2 |
| Mixed, do not mind if the other outnumber mine | 22 | 11 | 9 | 13 | 8 |
| No preference                 | 56                     | 67                      | 61                       | 62                   | 68                     |
adds to the more general perception that men need their own health strategy (14). The preferences for support among men belonging to both factors A and B and those participants who were unassigned to either factor are broadly similar, indicating that a common method of support provision across male patients may be acceptable. Recent research in other conditions suggests that support services need to be sensitive to gender considerations to ensure that interventions do not undermine masculine values, and address men’s concerns (13).

The most popular form of support identified by men was a one-on-one session with their rheumatologist, specialist nurse, or physical therapist. This reflects the current provision of care, but men were also interested in a question-and-answer session with their rheumatologist or specialist nurse, opportunities to hear about current research, and education sessions for symptom management. This is similar to evidence from studies of other long-term conditions suggesting that support services for men should have a practical focus (16) and provide opportunities to gather new information (22,23) and that men use information exchange as a form of emotional support (24). Despite this finding, men are underrepresented in trials focusing on symptom management in RA (e.g., in a fatigue management program, 85.4% of the participants were female) (25). Further, despite those in factor B reporting poor psychological well-being, only 34% of these patients recognized the need for an education session on managing stress and anger. It may therefore be necessary to take a gender-sensitized approach to the advertising and delivery of an intervention for men with RA to increase engagement; an approach of this kind has been successfully carried out in an intervention for obesity (Football Fans in Training) (26).

Male participants were less interested than women in hearing from other RA patients, which may reflect men’s preferences for seeking out information rather than experiences (16). Although this may call into question the appropriateness of providing interventions involving co-delivery with patients for men, previous qualitative work found that co-facilitation by a patient research partner in focus groups was helpful for engaging men in discussion (8). Female participants indicated greater acceptance than males of all support options, which is in line with previous findings in RA (27). Engaging in health practices for well-being rather than for physical health can be perceived as less masculine (28). Thus, the men in this study may show less interest in support than women as they are engaging in the masculine ideal of being “strong and silent” (29).

Previous research comparing interactions of men and women in online forums about breast cancer (aimed at women) and prostate cancer (aimed at men) found that quantitatively women dominated both forums. Qualitatively, while the men made attempts to accommodate their communication to the norms of the opposite gender, the women did not (30). Thus, despite both male and female participants reporting no clear preference for a single-gender group, it may be important to provide men with RA with an all-male intervention to enable them to engage according to masculine norms. Evidence from the obesity literature suggests that male-only groups are qualitatively different from mixed-gender groups, with different levels of engagement, styles of language, and success (31,32).

Both male and female participants reported a preference for a modular approach to support, whereby different topics would be covered in each session and patients could access support according to an advertised timetable. This approach may be more complex to evaluate in a randomized controlled trial, but is a potential way forward for intervention delivery.

Further, both male and female participants reported being more likely to attend a self-management intervention if they

| Table 5. (Cont’d) | Men, factor A (n = 61) | Men, factor B (n = 120) | Men, unassigned (n = 99) | Men, total (n = 280) | Women, total (n = 103) |
|-------------------|----------------------|------------------------|------------------------|---------------------|-----------------------|
| Other people      |                      |                        |                        |                     |                       |
| A service for people with RA only | 22 | 13 | 20 | 17 | 9 |
| Would like to invite a friend/family member | 37 | 50 | 32 | 41 | 54 |
| Would not bring someone, but would not mind a group open to friends/family | 41 | 38 | 48 | 42 | 38 |
| Motivators        |                      |                        |                        |                     |                       |
| An appointment letter | 57 | 47 | 54 | 52 | 61 |
| Invitation from rheumatologist | 63 | 71 | 67 | 68 | 69 |
| Invitation from specialist nurse | 57 | 61 | 51 | 57 | 71 |
| Reimbursement of travel costs | 22 | 25 | 19 | 21 | 32 |
| Money or vouchers for attendance | 7 | 12 | 14 | 11 | 18 |
| Location away from the hospital | 9 | 21 | 20 | 17 | 30 |

* Values are percentages unless otherwise indicated. RA = rheumatoid arthritis.
† Comparison between men and women, P < 0.01.
‡ Comparison between men and women, P = 0.006.
§ Comparison between men and women, P = 0.003.
# Comparison between men and women, P = 0.010.
** Comparison between factors, P = 0.046.
‡‡ Comparison between factors, P = 0.010.
‡‡‡ Comparison between men and women, P = 0.001.
§§ Comparison between men and women, P = 0.007.
received an appointment letter or personal recommendation to manage it. Men reported being more likely to take part in interventions because of their personal coping strategies. Men's coping strategies and preferences for psychological support appears to be struggling to accept and cope with their RA may be relevant to patients internationally.

In conclusion, our findings suggest that there are at least 2 groups of men with RA, one of which (≥43% of total) appears to be struggling to accept and cope with their RA and are not being served by current self-management interventions because of their personal coping strategies. Men's preferences for support are practical, with a focus on expanding their knowledge about their condition and how to manage it. Men reported being more likely to take part in a self-management session if it were legitimized by their clinical team. Further research should pilot potential self-management support for men to test appropriate content, delivery style, and recruitment techniques.

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