



FACTORS THAT ENHANCE NURSING CARE FOR RHEUMATOID ARTHRITIS PATIENTS TREATED WITH bDMARDs

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Purpose

Rheumatoid arthritis (RA) requires continuous drug therapy and lifelong monitoring; hence, nursing care is recommended. This study aimed to clarify the factors that enhance nursing care for RA patients treated with biological disease-modifying anti-rheumatic drugs (bDMARDs).

Method

An anonymous self-administered questionnaire-based survey was conducted on 866 nurses belong 120 medical institutions. The survey included age, working years as a nurse, beds, nursing experience with bDMARDs, knowledge about bDMARDs, and nursing practice scale for RA treatment with bDMARDs. According to the median (69) of nursing competence, the participants were divided into groups A (≤ 69) and B (≥ 70). Subsequently, Mann-Whitney U-tests and χ^2 -tests were performed. Next, binomial logistic regression analysis with the forced entry method used nursing competence as the dependent variable and items that showed significant differences between the two groups as independent variables.

Results

Data from 402 (46.4%) nurses were collected, of whom 291 (33.6%) were valid (Table 1). Simple regression analysis showed that group B demonstrated significantly higher representation of nursing experience with bDMARDs, beds, and those possessing knowledge of all 8 bDMARDs used in Japan, compared to group A ($p < .01$) (Table 2). The forced entry method indicated that having nursing experience with bDMARDs (OR: 2.296, 95% CI: 1.027-5.134, $p < .05$) and higher bDMARDs-related cognitive scores (OR: 2.867, 95% CI: 1.661-4.950, $p < .001$) were associated with higher nursing competence (Table 3).

Conclusions

Beds, nursing experience with bDMARDs, and higher bDMARDs-related cognitive scores have emerged as factors that enhance nursing care. Additionally, nursing competence could be inferred from bDMARDs-related cognitive scores and nursing experience with bDMARDs.

Table 1. Personal attributes

n=291

Personal attributes	n(%)
Average age (39.29±10.83)	
Age	
21~29	75(25.8)
30~39	68(23.4)
40~49	92(31.6)
50~65	56(19.2)
Average years (15.98±10.03)	
Working years as a nurse	
1~9 years	96(33.0)
10~19 years	79(27.1)
20~45 years	116(39.9)
Nursing experience with bDMARDs	
Have	249(85.6)
Haven't	42(14.4)

Table 2. Comparison of each items between two groups

Items	A group (n=147)	B group (n=144)	P value
Age (years)	40.27±10.78	38.28±10.85	.123
Working years as a nurse	16.74±10.09	15.21±9.95	.194
Position			
Staff nurse	132(89.8)	128(89.5)	.946
Manager	15(10.2)	15(10.5)	
Beds			
≤ 19	6(4.3)	8(5.6)	
20~99	14(9.9)	26(18.2)	.039
100~299	78(55.3)	76(53.1)	
≥ 300	43(30.5)	33(23.1)	
Nursing experience with bDMARDs			
Have	115(78.2)	134(93.1)	.000
Haven't	32(21.8)	10(6.9)	
Knowledge about bDMARDs used in Japan			
All 8	43(29.5)	85(59.0)	.000
≤ 7	103(70.5)	59(41.0)	

The numbers in parentheses indicate percentages.

P value was calculated by Mann-Whitney U-tests and χ^2 -tests.

Bold indicates adjusted standard residuals (Z) greater than 1.96 in residual

Table 3. Logistics analysis on nursing competence

	OR	95% CI	P value
Beds (20-99beds)	1.827	0.780-4.279	.165
Nursing experience with bDMARDs	2.296	1.027-5.134	.042
Knowledge about bDMARDs used in Japan	2.867	1.661-4.950	.000

Force entry method OR=odds ratios, CI=confidence interval.

bDMARDs=biological disease-modifying anti-rheumatic drugs.

Keywords: Biological disease-modifying anti-rheumatic drugs, Logistic Regression Analysis, Rheumatoid Arthritis