

# Subjectivity on Andropause among Middle-aged Men using Q Methodology

<sup>1</sup>Hye-Won Jeon, Mi-Young Chon

**Abstract: Background/Objectives:** The purpose of this study was to identify type of subjectivity on andropause among middle-aged men using Q methodology. **Methods/Statistical analysis:** For the Q population, an indepth interview and literature review were used to select 32 Q samples for Q-sort. P-sample was made with 29 middle-aged men and Q-sort was performed on a 9-point scale according to their subjective agreement. The analysis is performed by PC-QUNAL program.

**Findings:** Four types of andropause in middle-aged men were identified: overcome hard type, a sense of futility and depressed type, health and sexual function-centered type, and support-centered type. **Improvements/Applications:** As the result of this study suggests, based on classification of andropause in middle-aged men, intervention program for middle-aged men will need to be developed and different, individualized intervention strategies provided.

**Keywords:** Subjectivity, Andropause, middle-age, men, Q methodology.

## I. INTRODUCTION

Andropause is generally known to be relevant with the disappearance of reproductive function due to women's menopause. In fact, women might have various physical and psychological symptoms because of hormonal changes by menopause. They normally have menopause between their forties and fifties, so the term 'menopause' is generalized for middle aged women. While men do not show hormonal changes noticeably, the male sex hormone testosterone has been tended to reduce gradually since their forties[1]. Andropause is slower hence it seems that some men themselves may not recognize climacteric symptoms. According to the guidance of the Endocrine Society in the U.S. andropause is defined as the status of absolutely low male hormones followed by its symptoms and signs[2]. In other words, being aged it refers to typical symptoms such as impotency, hyposexuality, passivity and osteoporosis and clinical, biochemical syndromes accompanied by deficiency of testosterone in serum[1]. Middle-aged men shows a lot of stresses and high fatigue degree and cause physical, psychological and social risks, which relate to the decline of male hormone[3]. In addition, there is a report that the decline of males hormone relates to metabolic syndrome[4], resulting in lowering life satisfaction and affecting the quality of life in old age and health[5]. Neither because all men have marked symptoms nor because all men show climacteric symptoms, most men either overlook or accept them as aging

symptoms[6]. Therefore, we need to apprehend subjective male perception of the andropause and understand andropause. However quantitative and qualitative research on andropause have mainly been done, there were no intervention researches by types which categorize similar qualities. It is therefore necessary to analyze systematically and grasp its type by using Q methodology that can recognize individual experience and perception differently. This study aims to provide theoretical bases for nursing intervention strategy development to improve men's life quality by using Q methodology, categorizing andropause and verifying qualities by types.

## II. MATERIALS AND METHODS

### 2.1 Research design

Q methodology is designed to measure subjective ego, individual's potential behaviors and understand each type's characteristic depending on subjective structure of humans[7]. Hence this study used and applied Q methodology to investigate subjectivity on andropause for middle aged men.

### 2.2 Concourse(Q population) and Q sample

Literatures related to andropause were examined in this study[1-6], and in depth interviews were conducted for the subject of middle-aged men until statements data were overflowed. The in depth interview was conducted on what the biggest problem was in life, what physical change I felt, which behavior I have done to keep in health, and so forth. It was aimed at the age between forties and sixties, took 1-2 hours per interviewee and recorded to prevent omission receiving consent. Through this procedure, 120 Q populations were extracted in total. These statements by Q methodology were discussed by experiences nursing professors who wrote several thesis rearranged and finalized 32 Q samples.

### 2.3 P sample

Since Q methodology is dealt not interindividual difference but intraindividual difference in significance, the number of P sample is enough to create factors and compare to between factors.[7] The P sample in this study was targeted 29 middle-aged men received written consent.

### 2.4 Q sorting

After reading 32 cards written statements, the participants were made normally to distribute from the most negative(-4), neutral(0) to the most positive(+4) on a nine-point scale according to their own opinion and the degree of agreement[Figure 1].

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**Hye-Won Jeon**, Department of Nursing, Kkottongnae University, South Korea

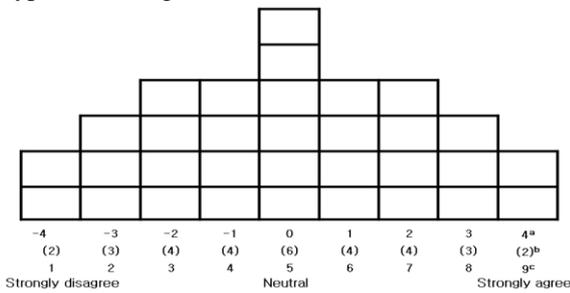
**Mi-Young Chon**, Corresponding author, Department of Nursing, Konkuk University, South Korea

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Q sort was done by reading Q samples and dividing largely into three stacks which are positive, neutral and negative. Then among positive statements, the most positive one was selected in order classifying from the outside to the inside and completed in the neutral. At this point, the statements at the end sides(+4, -4) were required to write down the reasons for choosing. This is utilized as useful data to interpret each Q factor later[8].

### 2.5 Data Analysis

Collected data were analyzed factors using PC QUANL program by beginning from 1 point for the most negative statement(-4) to 9 points for the most positive statement(+4) in Q sample statements. For deciding idealistic number of factors, the number of factors were entered variously on the basis of the eigen value over 1.0. Considering output results and total description variables, four types were eventually selected which judged as having larger conceptual meaning per types and being rational.



Note. <sup>a</sup>Raw scores; <sup>b</sup>Number of cards; <sup>c</sup>Transformed scores.

Figure 1. Forced distribution on Q samples

## III. RESULTS AND DISCUSSION

### 3.1 Formation of the types

Four types for andropause were shown through Q factors

Table 3. Demographic Characteristics and Factor Weight for P sample

Type	No. of participant	Factor weight	Age(yr.)	Marital status	No. of children <sup>a</sup>	Religion <sup>b</sup>	Economic status <sup>c</sup>	Health status
I	19	3.306	56	Married	1D	N	Intermediate	Intermediate
	17	2.469	55	Married	2S	N	Intermediate	High
	9	2.290	52	Married	1S 1D	P	Intermediate	Intermediate
	28	1.498	56	Bereavement	1D	B	Intermediate	Intermediate
	13	1.456	57	Married	1S 2D	N	Intermediate	Intermediate
	26	1.302	55	Married	None	N	High-I	Intermediate
	1	1.133	49	Married	2S	N	Low-I	Intermediate
	4	1.119	49	Married	2S	P	Intermediate	Intermediate
	29	1.099	50	Married	2D	N	Intermediate	Intermediate
	16	1.090	50	Married	2S	P	High-I	Intermediate
	12	1.011	56	Married	None	B	Intermediate	Intermediate
	22	0.961	48	Married	None	P	Intermediate	Intermediate
21	0.784	46	Married	2S	C	Intermediate	Intermediate	
II	5	1.676	49	Married	1S 1D	N	Intermediate	Intermediate
	27	1.301	51	Married	1S 1D	N	High-I	Intermediate
	24	1.292	52	Married	2S	N	High	Intermediate
	23	1.049	57	Married	1S 1D	N	Intermediate	Low

analysis. As a result of analyzing factor weight and variables per type, four types were explaining about 55.3% of the total variables. The descriptive power per each type was 28.3 for the type 1, 12.5% for the type 2, 7.7.% for the type 3, 6.8% for the type 4[Table 1]. Medium correlations were found among the four types[Table 2]. In 29 of the participants of the P sample, there were four types: 13 participants were grouped into Type 1, 6 participants were grouped into Type 2, 4 participants were grouped into Type 3, and 6 participants were grouped into Type 4. Demographical characteristic and factor weight for the participants belonged each type were shown in the Table 3. The higher factor weight the participants in each type has, the more typical characteristic he seems. It means that the subject represents a corresponding type.

Table 1. Eigen value, Variances, and Cumulative percentage

Variables	Type I	Type II	Type III	Type IV
Eigen value	8.195	3.626	2.232	1.974
Variance (%)	.283	.125	.077	.068
Cumulative percentage	.283	.408	.485	.553

Table 2. Correlation Matrix between Types

Variables	Type I	Type II	Type III
Type II	.050		
Type III	.264	-.146	
Type IV	.484	.300	.220

	14	1.042	49	Unmarried	None	B	High-I	Low
	6	0.552	53	Married	2S	N	Low-I	Intermediate
III	10	1.225	65	Married	2S	B	High-I	Intermediate
	2	1.152	49	Married	1S 1D	N	Low-I	High
	25	0.963	52	Married	1D	N	High-I	Intermediate
	18	0.702	56	Married	1S 2D	C	High-I	Intermediate
	20	1.042	47	Married	1S 1D	N	Intermediate	Intermediate
IV	7	0.928	49	Married	1S	N	Intermediate	Intermediate
	11	0.862	49	Married	1D	N	Low-I	Intermediate
	3	0.799	50	Married	1S 1D	N	Intermediate	Intermediate
	15	0.598	49	Married	2S	N	Low-I	Intermediate
	8	0.299	59	Married	1S 1D	N	Intermediate	Intermediate

Note. <sup>a</sup>S=son, D=daughter, <sup>b</sup>N=None, P=Protestant, C=Catholic, B=Buddhist, <sup>c</sup>I=Intermediate

characteristics were depicted centered on the most positive statement ( $Z \geq +1.0$ ) and the most negative statement ( $Z \leq -1.0$ ) among 32 statements [Table 4].

### 3.2 Characteristics by types

To analyze characteristics by types on andropause, types'

**Table 4. Q statements and typal array of Z-scores**

Q Statement	Z-score			
	Type 1 (n=13)	Type 2 (n=6)	Type 3 (n=4)	Type 4 (n=6)
Q1 I got more stresses	-0.1	1.8	0.9	0.7
Q2 I failed to control anger	-0.9	0.9	0.2	-1.3
Q3 I felt a sense of futility and depressed	-1.1	1.3	-1.1	0.2
Q4 I am no longer a man due to a decline in sexual function	-1.6	-1.6	-0.3	-2.0
Q5 It is stressful to adapt a new place and meet new people	0.1	-0.1	-2.2	-0.5
Q6 I got more tears	0.9	-0.1	-0.8	0.3
Q7 I became serious because I thought one more time before I told	1.4	-0.0	1.4	0.2
Q8 I felt being old when I felt less passionate than I used to be	0.8	1.9	0.7	0.6
Q9 I don't feel sad thinking it maturing process	0.7	-1.1	0.1	0.2
Q10 I am worried about my health the most	0.2	0.6	1.6	0.9
Q11 Everything has been bothering me lately	-0.7	1.7	-1.4	-0.1
Q12 I just want to enjoy myself and be alone	-0.2	1.0	-0.1	0.7
Q13 Feeling useless in life, I don't envy the world	-0.6	0.7	-0.7	-1.3
Q14 I think it's a good medicine and I do what I like	1.2	-0.4	-0.2	-0.1
Q15 I never do anything bad	0.1	-1.5	-0.3	-0.7
Q16 I hate looking at myself in the mirror because I look old all of a sudden	-0.7	0.3	-1.2	-0.6
Q17 I think my whole body feels weak and different from the old days	0.2	0.3	1.3	1.1
Q18 I had a symptom that my face got hot and sweaty suddenly	-1.2	0.2	-1.6	0.1
Q19 My pride is hurt because I don't get along well with my sex	-1.3	-1.2	1.2	-0.1
Q20 I'm concerned that I don't have anything to collect as a head of household	0.2	-0.9	0.2	1.6
Q21 I feel sorry for my family for not knowing as much as I did*	0.1	0.1	-0.7	0.1
Q22 It is comforting that family members including spouse and children listen and encourage well	0.8	-0.9	0.7	1.6
Q23 It is less difficult to have friends who make good conversation	1.2	-0.3	-0.2	1.7
Q24 I don't feel like thinking that I am under andropause	0.9	0.6	1.5	0.4



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Q25 I try to give up my greed and live a pleasant life	2.0	0.7	-0.3	1.7
Q26 I am able to get over the andropause if I live hard	1.6	-0.6	1.4	0.1
Q27 I take care of myself by non-smoking, non-drinking, and exercising	1.0	-1.8	0.1	-2.4
Q28 Well, I am just going to die	-0.2	0.9	-1.2	-0.8
Q29 I am apt to eat health tonic	-1.0	-0.7	1.1	-1.1
Q30 I feel impatient and nervous	-0.6	0.6	-0.0	-0.1
Q31 I use medicines(vigra, blood circulation promoter, etc.) to enhance sexual function	-1.9	-1.5	0.8	-0.9
Q32 I think there is a need for active treatment(doctor counseling, hormone therapy, etc.)	-1.4	-0.9	-0.9	-0.2

Note. \*Consensus item

### 3.2.1 Type 1: Overcome hard type

The most strongly agreed statements in the type 1 were 'I try to give up my greed and live a pleasant life( $Z=2.04$ )', 'I am able to get over the andropause if I live hard( $Z=1.55$ )', 'I became serious because I thought one more time before I told( $Z=1.38$ )'. While in the most negatively agreed statements were 'I use medicines(vigra, blood circulation promoter, etc.) to enhance sexual function( $Z=-1.93$ )', 'I am no longer a man due to a decline in sexual function( $Z=-1.56$ )', 'I think there is a need for active treatment(doctor counselling, hormone therapy, etc.)( $Z=-1.43$ )', 'My pride is hurt because I don't get along well with my sex( $Z=-1.27$ )'. In addition, the more strongly agreed statements which showed over +1.00 on standard score in the type 1 compared other types were 'I take care of myself by non-smoking, non-drinking, and exercising', 'I try to give up my greed and live a pleasant life', 'I am able to get over the andropause if I live hard' in order and the more strongly negative statements which showed over -1.00 were 'I use medicines(vigra, blood circulation promoter, etc.) to enhance sexual function', 'My pride is hurt because I don't get along well with my sex', 'I got more stresses' in order. 13 participants out of 29 in total belonged to the type 1, they tried to live merrily and could overcome andropause. In the research on andropause for middle-aged men, overcoming andropause by continuous keeping in health is reported to be a subcategory[9]. It is consistent with the results of the type 1. The participants who belonged to the type 1 are trying their best to keep in their health through healthy behaviors. That's why we may call this type "overcome hard type".

### 3.2.2 Type 2: A sense of futility and depressed type

The most strongly agreed statements in the type 2 were 'I felt being old when I felt less passionate than I used to be( $Z=1.87$ )', 'I got more stresses( $Z=1.81$ )', 'Everything has been bothering me lately( $Z=1.67$ )', 'I felt a sense of futility and depressed( $Z=1.32$ )'. While in the most negatively agreed statements were 'I take care of myself by non-smoking, non-drinking, and exercising( $Z=-1.78$ )', 'I am no longer a man due to a decline in sexual function( $Z=-1.55$ )', 'I never do anything bad( $Z=-1.49$ )', 'I use medicines(vigra, blood circulation promoter, etc.) to enhance sexual function( $Z=-1.48$ )' in order. In addition, the more strongly agreed statements which showed over +1.00 on standard score in the type 2 compared other types were 'Everything has been bothering me lately', 'I felt a sense of futility and

depressed', 'Well, I am just going to die', 'Feeling useless in life, I don't envy the world', 'I failed to control anger' in order and the more strongly negative statements which showed over -1.00 were 'It is comforting that family members including spouse and children listen and encourage well', 'I am able to get over the andropause if I live hard', 'I'm concerned that I don't have anything to collect as a head of household' 'I don't feel sad thinking it maturing process' in order. 6 participants out of 29 in total belonged to the type 2, they felt that they feel old, stressed a lot, everything bothering and a sense of futility and depressed. A preceding study on andropause, they felt a sense of futility about the present life[10], as time passes by they are experiencing lack of confidence and psychological symptoms such as anxiety and depression. These feelings were reported to affect quality of their lives negatively[11,12], and it is consistent with the characteristics of the type 2. They do not do healthy behaviors for keeping in their health and receive their family's support. It differs from the type 1 in that they do not feel they can overcome andropause with their intension. That's why we may call this type "a sense of futility and depressed type".

### 3.2.3 Type 3: Health and sexual function-centered type

The most strongly agreed statements in the type 3 were 'I am worried about my health the most( $Z=1.62$ )', 'I don't feel like thinking that I am under andropause( $Z=1.46$ )', 'I am able to get over the andropause if I live hard( $Z=1.43$ )'. While in the most negatively agreed statements were 'It is stressful to adapt a new place and meet new people( $Z=-2.16$ )', 'I had a symptom that my face got hot and sweaty suddenly( $Z=-1.65$ )', 'Everything has been bothering me lately( $Z=-1.44$ )', 'Well, I am just going to die( $Z=-1.22$ )'. In addition, the more strongly agreed statements which showed over +1.00 on standard score in the type 3 compared other types were 'I use medicines(vigra, blood circulation promoter, etc.) to enhance sexual function', 'My pride is hurt because I don't get along well with my sex', 'I am apt to eat health tonic', 'I am no longer a man due to a decline in sexual function' in order and the more strongly negative statements which showed over -1.00 were 'It is stressful to adapt a new place and meet new people', 'I try to give up my greed and live a pleasant life', 'Everything has been bothering me lately', 'I had a symptom that my face got hot and sweaty suddenly' in order. 4 participants out of 29 in total belonged to the type 3, they are worried about their health,



hurt due to decline in sexual function, and tend to eat health tonic. It contrasts to the type 2 in that they are not depressed. In a preceding study, the symptoms related to the decline in sexual function are reported to be a factor to feel that I am under andropause[9]. Through characteristics above mentioned, we may call the type 3 as "health and sexual function-centered type".

#### 3.2.4 Type 4: Support-centered type

The most strongly agreed statements in the type 4 were 'It is less difficult to have friends who make good conversation( $Z=1.74$ )', 'I try to give up my greed and live a pleasant life( $Z=1.69$ )', 'I'm concerned that I don't have anything to collect as a head of household( $Z=1.64$ )', 'It is comforting that family members including spouse and children listen and encourage well( $Z=1.64$ ).' While in the most negatively agreed statements were 'I take care of myself by non-smoking, non-drinking, and exercising( $Z=-2.36$ )', 'I am no longer a man due to a decline in sexual function( $Z=-1.99$ )', 'Feeling useless in life, I don't envy the world( $Z=-1.33$ )' In addition, the more strongly agreed statements which showed over +1.00 on standard score in the type 4 compared other types were 'I'm concerned that I don't have anything to collect as a head of household', 'It is less difficult to have friends who make good conversation', 'It is comforting that family members including spouse and children listen and encourage well' in order and the more strongly negative statements which showed over -1.00 were 'I take care of myself by non-smoking, non-drinking, and exercising', 'I failed to control anger', 'Feeling useless in life, I don't envy the world' 6 participants out of 29 in total belonged to the type 4, they are worried about their responsibilities as a head of a household, however they feel that it is less difficult to have supporters like family or friends. In a preceding study, family function like emotional support by family can be an more important factor in that the center of life moved from the society or job place to family[13]. Moreover, smooth communication is suggested as an important factor to satisfy own life quality for middle-aged men[14]. There is no problems in sexual function and they do not keep in their health. This type may be a "support-centered type".

#### 3.2.5 Consensus perspectives among types

In consensus perspective among types, 'I feel sorry for my family for not knowing as much as I did(Average  $Z=-.09$ )' was shown that they were not generally sorry for their family. On the whole they do not feel sorry for their family.

### IV. CONCLUSION

The subjectivity on andropause was able to be seen 4 types among middle-aged men. Based on these, mediation is needed suitable for each type in implementing educational and counseling program for overcoming andropause. Since middle-aged life is directly related to old life, it is considered to develop an integrated program on physical, psychological and emotional aspects and apply for systematical program in order to enhance their health.

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