Effects of the Temperament and Character on Depression, Anxiety, and Maternal-Fetal Attachment in High-Risk Pregnant Women

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Objective : High-risk pregnant women are exposed to the physical and emotional crisis associate with the condition of high-risk pregnancy, making these women emotionally unstable, exhibiting such conditions as depression and anxiety. The aim of this study was to examine what effects the temperament and character of high-risk pregnant women had on their depression, anxiety, and maternal-fetal attachment.

Methods : A hundred and five high-risk pregnant women were recruited in the maternity ward of the Keimyung University medical center. All subjects were administered a sociodemographic and obstetric questionnaire, Temperament and Character Inventory, Beck Depression Inventory-II, State Trait Anxiety Inventory-State, and Maternal-Fetal Attachment Scale.

Results : First, higher scores on the harm-avoidance scale and lower scores on the self-directedness scale were associated with higher depression scores. Second, higher scores on the harm-avoidance and reward dependence scale were associated with higher anxiety scores. Lastly, higher scores on the cooperativeness scale were associated with higher maternal-fetal attachment scores.

Conclusion : Temperament and character in high-risk pregnant women were associated with the degree of depression, anxiety, maternal-fetal attachment. Based on these findings, it is suggested that examining temperament and character in advance and screening for vulnerability in pregnant women can help to prevent emotional problems for high-risk pregnant women.

Table 1. Sociodemographic characteristics

Subjects(N=105)	
Age, year	32.60±3.95
Marital status	
Unmarried	1 (0.95%)
Married	104 (99.05%)
Marital period	
< 1 year	13 (12.6%)
1-2 years	21 (20.4%)
2-4 years	37 (35.9%)
> 4 years	32 (31.1%)
Living arrangement	
Spouse	59 (56.2%)
Spouse, children	41 (39.0%)
Spouses, children, roommate	5 (4.8%)
Educational level	
Middle school	1 (1.0%)
High school	22 (21.0%)
University and over	82 (78.1%)
Household income (for 1month, ₩ 10,000)	
≤ 100	7 (6.9%)
101-200	13 (12.4%)
201-300	24 (22.9%)
301-400	25(23.8%)
401-500	9 (8.6%)
501≤	23 (21.9%)
Current number of children	0.50±0.67

Table 2. Obstetric characteristics

Subjects (N=105)	
Gestational period, week	29.35±5.85
Planned pregnancy	
Yes	93 (90.3%)
No	10 (9.7%)
Current obstetric diagnosis	
Preterm labor	68 (64.8%)
Premature rupture of membrane	6 (5.7%)
Cervical incompetence	31 (29.5%)
Placenta previa	7 (6.7%)
Preeclampsia	2 (1.9%)
Complications of pregnant women (gestational diabetes, hypertension, tuberculosis, etc)	8 (7.6%)
Fetal growth retardation	3 (2.9%)
Other	8 (7.6%)

Table 3. TCI, BDI-II, STAI-S, MEAS scores

Mean±SD	
TCI	
Novelty seeking	30.32±8.87
Harm avoidance	37.70±10.03
Reward dependence	45.55±8.07
Persistence	39.78±10.46
Self-directedness	48.13±10.19
Cooperativeness	54.05±10.01
Self-transcendence	21.61±10.45
BDI-II	12.86±6.90
STAI-S	50.50±11.67
MEAS	74.01±10.99

TCI : Temperament and Character Inventory, BDI-II : Beck Depression Inventory-II, STAI-S : State Trait Anxiety Inventory-state, MFAS : Maternal-fetal attachment scale

Table 4. Multiple regression analysis of TCI for BDI-II, STAI-S, MFAS

	BDI-II (R ² = 0.402)		STAI-S (R ² = 0.200)		MAFS (R ² = 0.186)	
	Estimated β	p	Estimated β	p	Estimated β	p
TCI						
Novelty seeking	-0.036	0.723	-0.042	0.715	-0.184	0.119
Harm avoidance	0.379	0.002†	0.317	0.018 *	0.022	0.872
Reward dependence	0.072	0.449	0.262	0.018 *	0.097	0.382
Persistence	0.144	0.201	0.047	0.716	0.178	0.172
Self-directedness	-0.351	0.005†	-0.158	0.260	-0.053	0.707
Cooperativeness	-0.038	0.716	-0.117	0.330	0.276	0.024 *
Self-transcendence	0.127	0.193	-0.203	0.071	0.158	0.161

* : p < 0.05 by Multiple regression analysis, † : p < 0.01 by Multiple regression analysis. TCI : Temperament and Character Inventory, BDI-II : Beck Depression Inventory-II, STAI-S : State Trait Anxiety Inventory-state, MFAS : Maternal-fetal attachment scale