

# Investigation of Anxiety and Its Influencing Factors in Postpartum Nurses Returning to Work from Giving Birth to a Second Child

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**Abstract:** *Objective:* We attempt to investigate the anxiety and its influencing factors in postpartum nurses returning to work from second childbirth so as to provide reference basis for making intervening measures to promote physical and psychological health of the postpartum nurses. *Methods:* We conducted a network questionnaire survey. Firstly, convenience sampling was used to select postpartum nurses who return to work from giving birth to a second child in public hospitals affiliated to Jiangmen City from September 1<sup>st</sup> 2018 to December 31<sup>st</sup> 2018. Then we adopted Self-Rating Anxiety Scale (SAS) to conduct a cross-sectional study of the anxiety of postpartum nurses returning to work from giving birth to a second child. We later used Logistics regression analysis to analyze the influencing factors of anxiety of the postpartum nurses. *Results:* the average score of 702 postpartum nurses on anxiety was (48.64±11.57), and the incidence of anxiety was 42.1%, among which the incidence of mild anxiety was 25.7%, moderate anxiety was 11% and severe anxiety was 5.4%. The Logistics regression analysis showed that duty, coping style, family function and social support were the factors that influenced anxiety of the postpartum nurses ( $R^2=59.41\%$ ). *Conclusions:* The situation of anxiety of postpartum nurses returning to work after giving birth to a second child is severe, and family function is a major influencing factor of their anxiety. Nursing managers can help reduce the influence of family function on anxiety of postpartum nurses through providing psychological adjustment for them, help for their family and support for their work.

**Keywords:** Second Child, Postpartum Period, Nurse, Anxiety

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## 1. Introduction

The *Report on National Mental Health Development in China (2017-2018)* [1] issued by Institute of Psychology, CAS in 2019 points out that the mental health of nurses is at a low level, and that anxiety is one of the major mental problems of nurses. Continuous anxiety not only has negative influence on the physical and psychological health of nurses but also lowers the quality of nursing care. With the overall opening of the Two-child policy, nurses who give birth to a second child are an important part of the nursing team. As women of child-bearing age are the majority in the caring profession,

there comes a second baby boom in this profession [2]. After the nurses give birth to a second child, their family structure is readjusted and they have to shoulder more burden in the family. When returning to work, they also face more complex work adjustment disorders such as fear of returning to work, decline in physical condition, conflicts between work and family. Hence, more attention should be paid to the physical and psychological conditions of nurses who give birth to a second child. Some research shows that postpartum nurses who give birth to a second child present lower adaptive capacity in work due to lack of sleep, decline in physical condition, concern on making mistakes in work and fear of

returning to work, etc. As a result, work adjustment disorder has become a common problem facing the postpartum nurse returning to work after giving birth to a second child [3], and conflicts between family and work for them are more serious than those for nurses who have not given birth or have given birth to only a child, which may affect physical and psychological health, causing anxiety, job burnout sense and other problems [4]. Therefore, it is necessary to investigate the anxiety of the postpartum nurses returning to work after giving birth to a second child. The current study, through investigation of the state of anxiety of the postpartum nurses returning to work after giving birth to a second child, analyzes the influencing factors of their anxiety so as to provide theoretical basis for making mental health interventions.

## 2. Respondents and Methods

### 2.1. Respondents

We used convenience sampling to select postpartum nurses returning to work after giving birth to a second child in public hospitals affiliated to Jiangmen City from September 1<sup>st</sup> 2018 to December 31<sup>st</sup> 2018 as respondents. Inclusion criteria were that the nurses gave birth to a second child no more than 2 years ago, returned to work, and participated in the survey of their own accord. Exclusion criteria were that the nurses had complicating somatopathy, have taken sedatives in a recent week, gave birth to twins at the first pregnancy or second pregnancy or the children had severe diseases, or the nurses engaged in advanced studies in other places or took a sick or personal leave.

### 2.2. Survey Tools

#### 2.2.1. General Information Questionnaire

The questionnaire collected information including days of returning to work, age, position, duty, years of working, work satisfaction, caretaker of the child, monthly family income and other information.

#### 2.2.2. Self-Rating Anxiety Scale

This study employed Self-Rating Anxiety Scale (SAS) made by Zung [5] which has high reliability and validity [6]. The Cronbach's  $\alpha$  of the scale is 0.842, and KMO validity is 0.912. SAS is applicable to grownups who have anxiety symptoms and often used in epidemiological investigation. It consists of 20 items each of which includes 4 categories. The score ranges from 25 to 100. The threshold value for anxiety symptom [7] is that:  $\geq 50$  indicates anxiety, 50-59 falls to the category of mild anxiety, 60-69 moderate anxiety, and  $\geq 70$  means severe anxiety.

#### 2.2.3. Simplified Coping Style Questionnaire

Simplified Coping Style Questionnaire (SCSQ) is a scale that Xie Yaning [8] made by simplifying the foreign coping style scale [9] based on the cultural background of China. SCSQ includes 20 items with a 4-point system. The positive coping style consists of 12 items, and the negative coping style includes 8 items. We separately figured out the average score

on this two dimensions. Higher score means higher possibility to adopt this style. The Cronbach's  $\alpha$  of the scale is 0.78-0.90. Factor analysis proves that there are two dimensions of coping style: positive coping style and negative coping style.

#### 2.2.4. Adaptation Partnership Growth Affection Resolve

Adaptation Partnership Growth Affection Resolve (APGAR), designed by Smilkstein G [9] in 1978, is a scale used for assessment of family function. The Chinese version of APGAR is easy to operate and used widely in China [11] because of its good reliability and validity. APGAR consists of 5 items with a total score of 10. The score can be divided into 3 categories: 0-3 means severe family dysfunction, 4-6 moderate family dysfunction and 7-10 indicates good family function. The higher the score is, the better the family function is and the higher the support degree is.

#### 2.2.5. Social Support Rating Scale

Social Support Rating Scale (SSRS), made by Xiao Shuiyuan [12] according to China's situation, is used to assess the level of social support an individual receives. It is applicable to the general population. SSRS has good reliability and validity [13], and its test-retest reliability is 0.92. Cronbach's  $\alpha$  of the items constituting the scale ranges from 0.89 to 0.94, and test-retest reliability of them ranges from 0.724 to 0.835. The SSRS consists of 10 items including 3 dimensions: subjective support, objective support and availability of support. Score less than 35 is subsumed into low score group, and score more than 45 is included in the high score group.

### 2.3. Collection of Data

The current study used Wenjuanxing (wjx.cn), a professional internet questionnaire software to generate questionnaire links, and conducted a pre-survey before the formal survey. The formal questionnaire was repeatedly revised and improved based on the results and purpose of the pre-survey to ensure the questionnaire was designed scientifically. After obtaining the consent of each hospital, the questionnaire link was sent to their Nursing Department through WeChat, and the Nursing Department was asked to help organize postpartum nurses returning to work after giving birth who met the inclusion criteria to complete the questionnaire. All questions are required to answer so as to ensure the integrity of the questionnaire. In order to avoid repeated filling, the same account, device, and IP address could only fill in the questionnaire once as set in the background. A total of 750 questionnaires were collected, of which 701 were valid questionnaires, and the effective recovery rate was 93.47%.

### 2.4. Statistical Methods

We used statistical software SPSS22.0 for statistical analysis of the data. The enumeration data were shown by frequency and percentage, and measurement data were presented by mean $\pm$ standard deviation. Chi-square test was adopted for single factor analysis, and Pearson correlation

analysis for analysis of correlation of continuous variables. The anxiety was set as dependent variable, and factors that were proved significant in single factor analysis were set as independent variables. Then Logistics regression analysis was employed to analyze influencing factors of anxiety of postpartum nurses returning to work after giving birth to a second child, and the significant level was  $\alpha=0.05$ .

### 3. Results

#### 3.1. General Data of Respondents

We collected general information of 701 respondents. In terms of days of returning to work, 288 people have returned to work for 0-6 months (41.1%), 171 people 7-12 months (24.4%), and 242 people more than 1 year (34.5%). There are 24 people at the age of no more than 25 ( $\leq 25$ ) (3.4%), 207 people aging from 26 to 30 (29.5%), 324 people from 31 to 35 (46.2%), 79 people from 36 to 40 (11.3%), and 67 people over 40 (9.6%). There are 375 people (53.3%) in second-class hospitals, and 326 people (46.7%) in tertiary hospitals. And 287 respondents (40.9%) from internal medicine department, 170 (24.3%) from surgery department, 105 (15%) from gynaecology and obstetrics and pediatric department, and 88 (12.6%) from special departments. Among them, 410 (58.5%) are on the regular payroll, and 291 (41.5%) are contract labors; 433 (61.8%) have a bachelor degree or above, 233 have a college degree (33.2%), and 35 (5.0%) only receive technical secondary school education. Besides, 159 (22.7%) have the professional title of junior nurse, 294 (41.9%) have the professional title of senior nurse, and 248 (35.4%) are nurse-in-charge or above. There 623 (88.9%) general duty nurses and 78 (11.1%) charge nurses. What's more, 92 nurses (13.1%) have been working for no more than 5 years ( $\leq 5$ ), 205

nurses (29.2%) for 6-10 years, 324 nurses (46.2%) for 11-20 years, and 80 nurses (11.4%) for over 20 years. There are 433 nurses (63.2%) satisfied with their work and 34 (4.9%) dissatisfied. And 586 (83.6%) nurses' child is taken care of by grandparents and 115 (16.4%) nurses' child is taken care by others. the number of nurses whose monthly family income falls to the categories of  $\leq 5000$ , 5001-10000, 10001-20000 and  $\geq 20001$  is 86 (12.3%), 314 (44.8%), 250 (35.6%) and 51 (7.3%), respectively.

#### 3.2. Comparison of Anxiety Between Returning Nurses After Second Childbirth and the Norm in China as Well as Parous Nurses

The score on anxiety of postpartum nurses returning to work after giving birth to a second child was ( $48.64 \pm 11.57$ ), which was significantly higher than the norm in China [6] ( $t=19.56$ ,  $P<0.001$ ). Compared with ( $35.33 \pm 6.78$ ) of parous nurses, that of the postpartum nurses was still higher with a significant difference ( $t=20.85$ ,  $P<0.01$ ).

#### 3.3. Comparison of Anxiety Between Nurses of Different Demographic Characteristics

There was a significant difference in the anxiety between nurses who are on the regular payroll and those who are contract labors, between nurses having different duties, between nurses who have different degrees of satisfaction and between nurses who have different monthly family incomes ( $P<0.05$ ) as shown in the Table 1. There was a negative correlation between positive coping style, family function as well as social support and anxiety ( $r=-0.149$ ,  $-0.725$ ,  $-0.422$ ,  $P<0.01$ ), and negative coping style was positively correlated with anxiety ( $r=0.582$ ,  $P<0.01$ ).

**Table 1.** Single Factor Analysis of Anxiety of Postpartum Nurses Returning to Work after Giving Birth to a Second Child [ $n=701$ , case (percentage, %)].

Items	Categories	Cases	Anxiety (n=295)	Normal (n=406)	$\chi^2$	P
Length of returning to work	0~6 months	288	131 (45.5)	157 (54.5)	3.75	0.153
	6~12 months	171	62 (36.3)	109 (63.7)		
	>12 months	242	102 (42.1)	140 (57.9)		
Age	$\leq 25$	24	10 (41.7)	14 (58.3)	1.760	0.623
	26~30	207	83 (40.1)	124 (59.9)		
	31~35	324	132 (40.7)	192 (59.3)		
	36~40	79	43 (54.4)	36 (45.6)		
	>40	67	27 (40.3)	40 (59.7)		
Class of hospital	Second-class	375	160 (42.7)	215 (57.3)	0.113	0.759
	Tertiary	326	135 (41.4)	191 (58.6)		
Department	Internal medicine	287	116 (40.4)	171 (59.6)	5.297	0.258
	surgery	170	72 (42.4)	98 (57.6)		
	Special departments <sup>a</sup>	88	39 (44.3)	49 (55.7)		
	gynecology and obstetrics and pediatric department	105	52 (49.5)	53 (50.5)		
	others	51	16 (31.4)	35 (68.6)		
Employment system	Contract labors	291	136 (46.7)	155 (53.3)	4.419	0.036
	permanent	410	159 (38.8)	251 (61.2)		
Education background	technical secondary school	35	12 (34.3)	23 (65.7)	1.354	0.508
	Junior college	233	95 (40.8)	138 (59.2)		
	Undergraduate or above	433	188 (43.4)	245 (56.6)		
Professional titles	Junior nurse	159	73 (45.9)	86 (54.1)	4.036	0.133
	Senior nurse	294	130 (44.2)	164 (55.8)		
	Nurse-in-charge or above	248	92 (37.1)	156 (62.9)		

a: emergency, ICU, operating room

Table 1. Continued.

Categories	Variables	Cases	Anxiety (n=295)	Normal (n=406)	$\chi^2$	P
Duty	General duty nurse	623	250 (40.1)	373 (59.9)	8.774	0.003
	Charge nurse	78	45 (57.7)	33 (42.3)		
Years of working	≤5 years	92	40 (43.5)	52 (56.5)	2.144	0.543
	6~10 years	205	94 (45.9)	111 (54.1)		
	11~20 years	324	130 (40.1)	194 (59.9)		
	>20 years	80	31 (38.8)	49 (61.3)		
Satisfaction with work	dissatisfied	34	28 (82.4)	6 (17.6)	56.606	<0.001
	Partly satisfied	224	122 (54.5)	102 (45.5)		
	Satisfied	443	145 (32.7)	298 (67.3)		
Caretaker of child	parents	586	241 (41.1)	345 (58.9)	1.341	0.247
	others	115	54 (47)	61 (53)		
Age of the first child	<3	84	39 (46.4)	45 (53.6)	1.855	0.396
	3~6	317	138 (43.5)	179 (56.5)		
	>6	300	118 (39.3)	182 (60.7)		
Monthly family income (yuan)	≤5000	86	49 (57)	37 (43)	10.83	0.013
	5001~10000	314	133 (42.4)	181 (57.6)		
	10001~20000	250	96 (38.4)	154 (61.6)		
	≥20001	51	17 (33.3)	34 (66.7)		

### 3.4. Analysis of Influencing Factors of Anxiety of Postpartum Nurses Returning to Work After Giving Birth to a Second Child

We set the score on anxiety of postpartum nurses returning to work after giving birth to a second child as dependent variable, and those proved statistically significant ( $P < 0.05$ ) in the single factor analysis as independent variables for Logistics regression analysis. The results showed that duty, family function, positive coping style, negative coping style and social support were the major influencing factors of anxiety of postpartum nurses returning to work after giving birth to a second child. These factors were responsible for 59.41% of occurrence of anxiety as shown in the Table 2.

Table 2. Bivariate Logistics Regression Analysis of Anxiety of Postpartum Nurses Returning to Work after Giving Birth to a Second Child.

Items	$\beta$	S. E	Walds	P	OR	95%CI	
Constant	13.051	1.758	55.061	<0.001	—	—	—
Duty	1.032	0.489	4.451	0.034	2.809	1.076	7.334
Family function	-1.331	0.156	72.635	<0.001	0.264	0.194	0.359
Positive coping style	-0.252	0.041	36.776	<0.001	0.777	0.716	0.843
Negative coping style	0.269	0.045	35.758	<0.001	1.31	1.199	1.431
Social support	-0.051	0.019	6.862	0.008	0.95	0.914	0.987

$R^2=0.5941$ .

## 4. Discussion

### 4.1. Severe Level of Anxiety of Postpartum Nurses Returning to Work After Giving Birth to a Second Child

This study shows that the level of anxiety of postpartum nurses returning to work after giving birth to a second child is higher than the norm in China and that of parous nurses ( $P < 0.05$ ). According to the “National Nursing Career Development Plan (2016-2020)” [15], nurses in China are insufficient, and the trend of rejuvenation in nurse team is obvious. What’s worse, the full implementation of the second child policy has aggravated insufficiency of nursing talents [16]. Faced with a complex nursing environment and a heavy workload, nurses have long been under the mental and working pressures. Without effective regulation of these pressures, they are prone to anxiety. In addition, the system of working in shifts causes irregular timetable to nurses, resulting in disorders of biological clock, sleep inversion and other phenomena. Hence, nurses are prone to anxiety. Today,

doctor-patient relationship is tense, and work insecurity is an major source of stress. Studies have shown that 41.2% of nurses have suffered aggressive behavior from patients or their families in the past year [17]. Nurses do not receive due respect and understanding, and thus are lack of professional self-identity, which partly contributes to the anxiety of them. Furthermore, postpartum nurses returning to clinical work after giving birth to a second child face various maladaptive phenomena [3]. Some studies have proven that postpartum nurses returning to work are a potential high-risk group for adverse nursing events [18]. More importantly, in addition to the professional role as a nurse, postpartum nurses returning to work after giving birth to a second child also need to bear the family responsibility of raising two children. They are confronted with child's breastfeeding, self-psychological adjustment and difficulty in adapting to the work, a strong sense of physical and mental fatigue, work-family conflict, strong emotional experiences and needs and other problems [19] when returning to clinical work. Work and postpartum period, family and work, education of the first child and care of the second child, etc. are serious conflicts. The multiple

roles of mother, wife, and nurse result in a higher level of anxiety of postpartum nurses returning to work after giving birth to a second child. Therefore, nursing managers should pay attention to the anxiety of returning nurses after second childbirth.

#### **4.2. Analysis of Influencing Factors of Anxiety of Returning Nurses After Second Childbirth**

##### **4.2.1. Higher Level of Anxiety in Charge Nurses Who Return to Work After Second Childbirth**

The single factor analysis shows that there is a significant difference in the level of anxiety between returning nurses after second childbirth in different positions ( $P < 0.05$ ). The regression analysis shows that, among the returning nurses after second childbirth, the charge nurses are more vulnerable to anxiety, which is consistent with research of Wang Yihong, *et al* [20]. On the one hand, this is because charge nurse is an important manager whose focus and core is nursing management. The charge nurse, as an important subject of hospital nursing management, bears the dual responsibilities of administrative management and technical management. A survey [21] finds that, compared with general duty nurses, charge nurses suffer heavier pressure, which is mainly due to heavy workload and time allocation. The full implementation of the two-child policy results in insufficiency of nurses, more postpartum nurses returning to clinical positions after giving birth to a second child, difficulty in scheduling, decrease in night shift nurses, decline in nursing quality and many other challenges facing the charge nurse in nursing management [22]. If these problems cannot be solved effectively, the charge nurse is very likely to suffer from anxiety. On the other hand, the work-family conflicts also increase the level of anxiety of the charge nurse. After the second childbirth, major changes have taken place in the family structure and the family's focus has also shifted. As a mother of two children, she needs to bear heavier family responsibilities and psychological burdens, thus she needs to devote more time and energy to the family. However, the charge nurse's workload is heavy, and she needs to participate in various academic conferences, which is likely to lead to work-family conflict. The conflict between work and family will affect the parenting competence of the charge nurse [23]. The anxiety of the charge nurse not only affects her physical and mental health, but also affects her nursing leadership [24], and also determines the quality of nursing management. Therefore, the hospital should pay more attention to the charge nurses who return to work after giving birth to a second child, strengthen care and training for them so as to help them properly balance work and family and solve various problems resulting from work-family conflicts.

##### **4.2.2. Lower Occurrence of Anxiety in Those Who Adopt Positive Coping Style and Higher Occurrence in Those Adopting Negative Coping Style**

The risk of anxiety of returning nurses after second childbirth is lower in those who adopt positive coping style, which is consistent with the research of Luo Hanyu [25].

Positive coping style can help nurses effectively deal with work, help them achieve work goals, improve their work efficiency, and then alleviate the negative impact of work stress on them. Adopting a positive coping style to raise a second child means that one should ask for more social support, which can reduce the occurrence of anxiety. This means that nurses should adopt a positive coping style to face work and life, to find positive aspects of life, and to talk to family, friends or colleagues and ask for their help when they are confronted with difficulties. A manager should fully recognize the importance of positive coping style, guide nurses to adopt more positive coping style, and attach importance to the training of coping abilities for returning nurses after second birth so as to reduce and relieve their work pressure, and ensure their physical and mental health.

Negative coping style increases the risk of anxiety in nurses returning to work after second childbirth, which is consistent with the findings of Li Nifei [26]. On the one hand, negative coping style directly affects the level of anxiety [27]. For example, avoidance and self-blame will increase the occurrence of anxiety. On the other hand, negative response to some life events also increases anxiety. When faced with a heavy work task, the returning nurses after second childbirth are more likely to feel tired, so they tend to take a negative coping style to deal with it. Negative coping style usually cannot effectively reduce the occurrence of stressors (life events) or solve problems smoothly, or even expand their influence, which contributes to the occurrence of anxiety. Therefore, returning nurses after second childbirth should identify and correct negative coping style and minimize adoption of negative coping style in order to reduce the occurrence of anxiety.

##### **4.2.3. The Biggest Influencing Factor of Anxiety of Returning Nurses After Second Childbirth: Family Function**

The regression analysis in this study shows that family function strongly predicts the occurrence of anxiety, and thus is the biggest influencing variable of anxiety of returning nurses after second childbirth ( $\beta = -1.331$ ), which is inconsistent with other related studies [28]. That may be because of second childbirth. With the opening of the two-child policy, a good family is important support for professional females to give birth to and raise a second child. Studies [29] have shown that when faced with work stress, nurses prefer to ask family for support. In the current study, the first child of 57.2% of the respondents is less than 6 years old who are still very attached to their mother [30]. When their child becomes ill, the dual role of the nurse will double their anxiety [31]. Raising a second child is not only a personal problem of the postpartum nurses who return to work after giving birth, but also a major issue for the family. When the number of children increases, family responsibilities increase accordingly. The lack of family support will aggravate work-family conflicts [32], which will increase the anxiety of the nurses. However, good family support can reduce the impact of work-family conflicts on nurses. It is recommended

to pay attention to nurses with family dysfunction or low family support, advocate that their families take care of family affairs, share the education tasks of the first child, and take care of the second child together so as to create a warm and harmonious family atmosphere to alleviate the anxiety of the nurses who return to work after giving birth to a second child.

#### 4.2.4. More Social Support and Lower Risk of Occurrence of Anxiety of Returning Nurses After Second Childbirth

The results of this study show that social support is an important influencing factor of the anxiety level of returning nurses after second childbirth. Among the types of social support provided, emotional support is more important for returning nurses after second childbirth. The nurse giving birth to a second child experience the change of role and life focus. There are relatively few opportunities for them to communicate with the society. If they do not actively seek social support, they will be very likely to be confronted with huge emotional exhaustion and an increase in helplessness, which will directly lead to occurrence of anxiety. The more social support they gain, the more likely the public will recognize and respect nurses. The more they are understood and respected, the more positively the nurses who return to work after the second childbirth will respond. Studies by la Fuente GAC *et al.* [33] show that colleague support can alleviate depersonalization of nurses, alleviate nurses' bad moods, and thus stimulate their enthusiasm for work. The more help and support from colleagues and the charge nurse, the more probably the nurse can avoid dealing with the heavy workload alone and thus reduce the impact of work on the family. Hence, the contradiction and conflict between family and work can be alleviated or reduced, and the nurses returning from second childbirth have more time and energy to spend with family and dealing with family affairs. Therefore, the charge nurse, colleagues or friends should provide certain social support for the returning nurses after the second childbirth, and the nursing manager should understand and pay attention to the mental health and emotional needs of the returning nurses after the second childbirth. Besides, the nursing manager should actively ask if they need help and provide care, understanding and psychological counseling for them, expressing love and care for them and creating a positive and supportive nursing environment so as to help them deal with the conflicts between work and life, and adapt to work after giving birth. At the same time, the hospital should strengthen the publicity of care for nurses returning from giving birth to a second child, recognize and affirm the importance of nursing work, and improve the public's understanding and respect for the work of nursing staff.

## 5. Conclusions

The current study shows that duty, coping style, family function and social support are major influencing factors of anxiety of nurses returning from giving birth to a second child. The role as a charge nurse and negative coping style will result in higher risk of occurrence of anxiety. Positive coping style,

good family function and more social support mean lower risk of occurrence of anxiety in nurses returning from giving birth to a second child. Medical institutions and nursing managers should, based on their situation, help nurses returning from second childbirth reduce anxiety and adapt to nursing work as soon as possible through strengthening psychological counseling, family support and work support for them. Since the current study is a cross-sectional investigation and we have not conducted a longitudinal study, we cannot determine a causal relationship between the variables. Therefore, it is necessary to further study the acting path of the influencing factors through constructing structural equation model and other methods in the future.

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