

THE EFFECT OF CHILD-BIRTH CLASS ON FIRST-TIME FATHERS' PSYCHOLOGICAL RESPONSES

Chich-Hsiu Hung, Hsin-Hsin Chung and Yong-Yuan Chang*

The purpose of this study was to examine fathers' psychological responses to labor/delivery over time and to evaluate the effect of child-birth class on the father. A quasi-experimental and exploratory study was conducted with data collected at the 36th and the 39th weeks of pregnancy, and the first day of the postpartum period. 100 married, first-time expectant fathers in both the experimental and control groups were drawn from one medical center in southern Taiwan as a convenient sample. Three two-hour sessions of childbirth class, each lasting for one day, were conducted consecutively following the first data point for the experimental group. The "Chinese Health Questionnaire" and Zung's Self-rating Anxiety and Self-rating Depression Scales were used to obtain the first-time fathers' health status, anxiety, and depression scores at each data point. The two-way ANOVA with repeated measures was used to compare the means of psychological responses between experimental and control groups at each point in time. The main effect of classes on paternal health status, anxiety, and depression of the experimental group was not found and the limitations of the study were discussed.

Key words: child-birth class, first-time father, psychological responses

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Pregnancy and parenthood are a profound experience for the male as well as for the female. The most common male experience of his wife's pregnancy is the occurrence of what has been called "Couvade syndrome". In addition to physical symptoms, Couvade syndrome also includes a wide array of psychological symptoms. Reported symptoms have included anxiety, depression, tension, irritability, nervousness, hostility⁽¹⁻⁷⁾, and concern about body intactness for himself⁽⁸⁾.

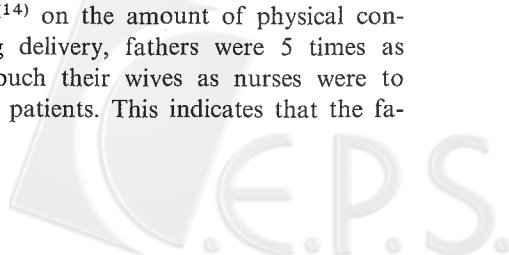
The most consistent finding of previous studies regarding factors associated with Couvade syndrome has been that symptoms increase with anxiety and depression. In Trethowan and Conlon's study⁽¹⁾ there was an obvious association between the occurrence of physical symptoms and anxiety. In addition, apart from anxiety, there is also a significant relationship to be seen between the occurrence of physical

complaints and depression, tension, irritability, and nervousness. Repeated evidence linking the appearance of Couvade symptoms to depression has also been found^(4,5).

The reason for male symptoms during pregnancy and the postpartum period is unclear. However, the literature has revealed many benefits of the involvement of fathers in child-birth. A study by Greenberg and Morris⁽⁹⁾ suggested that a father's presence at birth may enhance his "engrossment" in the child. It has also been reported that a father's involvement in labor and delivery contributes to an early involvement with the infant⁽¹⁰⁻¹²⁾. Moreover, a father's function in child-birth has been described as one of giving emotional support. Block & Block⁽¹³⁾ reported on mothers' postpartum ratings of father assistance during labor, especially its effect on the mothers' pain perception and control. They found that the father's presence with active help could reduce the mother's pain perception and increase pain control. According to the findings in Klein *et al.*'s study⁽¹⁴⁾ on the amount of physical contact during delivery, fathers were 5 times as likely to touch their wives as nurses were to touch their patients. This indicates that the fa-

School of Nursing and *School of Psychology, Kaohsiung Medical College, Kaohsiung, Taiwan, Republic of China.

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Address for reprints: Chich-Hsiu Hung, No. 100, Shih-Chuan 1st Road, Kaohsiung, Taiwan, Republic of China.



ther's active assistance in labor contributed to positive maternal postpartum evaluations. Furthermore, the couple in labor and delivery share strong emotions which serve to bind the family together⁽¹⁵⁾. Nevertheless, fathers in Taiwan try to avoid being present in the birthing room because of feelings of helplessness, a sense of disgust, or a fear of asexualness, impotency, or other very negative experiences.

The transition to parenthood clearly fits the definition of a transitional period and is marked by many potentially stressful changes. Social support and coping strategies have been identified as factors that influence individual psychopathological responses to stress^(16,17). Men who prepare themselves physically and emotionally will have a better childbirth experience. Ferketich and Mercer's⁽²⁾ study indicated that interventions to increase the parental competence of the father and his sense of mastery or control would have a negative effect on anxiety and depression. The use of groups in childbirth classes can create an atmosphere of trust, care, and mutual aid, offering prospective parents the opportunity to share feelings and experiences. This enables the man to obtain reinforcement and empathy, to try out new perspectives and ideas, and to develop an appropriate reference group to evaluate his own performance. However, in Taiwan, it is still unpopular for the expectant father to prepare for, and be involved in, the childbirth experience. There are few studies which focus on the expectant father's psychological responses to the delivery of his child. There is a lack of systematic studies demonstrating exactly what the father's mental condition is at delivery, whether being present is beneficial for him, or whether he is prepared for a role in the childbirth process.

Therefore, this quasi-experimental study, focusing on the practice of formal childbirth classes and the presence of the father in the delivery room during the birth of his child, explores the first time father's psychological state and compares the changes in levels of anxiety, depression, and health status. The results will provide empirical confirmation of the effects of childbirth classes and, furthermore, can be used as a basis for subsequent intervention in order to promote the expectant father's mental health.

METHOD

Program. A six-hour childbirth class program was devised for expectant fathers who had decided to participate in their wives' labor/delivery. Three sessions of childbirth class were held consecutively for three days: (1) physiology and psychology of pregnancy; (2) the process of labor and birth; and (3) nursing care in normal labor/delivery. Each session lasted for two hours and involved lecture, videotape, and discussion.

The lecture component covered normal physical and psychological changes during pregnancy, health maintenance and care during pregnancy, and fetal development in session 1; anatomy, physiology, and psychology of labor, signs and stages of labor, and options in labor and birth procedures and the birth environment in session 2; and the role and support techniques of the husband in labor and birth, relaxation and breathing techniques, roles of health care providers in management of labor and birth, and finally a tour of a maternity-newborn unit in session 3. To decrease variability in treatment of subjects, one of the authors who specializes in maternity nursing was the only class lecturer.

The videotapes, consisting of Emotional Aspects of Pregnancy (23 min), Human Birth (23 min), and Tender Loving Care: The Coach's Role in Labor & Delivery (26 min), followed each lecture consecutively. The videotape Emotional Aspects of Pregnancy described women's emotional changes during the ninth month of pregnancy. In addition, it illustrated how a married couple and an expectant mother can cope with them. The Human Birth tape introduced seven types of delivery and also presented different realistic births. It was hoped that this would desensitize the father to the birth process. The last session's tape on tender loving care covered a married couple's hospital stay from admission to childbirth and demonstrated what the roles of a nurse and a husband were and how they help the expectant mother with breathing, relaxation, massage change of position, and verbal encouragement.

Sample. Complete data were available from 100 married and first-time expectant fathers who decided to be present during labor/delivery at one medical center in southern Taiwan, who

completed at least 2 points of data collection, who could read and write, and whose wives had an uncomplicated pregnancy, an uncomplicated delivery, and a healthy full-term infant. In all, there were 50 expectant fathers who did not participate in any childbirth classes and 50 expectant fathers who attended at least two of the three sessions of childbirth classes. However, 10 and 7 child-births each in the control and experimental group occurred before the 2nd point of data collection. 20 and 15 in each group had their childbirth either with c/s or in other hospitals, or fathers in the control group were withdrawn from the delivery room.

Instruments. ZUNG'S SELF-RATING DEPRESSION SCALE (SDS) and ZUNG'S SELF-RATING ANXIETY SCALE (SAS). High correlations of the SDS were obtained with the specific Hamilton and Beck depression rating scales⁽¹⁸⁾. In addition, a validation study showed a high correlation with the "D" scale of the Minnesota Multiphasic Personality Inventory⁽¹⁹⁾. The split-half reliability was found to be 0.73. The SAS can qualify the symptoms, and is short and simple. However, these three characteristics are not usually met by most scales today. The Pearson-Product Moment correlation between the Hamilton Anxiety Scale and the SAS was found to be 0.75. In using the SDS or SAS, the subject is asked to rate each of the 20 items as to how it applies to him at the time of testing in the following four quantitative terms: a little of the time, some of the time, a good part of the time, and most of the time, each of which has a numerical value of 1 to 4. Content validity is used and Cronbach's alpha is .70 for SAS and .83 for SDS.

CHINESE HEALTH QUESTIONNAIRE (CHQ). The CHQ is a self-administered screening instrument used to identify non-psychotic psychiatric disorders in community settings⁽²⁰⁾. The CHQ-12 items are related to questions about anxiety, depression, and sleep disturbance and somatic symptoms, somatic concerns, and interpersonal difficulties. The cut-off point on 'case'/'non-case' judgement for minor psychiatric morbidity was 2/3 and the sensitivity and specificity of the CHQ-12 was 92% and 67%, respectively⁽²¹⁾. The expert validity is applied and the Cronbach's alpha is .67.

Procedure. The potential participants were screened initially with their wives' medical charts at the obstetric clinic in the medical cen-

ter. If the criteria were met, then the potential participants or their wives were visited during the period of prenatal examination. The written research purpose and procedure was explained and the stamped consent forms with return address were distributed to potential subjects or pregnant women who could hand them to their husbands later.

After IRB approval from the Medical Center and receipt of the signed informed consent by mail, an appointment was made before each data point. Each subject was visited to complete and return questionnaires during the three contacts, which included the 36th week and the 39th week of pregnancy for home visits and the first day of postpartum hospital visit. A demographic questionnaire was to be completed by the subjects at the first visit. Three two-hour sessions of childbirth class, each of which were free, were conducted three days consecutively for the experimental group after the first data point. Moreover, the wife was encouraged to attend her husband's classes if she wished. In order to avoid inadvertent transfer of information, the three points of data collection from the control group were conducted before the beginning of the childbirth classes.

RESULTS

Group Characteristics. Fathers in the control group had a mean age of 30 years, the range being from 22 to 42. 88.00 percent of them had an educational level of senior high school, junior college or university. They were evenly distributed among blue collar, white collar, and professional occupations. They had been married from 4 months to 81 months with a mean of 19.00 months. 10.00% of the pregnancies were not planned and 78.00% of the fathers showed no sex preference for their infants. 56.00% were female infants. Most of the deliveries were vaginal (66.00%) whereas 34.00% were Cesarean.

The experimental group was characterized by fathers with a mean age of 30 years, the range being from 25 to 42. All of them had an educational level of senior high or above and were distributed among different occupations. The length of marriage varied from 0 months to 143 months with a mean of 19.80 months. 16.00 percent had not planned their pregnancies. The infants in this group were predominantly male

(52.00%). A majority of these fathers did not show any sex preference for their infants (86.00%). 70.00% were vaginal deliveries and the other delivered by c/s or gave birth in other hospitals. Father's characteristics in both groups showed no statistical significance (Table 1).

To reduce the extreme skewness, CHQ12

was logarithmically transformed. Table 2 shows means for SAS, SDS, and CHQ12 between control group and experimental group at the three points in time. Higher scores indicate higher levels of anxiety, depression, or incidence of psychiatric disorder. The means of first-time fathers' SAS, SDS, and CHQ12 scores in each of the two groups versus each of the three points

Table 1. Demographic Characteristics between Experimental Group and Control Group

Demographic characteristics	Control group (N= 50)		Experimental group (N= 50)		Test	P
	Mean \pm SD (or)		Mean \pm SD (or)			
	n	%	n	%		
Age (month)	365.20 \pm 48.59		363.12 \pm 39.01		t=	.24
Length of marriage (month)	19.06 \pm 15.29		19.80 \pm 20.75		t=	-.20
Education					$\chi^2=$	6.38
junior high school	3	6.0				
senior high school	13	26.0	9	18.0		
junior college	13	26.0	21	42.0		
university	18	36.0	15	30.0		
graduate or above	3	6.0	5	10.0		
Job					$\chi^2=$	1.06
white collar	12	24.0	11	22.0		
blue collar	16	32.0	17	34.0		
business	14	28.0	17	34.0		
others	8	16.0	5	10.0		
Status of this pregnancy					$\chi^2=$	1.75
planned	21	42.0	24	48.0		
unplanned	5	10.0	8	16.0		
neither of the above	24	48.0	18	36.0		
Anticipation of child's sex					$\chi^2=$	2.61
boy	8	16.0	3	6.0		
girl	3	6.0	4	8.0		
either	39	78.0	43	86.0		
Sex of child					$\chi^2=$.64
boy	22	44.0	26	52.0		
girl	28	56.0	24	48.0		
Type of delivery					$\chi^2=$	3.31
the medical center	33	66.0	35	70.0		
NSD						
the medical center	16	32.0	11	22.0		
C/S						
other hospital			2	4.0		
NSD						
other hospital	1	2.0	2	4.0		
C/S						

*p < .05

in time were determined by two-way ANOVA with repeated measures (Tables 3, 4, and 5).

The analysis indicated that no interaction occurred between the two groups and three points in

Table 2. Means of SAS, SDS, and CHQ in Both Groups versus Three Points in Time

Variables	Control group			Experimental group		
	Time 1 (N=50)	Time 2 (N=40)	Time 3 (N=30)	Time 1 (N=50)	Time 2 (N=43)	Time 3 (N=35)
SAS	40.56±7.46	39.10±7.22	39.97±6.80	39.86±6.60	38.00±8.20	36.03±7.13
SDS	41.08±9.98	38.88±8.50	41.23±9.62	38.46±7.91	36.91±9.82	37.09±9.81
CHQ	.24±.29	.15±.26	.21±.32	.16±.25	.22±.29	.21±.28

Note Time 1: the 36th week of pregnancy
 Time 2: the 39th week of pregnancy
 Time 3: 1st day of postpartum
 SAS: Zung's Self-rating Anxiety Scale
 SDS: Zung's Self-rating Depression Scale
 CHQ: Chinese Health Questionnaire

Table 3. Two-Way Analysis of Variance with Repeated Measures in SAS

Source	SS	df	MS	F	P
Group (Exp vs. Ctl)	156.882	1	156.882	2.943	.088
Time (Three points)	263.263	2	131.632	2.469	.087
Group * time	90.350	2	45.175	.847	.430
Error	12901.878	242	53.314		

*p < .05

Table 4. Two-Way Analysis of Variance with Repeated Measures in CHQ

Source	SS	df	MS	F	P
Group (Exp vs. Ctl)	.004	1	.004	.051	.821
Time (Three points)	.028	2	.014	.177	.838
Group * Time	.272	2	.136	1.744	.177
Error	18.885	242	.078		

*p < .05

time for fathers' psychological responses. However, only the means of SDS scores had statistically significant differences among the two groups ($F=5.65$, $df=1$, $p<.05$). That means the level of first-time fathers' depression in the experimental group was lower than in the control group. With the classification of CHQ12 scores, the two groups did not display a significant difference with a chi-square at each point in time (Table 6).

DISCUSSION

The higher levels of anxiety and depression

could be understood as a reaction to a reality stress situation. Presence at childbirth class was assumed to be an important variable related to first-time fathers' psychological responses. However, in the study, the first-time fathers did not show any statistically significant differences in anxiety, depression, or health status between the two groups versus the three points in time. Thus, there was no statistical evidence to support the function of child-birth class in decreasing first-time fathers' psychological responses.

The effect of childbirth class on the first-time father's psychological responses may have

Table 5. Two-Way Analysis of Variance with Repeated Measures in SDS

Source	SS	df	MS	F	P
Group (Exp vs. Ctl)	485.272	1	485.272	5.655*	.018
Time (Three points)	159.164	2	79.582	.927	.397
Group * time	44.491	2	22.245	.259	.772
Error	20766.212	242	85.811		

* $p<.05$

Table 6. Two-Group Comparison between Case and Non-Case Classification According to CHQ Scores at Three Points in Time

	Control group		Experimental group		χ^2
	Case	Non-case	Case	Non-case	
36th week	9	41	6	44	.71
39th week	4	36	7	36	.71
Postpartum period	6	24	6	29	.08

Note Case VS Non-case: either minor psychiatric or not

* $p<.05$

been limited by certain factors. The interval between the second and third data collection was about one week only. Therefore it would have been easy for fathers to pick up previous data. Additionally, the interval between the end of childbirth class and the 3rd data collection in the experimental group was too short to find the effect of the childbirth class on the first-time father's psychological responses. Furthermore, it was not possible to assign subjects randomly to groups in this study. Subjects were self-selected, since they themselves made the decision to be present at delivery and/or attend classes. Possibly, other predisposing factors caused them to make the particular decision.

Another factor to be considered in this study was that fathers who were present in the delivery room at the hospital were separated from birth scenes by a curtain hanging over the middle of their wives upper bodies and were asked

to stay on that side. Therefore both groups of fathers could not observe all of the birth unless they tried to or got permission from their obstetrician. However, most of the fathers did not attempt to do so, since bloody childbirth was frightening for them and most of the wives expressed the opinion that, while the husbands' attendance and encouragement in the delivery room was helpful, they did not want their husbands to see the childbirth process, which they felt might destroy their body image in their husbands' eyes. For example, in the experimental group, a couple was angry and disgusted with the Human Birth videotape. Both of them, the husband following his wife, stood up and refused to watch the videotape when the first scenario of birth delivery appeared in front of them. Because their obstetrician in the medical center would not accept their demand for a c-section, they finally had their childbirth in another hospital.

Having offspring for the continuation of the family is an important and revered concept among Chinese, and in the traditional culture, childbirth is a woman's concern, not a man's. Recently, rapid changes in sex roles have been occurring and more husbands want to be involved with their wives' childbirth. The validity of the curtain's function in the delivery room should be explored in the future.

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生產教室對準爸爸心理反應之影響

洪志秀 鍾信心 張永源*

本研究的目的是在探討準爸爸於妻子懷孕和生產過程中的心理反應以及評估生產教室課程對準爸爸心理反應之影響。這是一份準實驗性的研究，資料的收集分別於妻子懷孕第三十六週，第三十九週，和產後第一天。在南部一所醫學中心由100位已婚的準爸爸分別參與在實驗組和控制組。實驗組的準爸爸在第一個時

段資料收集之後接受連接三天，每天二小時的課程。以中國人健康量表和曾氏心理健康量表來測量二組準爸爸在三個時段的健康狀態以及焦慮和憂鬱程度，並以二因子重複變異數分析資料。結果顯示實驗組和控制組的準爸爸於三個時段在健康狀態以及焦慮和憂鬱程度上並沒有統計上的差異，而本研究限制亦討論於後。

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高雄醫學院護理學系 *心理學系

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索取抽印本處：洪志秀講師 高雄市807十全一路100號
高雄醫學院護理系

