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SOCIOECONOMIC RISK FACTORS FOR GYNECOLOGIC DISEASES OF MARRIED RURAL WOMEN IN ZHEJIANG PROVINCE*

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Abstract: The authors investigated socioeconomic factors associated with prevalent gynecologic diseases in data provided by participants in Women's Health and Health Education Study Program. In 1997, 1515 Zhejiang married rural women aged 15-49 years completed health questionnaires given them by trained medical students who interviewed them at their homes. Single factor and multiple factors analysis were used to determine the relationship between socioeconomic factors and gynecologic morbidity. The data obtained in this study showed that the gynecologic morbidity of the studied married rural women had certain relationship to age, abortion times, postnatal consultation visits and other socioeconomic factors. The finding would be helpful for understanding the current reproductive health of married rural women and preventing gynecologic diseases by controlling the risk factors.

Key words: socioeconomic factors, married women, gynecologic diseases
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INTRODUCTION

Reproductive health has received much attention since the Cairo Conference in 1994. Due to physiological and cultural factors, women, especially in reproductive age, are mostly suffering from reproductive diseases. There is urgent need to improve reproductive health, not only for the good of women themselves, their children and their family, but also for the good of the community and the whole society.

Young single women have much less risk suffering from gynecdogic diseases than married women. The Women's Health and Health Education Study confirmed that the gynecologic morbidity of married women and unmarried women were 13.8% and 2.4% respectively ($P < 0.01$). With the development of medical science, it is now well known that socioeconomic factors play important roles in gynecologic diseases. This work was aimed at studying and determining the socioeconomic factors influencing gynecologic morbidity among currently married rural women, including their socioeconomic conditions, individual characteristics and access to health care.

MATERIALS AND METHODS

Data collection

A Women's Health and Health Education Study Program was conducted in Fuyang rural area in China's Zhejiang province, where the socioeconomic conditions are quite developed. Women were from villages randomly selected from two towns. The women were aged 15-49 years, among whom 1515 women that were married were asked to complete the health questionnaires given them by trained medical students who interviewed them at their homes. The questionnaires included items on the demographic and socioeconomic characteristics of the households, the women's health care knowledge-attitude-practice, and access to health care services. The women were asked if they had any of a list of gynecologic diseases diagnosed in hospital, such as vulvitis, venereal disease, phallic inflammation, menstrual disturbance, aciesis, heterotopia en-

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dometriosis, myoma of uterus, phallic tumor and so on.

Data analysis

SPSS PC$^+$ software package was used in this study. Chi-square test was used to examine the relationship between a single socioeconomic factor and gynecologic morbidity, and, unconditional multiple logistic regression analysis was used for socioeconomic factors mentioned in the above paragraph. Age, educational level, profession, age at first marriage, age at first birth, abortion times, number of children, premarital examination, maternal records, times of health care, delivery places and postnatal consultation visits were included in all regressions.

RESULTS

Characteristics of the women in the samples

Table 1 shows that 83.7% of the respondents in this study were in the 20 – 39 age group. Most had middle school education; 13.2% were illiterate; 53.5% were engaged in agricultural activities and 20.5% were nonagricultural workers. Marrying at later age was quite common in rural areas, most (89.7%) of them were married later than the minimum age by law at their first marriage; 68.7% had undergone premarital physical examination; 92.7% gave first birth when 20 – 30 years old; and 36.4% reported one or more abortions; 72.3% had records of maternal care and consulted medical health care services professionals; 83.5% delivered their babies at different primary health centers and consulted medical professionals for basic health care information.

Relationship between single socioeconomic factor and gynecologic morbidity

Table 1 shows that 209 of the 1515 women were suffering from at least one of various gynecologic diseases. It is urgent to understand the underlying socioeconomic factors that place these women at risk of these diseases.

Table 1 on the prevalence of gynecologic diseases according to selected characteristics of the women indicated that socioeconomic factors, such as educational level, career, etc., had little influence on the gynecologic morbidity rate. However, other individual factors, such as the fertility history of the women including abortion times and number of children, could be significant risk factors that caused the high prevalence of gynecologic medical problems in the studied population ($P < 0.01$). The more abortions or children the women had, the higher the prevalence.

Our study suggested that those who had adequate and timely medical care had much lower prevalence of gynecologic diseases than the others ($P < 0.01$). The prevalence of gynecologic diseases was also found to be significantly negatively associated with variables such as rate of premarital physical examination and rate of maternal health care ($P < 0.01$). If a woman had health check-up before marriage or obtained prenatal health care services, the probability of suffering from gynecologic diseases would be decreased by 6%. Compared to delivery at home, delivery in hospital reduced the above probability by 6.6% (Table 1).

Multiple logistic regression analysis

The above preliminary analysis suggested that among socioeconomic factors, career had little direct relationship with the prevalence of gynecologic diseases, but that individual factors such as age, abortion times, number of children, and health care behavioral factors, played significant roles. Of all the socioeconomic risk factors, which factor was mostly responsible for the prevalence? To answer this question, nonconditional multi-logistic regression analysis was used.

Table 2 shows that the three risk factors of age, abortion times and postnatal consultation visits by community-based health workers, were the most important factors influencing the prevalence of gynecologic diseases. Other variables, such as the number of children, premarital health check-up, records of maternal medical care and delivery places, had significant linkage with the prevalence in the single factor analysis, but were rejected in the multiple logistic regression model.

Table 2 shows that women aged 30 and over had higher risk of acquiring gynecologic diseases, compared to those aged 29 and below (the value of OR was 1.7280, $P < 0.01$).

Table 1 Socioeconomic variables' influence on the percentage of married rural women suffering from gynecologic diseases

Variable	Total		Patient		Significance*
	Number	Percentage(%)	Number	Percentage(%)	
Total	1515	100.0	209	13.8	
Age(years)					
< 20	1	0.1	0	0.0	0.0005
20 –	611	40.3	57	9.3	
30 –	657	43.4	109	16.7	
40 –	246	16.2	43	17.6	
Education					
illiterate	200	13.2	30	14.4	0.6005
primary	463	30.6	68	14.5	
middle	721	47.6	91	12.5	
high school and above	131	8.6	20	14.7	
Profession					
peasant	839	55.5	107	12.8	0.7037
worker	310	20.5	47	15.3	
cadre	11	0.7	2	18.2	
service	284	18.8	46	16.3	
teacher	51	3.4	5	10.0	
others	20	1.2	2	11.1	
Age at first marriage					
< 20	156	10.3	27	17.4	0.3795
20 – 22	694	45.8	95	13.7	
≥23	665	43.9	87	13.1	
Age at first birth					
< 20	84	5.8	13	15.5	0.9396
20 –	1331	92.7	188	14.1	
30 –	20	1.5	28	14.0	
Abortion times					
0	962	63.5	111	11.6	0.0002
1 – 2	500	33.0	83	16.5	
≥3	53	3.5	15	29.4	
Children					
0	78	5.1	5	6.4	0.0048
1 – 2	1374	90.7	191	13.9	
Premarital examination					
yes	1041	68.7	121	11.6	0.0004
no	474	31.3	88	18.6	
Maternal records					
yes	1065	72.3	132	12.4	0.0067
no	409	27.7	74	18.1	
Times of health care					
< 5	255	22.8	39	15.4	0.2818
≥5	861	77.2	108	12.5	
Delivery places					
hospital	1206	83.5	157	13.0	0.0180
home	236	16.3	46	19.6	
other places	3	0.2	1	33.3	
Postnatal consultation visits					
yes	665	46.5	74	11.2	0.0025
no	765	53.5	129	16.9	

* Chi-square test

Table 2 Risk factors leading to prevalence of gynecologic diseases

Variable	β	OR	Significance*
Constant	−2.6042		0.0000
Age(years)	0.5469	1.7280	0.0014
Abortion times	0.4753	1.6085	0.0017
Postnatal consultation visits	0.4051	1.4994	0.0105

* Multiple logistic regression

Table 2 also shows that women who had one or more abortions had much higher risk of acquiring gynecologic diseases than women who had not undergone abortion (the value of OR was 1.6085, $P < 0.01$).

Table 2 shows that women who had, compared to those who had not, obtained postnatal health care and been given relevant medical advice at their homes by community-based health workers suffered much less from gynecologic diseases (the value of OR was 1.4994, $P < 0.01$).

DISCUSSIONS

Reproductive health has received much attention and aroused concern since the Cairo Conference in 1994. Due to physiological and cultural factors, women, especially in reproductive age, often suffer from reproductive diseases. In this study, among 1515 married rural women, 209 reported that they were suffering from at least one of various gynecologic diseases. This finding (13.8%) could be roughly extrapolated to be the case in Zhejiang rural areas. Collected data on gynecologic morbidity in China's rural areas are lacking, and data from different areas are far different. The reported gynecologic morbidity of 63.55% in Liaoning rural areas (Liang et al., 1999) and of 32.99% in Henan rural areas (Jia et al., 1997) were much higher than that in Zhejiang, and that close to or in Shanghai, which was 15.17% (Fang et al., 1998). It may be due mostly to the developed socioeconomic conditions and efficient rural health services system. Certainly, the difference in diseases conception and age structure should be counted. Generally, the reproductive health level was determined by local socioeconomic conditions and health services system.

In the single factor analysis, the socioeconomic factors, including age, the number of children, premarital health examination, abortion times, records of maternal medical care, delivery places, and postnatal consultation visits had significant linkage with the prevalence of gynecologic diseases. However, only the three risk factors of age, abortion times and postnatal consultation visits were included in the multiple logistic regression model, the others were rejected. The explanation for this seeming contradiction may be as follows: the four rejected variables were highly correlated with the age of the women, the coefficients of correlation were −0.3723 −0.3569, 0.3216 and 0.2717 respectively ($p < 0.01$). The postnatal consultation visits were also closely correlated with the above four variables; the coefficients of correlation were 0.2907, 0.3373, 0.2906 and 0.2412 respectively ($P < 0.01$).

The data showed women aged 30 and over, compared to those aged 29 and below, had higher risk of acquiring gynecologic diseases. It would be due mostly to the inadequacy of the national health services system. As known to all, there was almost no health services system for women and children until the end of the 1970's in China. In most settings, women aged 30 and over had few chances to get access to health care services when they needed them most. And that, in accordance with natural physiological changes, elder women were much more susceptible to physiological diseases. Thus, the women aged 30 and over in the population were the most susceptible to gynecologic diseases. More efforts should be made to protect them from the diseases.

Abortion was another important factor influencing the prevalence of gynecologic diseases. It was estimated that of the 40 million abortions every year in the world, about 20 million abortions were unsafe. Sixty-seven thousand women died from unsafe abortions with many more suffering from life-long disability, infertility, infections or other complications (Gao, 1997). Similar findings were also obtained in this study.

Postnatal consultation visits was another important factor influencing the prevalence of gynecologic diseases. Compared to those who had not, women who had obtained postnatal health care and been given relevant medical information

at their homes by community-based health workers suffered much less from gynecologic diseases. The study suggested that primary health care services, including the availability and accessibility to health care, were crucial for women's better health.

CONCLUSIONS

To improve the reproductive health of married women is a formidable task both for public health departments and family planning programs. In this study, the socioeconomic conditions, individual characteristics, availability to health care and gynecologic morbidity of Zhejiang married rural women were investigated. Analysis of the relationship between socioeconomic factors and gynecologic morbidity showed that three risk factors including age, abortion times and postnatal consultation visits by community-based health workers were the most important in influencing the prevalence of gynecologic diseases. The finding would be helpful for understanding current reproductive health of married rural women and preventing gynecologic diseases by controlling the risk factors.

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