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Effect of Nursing Education on Sleep and Quality of Life Among Pregnant Women with Gastroesophageal Reflux Disease

Objective: This study, which was planned population-based, randomized, and prospective, aims to evaluate the effect of education frequency and severity of gastro-oesophageal reflux disease (GERD) symptoms, on sleep and quality of life among pregnant women with (GERD).

Material and Methods: Eighty two pregnant women were randomly divided into two groups; experimental group had education intervention and written material about GERD symptoms management whereas the control group did not receive any intervention beyond standard prenatal care.

Results: In the first interview GERD was found in 97.6% of the experimental group and in 90.2% of the control group. In the final interview, GERD was reported by 63.4% of the experimental group versus 97.6% of the control group.

Conclusions: The results obtained from our research show that education for pregnant women for management of GERD symptoms was found to decrease symptom frequency and severity and improvement in quality of life and sleep quality.

Key Words: Gastro-oesophageal reflux, pregnancy, quality of life, sleep quality.

Gastroözofageal Reflüsü Olan Gebelerde Hemşirelik Eğitiminin Uyku ve Yaşam Kalitesine Etkisi

Amaç: Araştırma gastroözofageal reflü hastalığı (GÖRH) olan gebelerde hemşirelik eğitiminin uyku ve yaşam kalitesine etkisini incelemek amacıyla topluma dayalı, müdahale tipi (kontrol grubu) ve longitudinal bir çalışma olarak planlandı.

Gereç ve Yöntem: 82 gebe kadın randomize olarak iki gruba ayrıldı. Deney grubuna GÖRH semptomlarının yönetimi hakkında eğitim ve bu konuda yazılı materyal verildi, kontrol grubundaki gebelere ise sağlık kurumlarında var olan bakım uygulandı.

Bulgular: İlk görüşmede deney grubundaki gebelerin %97.6'sında, kontrol grubunda ise %90.2'sinde GÖRH semptomlarının bulunduğu saptandı. Son görüşmede deney grubundaki gebelerin %63.4'ü, kontrol grubundaki gebelerin %97.6'sında GÖRH semptomları saptandı.

Sonuç: Araştırmanın sonuçlarında GÖRH semptomlarının yönetimi hakkında verilen eğitimin semptom sıklığı ve şiddetini azalttığı, yaşam ve uyku kalitesini arttırdığı belirlendi.

Anahtar Kelimeler: Gastroözofageal reflü, gebelik, yaşam kalitesi, uyku kalitesi.

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Introduction

Prevalence of gastro-oesophageal reflux disease (GERD) increases during pregnancy and is seen in 40-80% of all pregnant women. The two major factors that promote GERD in pregnant women are changes in hormones and the growing fetus. Changes in levels of estrogen and progesterone result in a decrease in the lower esophageal sphincter pressure thereby increasing acid reflux. Additionally, the growing fetus causes an increase in intra-abdominal pressure, resulting in an increase in the development of reflux (1- 4). Reported risk factors for GERD during pregnancy include women's age, obesity, weight gain during pregnancy, history of GERD symptoms, gestational age, and multiparity (1, 5, 6).

Pregnant women suffering from GERD at some time during gestation something that is in turn associated with deterioration in quality of life (QoL) (7- 14). Sleep disturbance also is remarkably prevalent in GERD. Pregnant women report sleep disorders frequently and increasingly as their pregnancies progress. They complain about poor sleep quality (SQ), shorter sleep duration, awakenings, trouble falling asleep and lower sleep efficiency (15, 16). Sleep problems at night caused by GERD symptoms can lead to daytime tiredness, which disrupts daily functioning and productivity (17).

Although a number of studies suggest that the QoL is significantly reduced in patient with GERD, no published studies have evaluated the impact of GERD on QoL and SQ in a pregnant population. We conducted a prospective survey of GERD symptoms during pregnancy in experimental (EG) and control group (CG), and evaluated nursing education about diet and lifestyle measures for GERD during pregnancy their impact on frequency and severity of GERD symptoms, QoL and SQ in Turkish sample.

Material and Methods

The research which was planned as a randomized, prospective and experimental-control group was

performed in Manisa, Turkey between November 1, 2008 and May 1, 2009. The sample of the study included 168 pregnant women who were at a gestational age between 20 and 24 weeks and applied at the outpatient clinic in Manisa Maternity and Child Hospital. Gestational age at recruitment was based on the last menstrual period and ultrasound assessment. Among the 168 pregnant women, we found 102 to have GERD symptoms and four women who did not agree to participate. 98 pregnant women with GERD symptoms were included in the study. Overall, 8 pregnant in both groups did not complete follow-up data, thus 41 pregnant women in both groups were available for the study (Figure 1).

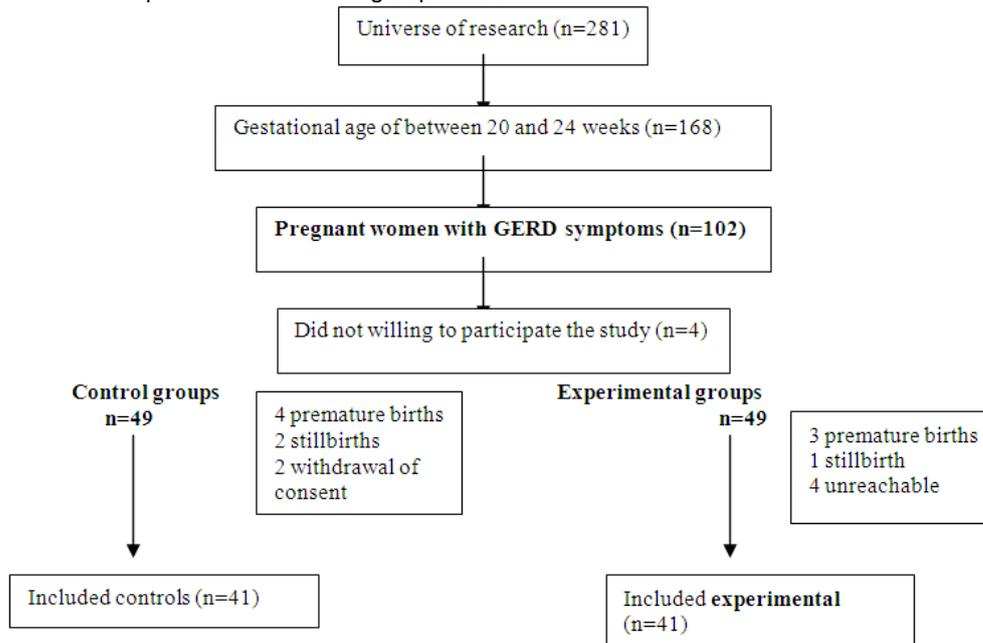


Figure 1 Flowchart of the participants across the study

The EG and CG were randomized according to previous study results, which found the risk factors associated with GERD symptoms: GERD symptoms prior to pregnancy, cumulative weight gain, gestational age, history of GERD symptoms, women's education, age and parity (1- 3, 5, 6).

Data were collected using the questionnaire which consisted of four parts as follows: prenatal characteristics questionnaire (PCQ), GERD questionnaire, Short Form-36 (SF-36) and The Pittsburgh Sleep Quality Index (PSQI). The first part included prenatal characteristics questionnaire (PCQ), which evaluated the pregnant women's socio-demographic and reproductive characteristics, including age, education level, health insurance, employment status, parity, and body mass index (BMI).

The second part included GERD questionnaire which was developed by Locke et al. (18) and adapted for the Turkish population by Kitapcioglu et al. (19) in 2004. It

was previously defined by Locke et al that the group with frequent symptoms defined as heartburn and/or regurgitation occurring at least once a week or common, was accepted as having GERD. The group with occasional symptoms was defined of an episode of one of the major symptoms less than once a week during the pregnancy. We evaluated also the GERD cardinal symptoms in the last visit of women (18,19).

Thirdly, health-related QoL was measured using the Short Form-36 (SF-36) which was validated by Koçyiğit et al. (20). The form includes 36 items, is based on a 5-point scale and eight dimensions as follows: physical function, social function, role limitations (physical and emotional), mental health, vitality, pain and general health perception. Higher scores indicated better functioning or well-being (20).

Lastly, SQ was assessed using The Pittsburgh Sleep Quality Index (PSQI) which was validated by Buysse et al in 1989 and the validity and reliability of the PSQI

Turkish version was made by Agargun et al. (21) in 1996. PSQI measures quality and patterns of sleep with 19 individual items which generate seven "component" scores: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction. The sum of seven components yields one global score. A global PSQI score of 5 or greater indicate "poor" SQ (21, 22).

The research purpose was explained to the pregnant women in the hospital. The researcher interviewed pregnant women who agreed to participate in this research at their homes by face-to face interview. After formal permission was obtained the data were collected from CG in two stages and from the EG in three stages. In the first stage PCQ, GERD questionnaire, SF-36 and PSQI were measured. The pregnant women in the CG received standard nursing care by health institution and after four weeks a researcher visited these pregnant women at their home and GERD symptoms, QoL and PSQI were evaluated again.

Pregnant women in EG were visited by a researcher at their home and the researcher applied "education about diet and lifestyle measures for pregnant with GERD" which was prepared using the available literature (23-28) (Table 1). After four weeks the researcher visited the pregnant women in EG at their home again and GERD symptoms, QoL and SQ were evaluated again. At the end of the study, education was given to the CG.

The study was approved by the Ege University Ethic Committee of Nursing in Izmir. Each pregnant woman was informed about the study and gave a written consent to participate.

The primary outcome variables were GERD symptoms, QoL and SQ were evaluated two times. We compared socio-demographic and some variable which could affect GERD symptoms between CG and EG using χ^2 statistics. We compared the QoL and PSQI scores by using the t-test. Two sided p values less than 0.05 were considered to be significant

Table 1. Education for diet and lifestyle measures about GERD during pregnancy.

The cause of GERD during pregnancy	Most pregnant women have symptoms of gastro-oesophageal reflux disease (GERD) especially heartburn and regurgitation, at some point during pregnancy. These symptoms may begin at any time during a pregnancy and often may become worse as the pregnancy progresses. Heartburn is common during pregnancy because hormones cause the digestive system to slow down. The muscles that push food down the oesophagus also move more slowly during pregnancy. In addition, as the uterus grows, it pushes on the stomach and sometimes forces stomach acid up into the oesophagus. Although these symptoms are common during pregnancy, they rarely cause complications, such as inflammation of the oesophagus (esophagitis).
The management of GERD during pregnancy	Treatment for pregnant women with GERD is similar to treatment for other people who have GERD, focusing first on lifestyle changes and non-prescription medicines. You can make changes to your lifestyle to help relieve your symptoms of GERD. Here are some things to try:
Change your eating habits.	GERD food triggers differ slightly from one person to the next. Spicy food may not trigger GERD in one individual, while a second may experience severe acid reflux symptoms from spicy foods. Everyone's tolerance for GERD triggers is different. The best way to determine acid reflux triggers is to keep a food diary. Take note of what you eat, how much, and when. Also note which foods trigger GERD symptoms. Over time, a food diary reveals your personal food triggers, as well as which foods don't result in acid reflux symptoms.
Safe foods for the acid reflux diet	
Food Group	Foods With Little Potential to Cause Heartburn
Fruit	Apple, fresh, apple dried, apple juice, banana
Vegetables	Baked potato, broccoli, cabbage, carrots, green beans, peas
Meat	Ground beef, extra-lean, steak, london broil, chicken breast, skinless, egg whites, egg substitute, fish, no added fat
Dairy	Cheese, feta or goat, cream cheese, fat-free, sour cream, fat-free, soy cheese, low-fat
Grains	Bread, mult-grain or white, cereal, bran or oatmeal, corn bread, graham crackers, pretzels, rice, brown or white, rice cakes
Beverages	Mineral water
Fats / Oils	Salad dressing, low-fat
Sweets / Desserts	Cookie, fat-free, Jelly beans, potato chips, baked
Foods to avoid on the acid reflux diet	
Food Group	Foods to avoid
Fruit	Orange juice, lemon, lemonade, grapefruit juice, cranberry juice, tomato
Vegetables	French fries, onion, raw
Meat	Ground beef, chuck, marbled sirloin, chicken nuggets, buffalo wings
Dairy	Sour cream, milk shake, ice cream, cottage cheese, regular
Grains	Macaroni and cheese, Spaghetti with sauce

Table 1. continues	
Beverages	Liquor, wine, coffee, decaffeinated or regular, tea, decaffeinated or regular
Fats / Oils	Salad dressing, creamy, salad dressing, oil & vinegar
Sweets / Desserts	Butter cookie, high-fat, brownie, chocolate, doughnut, corn chips, potato chips, regular
Eating frequent, small meals.	<ul style="list-style-type: none"> • It's best to eat several small meals instead of two or three large meals. • Eat small, frequent meals and chew your food slowly and thoroughly. • Eating smaller meals empties the stomach more rapidly. Eating more frequently increases stomach contractions. If the stomach is contracting and empty this will decrease the incidence of reflux.
After meal	<ul style="list-style-type: none"> • After meal you should rest for a while in sitting positions to reduce the symptoms. • Give yourself two or three hours to digest before going to bed or lying down. Gravity helps to keep the stomach juices from backing up into the esophagus and assists the flow of food and digestive juices from the stomach to the intestines. • Food or drink should not be taken for the moment during regurgitation
Drinking habits	<ul style="list-style-type: none"> • Avoid drinks containing caffeine (coffee, tea, cola) because these can relax the LES and allow acid to reflux back into the oesophagus. • It's important to drink plenty of water during pregnancy (8-10 glasses daily) along with other fluids, but don't drink these only at mealtimes. Large quantities of fluids can distend your stomach, putting more pressure on the LES and forcing it to open inappropriately. Drink some of your fluids in between meals. • Especially when you wake up with heartburn at night, drink a glass of milk.
Wear loose, comfortable clothing.	Don't wear belts or clothes that are tight fitting around the waist. Clothing that fits tightly around the abdomen will squeeze the stomach, forcing food up against the LES, and cause food to reflux into the oesophagus. Clothing that can cause problems include tight-fitting belts and slenderizing undergarments.
Bend at the knees instead of at the waist.	Bending at the waist puts more pressure on your stomach. Pregnant women should pay attention to keep leaning back straight. Body mechanics should be considered in pregnant women.
Gestational weight gain	Gain a sensible amount of weight and stay within the guidelines your doctor suggests. Too much of a weight, and obesity, puts more pressure on your stomach, and can force stomach contents through the LES and into your oesophagus. Pregnant body mass index and gestational weight gain for the week should be calculated and monitored. These helps for reducing symptoms of heartburn and regurgitation.
Don't smoke.	While your doctor may urge you break the habit because you're pregnant, smoking can also increase your odds of experiencing heartburn.
Don't drink alcohol.	Alcohol relaxes the LES
Chewing gum.	Try chewing gum after eating. Chewing gum stimulates your salivary glands, and saliva can help neutralize acid. A clear reduction in acidic oesophageal reflux has been documented in patients who chewed sugar-free gum for 30 minutes after a meal.
Relax.	While stress hasn't been linked directly to heartburn, it is known that it can lead to behaviours that can trigger heartburn.
Elevation of the head of the bed	If you have GERD symptoms at night, raise the head of your bed 6 in. (15 cm) to 8 in. (20 cm) by putting the frame on blocks or placing a foam wedge under the head of your mattress. Gravity plays an important role in controlling reflux. When a person is recumbent, stomach contents are more likely to reflux into the oesophagus. Studies have documented that, as compared with patients who sleep flat on their backs, patients who elevate the head of the bed have significantly fewer reflux episodes, and when they do, the episodes that do occur are shorter and produce generally milder symptoms.
Lying on one's left side at night.	Sleeping on the left side as opposed to the right side may reduce the frequency and duration of reflux episodes in patients prone to symptoms during the night. It is felt that there are more frequent episodes of decreases in lower oesophageal sphincter pressure when patients lie on the left side as opposed to the right side.
For sleep quality	<ul style="list-style-type: none"> • You could improving sleep hygiene (establishing regular sleep-wake hours, limiting naps, and avoiding caffeine); • Practicing relaxation techniques • Minimizing intrusive bedroom noise, • You can limit fluid intake after 6 p.m. to reduce nocturnal urinary frequency • Managing low back pain with massage, local heat, and pillow support
Keep a heartburn record.	Record what triggered your acid reflux episodes, the severity of each episode, how your body reacts, and what gives you relief. The next step is to take this information to your doctor so the both of you can determine what lifestyle changes you will need to make and what treatments will give you maximum relief.
Check with your doctor before taking remedies	You should always check with your doctor before taking any over-the-counter remedies while pregnant, but there are a few choices you have that can help eliminate heartburn. Again, it's important that you check with your doctor before taking any of these remedies.

Results

The mean age of the pregnant women was 26.1±5.0 (min=18, max=40) years. Overall, in the EG, 41.4% of the pregnant women had graduated from primary school, 7.3% were smoking, 22.0% were obese, 90.2% had health insurance, and 7.3% were employed. There were not found statistically significant differences for women's age, education, body mass index (BMI), employment status, health insurance, smoking, parity, and gestational week between the CG and the EG ($p>0.05$).

Overall, 14.6% of women in the EG and 17.1% women in the CG had suffered from heartburn; 22.0% of women stated that they had had regurgitation before pregnancy. Most of the women (82.9%) reported heartburn and 80.5% of the women reported regurgitation during pregnancy in the EG. The ratio was found respectively 68.3% and 92.7% in the CG ($p>0.05$).

In the first interview, frequent GERD symptoms were found 97.6% in the EG, 90.2% in the CG ($p>0.05$). In the last interview, 63.4% of the pregnant women in EG and 97.6% of the pregnant women in CG described frequent GERD symptoms ($p<0.00001$) (Table 2).

Table 2. Socio-demographic and disease characteristics of the pregnant women allocated to GERD experimental vs. control group, recorded at baseline.

Characteristic	Experimental group (n=41)	Control group (n=41)	Test and p value
The mean age	25.4±5.4	26.8±5.6	$p=0.377$
The mean gestational week of pregnancy	22.1±1.5	22.2±1.6	$p=0.825$
Primary school	17 (41.4)	22 (53.6)	*N/A
Employed	3 (7.3)	5 (12.2)	*N/A
Had insurance	37 (90.2)	40 (97.6)	*N/A
Smoking	3 (7.3)	6 (14.6)	*N/A
Obese (BMI >29.0)	9 (22.0)	8 (19.5)	$p=0.952$
Nulliparous	17 (41.5)	14 (34.1)	$p=0.649$
Unplanned pregnancy	11 (26.8)	13 (31.7)	$p=0.809$
Heartburn before pregnancy	6 (14.6)	7 (17.1)	$p=1.000$
Regurgitation before pregnancy	9 (22.0)	9 (22.0)	$p=1.000$
Heartburn during pregnancy	34 (82.9)	28 (68.3)	$p=0.198$
Regurgitation during pregnancy	33 (80.5)	38 (92.7)	$p=0.194$
Frequent GERD symptoms first interview	40 (97.6)	37 (90.2)	$p=0.359$
Occasional GERD symptoms first interview	1 (2.4)	4 (9.8)	
Frequent GERD symptoms last interview	26 (63.4)	40 (97.6)	$p<0.00001$
Occasional GERD symptoms last interview	15 (36.6)	1 (2.4)	

*N/A: not available, statistical analysis is not suitable

Occasional: none in the past year, less than once a month, about once a month

Frequent: about once a week, several time a week and, daily.

In the first stage, except vitality, no statistically significant difference was found between the seven dimensions of quality of life ($p>0.05$). After nursing education, we found statistically significant differences of SF-36 scores between the two groups. There was a significant statistical difference between the first and last visit measurements of six dimensions of quality of life: physical functioning, role-physical, physical pain, mental health, vitality, and role-emotional in both groups ($p<0.05$). There were no statistical differences between

the groups in regard to general health and social functioning point in the last interview ($p>0.05$) (Table 3).

In the first stage, the mean of PSQI point in the EG was found 5.63±2.80, and 5.73±3.16 for the CG ($p>0.05$). In the last stage, the mean of PSQI point was found 4.78±2.36 for the EG and 9.10±3.67 for the CG ($p<0.05$). Better SQ points were encountered in EG than the CG and there was a significant statistical difference between the two groups for subscale of PSQI except habitual sleep efficiency (Table 4).

Table 3. SF-36 subscales point first and last interview.

Subscale of SF- 36	First interview			Last interview		
	Mean	Sd	Test	Mean	Sd	Test
General health						
Experimental group	62.6	6.2	p=0.521	61.8	7.5	p=0.905
Control group	61.7	7.4		61.6	7.2	
Physical function						
Experimental group	65.9	14.4	p=0.819	76.1	15.0	p<0.00001
Control group	66.7	15.5		62.3	15.1	
Role limitations (physical)						
Experimental group	63.2	14.6	p=0.353	80.0	18.9	p<0.00001
Control group	66.7	18.6		61.7	15.8	
Role limitations (emotional)						
Experimental group	68.7	20.1	p=0.596	83.7	18.4	p<0.00001
Control group	71.2	21.4		64.7	20.1	
Social function						
Experimental group	56.6	12.9	p=0.783	56.6	7.9	p=0.245
Control group	55.9	10.9		58.8	8.9	
Bodily pain						
Experimental group	50.6	20.0	p=0.638	42.1	20.2	p<0.00001
Control group	52.8	19.6		62.2	20.9	
Vitality						
Experimental group	61.8	9.9	p=0.041	64.8	6.7	p=0.015
Control group	56.9	11.5		59.8	10.7	
Mental health						
Experimental group	50.4	9.4	p=0.123	55.5	7.2	p<0.00001
Control group	47.2	9.2		46.7	10.3	

Table 4. Pittsburgh Sleep Quality Index (PSQI) subscales point first and last interview.

Subscale of PSQI	First interview			Last interview		
	Mean	Sd	Test	Mean	Sd	Test
Subjective sleep quality						
Experimental group	1.3	0.8	p=0.086	1.4	0.9	p<0.00001
Control group	1.0	0.7		2.7	1.3	
Sleep latency						
Experimental group	1.1	0.9	p=0.204	1.1	0.8	p=0.006
Control group	1.3	1.0		1.6	0.9	
Sleep duration						
Experimental group	0.5	0.8	p=0.894	0.2	0.7	p=0.001
Control group	0.5	0.8		0.9	1.0	
Habitual sleep efficiency						
Experimental group	0.2	0.5	p=0.266	0.2	0.6	p=0.119
Control group	0.4	0.8		0.5	0.9	
Sleep disturbances						
Experimental group	1.5	0.5	p=0.422	1.3	0.5	p<0.00001
Control group	1.6	0.5		1.9	0.5	
Use of sleeping medication						
Experimental group	0.0	0.00	p=0.323	-	-	-
Control group	0.0	0.2				
Daytime dysfunction						
Experimental group	1.1	0.9	p=0.316	0.6	0.8	p<0.00001
Control group	0.9	0.8		1.6	0.9	
Total PSQI point						
Experimental group	5.6	2.8	p=0.883	4.8	2.4	p<0.00001
Control group	5.7	3.2		9.1	3.7	

*Last interview no pregnant women use of sleeping medication.

Discussion

Although GERD is commonly seen by primary care, no study has examined the effect of education about GERD during pregnancy on QoL and SQ. In this research, pregnant women educated with GERD symptoms and the women's GERD symptom frequency and severity decreased and QoL and SQ scores improved. According to our findings, another important point is that pregnant who were relieved of symptoms QoL and SQ, was impaired at baseline and improved significantly after nursing education. Improving pregnant-nurse communication by using home visit and addressing unmet pregnant needs is very important for public health.

As pregnant education in GERD has previously been poorly studied, considering the available results of patient education in other gastro-intestinal diseases is relevant. Urnes et al. (29) study did not show any effects of patient education in GERD, with regard to QoL or to health-research use. In our study patient education has been show to decrease symptoms and has shown significant improvement of QoL and SQ. A critical point in the evaluation of patient education is largely theoretical. In other words, we can not know whether the patient education programs have been adequately constructed and performed. The most carefully performed study on patient education in GERD during pregnancy we followed the pregnancy at home and we applied education for GERD symptoms during pregnancy and written patient-information material, guided self-management plans. Also, researcher who followed the pregnancy in their home trained professionals in a patient-centred approach.

GERD is common in pregnancy with an important negative impact on the QoL. GERD in pregnancy deserves more attention and better therapeutic management. Health related QoL is becoming increasingly important as an outcome measure of treatment response, because neither questioning of symptoms alone nor the assessment of "objective" findings, such as endoscope evaluation, oesophageal sphincter manometer or PH monitoring seems to adequately reflect patients' subjective well-being (30). Until now, only scant data have been published on the QoL in pregnant with GERD. In the present study, we examined the impact of GERD on QoL and observed that QoL was significantly impaired in CG with GERD than EG. The presence of GERD symptoms was found to have a negative impact on the QoL and SQ. In our study pregnant in the CG had substantially impaired QoL in terms of both physical and psychosocial aspects of well-being compared with the EG. Similar findings were observed in other large scale population survey. Findings

show that subjects with untreated GERD have lower QoL than the general population (8,11,16, 30). Assessing and education about the GERD symptoms by using prenatal visit are important for pregnant women with GERD to ensure improvement in pregnant health status, QoL and SQ. After education, pregnant women in EG reported better means bodily pain, physical function, role-physical, mental health, role-emotional and vitality scale scores compared with CG. Clinical trial patients experiencing complete resolution of heartburn reported improved psychosocial well-being, vitality, general health perceptions and reduced pain measured by SF-36 (9,10).

Night-time heartburn is common in GERD patients and is associated with reduced well-being and have negative effects on SQ. The Montreal definition stated that serious sleep disturbances with GERD were level II evidence. Patients with GERD frequently wake up at night or are unable to get to sleep because of their symptoms (16). Symptoms can be worse when patients lie down (17). Some patients will eat only one meal a day because of intense postprandial symptoms and others will need to sleep upright in a chair (3). In our study, SQ scores were improved in the EG. In previous research, respondents with night-time GERD symptoms were more likely to experience sleep difficulties and difficulties with induction and maintenance of sleep (31). The study was not conducted in pregnant women but these findings were similar to our study findings. Considering the health benefits of good sleep, pregnant women are an important target group to improve sleep, yet the challenge lies in finding an adequate and safe treatment, because pharmacological treatment is not recommended for pregnant women (15).

In conclusions, the frequency of GERD symptoms during pregnancy impacted directly on women's SQ and QoL. Our study results suggest that nursing education for GERD during pregnancy had a significant positive impact on QoL and SQ. Further studies are needed to determine whether the assessment and treatment of GERD symptoms in pregnancy can reduce GERD symptoms later in pregnancy. Future studies also might prospectively evaluate the effect of GERD symptoms on postpartum period.

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