Husbands’ Experiences When Their Wives Hospitalized Receiving Treatment with Ovarian Hyperstimulation Syndrome

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Abstract
This study investigated the subjective experiences of the husbands’ role transition when their wives hospitalized receiving treatment with Ovarian Hyperstimulation Syndrome (OHSS). Ten husbands participated in the study by completing interviews. Seven of the couples in the study later successfully conceived, average gestation of the participant’s wives was 2-3 weeks and the women were already experiencing abdominal distention hospitalization for OHSS. Lincoln and Guba’s trustworthiness criteria were employed to evaluate methodological rigor. Caliizzi’s phenomenological approach was used to analyze the structure of the experience. Six themes emerged: uncertainty due to lack of OHSS knowledge, multiple roles stress, and adjustment to wives’ mood swing, helplessness, wives as the focus of life, and supporting whatever the result of pregnancy. The results provide a scientific basis for professionals to assist with husband’s role transition in infertility procedure in a more sensitive manner.

Keywords: Phenomenology; Role-transition; OHSS; Husband; Nursing

Introduction
Ovarian hyperstimulation syndrome (OHSS) is one of the most severe life-threatening complications of assisted reproductive technologies (ART) and requires prolonged hospitalization. The incidence of OHSS is approximately 5.1% in Taiwan [1]. High risk pregnancy defined in terms to include any psychological or physiologic condition having a potential impact on the pregnancy. Pregnancy is an important experience for the entire family. During the crisis, a father copes with a full range of family health –to-illness transitional stress [2]. Taiwanese families emphasize family member roles and functions in terms of relationships and social structure. By extension, unlike maternal role involved tenderness and kindness, Asia people believe the paternal role (masculine) playing a boss role in a family (the master of the family, have to nurture and protect the family from threaten events).

When women are hospitalized for OHSS, the husband and their families undergo additional stress, such as alter in family interaction, change of role function and economic status of the family [3].

Western OHSS studies emphasize on physiology and pathology issues, lack of studies investigate physio- psychosocial reaction, especially in husbands’ experience towards their wives OHSS hospitalization. Hence, this study intends to explore the husbands stress among wives receiving infertility treatment hospitalized for OHSS.

Literature Review
OHSS
Ovarian hyperstimulation syndrome (OHSS) is one of the most important complications of ovarian stimulation with severe morbidity and is still a threat to every patient undergoing ovulation induction [4]. OHSS is an iatrogenic complication of ART of unknown pathogenesis, with high risk factors such as young age, low body mass index, higher doses of exogenous gonadotropins, high absolute or rate of increase of serum E2 levels, and previous episode of OHSS [5]. The OHSS syndrome included dyspnea, nausea, vomiting, abdominal distention with pain, ascites, hemococoncentration, pleural effusion, oliguria, and liver function abnormalities [1,6]. OHSS is divided into the categories mild, moderate, severe, and critical. Outpatient management is recommended for women with mild and moderate OHSS Women with severe and critical OHSS should be admitted to hospital for intravenous hydration and observation [7].

Husbands’ views on OHSS
When a wife is hospitalized for OHSS, husband must uncertainty the pregnancy is normal. Abdominal distention, abdominal pain, oliguria, and ascites must be controlled to prevent decrease of kidney and pulmonary functions as the result of OHSS. The loss of wife’s physical health and hope for a normal pregnancy process may also lead the husband to experience feeling of anxiety, worry, and fear that experience similar as the stress of hospitalized tocolysis women [8].

May study showed that 15 husbands’ views about while their pregnant wives of activity restriction for preterm labor after diagnosis of preterm labor [9]. Result showed that the husbands had distress related to responsibility for child care, household management, and maintaining a supportive environment for their partners. High levels of emotional distress may result in family disruption.

Imsen and McMurray pointed out that, using the phenomenological method; A purposive sample of six couples was selected for interview [10]. Data analysis was in accordance with the procedure outlined by Colaizzi [13]. The life experience essences of couples receiving infertility treatment included life changes, powerlessness, a hope-disappointment cycle and social isolation.

Maloni and Ponder investigated the father ‘experience of their partner’ antepartum bed rest at home, or in the hospital, or both [11]. The findings showed that fathers were assuming multiple roles,
managing emotional responses, and caring for their partner. The major paternal worry was for the health of mate and fetus. Fathers reported receiving little assistance from health care providers.

The wife's sudden hospitalization, ordinary life is also disturbed by tocolysis therapy, husband worried about the safe of his spouse and fetus, they feel uncertainty and dissonance. Hsieh,Kao and Gau explored the experiences of first-time expectant fathers whose spouses undergo tocolysis in the hospital [12]. The study was conducted by the descriptive phenomenological method. The finding included: being confused and absent-minded in an awkward situation, facing difficulty and attempting to identify solutions, breaking through the dilemma.

Dai have mentioned when wife high-risk pregnancy, hospitalization, and consequence in husbands role change [13]. The psychological responses include shock, fear, anxiety, and a lack of knowledge about what to do, and may suddenly have to take responsibility for several roles at a time without a backup system.

Aim of the research

This study employed phenomenological methods based upon parental perspectives to investigate the essential structure of the paternal role transition experience when their wives’ OHSS hospitalization.

Methodology

This study examined the paternal role transition experience under family stress using a phenomenological approach when their wives’ OHSS hospitalization. Colaizzi's phenomenological approach was used to determine the structure of the experience [13].

Participants

A purposeful sampling was sought among husbands’ wives OHSS hospitalization with verbal expression by Mandarin or Taiwanese. If the husbands can't take care of their wives were be excluded. A pilot study was conducted before the main research. In this pilot study, the first author of our study collected the data and the three husband's participant in audiotaped interview. The aim was to examine the quality of the interview skills used and whether the interview questions were able to capture the whole experience.

After the pilot study, the main research was conducted, and saturation was reached after 10 interviews. Among the 10 husbands, the mean age was 34.0 years (30 to 40 years). Regarding level of education, the majority of participant had a high school or university education (high school=4; university=6). The mean duration of marriage was 7 years. Among the children, seven never had children before; three of them had only one child.

Data collection

This study was approved by the Hospital Human Investigation Committee of a medical center in Taiwan. The first author of our study establishes the trust relationships with husbands through continuum2-day visit. The study’s first author explained the study to the fathers and then invited them to participate in the study.

The in-depth audio-recorded interviews were carried out either one day before discharged (at conference room of the gynecologic ward) or discharged first week at participants' home. Choose these two time t points to interview participants because those husbands had experience about the whole life experience of wife's OHSS hospitalization. Beside complete life experience, having interview at this moment could decrease the recall bias. Information was collected from husbands to obtain a comprehensive picture of the paternal role transition experience in a family stress context. Phenomenology utilizes reductive methods to investigate the essential structure of experiences [14]. A semi-structured interview technique [15] encouraged parents to reflect on their experience, which raised their feelings to a conscious level [16].

Interview questions focused on the paternal role transition experience by families of wife undergoing OHSS antepartum hospital bed-rest and facing the uncertainty health of the mothers and fetuses.

Each interview began with the question, “Tell me how you’re felt during your wife’s admission to hospital for OHSS?” and “how the experience affect your family life?” Facilitative techniques (e.g., “UmHhm” and “Could you describe it more?”) were used to obtain the most complete description possible. Interviews averaged approximately 1 h and continued until the participants and investigator believed complete information about the paternal role transition experience had been obtained.

Data analysis

Interviews were recorded and the narrative data were transcribed by the first author of our study. To control transcription quality, the study investigator confirmed the accuracy of the transformation on two occasions. The first author had more than 20 years experiences and trained by phenomenology during her graduate study. During data analysis, an open attitude and imaginative variation techniques were used to investigate the meaning of the individual experiences and accurately describe the meanings of the abstract structural levels of the experience [16]. Colaizzi’s approach was integrated with a de-structured and restructured analysis of the principles of phenomenology to investigate the essence of the maternal role transition experience [13]. Colaizzi’s procedure includes the following steps:

1. Reading the participants’ descriptions in order to develop an understanding of the entire experience
2. Extracting significant statements from the transcripts of interviews
3. Developing codes for the significant statements
4. Repeating the above for each protocol, and identifying codes into clusters of themes
5. For each theme, integrating the results into a description of the theme
6. Formulating an exhaustive description of the investigated phenomenon into a statement of its fundamental structure
7. Validating the findings by returning to the participant, and incorporating new information.

Trustworthiness

To ensure methodological rigor, the study was based on the ideas of Lincoln and Guba [1] and the following requirements of trustworthiness: (1) Credibility: The investigator had had six years of training in qualitative methods and phenomenological analysis. One experienced qualitative researcher with a PhD and the other with Master degree (peer briefing) in nursing examined the validity of each case analysis. (2) Fittingness: During the data collection process, the investigator converted all interview information. Complete description of the information thereby achieved appropriate fittingness. (3) Auditability: All steps in data collection and analysis were documented.
in detail to establish an audit trail. (4) Conformability: Senior researchers from related fields were invited as inspectors to validate the rigor of the investigation process, the accuracy of data analysis and the validity of the results.

**Ethical considerations**

Before start of the study, the study plan was approved by the Hospital Human Investigation Committee of a medical centre in Taiwan. A researcher invited husbands to participate in the study after their wives pass through the OHSS treatment and OHSS symptoms diminished. A consent letter was completed.

**Results**

This study demonstrated that a threat (OHSS) to the safety of women and fetus is both of a health–illness transition because of the adaptation to hospitalization required in a family stress context in Taiwan. Results further showed that the essential structure of the paternal role transition experience involved six themes: uncertainty due to lack of OHSS knowledge, multiple roles stress, and adjustment to wives’ mood swing, helplessness, wives as the focus of life, and supporting whatever the result.

**Uncertainty due to lack of OHSS knowledge**

By anticipating potential loss, husbands recognized the life-threaten to the wife’s and fetus. During infertility treatment, husbands did not understand the procedure underlining risk of OHSS treatment or possible complication. However, if the condition hazardous my wife long-term physical health, I rather sacrifice the fetus.

A husband said: “I never thought it could get so serious that she needed to be hospitalized. I didn’t know the danger of OHSS. The first time I heard this disease was at ER.” (Case B). Another husband said (Case F), “We don’t know how long and what would take place throughout the whole treatment.”

**Multiple roles stress**

Wives hospitalization, husbands must replace multiple roles included: occupation, housework and take care of wife go to the hospital. One husband said: “Suddenly I had to do all the housework and make time for hospital visits after work. There was no time for myself. My schedule became very tight.” (Case D).

**Adjustment to wives’ mood swing**

When the wife’s suffer from OHSS physical discomfort, husbands considerate their wife's moody verbalization or behaviours. A husband (Case C) said: “She became emotional due to physical discomfort and I try to comfort her in the meantime.” Another husband (Case D) said “If she had a bad temper, I just listen it and throw it away.”

**Helplessness**

When husbands perceived the critical condition of their wives, they are unable to play an active role protect their wife and fetus safety. Lacking adequate medical information, they were shocked to face their wife’s pain and the life-threatening situation. As a caregiver, they do not know what to do, feel scare and helpless one husband said: “I was all jumpy, fearing that she was in pain here (in the hospital). I’m very scared and don’t know what to do?” (Case B). Another husband said: “It’s scary. Her tummy became really huge. I asked her opinion on every major decision, fearing she might leave us at any moment. How can a normal person's tummy blow up like that? What's the reason?” (Case H)

**Wives as the focus of life**

Husbands may execute whole family responsibilities when wives hospitalized. Husbands assume their wives’ role in order to maintain normal family function, while at the same time, work hour arrangement and flexibly adjusting their work priorities attending to their wives’ needs. About assume alternative family roles: one husband said: “I only went home for sleep. The next day, I went to work then rushed straight to the hospital at night. The housework, cleaning or other chores were mostly undone; my main concern was my wife.” (Case B).

Work hour arrangement and flexibly adjusting their work Priorities: one husband said: “With situation like this, I have realized that I need to spend most of my time in the hospital. I couldn’t work overtime as usual, so I tried to get some work via E-mail or telephone” (Case D).

Support from external resources: When wives’ symptoms become serious that they need external assistance, Husbands will extend their boundaries. Husbands will seek help from the wife’s family members to provide daily care during the wife’s hospitalization. Another example mentioned: “During the whole process, I was very grateful to my mother-in-law. She was extremely helpful. She accommodated her schedule to mine, and she would stay with my wife all the time” (Case D).

**Supporting whatever the result of pregnancy**

OHSS is suddenly and spontaneous, and most of cases can control the condition. Husbands’ happy with successful pregnancy after all their hard works. One husband said: “We were very lucky. I’m happy that I’m going to be a dad. I’m going to cry now.” (Case B.) Another husband said: “I felt so much relieved that we are having a baby” (Case F).

Another example said: “I was depressed when I knew that my wife wasn’t pregnant and I noticed my wife’s disappointment. I supported and comforted her.” (Case C). One husband (Case D) noted:

It is not easy to get pregnant at our age. Therefore, I keep telling my wife “Don’t get yourself stressed out. It is GOD’s decision whether we gonna have a child.

**Discussion**

The results demonstrate that the essential structural themes of a husband’s experience when their wives receive hospitalized OHSS treatment include: uncertainty due to lack of OHSS knowledge; the stress from adapting to multiple family roles; adjustment to the wife's mood changes; the wife as the main focus of the husband's life; and unconditional support regardless of the treatment result.

The husbands’ experiences of uncertainty stemmed mainly from their lack of knowledge regarding OHSS, which physicians often did not adequately provide. They were uncertain of the complications involved in the infertility treatment, the symptoms and risks of OHSS, and the health of the mother and fetus, in particular. This uncertainty often leads to anxiety and conflict. These results are similar to those found by Hsieh, Kao & Gau in patients who undertake tocolysis treatment [12]. Hsieh et al. also found that husbands often use data collection and clarification (most often from books, the internet, and/or medical personnel) to lower their uncertainty and anxiety, a conclusion our results also reflect. Furthermore, the results we found that the uncertainty as a result of lack of information from physicians is similar to those found in the reports of Imeson and McMurray and May [9,10]. They claim, respectively, that lack of information or constructive suggestions and lack of help from medical personnel add to feelings of uncertainty and angst.

Our results showed that the sudden hospitalization and treatment of the wife causes a disruption in the family routines and dynamics. The husband must take on both the wife's household responsibilities and the care of his wife in addition to his original duties, resulting in stress and fatigue in fulfilling these multiple roles. These results are consistent with those reported by Dai et al. and Hsieh et al. [9,10,13] in somuch that the shifting of familial roles, halting of familial cooperation, and adjustment of life routines are all contributing factors toward the husband's new multiple-role stress.

Another major part of the husband's experience is adjusting to the wife's mood swings. Our results found that husbands are consistently comforting toward and accepting of their wives' sometime irrational words and rapid shifts in mood. Indeed, the husbands become the major source of psychological support, since the couples are joined in their treatment goals [17,18].

The stress of uncertainty coupled with heavy social responsibilities often leads to feelings of helplessness, especially if exacerbated by the wife's worsening health. These observations concur with Maloni and Ponder [11].

Since the wife becomes completely dependent on the husband, the wife becomes the main focus of his life, and he will often enlist the help of the wife's family [9-11,19]. Our results concur with these claims.

Finally, infertile couples often place reproductive technology as their last hope after many failed attempts to conceive. Thus, understandably, our results show that the husband remains hopeful that the treatment for OHSS can ultimately lead to a successful pregnancy and that the wife's pain and suffering was not in vain. However, although seven of the couples in the study later successfully conceived, three did not. Both the husband and wife were naturally disappointed, but the husbands still gave unconditional support to the wife regardless of the result, a result supported by Tseng et al. and Milne [18,20].

**Conclusion and Suggestion**

Couples undergoing infertility therapy need comprehensive information and great deal of support. Nurses involved in infertility therapy play important role in teaching and counselling.

Clinics should provide systematic healthcare information via pamphlets and/or audio-visual materials to increase symptom awareness and decrease unnecessary shocks. Such information should also be provided during hospitalization to help decrease uncertainties, tense felt by husbands because multiple roles they assume. And encourage couples to share mutual feelings about experiencing failed or successful pregnancy, and strengthen out-of-hospital healthcare education.

The results highlight the significance of the husbands' involvement in meeting his wives' needs as regards providing the information. Implications for nursing and practice and further research are discussed.

We hoped that findings would provide practitioners with knowledge to help the husbands when their wives undergoing infertility therapy with OHSS hospitalization, and to promote their effective adaptation.

**Limitation**

The generalizability of these findings is limited by the small sample of subjects from only one medical centre in Taipei.

**Future Research Suggestions**

Infertility treatment is a very stressful process. When a woman is hospitalized for OHSS, her husband serves as the primary caregiver for the mother. Uncertainty throughout the whole process. Thus, future studies should include a focus on the specific support group intervention that provide cases share their experiences and enhance their self-confidence to pass through the infertility process.

**References**