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THE QUALITY OF LIFE AFTER CESAREAN SECTION

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SUMMARY

With the tremendous advances in medical science cesarean section has become increasingly safe and common. Although the number of births that are completed by surgery is steadily increasing, research on quality of life for maternity cases after cesarean section is relatively scarce. In the first part of this article the authors discuss the most important factors affecting the mental state and quality of life of women after cesarean section. We also point to the positive and negative psychological consequences. In the second part we present some features of the concept of quality of life (QOL), especially health-related (HRQOL), and the characteristics commonly used in Poland and elsewhere to measure mental state and quality of life after childbirth.

Key words: quality of life, cesarean section, psychological factors, rating scales

INTRODUCTION

Caesarean section is one of the most frequently performed surgeries in obstetrics. Although this operation was already performed in ancient times, it was not until the twentieth century that surgical childbirth became so popular, thanks to enormous progress in the medical sciences. Contrary to a common belief, the term “caesarean section” does not derive from the way Julius Caesar entered the world, but is possibly associated with one of the Roman laws (Numa Pompilius’s *Lex Regia* or *Lex Caesarea*), which forbade the burial of a pregnant woman without first extracting her baby. In other words, the initial purpose of the first caesarean sections was not to save the mother’s life, for she was no longer alive, but rather to try to rescue the baby. The earliest written record of the extraction of a live foetus by incision of the abdomen and uterus (abdominal hysterectomy) comes from Leontium in Sicily in 508 BC. But it was not until 1622 that the first caesarean section was performed which both baby and mother survived. This form of surgery still carried an enormous risk of death for mother and baby, however. It was only in the twentieth century that caesarean section became a relative safe operation, thanks to progress in aseptics, antiseptics, anaesthesiology and surgery.

In the twenty-first century caesarean section in a streamlined, sterile operation theatre normally carries little risk for the baby and mother and has become quite popular. According to the World Health Organisation (WHO), the number of caesarean sections should not exceed 10-15% of childbirths, but in fact the number of operations is continually increasing, both in Poland and throughout the world. The rate for Poland is about 25-30% (Habiba et al. 2006). One would have thought that this increase in the number of surgical childbirths would be accompanied by an increase in the number of publications on psychological preparation of women for surgery, discussing not only the medical consequences, but also the psychological consequences of caesarean section. However, the majority of articles on this subject are published in magazines for young mothers, and there are very few scientific publications, especially compared with the number of publications on natural childbirth.

Much has been written about preparation for natural childbirth, the associated emotional problems, psychological relaxation techniques and methods to reduce the pain of uterine contractions. Very few researchers are interested in the woman’s wellbeing during the first few days after caesarean section, and even fewer have attempted to identify and describe effective psychological interventions increasing the comfort of women after surgical childbirth.

Many factors affect the psychological wellbeing of the post-operative mother. These factors can be divided into three groups:

- a. related to the way the child was born,
- b. unrelated to the way the child was born but related to the fact that a child was born,
- c. unrelated to childbirth.

FACTORS ASSOCIATED WITH QUALITY OF LIFE RELATED TO CHILDBIRTH BY CESAREAN SECTION

Caesarean section is an abdominal operation and has all the consequences of this form of surgery: tissue incision, pain, blood loss, weakness, restricted mobility, prohibition of lifting, and a post-operative scar which is visible long after the surgery. Women who undergo an unexpected caesarean section due to direct risk to the baby's life are particularly vulnerable. If the risk is exceptionally high and there is no time to wait for subarachnoid (spinal) anaesthesia to work, caesarean section is performed in general anaesthesia. After the operation, the patient is dazed and hurting, and needs assistance in everything she does (Heszen-Niejodek 1988).

Depending on how much time has elapsed since the operation, its consequences may be divided onto two categories, early and late. Within the first few day of surgery the following somatic consequences of caesarean section which can affect quality of life have been identified:

- Pain
 - wound pain when coughing, changing position, moving
 - abdominal pain related to involution of the uterus
 - headache (post-puncture syndrome) as a complication of subarachnoid anaesthesia
 - back pain
- Nausea and vomiting after general anaesthesia or pain killers
- Restriction of physical activity
 - need to stay in bed longer than after natural childbirth
 - need to lie flat (for several hours after surgery)
- Parenteral feeding for 24 hours after surgery
- Reduced self-care capacity due to pain and weakness
- Experience of acute coldness and shivers (for several hours after surgery)
- Weakness due to considerable loss of blood
- Difficulty urinating, constipation
- Difficulty with childcare (pain when changing position)
- Difficulty with breastfeeding
 - delayed lactation due to putting the baby to the breast later than after natural childbirth, failure to empty the breasts, supplementary bottle feeding (Mikiel-Kostyra & Mazur 1996)
 - wound pain when moving to put the baby to the breast

Postoperative pain and difficulty with breastfeeding are the two main determinants of women's negative quality of life in the early post-caesarean section period. It may be more difficult to begin breast feeding following caesarean section than following natural childbirth because the first contact with the infant is delayed and also because the infant may be drugged with the

anaesthesia and too drowsy to produce a strong sucking reflex (Krupa 1997). All these factors may delay lactation. Delayed lactation has a negative effect on the mother's mental state. Many women at this stage are afraid that they will not be able to breastfeed or produce milk and that their baby will never learn to suck. A vicious circle is triggered because maternal stress can block the lactation reflex.

The following late somatic sequelae of caesarean section have been identified:

- greater need to take things easy
- reduced sense of attractiveness because of the abdominal scar
- scar pain
- increased risk that the next childbirth will also be unnatural

Despite these negative consequences, more and more women are opting for this method of childbirth because

- it is quicker;
- it is more comfortable and less painful;
- there is less risk to the child's life and health: due to the increased percentage of caesarean sections in recent years, the perinatal infant death rate has dropped from 20 per thousand to 12 per thousand (Karwan-Płońska 2000).

Caesarean section has both positive and negative psychological consequences. When it is planned, it is possible to choose the preferred date of birth. For example, in China parents choose a day which a fortune teller has decreed favourable (Lei et al. 2003). In the United States of America the number of caesarean sections increases in the last week of December because then the parents can include the baby in their tax return (Acuff-Michaluk 2009). Victoria Beckham chose to give birth to her son between two of her husband's football matches (Willand 2006).

Another positive consequence of surgical childbirth is that there are fewer problems with sexual intercourse than after natural childbirth. According to Barrett, who compared satisfaction with intercourse three months after childbirth in women who gave birth naturally and women who had a caesarean section, the latter category of women reported significantly fewer complaints of pain during intercourse than the former (Barrett et al. 2005).

When discussing the psychological consequences of caesarean section we must consider the circumstances under which the surgery was performed. In publications on quality of life following caesarean section, writers draw attention to the fact that patients who underwent unexpected surgery were more depressed and reported poorer quality of life than patients whose surgery was planned. "Birth by unplanned caesarean section is a time of pain, separation from the baby and helplessness," says Pamela Udy, President of the International Caesarean Awareness Network (ICAN), an organisation whose mission is to prevent unnecessary caesarean sections by means of pre-childbirth education (Udy 2009).

Many researchers have reported poorer wellbeing after caesarean section than after natural childbirth. Worse wellbeing following unexpected and unplanned surgery is caused not only by the woman's physical condition but sometimes also by her guilt, sense of being punished, and irritability. Women after caesarean section have more sleeping problems, suffer from loss of appetite and complain of fatigue and reduced libido (Wasilewska-Pordes 2000). They also report more fear of death, anger at their doctors and partners, and guilt because they feel that something has been overlooked or that surgery was unnecessary (Udy 2009). Udy also emphasises these women's helplessness ("I was unable to give birth, to take care of the baby and myself") and loss of control over their own bodies that had proved incapable of giving birth naturally. Other researchers have drawn attention to grief: women after caesarean section grieve their unfulfilled dreams of natural childbirth (absence of their partners during childbirth, natural childbirth is fashionable). Mothers after caesarean section are also often more likely than mothers who gave birth naturally to be more anxious about their baby (because of the reasons for which sudden surgery was performed). Some patients after caesarean section complain that they have been mutilated and are now less attractive because of their abdominal scar. Some women find it difficult to have to be dependent on other people's help during the first few days after the operation.

Young mothers after caesarean section rate their experience more negatively than mothers who have given birth naturally (Oslislo & Otfinowska 2008). An Iranian study by Torkana and colleagues also found that quality of life ratings were lower by a half in women after caesarean section than in women who gave birth naturally, particularly within the first few weeks of childbirth (Torkan et al. 2009). Jansen and Duvetkot also found greater fatigue, poorer quality of life and longer recovery in women after unexpected and planned caesarean section compared with women after natural childbirth. Patients who had unplanned surgery were most fatigued and reported poorest quality of life (Jansen et al. 2007).

Many researchers have reported more frequent PTSD symptoms in women after unplanned caesarean section when the baby's health and life were at risk and the mother felt she had less control over her childbirth (Bailham & Joseph 2003). Ryding found that women after unplanned caesarean section presented with symptoms of PTSD just as often as women who had a vacuum or forceps delivery (Ryding et al. 1998). Charles C. Carter also reported PTSD and panic attacks following unplanned caesarean section (cf. Udy 2009).

The psychological consequences of caesarean section outlined above lead to more frequent tocophobia than in women who had natural deliveries. Tocophobia is extreme fear of childbirth, and its symptoms include fear of pregnancy or demanding caesarean section if pregnancy could not be avoided. Tocophobia may be both the cause and effect of caesarean section. In

the latter case it is called secondary tocophobia. According to psychologists' estimates, one woman in ten experiences intense fear of childbirth (Billert 2007).

According to Tollånes, women who had a caesarean section are less likely to choose to have another baby, even if there are no medical counterindications (Tollånes et al. 2007). Saisto and colleagues found that 8 percent of all caesarean sections in Finland were conducted because of maternal fears (Saisto & Halmesmäki 2007).

The findings concerning postpartum mood disorders after caesarean section are rather unexpected. Boyce and Todd (1992) found that the risk of postpartum depression was six times higher after sudden caesarean section than after natural childbirth. Podolska and Majewska (2007) also found that the risk of postpartum depression in women after caesarean section was almost double the risk of postpartum depression in women who delivered naturally. These writers noticed that the risk of postpartum depression was smaller when the surgical childbirth was planned. However, research conducted in Finland by Hiltunen and Raudaskoski suggests that the risk of postpartum depression in women after caesarean section is not any higher than in women after natural delivery (Hiltunen et al. 2004). Wasilewska-Pordes came to a similar conclusion when she studied women in various categories of pathological pregnancy (diabetes, high blood pressure, thyroid dysfunction). These women had the lowest postpartum depression rate of all despite caesarean section, and their level of depression was comparable with levels in women who were not pregnant at the time (Wasilewska-Pordes 2000). Patel and colleagues reached a similar conclusion. In a cohort study of type of delivery and postpartum depression, they found no evidence of a significant connection between type of delivery and postpartum depression (Patel et al. 2005).

In addition to the factors outlined above, several factors not directly relating to type of delivery affect quality of life in women after caesarean section. These are:

- the health status of the newborn baby,
- the mother's general state of health,
- the health status of other family members,
- relations between the baby's parents, e.g. the amount of support offered by the baby's father,
- relations with other close relatives, e.g. amount of support offered by this source,
- the financial status of the mother and her partner,
- the housing conditions of the mother and her partner.

The sum total of all these factors determines quality of life after caesarean section.

MEASUREMENT OF MENTAL STATE AND QUALITY OF LIFE AFTER CHILDBIRTH

Most researchers who assess quality of life after surgical childbirth try to evaluate health-related quality of life (HRQOL). This concept was introduced by H. Schipper in 1990. It is defined in terms of four basic aspects of human functioning: physical wellbeing, psychological wellbeing, somatic experiences, and socio-economic situation.

Physical wellbeing is usually assessed in terms of intensity of disease symptoms and the accompanying pain, the functioning of the organism's different systems, the presence or absence of sleep disorders, eating disorders, sexual dysfunction etc.

When assessing psychological wellbeing, special attention is paid to anxiety, depression and cognitive disorders in patients. Rylander suggests that we pay more attention to the positive aspects of quality of life: hope, satisfaction, and quality of adjustment to the situation (Rylander 1993, cited by Walden-Gałuszko & Majkowicz 1994). Assessment of social functioning focuses mainly on the effects of illness on the patients' functioning in social roles, at work and in their leisure time (Steuden & Okła 2007).

This complex assessment provides a more holistic view of the patient (see also: Grochmal-Bach and Pachalska 2004). It focuses not only on disease symptoms and the discomforts of treatment but also on patients' attitudes toward themselves, their illness and treatment. It is very important to distinguish between objective health, assessed by means of medical parameters, and subjective ratings of one's own health. Subjective health reflects the patient's self-appraisal of quality of life (Steuden & Okła 2007).

A test battery called the Health Related Quality of Life Scales is used in medical psychology to assess the effects of a patient's illness on his/her functioning and subjective quality of life. The most frequently used scales are the general scales, the Medical Outcomes Survey Short Form 36 (SF-36) and the WHOQOL-100. These scales can be administered to patients with a variety of diseases.

The SF-36 is used in subjective appraisal of health. There are several different Polish versions of this instrument. The first person to use the test in Poland with the publisher's permission was Marek Jarema (see Wrześniewski 2009). Tylka and Piotrowicz published a different Polish version of this questionnaire in 2009.

The SF-36 has 11 items containing 36 statements assessing 8 aspects of quality of life: physical functioning, physical health-related limitations, experienced pain, general wellbeing, vitality, social functioning, emotional functioning, and mental health. The quality of life index is the sum total of scores on all 8 scales. According to the Polish version of the SF-36, the highest score indicates lowest quality of life (Tylka & Piotrowicz 2009).

The next most popular questionnaire for the assessment of quality of life is the WHOQOL-100. This questionnaire has 100 items and 24 scales concerning six aspects of quality of life: physical, psychological, self-sufficiency, social relations, environment, and spirituality. Jaracz and Wołowicka prepared the Polish adaptation of this questionnaire. There is also an abbreviated version, the WHOQOL Brief, which has 26 items and covers four aspects of quality of life: physical, psychological, social, and environmental (Wrześniewski 2009).

The general nature of the items means that they can be administered to patients with a variety of diseases, but on the other hand they cannot be used to address more specific problems, relevant for specific diseases. This issue is addressed by a second set of scales for patients with specific diseases, for example epilepsy (QOLIE-31), cancer (QOL-C30), psoriasis (SKINDEX) and many others.

Recently, in wake of the debate on the right to caesarean section without medical indications (on the mother's demand), researchers have become more interested in quality of life after surgical childbirth. Postnatal quality of life is assessed with a British questionnaire, the Mother Generated Index (MGI), published by Symon, MacDonald and Ruta in 2002 (Symon et al. 2002) or an American test, the Maternal Postpartum Quality of Life (MAPP-QOL), published by Hill, Aldag, Hekel, Riner and Bloomfield in 2006 (Hill et al. 2006). When Polish researchers want to assess the psychological wellbeing of postpartum women they usually use the Edinburgh Postnatal Depression Scale (EPDS), the State-Trait Anxiety Inventory (STAI) or the Emotional Control Questionnaire – Postnatal (EPQ-P).

The Mother Generated Index (MGI) has three parts. In part one women mark from three to eight aspects of life in which changes were greatest during pregnancy and delivery. In part two they rate the positivity or negativity of these changes on scales from 1 to 10. In part three they use a 12-point scale to rate the extent to which each of these aspects of life could be improved. So far, this questionnaire has been used to study postnatal quality of life in India and the United Kingdom (Nowakowska-Głąb & Maniecka-Bryła 2010; Nagpal et al. 2008; Symon et al. 2002).

The Maternal Postpartum Quality of Life (MAPP-QOL) has 40 items covering five aspects:

- attitude toward maternity: sense of control over one's life, general satisfaction with life, happiness, satisfaction with breast feeding, and the baby's health;
- socio-economic situation: satisfaction with place of residence, relations with neighbours, conditions of living, access to medical care, occupational satisfaction, and financial independence;
- relations with partner: satisfaction with received partner support and quality of the relationship;

- relations with friends and family: satisfaction with support received from friends and family, time spent with friends and family, ability to meet family obligations;
- health: state of health, satisfaction with sexual life, satisfaction with appearance, energy for daily chores, need for help.

Young mothers are asked to indicate their level of satisfaction with each of these aspects on a 6-point scale. The lowest score indicates the worst QOL rating and the highest score indicates the best QOL rating in a given area. This questionnaire has been used in research in the United States (Hill et al. 2006). It has also been adapted to assess quality of life in women in Palestine (Hammoudeh et al. 2009).

Unfortunately none of these measures of postnatal quality of life has a Polish version. Only a few instruments used internationally to assess the psychological wellbeing of women after childbirth have Polish adaptations: the Edinburgh Postnatal Depression Scale (EPDS), the STAI, and the Emotional Control Questionnaire – Postnatal (ECQ-P).

The Edinburgh Postnatal Depression Scale (EPDS) is a popular instrument and is used to obtain a rather quick rating of women's postpartum mood. It was first published in 1987 by Cox, Holden and Sagowski (Borysewicz 2000). The EPDS has 10 items that measure wellbeing over the last 7 days. Each item is rated on a 4-point scale. The higher the score, the greater the intensity of depression. The scale has a Polish language version developed by Bielawska-Batorowicz (1995). Many medical centres now use the EPDS to screen mood in lying-in women.

The State-Trait Anxiety Inventory (STAI) is one of the nonspecific questionnaires administered to various categories of respondents which has also been used with lying-in women. It measures level of anxiety. It was developed by Spielberger, Gorsuch and Lushene in 1970 and adapted in Poland by Spielberger, Strelau, Tysarczyk and Wrześniewski (Wrześniewski & Sosnowski 1996). The STAI assesses anxiety as a transient and contextually determined state and anxiety as a stable personality trait. It has two sub-scales, one measuring state anxiety and one measuring trait anxiety. Each subscale has 20 items. Respondents respond to these items by choosing one of four possible answers. Raw scores may range from 20 to 80 for each scale. Raw scores are recalculated into standard scores.

The Emotional Control Questionnaire – Postnatal (ECQ-P) assesses women's typical emotional responses and their attitudes toward motherhood. The questionnaire was constructed by Nieland and Roger in 1993. Bielawska-Batorowicz adapted the Polish language version of the test. The ECQ-P has 44 items and 4 scales: rumination, suppression of emotion, aggressive expression of emotion, and maternal discomfort. Each item is rated on a 4-point scale. The higher the score, the higher the intensity of the measured factor (Bielawska-Batorowicz 1995).

As mentioned before, we have found no specific measure of quality of life after caesarean section. Of course if we assume that caesarean section is a surgical operation, we can use measures of quality of life in surgical patients, but existing instruments do not capture the intricacies of caesarean section which is both surgery and childbirth. This is why members of the faculty at the Department of Medical Psychology, Medical University of Warsaw decided to construct a questionnaire measuring quality of life after caesarean section which would capture all the important physiological, psychological and social aspects of unnatural childbirth. Studies of women after caesarean section are now under way to establish the new questionnaire's psychometric parameters.

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