

Women's well-being improves after missed miscarriage with more active support and application of Swanson's Caring Theory

Annsophie Adolfsson^{1,2}

¹Department of Obstetrics and Gynecology, Skaraborgs Sjukhus, Skövde, Sweden; ²School of Life Sciences, The University of Skövde, Sweden

Purpose: The purpose of this study was to provide better organization and more efficient use of resources within the health care system in order to identify women with nonviable pregnancy earlier in their gestation terms and also to identify those women who experience severe grief reaction after the miscarriage. The proposed solution is to offer an appointment with a gynecologist during regular office hours after consultation with the patient's midwife to women experiencing symptoms and who are concerned with the viability of their pregnancy. Unnecessary contact with the emergency room by the patients would be reduced as a result of this improvement in organization. The aim of the study was to give the women experiencing missed miscarriage an increased sense of well-being by applying Swanson's Caring Theory to their recovery, in addition to the better organization and more efficient use of resources.

Method: Both the original study from 2002 to 2003 and the later study from 2004 to 2005 applied Swanson's Caring Theory in the follow-up care management of the women, but only the later study was influenced by the changes made in the health care system. In the past, diagnosis of missed miscarriage was delayed because women experiencing minor symptoms were not highly prioritized in the health care system. More active support was introduced in order to get the proper information to the patient throughout the health care system. The size of the original study database was $n = 43$, compared with the later study database, which was $n = 56$. All of the women answered the Perinatal Grief Scale (PGS) questions twice, 1 month and 4 months after their diagnosis. Some additional questions about their circumstances unrelated to the PGS were also mailed to the women 4 months after their diagnosis.

Results: As a result of the more active support, women felt that they received professional care when they needed it most. The patients were satisfied that they were treated as if they were suffering from normal grief. The group score above the limits for deep grief 4 months after diagnosis was significantly lowered. The chances of receiving their diagnosis at an appointment during office hours increased (odds ratio 3.38). Sick leave time of more than a week was reduced from 44% in the original study to 22% in the later study.

Keywords: miscarriage, grief, missed miscarriage, nonviable pregnancy, Swanson's Caring Theory

Introduction

Miscarriage is a fairly common experience during the normal reproductive life¹ of Swedish women. According to the Swedish Medical Birth Registry, 22% of women have experienced at least 1 miscarriage before their most recent delivery.²

Clinical symptoms of miscarriage are often vaginal bleeding and lower abdominal cramping, which may be accompanied by lower back pain caused by uterine contractions. Of the women with vaginal bleeding symptoms that occur before the

Correspondence: Annsophie Adolfsson
School of Life Sciences, The University
of Skövde, PO Box 408, SE-541 28
Skövde, Sweden
Tel +46 500-44 84 73
Email annsophie.adolfsson@his.se

20th week of pregnancy, approximately half experience a miscarriage.^{3,4} A missed miscarriage, otherwise referred to as a nonviable pregnancy, is often diagnosed later in the pregnancy after the woman has been in contact many times with the Maternity Health Care Center (MVC) or gynecology clinic. At this point they may have subsequently received advice to wait and see regarding the minor symptoms they are experiencing, such as minor bleeding and cramping. Such inadequate advice has created a credibility gap between the patient and the health care system.⁵ When patients require emergency care for a miscarriage, the experience is very distressing.^{6,7} The women have physiological and psychological reactions, normal grief reactions, cognitive disorganization, dysphoria, health deficits, and disrupted social and occupational functioning.^{8–10} The time between the diagnosis and the dilatation and curettage (D&C) procedure can be an especially stressful period for the patient.¹¹

Neugebauer et al suggest that for the caregiver to focus properly on the patient's problems, contact with health care personnel should be less and scheduling of appointments should be easier, with more flexible appointment times.¹² During the treatment of early miscarriage it is important to give safe, adequate, and cost-effective medical care to satisfy the patient, who is experiencing a normal grief reaction. A follow-up appointment is beneficial in order to monitor the woman's emotional reaction and medical treatment.^{12–16} The staff should regard the miscarriage as an important and relevant event in the patient's life.^{14,17} An earlier study by Adolfsson et al¹⁸ demonstrated that women with missed miscarriage suffer more grief and score higher on the Swedish short version of the Perinatal Grief Scale (PGS) than women with other diagnoses of miscarriage (Table 1). The aim of this study was to give women experiencing missed miscarriage an increased sense of well-being by applying Swanson's Caring Theory to their recovery, in addition to better organization and more efficient use of resources.

Swanson's Caring Theory

The follow-up appointment to the midwife 1 month after the diagnosis focused on the personal experiences of the women about their miscarriage (Table 1). It was conducted to evaluate their feelings about what they had lost physically and emotionally, what possible positive revelations they may have experienced, and how their miscarriage had affected their relationships with their intimate circle of contacts. At the appointment the women were asked about their feelings about how it felt to be out in public after the miscarriage and how it felt to be reminded of their loss when they

encountered other pregnant women. The women had to work through their disappointment and their physical loss before they could be themselves again. A majority of the women attempted to become pregnant again and were willing to face the risk of another miscarriage. If they did not want to try to become pregnant again yet, some form of contraceptive was recommended and prescribed.^{19,20}

The perceptions and attitudes of the attending midwife are influenced by Swanson's Caring Theory.^{19–21} According to the theory, the midwife is capable of compassion, which allows her to be emotionally engaged with the women. The midwife treats the women with a sense of intimacy and delicacy. She treats the women with dignity and respect while being competent and skillful in meeting the needs of the women. The objectivity and communication skills of the midwife help the women to understand the grieving process. The midwife encourages each woman to maintain her self-esteem while developing a positive mental attitude and a realistic sense of optimism for the future. The midwife attempts to eliminate the inevitable second-guessing about how the situation may have been different with a successful pregnancy. Once the women have accepted the reality of the situation, the event becomes a meaningful life experience. After a significant event in the life of a woman, such as miscarriage, the midwife should try to improve her patients' well-being. The attitude of the midwife is confident and knowledgeable and she is physically present for the women when she is needed most. She is actively engaged with the women to enable a healthy recovery and provide the motivation for women to strive for recovery. Swanson refers to this as maintaining belief.^{19–21}

Environment background information

The process of the change in care for women who have experienced miscarriage in the Skaraborg district (259,000 inhabitants) of the Västra Götaland region in Sweden was evaluated in several different studies from the years 2001–2009. The health care system in the district of Skaraborg is organized through the Skaraborg Hospital System (SKAS). The district is made up of 15 communities, which are serviced by 4 hospitals. The central hospital of the SKAS is Kärnsjukhuset (KSS) in Skövde, and the others include the hospitals and health care facilities in Lidköping, Mariestad, and Falköping.

In every community there is generally a health care center (Vårdcentral) for local primary care and an attached MVC, which employs from 1 midwife to several midwives. The entire SKAS system has 1 coordinating midwife and 1 coordinating gynecologist. The Swedish health care system

Table 1 Management of early miscarriage at the Kärnsjukhuset clinic in Skövde, Sweden (2002–2005)

Diagnosis	Status	Support information	Second visit physician	Midwife follow-up
Complete miscarriage	Ultrasound Endometrium thickness <15 mm, stable patient	Expectance		Pregnancy test at midwife visit after 4 weeks
Progressive miscarriage	Clinical unstable patient, heavy bleeding	Acute D&C		Pregnancy test at midwife visit after 4 weeks
Incomplete miscarriage	Ultrasound >15 mm, unaffected patient	Schedule to gynecologist after 5–7 days	At second visit complete miscarriage or acute D&C	Pregnancy test at midwife visit after 4 weeks
Missed miscarriage (nonviable pregnancy)	Nonviable fetus or empty sac	D&C within 1–3 days		Pregnancy test at midwife visit after 4 weeks
Suspected extra uterine pregnancy	S-hCG	Schedule to gynecologist after 2–4 days	Management individually	

Abbreviations: D&C, dilatation and curettage; S-hCG, serum human chorionic gonadotrophin.

provides benefits to every citizen in the country and is a public service that is financed primarily through taxes levied by county councils and municipalities in Sweden. In the SKAS system there are 2 private outpatient clinics and no private hospitals.

There are national associations for different occupational groups and associations such as the Swedish Association of Health Professionals, Swedish Association of Midwives, International Confederation of Midwives, Swedish Society of Medicine, and Swedish Society of Obstetrics and Gynecology.

In 2002 at the KSS clinic in Skövde a group of women with the diagnosis of miscarriage were assigned to 1 of 5 subdiagnosis groups according to status and action (see Table 1).

It is normal for women who are pregnant to become worried and concerned when they have even a minor amount of bleeding. The previous routine was that women with normal pregnancies had contact with the MVC. If the women encountered complications, they were referred to a gynecology clinic, and those women with acute pain or bleeding and those at risk of an extra-uterine pregnancy received an examination appointment with a gynecologist. Women with minor symptoms and anxiety were advised by the midwife at the MVC to wait and see whether their symptoms became more acute. If the women were not satisfied with the telephone contact advice from the MVC or the gynecology clinic, they would contact the emergency room by telephone during the evening or night if their anxiety increased. At this point the women were often given an appointment with the gynecologist on duty during the night for emergency complications. During the emergency room visit the diagnosis of nonviable pregnancy was determined by an ultrasound examination performed by the on-duty gynecologist.⁵ Along with the

diagnosis the patient received oral and written advice and was prepped for a D&C procedure within a few days. The D&C procedure was performed in an outpatient clinic and a follow-up appointment made with the midwife at the gynecology clinic. Some problems with this method of operation were identified with the help of interviews and open inquiry dialogue.^{5,18,22,23}

- There was no access to a gynecologist at the MVC for this patient group.
- Past procedures at the gynecology clinic did not record or indicate that women had called with minor symptoms and were informed that an appointment was not necessary.
- The public service nursing staff to whom all citizens in Sweden have access through phone counseling and the internet for medical care information typically had inadequate specific knowledge and expertise on the topic of miscarriage.
- When patients came to the emergency room with symptoms of miscarriage they did not receive a high priority. If the gynecologist on duty was busy with a live-birth delivery, potential miscarriage cases were considered a lower priority in the triage. This resulted in a longer waiting period for an examination and created a longer period of uncertainty for patients.
- The patients perceived a lack of organization because they were required to pass through additional levels of personnel before they accessed the person responsible for diagnosing their condition.

There was a lack of comprehensive written material for patient information on miscarriage and there was no access to a website in association with the Skaraborg health care system. Basic solutions to these documented shortcomings within the system consisted of education on miscarriage for the entire personnel in the health care system. Standardized

written guidelines for decisions and support were provided to personnel responsible for giving advice by phone to patients. Written information was provided to patients at the appropriate point and time in the health care system. Care routines and procedures for pregnant women with miscarriage concerns were changed or revised as follows:

- Standardization of all miscarriage information and diagnostic procedures in the health care system. The departments in the system include the MVC, the gynecology clinic, and the emergency room, and all medical care information is disseminated through the Skaraborg health care system.
- Attempt to identify and differentiate between those patients with minor symptoms such as light bleeding that are of no immediate concern and those patients who are experiencing potentially more serious symptoms such as darker bleeding. The patient may feel more concerned because of a physical change in her body.
- Patients offered prompt appointments and receive easier access to the gynecology clinic during office hours, which reduces visits to the emergency room after hours.
- Acknowledgement that women suffer from grief after a miscarriage and acknowledgment that the grief is in itself a part of the condition, thereby allowing women to experience their grief and have it treated as a normal reaction to early miscarriage.

Material and methods

An interactive study design was used where the researcher collaborated with the care providers. Several changes in caring for women who have suffered a missed miscarriage were made and implemented in the Skaraborg district of midwest Sweden. The design was the same for both the original study from 2002 to 2003 and the later study from 2004 to 2005. The data of the original study were compared via PGS with the data from the later study after the changes were implemented in the system. The implemented changes included the following:

- Education of care providers
- Midwives questioned women about their pregnancy symptoms
- More standardized responses were given throughout the system
- Appointments for the ultrasound examinations were made during office hours

These changes are discussed in the section Environment background information.

Study population participants

All women who had experienced nonviable pregnancy in the KSS were invited to participate in the later study. A total of 108 women with nonviable pregnancy were identified and, of these, 74 received a follow-up visit with the midwife. Of these 74 women, 56 (76%) answered both PGS questionnaires, and it is those women who comprise the later study data. Women who were diagnosed with nonviable pregnancies from the original study¹⁸ were used as the comparison group ($n = 43$). In both studies, inclusion criteria comprised an initial visit to the gynecology outpatient clinic for miscarriage before 13 weeks of gestation as measured by an ultrasound examination and followed by a diagnosis of nonviable pregnancy. Participants were over 18 years of age and Swedish speaking. Exclusion criteria were pregnancies kept secret from next of kin or husbands and partners, and extra-uterine pregnancy or the suspicion of extra-uterine pregnancy.

Measurement

Each woman in both groups answered the PGS²⁴ questions at the midwife visit 1 month after the diagnosis and again 3 months later. The PGS has 3 subscales, each measuring a different aspect of the loss reaction. The subscale “active grief” is the normal grief reaction. The subscale “difficulty in coping”, which describes mental health, includes symptoms of depression, feelings of guilt, lack of social support, and problems in marital relationships. The subscale “despair” indicates more long-lasting effects of the loss and depends on, among other things, the women’s coping strategy. The PGS is a grief scale that includes guilt and anxiety and has been validated in cases of depression and in problems in marital relationships.^{25–27} Each subscale has 11 questions and each question is answered on a Likert visual analog scale from 1 to 5. Each subscale gives a sum of 11 to 55 points. The total minimum sum is 33 and the maximum is 165. The PGS was used instead of the depression scale because the PGS measures not only the level of depression but also the amount of normal grief.^{24,25} During the structured follow-up visit in both studies a pregnancy test was also performed in order to confirm that the miscarriage was complete. The women’s need for contraceptives was investigated and they were prescribed if needed.

Four months after the diagnosis a separate questionnaire was sent along with the second PGS questionnaire, and the women answered questions on a visual analog scale about the importance to them of the follow-up visit. In the questionnaire, open questions queried the women about both the positive and negative aspects of the assistance given to them

throughout the health care chain during their treatment for miscarriage.

Ethics

This study was approved by the regional ethics committee at the University of Gothenburg. The women were given both oral and written information and were asked to sign a written informed consent form before participating in the study.

Statistics

Descriptive data of age, level of education, number of pregnancies, number of children, and number of miscarriages from the later study and the original study were analyzed using Chi-square tests. Women's grief was measured with the PGS at 1 month and 4 months after the nonviable pregnancy diagnosis. The point for PGS was calculated for the mean and 95% confidence interval and confirmed using the Moses exact test, which is used when psychological measurements are made from a small data set. Measurements for total grief, active grief, difficulty coping, and despair were derived from the PGS questionnaire.²⁷

Results

The women in the later study were statistically more likely than women in the original study to experience miscarriage by a ratio of 1.6:1.3 ($P = 0.034$). The percentages of women who had not experienced previous deliveries were 51% and 48% ($n = 18$) in the later study and original study, respectively. There were no significant differences statistically between the later study and original study for age, education, number of pregnancies, and number of children (Table 2).

The changes and revisions in the care routines and procedures for women diagnosed with miscarriage had further positive consequences for the number of women who were on sick leave for more than a week. The proportion of women on sick leave decreased to 22% in the later study ($n = 11$) compared with 44% in the original study ($n = 18$) (Chi-square test 0.041) (Table 3).

In the later study, women's responses to the post-care questionnaire showed that they felt they had received adequate care and had been treated professionally.

Women's health evaluated with PGS

The measurement of grief using the PGS showed that after 1 month the women in the later study had virtually the same total score as those in the original study: 91.7 versus 99.1 ($P = 0.259$). After 4 months, the scores for the later study and the original study were 81.3 versus 85.2, respectively ($P = 0.350$) (Table 4).

The percentage of patients in the later study over the limit value for experiencing deep grief after 1 month was 23% compared with 18% in the original study after 1 month ($P = 0.273$) (Figure 1).

After 4 months the percentage of patients in the later study over the limit value for experiencing deep grief was 9% compared with 23% in the original study after 1 month ($P = 0.046$) (Figure 2).

Follow-up at 4 months

The importance of the follow-up was addressed in the second questionnaire, which was issued 4 months after the diagnosis. It was found that there was a significant difference between the measured values for the later study and the original study on the visual analog scale (from 0 to 10), which were 8.1 and 6.9, respectively ($P = 0.02$). The structured follow-up visit significantly enhanced the level of satisfaction with patient care.

Another issue from the second questionnaire that was found to be lacking in resolution was that the waiting time from diagnosis to surgery was felt to be too long, ie, 1–6 days from the time of diagnosis until the D&C procedure was performed.

The percentage of women diagnosed with nonviable pregnancy at the gynecology clinic and who subsequently received information and treatment from the gynecology clinic was 63% in the later study ($n = 49$) and 37% in the original study ($n = 29$) ($P = 0.024$; odds ratio 3.38; 95% CI 1.222–9.342).

Table 2 Descriptive data of study and control groups compared with Chi-square

	Later study data 2004–2005 (n = 56)			Original study data 2002–2003 (n = 43)			Chi-square
	Mean	Minimum	Maximum	Mean	Minimum	Maximum	
Age	31.6	17.0	45.0	31.5	20.0	42.0	0.331
Years in education	13.7	9.0	22.0	13.2	9.0	17.5	0.847
Number of pregnancies	3.0	1.0	7.0	2.5	1.0	7.0	0.664
Children	1.1	0.0	4.0	1.0	0.0	4.0	0.738
Miscarriages	1.6	1.0	4.0	1.3	1.0	4.0	0.034

Table 3 Sick leave: group cross-tabulation study data 2004–2005 versus study data 2002–2003 (Chi-square test 0.041)

	Study data		Total
	Later study 2004–2005	Original study 2002–2003	
Sick leave <1 week grouped (n)	39	23	62
Within group (%)	78.0	56.1	68.1
Sick leave >1 week grouped (n)	11	18	29
Within group (%)	22.0	43.9	31.9
Total count	50	41	91

This represents a significant improvement in efficiency of diagnosis and treatment. Fewer women had to resort to an emergency room visit to resolve their nonviable pregnancy issues.

Discussion

The risk of having a miscarriage and ending up in the emergency room during emergency room hours was reduced by almost 50% from the original study to the later study, which represents a dramatic change in the total experience of patients with miscarriage. Through active support, changes and revisions were implemented in the care routines and procedures for women diagnosed with miscarriage. The women were increasingly successfully identified with a nonviable pregnancy by a phone conversation at the MVC and gynecology clinic, and at this point were scheduled for an appointment at the gynecology outpatient clinic during office hours. Unscheduled visits to the emergency room by women alarmed by symptoms of a possible miscarriage decreased significantly from 63% in the original study to 37% in the later study ($P = 0.024$). Receiving care from specialist physicians, midwives, and nurses without excessively long waiting times is one method to minimize the

lack of communication in miscarriage. This will also satisfy some of the earlier-identified deficiencies with the health care response to miscarriage and provide more satisfaction to women's needs. Qualitative answers in the later study were stated by the women to the effect that "we have gotten professional answers and received professional care when we needed it". These deficiencies have been identified in earlier studies such as by Friedman,¹¹ Neugebauer et al,²⁸ Lee and Slade,⁷ Lee et al,²⁹ Swanson,²⁰ and Swanson et al.³⁰

The confidence gap⁵ between the patient and the medical care they receive with miscarriage has decreased because patients feel they are receiving the type of attention they need in a professional manner. It is important to focus on the problem and have dependable contacts who are easy to reach and have flexible access times.¹² The increase in active support is reflected in the level of competence in the personnel. Smith et al¹⁶ assert that competence level and professionalism of personnel are particularly significant to women who have experienced a miscarriage. The increase in active support corresponds with the consistent manner in which women receive the same information throughout the entire health care chain. All personnel must be knowledgeable of the symptoms of nonviable pregnancy to achieve this level

Table 4 Women's PGS results for study data 2004–2005 and study data 2002–2003 at 1 and 4 months after nonviable pregnancy

PGS	Later study data 2004–2005		Original study data 2002–2003		Moses test
	Mean	95% CI	Mean	95% CI	
One month					
Total	91.7	(77.8–105.7)	99.1	(80.4–117.9)	0.046
Active grief	44.4	(37.7–51.0)	45.5	(37.9–59.1)	0.891
Difficulty coping	24.7	(20.5–29.1)	28.3	(22.1–34.4)	0.001
Despair	22.7	(18.6–26.7)	25.4	(19.7–31.0)	0.000
Four months					
Total	81.3	(66.1–96.4)	85.2	(69.5–100.8)	0.318
Active grief	35.9	(29.1–42.7)	36.8	(30.4–43.1)	0.000
Difficulty coping	24.1	(19.4–28.8)	25.9	(20.4–31.5)	0.000
Despair	21.2	(16.8–25.7)	22.4	(17.8–27.1)	0.000

Notes: Total grief and subscales active grief, difficulty coping, and despair; 95% CI between groups for respective subscales and total.

Abbreviations: CI, confidence interval; PGS, Perinatal Grief Scale.

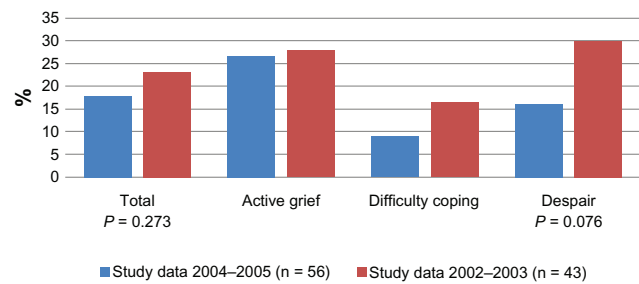


Figure 1 Percentage of patients in the later study 2004–2005 versus the original study 2002–2003 over the limit value for experiencing deep grief measured with the Perinatal Grief Scale 1 month after a nonviable pregnancy.

of consistency. All responsible personnel should be educated in the normal grief reaction that patients experience following a miscarriage.^{8,9} Personnel in the health care chain now see a miscarriage as a significant event in the health and well-being of the patient.^{14,17}

The sick leave the patient requires may last up to a week after miscarriage, which is typical for the amount of physical discomfort and emotional distress the patient may experience. The patient may have physical symptoms such as bleeding and pain along with emotional reactions such as depression and sadness from losing a pregnancy unexpectedly. The percentage of patients requiring a certificate from a doctor for extended sick leave of more than a week significantly decreased from 44% in the original study to 22% in the later study.

The increase in active support significantly influences the level of grief as measured by the PGS and its subscales (Table 2). After 4 months the number of women experiencing grief above the normal grief level²⁷ for the later study was 9%, which represents a significant decrease in the patients' level of grief. Women experience a significant physical and emotional loss with miscarriage,⁵ and it is normal to have a grief reaction to that loss.^{8,30} Normally, the first initial grief reaction dissipates after a few days.¹⁷ When the patient receives suitable care through active support they typically receive a lower score on the PGS after 21–28 days (Table 4). A typical

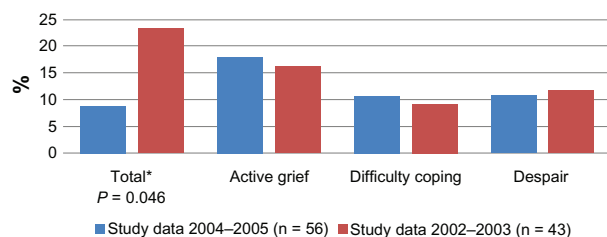


Figure 2 Percentage of patients in the later study 2004–2005 versus the original study 2002–2003 above the limit for severe grief measured with the Perinatal Grief Scale 4 months after a nonviable pregnancy.

grief reaction should be regarded as a normal reaction from having a miscarriage and not be regarded as a sickness in itself. It should be diagnosed and treated professionally by personnel throughout the health care system.

Gynecologists who have responsibility for this patient group must examine, diagnose, and inform the patients about nonviable pregnancies. The gynecologist can help the patient resolve any feelings of guilt they may be experiencing by explaining the reasons for miscarriage and the bleeding and pain symptoms that are present as a result. This counseling is a valuable source of comfort to the patients.¹¹ A study by Brier confirms that those who are satisfied with the care provided by the health care system are those who had the chance to talk about the experience with a professional who was willing to listen and give qualified answers to their questions.¹⁷ Information can also be provided by informed phone contacts and appointments. Follow-up appointments with the midwife are offered to all patients to provide any additional support needed by the patient.

The period between the diagnosis of miscarriage and the D&C procedure was considered to be too long. In the later study the period was found to be longer than the prescribed 1–3 days as per the instructions of the gynecology clinic. Earlier studies confirm that this time period between diagnosis and the D&C procedure was particularly stressful for the patient.¹¹

The patients themselves regarded the follow-up appointment to be important when they answered the second questionnaire, as illustrated by the visual analog scale. Swanson's Caring Theory, which states that patients need convenient follow-up appointments with a midwife who is knowledgeable about miscarriage, is confirmed by the interviews with the women in the later study.^{19–21,31} Close monitoring of the emotional experience of the woman is helpful for the patient.⁷ Phone contact with informed personnel as a means of monitoring their condition is a viable possibility.³²

With continuous improvement achieved through changes and modifications in the health care chain it is possible that care can be further optimized from the perspective of both the woman and her partner. Further economic efficiency may also be possible with the following changes in procedure and improvements in organization.

- Documentation should be kept in a digital journal system called Obstetrix, which is accessible through the MVC, gynecology clinics, and emergency room, enhancing continuity for the patient and minimizing duplication.

- Follow-up support can be provided by either phone contact or by appointment with the midwife.
- Nonviable pregnancy patients will be treated on an out-patient basis and be prescribed mifepristone, misoprostol, and pain relievers instead of a D&C procedure. These patients can convalesce in the comfort of their own homes.³³

Further investigation

For statistical significance the possible covariates may be that all care providers participated in some or all of the re-education offered after the original study. The study by Adolfsson et al¹⁸ may be the first in which women's experiences were studied using miscarriage as a unique subdiagnosis. The study included early miscarriage, but late miscarriages should also be studied. Another limitation of this study is that the population was from only one region in Sweden. A well-designed multicenter study is possibly needed.

Conclusion

Patients who are treated with the correct and proper level of active support exhibit a decrease in sick leave time (Tables 1 and 2). It is important to provide proper care and professional treatment for early miscarriage from the perspective of the patients, who suffer a loss and experience grief. The participants in the later study developed confidence in the care provided and felt that the providers were professional and competent. The structured follow-up visit significantly enhanced the level of satisfaction with patient care, as documented in the second questionnaire after 4 months.

Clinical application

The findings of this study have been used to modify procedures in the care of women who have experienced a miscarriage within the health care system in Sweden.

- Women with nonviable pregnancy can often be identified earlier than with the routine ultrasound performed in the 17th week of pregnancy.
- Women experience a normal grief reaction after a miscarriage and are treated for grief.
- The increase in active support and subsequent treatment is important to the patient experiencing early miscarriage.
- The MVC midwife is now the first contact for women in the early stages of pregnancy both before and after miscarriage.

Acknowledgment

The author thanks Stephen Navarro for translation services.

Disclosure

The author reports no conflict of interest in this work.

References

1. Hemminki E, Forssas E. Epidemiology of miscarriage and its relation to other reproductive events in Finland. *Am J Obstet Gynecol.* 1999; 181(2):396–401.
2. Adolfsson A, Larsson PG. Cumulative incidence of previous spontaneous abortion in Sweden in 1983–2003: a register study. *Acta Obstet Gynecol Scand.* 2006;85(6):741–747.
3. Everett C. Incidence and outcome of bleeding before the 20th week of pregnancy: prospective study from general practice. *BMJ.* 1997; 315(7099):32–34.
4. WHO: recommended definitions, terminology and format for statistical tables related to the perinatal period and use of a new certificate for cause of perinatal deaths. Modifications recommended by FIGO as amended 1976 Oct 14. *Acta Obstet Gynecol Scand.* 1977;56(3): 247–253.
5. Adolfsson A, Larsson PG, Wijma B, Bertero C. Guilt and emptiness: women's experiences of miscarriage. *Health Care Women Int.* 2004; 25(6):543–560.
6. Friedman T. Distress caused by miscarriage. *Br J Psychiatry.* 1989; 155:567.
7. Lee C, Slade P. Miscarriage as a traumatic event: A review of the literature and new implications for intervention. *J Psychosomatic Res.* 1996;40(3):235–244.
8. Brier N. Grief following miscarriage: a comprehensive review of the literature. *Journal of Women's Health.* 2008;17(3):451–464.
9. Adolfsson A, Larsson P. Applicability of general grief theory to Swedish women's experience after early miscarriage, with factor analysis of Bonanno's taxonomy, using the Perinatal Grief Scale. *Ups J Med Sci.* 2010;115(3):201–209.
10. Bonanno GA, Kaltman S. The varieties of grief experience. *Clin Psychol Rev.* 2001;21(5):705–734.
11. Friedman T. Women's experiences of general practitioner management of miscarriage. *J R Coll Gen Pract.* 1989;39(328):456–458.
12. Neugebauer R, Kline J, Markowitz JC, et al. Pilot randomized controlled trial of interpersonal counseling for subsyndromal depression following miscarriage. *J Clin Psychiatry.* 2006;67(8):1299–1304.
13. Brier N. Grief following miscarriage: a comprehensive review of the literature. *Journal of Women's Health (15409996).* 2008;17(3): 451–464.
14. Frost M, Condon JT. The psychological sequelae of miscarriage: a critical review of the literature. *Aust N Z J Psychiatry.* 1996;30(1):54–62.
15. Naor S, et al. Correlation between emotional reaction to loss of an unborn child and lymphocyte response to mitogenic stimulation in women. *Isr J Psychiatry Relat Sci.* 1983;20(3):231–239.
16. Smith LF, Frost J, Levitas R, Bradley H, Garcia J. Women's experiences of three early miscarriage management options: a qualitative study. *Br J Gen Pract.* 2006;56(524):198–205.
17. Brier N. Understanding and managing the emotional reactions to a miscarriage. *Obstet Gynecol.* 1999;93(1):151–155.
18. Adolfsson A, Bertero C, Larsson PG. Effect of a structured follow-up visit to a midwife on women with early miscarriage: a randomized study. *Acta Obstet Gynecol Scand.* 2006;85(3):330–335.
19. Swanson KM. Research-based practice with women who have had miscarriages. *Image J Nurs Sch.* 1999;31(4):339–345.
20. Swanson KM. Effects of caring, measurement, and time on miscarriage impact and women's well-being. *Nurs Res.* 1999;48(6):288–298.
21. Swanson KM. Nursing as informed caring for the well-being of others. *Image J Nurs Sch.* 1993;25(4):352–357.

22. Adolfsson A, Bertero C, Larsson P-G. The effect of structured second visit to midwives in women with early miscarriage, a randomized study. The 10th International Conference of Maternity Care Researchers 2004. Lund; 2004.
23. Adolfsson A, Bertero C, Larsson P-G. The effect of structured second visit to midwives in women with early miscarriage, a randomized study. In: Midwives TICo, editor. 7th Triennial Congress of International Confederation of Midwives Congress 2005. Brisbane; 2005.
24. Adolfsson A, Larsson P-G. Translating the short version of Perinatal Grief Scale to Swedish. *Scand J Caring Sci.* 2006;20(3):1–5.
25. Potvin L, Lasker JN, Toedter LJ. Measuring grief: a short version of the Perinatal Grief Scale. *J Psychopathol Behavioral Assess.* 1989;11(1): 29–45.
26. Toedter LJ, Lasker JN, Alhadeff JM. The Perinatal Grief Scale: development and initial validation. *Am J Orthopsychiatry.* 1988;58(3): 435–449.
27. Toedter LJ, Lasker JN, Janssen HJ. International comparison of studies using the Perinatal Grief Scale: a decade of research on pregnancy loss. *Death Stud.* 2001;25(3):205–228.
28. Neugebauer R, Kline J, Stein Z, Shrout P, Warburton D, Susser M. Association of stressful life events with chromosomally normal spontaneous abortion. *Am J Epidemiol.* 1996;143(6):588–596.
29. Lee C, Slade P, Lygo V. The influence of psychological debriefing on emotional adaptation in women following early miscarriage: a preliminary study. *Br J Med Psychol.* 1996;69(Pt 1):47–58.
30. Swanson KM, Chen HT, Graham JC, Wojnar DM, Petras A. Resolution of depression and grief during the first year after miscarriage: a randomized controlled clinical trial of couples-focused interventions. *J Womens Health (Larchmt).* 2009;18(8):1245–1257.
31. Swanson KM. Empirical development of a middle range theory of caring. *Nurs Res.* 1991;40(3):161–166.
32. Jacobs J, Harvey J. Evaluation of an Australian miscarriage support programme. *Br J Nurs.* 2000;9(1):22–26.
33. Blohm F, Friden BE, Milsom I, Platz-Christensen JJ, Nielsen S. A randomised double blind trial comparing misoprostol or placebo in the management of early miscarriage. *BJOG.* 2005;112(8):1090–1095.

Psychology Research and Behavior Management

Publish your work in this journal

Psychology Research and Behavior Management is an international, peer-reviewed, open access journal focusing on the science of psychology and its application in behavior management to develop improved outcomes in the clinical, educational, sports and business arenas. Specific topics covered include: Neuroscience, memory & decision making; Behavior

Submit your manuscript here: <http://www.dovepress.com/psychology-research-and-behavior-management-journal>

modification & management; Clinical applications; Business & sports performance management; Social and developmental studies; Animal studies. The manuscript management system is completely online and includes a quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Dovepress