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Loss and Grief Reactions After Spontaneous Miscarriage in the Emergency Department

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Study objective: To describe the psychological and functional consequences of miscarriage in women after emergency department treatment and to identify variables that are associated with feelings of loss and grief.

Design: A prospective telephone follow-up study.

Setting: The ED of an urban teaching hospital.

Type of participants: A consecutive sample of 44 women who were treated for miscarriage.

Main results: Women were contacted a median of 17.5 days after their miscarriage. Although the pregnancy had been planned by only 12 women (28%), 30 (70%) stated they wanted the pregnancy once they knew they were pregnant. Women commonly felt a sense of loss (82%) and most experienced some limitations with daily functioning (77%). Although wanting the pregnancy was associated with a sense of loss, 40% of the women who did not want the pregnancy experienced loss.

Conclusion: Grief reactions are pervasive after spontaneous miscarriage. There is no subgroup of women who could be expected not to experience loss and grief. The ED management of the woman who miscarries should address the anticipated loss and grief.

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INTRODUCTION

Patients experiencing vaginal bleeding in early pregnancy appear frequently in the emergency department. When miscarriage becomes inevitable in the first trimester of pregnancy, curettage or suction evacuation is performed as an outpatient procedure.[1-5] After a variable period of observation, the patient is discharged from the ED and instructed to follow up in a physician's office or clinic.

Despite the abundance of emergency medicine literature addressing the medical management of miscarriage, the psychological effects of early pregnancy loss on women have not been well recognized.[6-9] Some may believe feelings of loss are uncommon in women after spontaneous miscarriage, as has been shown after voluntary pregnancy termination.[10] It is tempting to believe that unmarried or teenage women, women who did not plan or wish to be pregnant, those who already have children, women who have not made plans for the baby, and those who miscarry at an earlier gestational age are less likely to need psychological support. This is contrary to the evidence of Peppers and Knapp[6] that the intensity of grief after miscarriage is as great as that after loss of a neonate. Other authors also have found that grief reactions are ubiquitous after miscarriage.[11-15] In a recent study, Neugebauer and colleagues[16] reported a significant increase in depressive symptoms six weeks and six months after miscarriage.

We conducted this study to evaluate feelings of loss in an ED population after miscarriage, to describe symptoms of grief, and to identify variables associated with feelings of loss and grief. For the purposes of this paper, loss was considered the psychological emotion experienced as a result of losing a valued object (the loss of the pregnancy, motherhood, and baby), and grief as the responses and processes that follow the loss.[17,18]

MATERIALS AND METHODS

Consecutive patients presenting to a teaching hospital ED with pregnancy of less than 20 weeks and vaginal bleeding were followed. The women who went on to miscarry were the subject of this study.

Demographic data collected included age, race, and payor status. Gynecologic history and gestation at the time of the loss were recorded from the medical record. Family information included number of children at home, age of the youngest child, and boyfriend or husband living in the home.

Telephone interviews were conducted to obtain data about psychological and functional status. An adult nurse practitioner conducted all interviews. Calls were attempted as early as the second day after miscarriage and were made at the interviewer's convenience.

Questions asked regarding the pregnancy itself included whether the pregnancy had been planned, whether the pregnancy had been wanted, whether preparations had been made for the baby (ie, choosing a name and preparing a nursery), and whether the woman had told anyone that she was pregnant before her miscarriage. Women were asked, "Did you feel a sense of loss after the miscarriage?" To assess for signs of depression or functional impairment, the following questions abstracted from the literature were asked[7,19,20]: "Do you have any problems with sleeping since your miscarriage?" "Have you had any problems with eating since your miscarriage?" "Were you able to continue your normal daily routine after your miscarriage?" And, if employed, "Was your functioning at work impaired after your miscarriage?" In previous work by Boyd et al,[20] persons with four of eight symptoms were considered significantly impaired. Because our list was shortened and not all women worked, having three or four symptoms was designated as "significant dysfunction."

Finally, general satisfaction with ED care was assessed, including evaluations of the length of ED stay and staff attitudes. Patients also were asked whether they had follow-up since their miscarriage and if they had begun birth control.

Table 1.
Sample characteristics

	Responders (44)	Nonresponders (17)
Demographics		
Age		
Mean ± SD (years)	25.4 ± 6.5	23.4 ± 4.2
Range (years)	14 to 37	17 to 30
Race		
Caucasian	36 (82%)	16 (94%)
Hispanic	6 (14%)	0
Other	2 (4%)	1 (6%)
Payor status		
Insured	3 (7%)	0
Medicaid	2 (4%)	0
Noninsured	39 (89%)	17 (100%)
Gynecologic History		
Gestation		
Mean ± SD (weeks)	9.9 ± 3.2	8.4 ± 3.1
Range (weeks)	3 to 19	2 to 13
First pregnancy	10 (23%)	5 (29%)
Prior term birth	25 (57%)	6 (35%)
Prior miscarriage*	10 (23%)	9 (53%)
Prior elective abortion	11 (25%)	7 (41%)

*$P < .05$.

To provide the patient an opportunity to identify other issues, all women were asked a final open-ended question: "How have things gone since your visit to the ED?" Referrals were given as necessary to pastoral care, psychiatry, and gynecology.

Univariate statistics were used to describe the population characteristics. Chi-square analysis, Fisher's exact test, and Student's *t*-test were used to test for associations between social or demographic characteristics and signs of functional impairment. Data were analyzed using SAS.

RESULTS

A consecutive series of 61 patients was treated by one of the authors at a university hospital ED for miscarriage during the study period. None of the pregnancies was the result of *in vitro* fertilization. Forty-four patients (72%) were contacted successfully by telephone. Responders and nonresponders were demographically and clinically similar (Table 1). Those with a prior miscarriage, however, were less likely to be contacted; 23% of the responders had a prior miscarriage compared with 53% of nonresponders. The median time between ED visit and telephone contact was 17.5 days (mean, 27 days; range, two to 131 days).

Characteristics of the 44 women in the sample are listed (Table 1). The sample was mostly Caucasian (82%) and uninsured (89%). Most women had first-trimester losses (82%); the estimated gestation at the time of miscarriage averaged 9.9 weeks (range, three to 19 weeks). Twenty-three percent of the women had a prior miscarriage; 25% had experienced a prior elective abortion.

Forty-eight percent of the women had a job outside the home. Fifty-five percent had at least one child living at home, with the youngest child less than 3 years old in 33% (eight) of those women with children. A boyfriend or husband lived in the home in 64% of the cases.

The pregnancy had been planned by only 12 women (28%), although 30 (70%) stated that they had wanted the pregnancy (Table 2). Forty-seven percent of the women had made concrete plans for the child (eg, informing others of their pregnancy, choosing a name, or decorating a room for the baby).

Information regarding loss was available in 43 women. Thirty-six women (84%) stated that they felt a sense of loss after the miscarriage; only seven women (16%) reported that they did not feel a sense of loss. Different demographic and pregnancy variables were tested for an association with feelings of loss (Table 3). Age, prior miscarriage, prior elective abortion, parity, gravida, having a job, living with husband or boyfriend, and having planned the pregnancy were not associated with a feeling of loss. The number of days between the miscarriage and the interview was not significantly different between those

Table 2.
*Incidence of pregnancy plans (N = 44)**

	No.	%
Pregnancy		
Planned	12	28
Wanted		
Yes	30	70
No	10	23
Not sure	3	7
Pregnancy Plans		
Name chosen	13	30
Room prepared	9	21
Informed others of pregnancy	16	37
No plans made	23	53

*Totals less than 44 for a given variable reflect missing values.

Table 3.
Predictive value of factors in determining feeling a sense of loss after miscarriage

	No. (N = 43)	No. With Loss (N =36)	% With Loss
Demographics			
Age group (yr)			
Younger than 20	8	6	75
20 to 30	25	21	84
Older than 30	10	9	90
Gynecologic History			
Gestation < 9 weeks	14	11	79
Gestation ≥ 9 weeks	29	25	86
Prior miscarriage	9	7	78
No prior miscarriage	34	29	85
Prior elective abortion	11	8	73
No prior elective abortion	32	28	88
Prior term birth	25	20	80
No prior term birth	18	16	89
First pregnancy	10	9	90
Second or greater pregnancy	33	27	82
Family Information			
Job outside the home	21	16	76
No job outside the home	22	20	91
Husband or boyfriend living in the house	27	25	93
No husband or boyfriend living in the house	16	11	69
Pregnancy			
Planned	12	12	100
Not planned	31	24	77
Wanted *	30	29	97
Not wanted	10	4	40
Not sure	3	3	100

*$P < .05$.

who identified a sense of loss (29 days) and those who did not (21 days; $P = .24$). Wanting the pregnancy was the only variable associated with loss ($\chi^2 = 18.3$; $P < .001$); 97% of the women who had wanted the pregnancy felt a sense of loss as compared with 40% among those who had not wanted the pregnancy.

Women reported the following dysfunction: 14 had difficulty sleeping (32%); 13 had anorexia (30%); 23 had disruption in daily activities (52%); and 11 had impaired ability to work (26%). Seventy-seven percent of the women had at least one symptom of dysfunction. Eight women (18%) had significant dysfunction (defined as three or more symptoms). Women with significant dysfunction had a higher gestational age; of the women whose gestation was estimated to be less than nine weeks, none had significant dysfunction (Table 4). No other demographic or clinical variables, including wanting the pregnancy or the feeling of loss, were associated with significant dysfunction. All eight of the women with significant dysfunction kept follow-up appointments.

Table 4.
Predictive value of factors in determining significant dysfunction after miscarriage

	No. (N = 44)*	No. With Dysfunction (N = 8)	% With Dysfunction
Demographics			
Age group (yr)			
Younger than 20	9	0	0
20 to 30	25	4	16
Older than 30	10	4	40
Gynecologic History			
Gestation < 9 weeks†	14	0	0
Gestation ≥ 9 weeks	30	8	27
Prior miscarriage	10	3	30
No prior miscarriage	34	5	15
Prior elective abortion	11	2	18
No prior elective abortion	33	6	18
Prior term birth	25	4	16
No prior term birth	19	4	21
First pregnancy	10	1	10
Second or greater pregnancy	34	7	21
Family Information			
Job outside the home	21	4	19
No job outside the home	23	4	17
Husband or boyfriend living in the house	28	7	25
No husband or boyfriend living in the house	16	1	6
Pregnancy			
Wanted	30	7	23
Not wanted	10	1	10
Not sure	3	0	0

*Totals less than 44 for a given variable reflect missing values.
†$P < .05$.

The ED stay was described as "too long" by 53% of the women and "just right" by the remaining 46%. The attitude of the staff was perceived as "supportive" by 77%, "indifferent" by 18%, and "hostile" by 5%. Seventy-three percent of the women had follow-up visits since their miscarriage; 54% were practicing birth control at the time of the follow-up interview.

The women in this study were eager to talk about their miscarriage experience when interviewed by telephone. Despite documented instructions and teaching initiated in the ED, many women required a repetition of instructions given on discharge and asked for further education pertaining to miscarriage. This occurred even in women who were contacted several months after their miscarriage.

Several responses expressed by the patients reoccurred. Women who had not planned the pregnancy became excited and anticipated the birth positively once they learned they were pregnant. Several women who had prior elective abortions expressed guilt, feeling that their miscarriage was caused by or related to their elective abortion. In general, women believed that friends, including husbands or boyfriends, did not understand their feelings and emotional intensity after miscarriage. Often, they believed they had been encouraged or required to "get on with life" before they were ready to shed the emotions of this experience.

DISCUSSION

Although responses to losses in late pregnancy and around the time of delivery have been the subject of

Figure.
Recommendations for care of women after miscarriage in the ED

1. Anticipate and advise the woman of the normalcy of feeling loss and experiencing a significant grief reaction that may take several weeks to resolve.
2. Advise the father of the mother's need (which may be greater than his) for support.
3. Arrange routine follow-up at two weeks and six weeks with a physician who can provide medical support and monitor the patient's progress.
4. Allow the woman to participate actively and make choices concerning her care options during the miscarriage procedure.
5. Allow the parents to view the fetus if they desire and if medically possible.
6. After dilation and curettage, use an observation unit for privacy and time for the woman to recover physically, as well as to allow access to a sympathetic nurse for questions.
7. Generate a written information sheet that will remind the patient when she is under less stress of the need for birth control if desired, the expected physical and psychological symptoms after dilation and curettage, the schedule of follow-up appointments, and the time interval recommended by obstetricians before intercourse and further attempts at conception.

relatively intensive study, early pregnancy loss has become an area of interest to health care professionals only recently. It now is estimated that about one third of pregnancies end in miscarriage,[16] and many patients who miscarry receive definitive care in an ED setting. Peppers and Knapp[6] have shown that the patient undergoing early miscarriage experiences much the same quantitative and qualitative sense of loss as the woman with late pregnancy loss. Bonding occurs at an early gestational age and may occur earlier with the advent of sensitive pregnancy tests and increased use of early sonography, which makes the early fetus much more real to the parents.[21] Neugebauer et al[16] evaluated depressive symptoms using a scale administered by telephone interview and discovered a threefold increase in highly symptomatic depression in women after miscarriage compared with a similar population not recently pregnant. Siebel and Graves,[12] in questioning 93 patients experiencing miscarriage, found that one fourth believed they were "personally responsible" for the miscarriage and almost three fourths of women wished to know more about *why* they had lost the pregnancy.

In the patient with miscarriage in the first half of pregnancy, several factors confound the grieving process and make it more difficult for the patient to resolve the psychological aspects of her trauma. Because the pregnancy is not visible and often has not been announced by the woman, friends may be unaware of the pregnancy. There are no rituals surrounding miscarriage that allow the family and friends to express grief and to mourn the death of a child formally. Until quickening occurs (about 16 to 18 weeks' gestation), psychologists consider the pregnancy in a "narcissistic stage," in which the mother does not differentiate between the fetus and herself. Loss during this period involves loss of a part of the self and may be more difficult to grieve than loss of a "definable, external object," according to Hall et al.[22] Because bonding to an unborn child often occurs more slowly for the father, the degree of loss felt by the mother may be discordant with the grief felt by the father and may isolate her further from her mate.[11,14,22]

Aspects of the miscarriage itself also contribute to increased and difficult grieving for the mother. Often, the miscarriage occurs relatively suddenly, without allowing time to prepare for the loss. There is little or nothing that the patient (mother) can do to change the course of events, leaving her helpless to prevent miscarriage or to participate in her own care. In the ED, the patient is considered a surgical patient: She undergoes a procedure, is observed for physical recovery, and often is discharged when the procedure is "satisfactorily" concluded.[6,22] The fetus is rarely seen or held to allow the visible act of acknowledging the reality or the death of the child.

Once the miscarriage is concluded, the woman loses her role as patient (prenatal) and the attendant health care support. Added to these factors are the often impersonal nature of a busy ED, the lack of privacy, delays in care because of other emergencies, sedation used for the dilation and curettage, the lack of time and staff to discuss feelings fully, and the need to discharge patients promptly. Women often present without strong support systems, and continuity of care and follow-up also may be less than ideal.

Several researchers have emphasized the ubiquitous need to grieve and to resolve feelings of guilt, anger, and despair in women who experience miscarriage. Wall-Haas,[7] interviewing nine women after spontaneous first trimester abortion, found that all were affected to some degree by their experiences and that grief occurred even when the pregnancy was unplanned, when the women had experienced prior miscarriage, and when they had living children. Siebel and Graves[12] likewise found that only 11% of 93 patients surveyed after miscarriage failed to note any negative affect adjectives in describing their feeling after miscarriage. This occurred even though 72% of their sample population had not planned the pregnancy. Although the degree and duration of grief may be proportional to the desire for the pregnancy,[22,23] women with undesired pregnancies still commonly experience guilt and question their ability to perform as women or to meet societal expectations.[12,24,25]

Toedter et al[19] found that the most significant factors associated with higher levels of grief were poor overall maternal health, more advanced gestational age at the time of miscarriage, poor marital relationship, and preloss mental health symptoms. Significantly, they found that presence of living children, maternal age, prior losses, socioeconomic status, religiosity, and fertility problems were not predictive of the degree of grief that the mother experienced, her sense of despair, or her ability to cope with the loss.

Our study was limited because it involved only a small cohort of women who experienced miscarriage. It is possible that differences in grieving could be identified in subgroups of women if a larger population were surveyed. Our main finding, however, was that most women experience a sense of loss and significant grief reactions after miscarriage. As expected, such a grief experience interfered to some degree with at least some activities in most women. In a few, this dysfunction was noticeable in

several areas. There were no predictors that allowed the emergency physician to exclude any subgroup of women from the expectation that they will feel a sense of loss and at least temporary dysfunction. Further studies are needed to determine what interventions in the ED can be most effective in helping women progress through the normal grief process. Neugebauer et al[16] discovered that interviews within two weeks after miscarriage were in themselves therapeutic and resulted in a significant decrease in depressive symptoms at six weeks and six months.

Until further research is undertaken, it seems logical to follow recommendations based on our own interviews, as well as others who have interviewed patients such as ours[9,14] (Figure). Emergency physicians and nurses, by anticipating the loss and grief experience of women after miscarriage and addressing this aspect in their plan of care, will expand the current practice of miscarriage beyond the surgical arena to an appreciation of miscarriage as a significant life event.

CONCLUSION

We reviewed a cohort of women who experienced spontaneous miscarriage in an ED. Miscarriage was associated with a significant sense of loss and frequent psychosocial dysfunction. ED nurses and physicians should anticipate the grief experienced by women with miscarriage and attempt to address this aspect of care in their management of the patient.

REFERENCES

1. Farrell RG: Spontaneous abortion: Its evaluation and treatment in the emergency department. *Emerg Med Serv* 1984;13:50-53.

2. Ferrell RG, Stonigton DT, Ridgeway RA: Incomplete and inevitable abortion: Treatment by suction curettage in the emergency department. *Ann Emerg Med* 1982;11:652-658.

3. Farrell RG: Spontaneous abortion, in Farrell RG (ed): *OB/GYN Emergencies: The First 60 Minutes.* Rockville, Maryland, Aspen Publishers, 1986, p 111-127.

4. Brennan DM, Caldwell M: Dilatation and evacuation performed in the emergency department for miscarriage. *J Emerg Nurs* 1987;13:144-148.

5. Gaffney ML: Dilatation and suction curettage in the emergency department: Policies and procedures development. *J Emerg Nurs* 1987;13:149-155.

6. Peppers LG, Knapp RJ: Maternal reactions to involuntary fetal/infant death. *Psychiatry* 1980;43:155-159.

7. Wall-Haas CL: Women's perceptions of first trimester spontaneous abortion. *J Obstet Gynecol Nurs News* 1985;Jan-Feb:50-53.

8. Hutti MH: Perinatal loss: Assisting parents to cope. *J Emerg Nurs* 1988;14:338-341.

9. Kay J: Pregnancy loss and the grief process, in Woods JR, Esposito JL (eds): *Pregnancy Loss: Medical Therapeutics and Practical Considerations.* Baltimore, Williams & Wilkins, 1987, p 5-10.

10. Adler NE, David HP, Major BN, et al: Psychological responses after abortion. *Science* 1990;248:41-44.

11. Stack JM: Spontaneous abortion and grieving. *Am Fam Pract* 1980;21:99-102.

12. Siebel M, Graves WL: The psychological implications of spontaneous abortions. *J Reprod Med* 1980;25:161-165.

13. Leppert PC, Pahlka BS: Grieving characteristics after spontaneous abortion: A management approach. *Obstet Gynecol* 1984;64:119-121.

14. Swanson-Kauffman KM: Caring in the instance of unexpected early pregnancy loss. *Top Clin Nurs* 1986;8:37-46.

15. Koziol-McLain J, Whitehill CS, Stephens L, et al: An investigation of emergency department patients' perceptions of their miscarriage experience. *J Emerg Nurs* 1992;18:501-504.

16. Neugebauer R, Kline J, O'Connor P, et al: Depressive symptoms in women in the six months after miscarriage. *Am J Obstet Gynecol* 1992;166:104-109.

17. Engel G: *Psychological Development in Health and Disease.* Philadelphia, WB Saunders, 1963.

18. Watson J: Loss, in Watson J: *Nursing: The Philosophy and Science of Caring.* Boulder, Colorado, Colorado Associated University Press, 1985, p 269-289.

19. Toedter LJ, Lasker JN, Alhadeff JM: The perinatal grief scale: Development and initial validation. *Am J Orthopsychiat* 1988;58:435-449.

20. Boyd JH, Weissman MM, Thompson WD, et al: Screening for depression in a community sample. *Arch Gen Psychiatry* 1982;39:1195-1200.

21. Fletcher JC, Evans MI: Maternal bonding in early fetal ultrasound examinations. *N Engl J Med* 1983;308:392-393.

22. Hall RCW, Beresford TP, Quinones JE: Grief following spontaneous abortion. *Psychiatr Clin North Am* 1987;10:405-419.

23. Hager A, Owens OM: Early pregnancy loss: Miscarriage and ectopic pregnancy, in Woods JR, Esposito JL (eds): *Pregnancy Loss: Medical Therapeutics and Practical Considerations.* Baltimore, Williams & Wilkins, 1987, p 23-50.

24. Canadian Paediatric Society: Support for parents experiencing perinatal loss. *Can Med Assoc J* 1983;129:335-339.

25. Layne LL: Motherhood lost: Cultural dimensions of miscarriage and stillbirth in America. *Women Health* 1990;16:69-98.

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