

Traumatic Experiences and the Midwifery Profession: A Cross-Sectional Study Among Dutch Midwives

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Introduction: Traumatic events that occur in a clinical setting can have long-lasting adverse effects on persons who are affected, including health care providers. This study investigated the prevalence of work-related traumatic events, posttraumatic stress disorder (PTSD), anxiety, and depression among Dutch midwives. Additionally, differences between midwives working in primary care (independently assisting births at home and in birthing centers) and midwives working in secondary or tertiary care (hospital setting) were examined. Finally, this study investigated the support midwives would like to receive after experiencing a work-related adverse event.

Methods: A descriptive, cross-sectional online survey of Dutch midwives was conducted. The respondents completed a questionnaire about demographic and work-related events, as well as the Trauma Screening Questionnaire and the Hospital Anxiety and Depression Scale.

Results: The estimated response rate was 23%, with 691 questionnaires eligible for analysis. Thirteen percent of respondents reported having experienced at least one work-related traumatic event. Among these, 17% screened positive for PTSD, revealing an estimated PTSD prevalence of 2% among Dutch midwives. Clinically relevant anxiety symptoms were reported by 14% of the respondents, significantly more often among midwives working in primary care ($P = .014$). Depressive symptoms were reported by 7% of the respondents. The desired strategies to cope with an adverse event were peer support by direct colleagues (79%), professional support from a coach or psychologist (30%), multidisciplinary peer support (28%), and support from midwives who are not direct coworkers (17%).

Discussion: Dutch midwives are at risk of experiencing work-related stressful or traumatic events that might lead to PTSD, anxiety, or depression. Midwives working in primary care reported higher levels of anxiety compared with their colleagues working in a clinical setting (secondary or tertiary care). Most midwives preferred peer support with direct colleagues after an adverse event, and some could have profited from easier access to seeking professional help. It could be speculated that midwives would benefit from increased awareness about work-related traumatic events as well as implementation of standardized guidelines regarding support after a traumatic event.

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INTRODUCTION

Unexpected adverse outcomes or events can occur during any pregnancy, labor, or birth. Caregivers, as well as parents and relatives, may experience these events as traumatic. Midwives encountering adverse events may be at risk of developing secondary traumatic stress or even psychological and emotional trauma.^{1–3} These types of trauma might also contribute to the development of an anxiety disorder such as post-traumatic stress disorder (PTSD) or depressive symptoms.²

The lifetime prevalence of PTSD is 5.7% in the United States,⁴ and core symptoms consist of re-experiencing the trauma, avoidance, hyperarousal, and negative mood and cognitions.⁵ Depression is characterized by a depressive mood and/or loss of pleasure for a period of at least 2 weeks alongside symptoms consisting of fatigue, sleep disturbances, difficulty concentrating and/or eating, weight instability, and feelings of guilt or worthlessness.⁵ Persons who reside in the United States are 3 times more likely to experience at least one major depressive episode during life than to experience PTSD, and the overall prevalence of depression is 16.6%.⁴

PTSD prevalence rates that may be associated or caused by a work-related event among Dutch midwives are lacking; however, the prevalence of work-related PTSD among midwives has been evaluated in other countries. Australia reports a probable PTSD rate among midwives of 17%.⁶ In the United Kingdom, 33% of the midwives involved in a work-related traumatic event reported suffering PTSD symptoms.² Beck et al have investigated PTSD prevalence twice in health care providers in the United States and found a prevalence of 26%⁷ in labor and delivery nurses and 36%⁸ among certified nurse-midwives. In Sweden, 5% of the midwives involved in a severe work-related event met the criteria for probable PTSD.⁹

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Quick Points

- ◆ Midwives are at risk of experiencing traumatic events at work, which may give rise to mental health concerns.
- ◆ Two percent of the Dutch midwives screened positive for work-related posttraumatic stress disorder (PTSD).
- ◆ Of the midwives who reported having experienced a traumatic event, almost 1 of 5 (17%) had symptoms suggestive of PTSD.
- ◆ Anxiety symptoms were significantly higher among Dutch midwives working in primary care (independently assisting births at home and in birthing centers) compared with midwives working in secondary or tertiary care (in hospitals under supervision of an obstetrician).
- ◆ After a traumatic event, midwives desired support from peers and psychologists.

In the Netherlands, maternal health care has a unique tiered system. Women can choose to give birth at home or in the hospital. Healthy women with a low-risk profile enter the primary care system, and their births are attended by community midwives at home, in birth centers, or at the hospital without the involvement or supervision of doctors. In case of complications or suspected pathology, women are referred to an obstetrician-gynecologist in a hospital. Guidance and monitoring of women at high risk is performed in general hospitals (secondary care) and academic referral centers (tertiary care). These women are primarily be attended by clinical midwives or residents in obstetrics and gynecology, under direct or indirect supervision of an obstetrician-gynecologist. Two types of midwives can be distinguished: midwives working in primary care, who independently assist women at home and in birthing centers, and midwives working in secondary or tertiary care, who work in a hospital setting under supervision of an obstetrician. Recently, a study from the Netherlands on the impact of work-related adverse events on gynecologists and residents in obstetrics and gynecology was published.¹⁰ However, no data on midwives and possible associations between psychological symptoms and the organization of care are available.

The primary objective of this research was to study the prevalence among Dutch midwives of experiencing work-related traumatic events and consequently developing mental disorders such as PTSD, anxiety disorders, or depression. The secondary objective was to investigate any differences in prevalence or type of these conditions between midwives in primary care compared with midwives who work in secondary and tertiary care settings. The final aspect of this study was an investigation into the desired support requested by these midwives in response to these work-related traumatic events.

METHODS

Study Design and Participants

This is a descriptive, cross-sectional study of Dutch midwives. No official medical ethical procedure was required, according to the Medical Research Ethical Committees United, as an online anonymous questionnaire was used to obtain data.

Data Collection

All midwives working in the Netherlands were eligible to participate. Midwives were invited to participate in our study by filling out an online questionnaire for which the link was sent in an email to all midwives who were members of the Royal Dutch Organization of Midwives (KNOV), and Talmor, an organization that provides workshops and seminars to midwives. Both organizations were used to maximize exposure to the invitation, because not all midwives are members of KNOV. There is considerable overlap between the 2 databases. KNOV placed the link in their monthly newsletters of March and May 2014, asking members to share their experiences of work-related traumatic events. Talmor sent an email with the invitation to participate to all 1100 midwives in its database. In all communications, it was made clear that participation was anonymous and that confidentiality would be ensured. Four posts on social media (Facebook and Twitter) in April and June of 2014 also encouraged midwives to fill out the questionnaire. The total period of data collection was from March 1 to July 1, 2014. No reminders were sent to complete the survey, and unfinished data sets were not included in the data. The questionnaire was completed online by clicking on the link presented in the newsletter or email.

Measurements

Variables investigated included demographic characteristics, experiences of work-related adverse events, psychological trauma, working conditions, support offered after a traumatic event, and symptoms of PTSD, anxiety, and depression. Most variables were investigated using 4 response options, of which only one could be selected: “totally agree,” “agree,” “disagree,” and “totally disagree.” Four questions consisted of multiple tick boxes regarding emotionally exhausting moments at work and how support could best be developed. An example of one of these questions is, “What situations at work do you perceive being emotionally most stressful?” One or more of the following statements could be selected: “bringing bad news,” “critically ill moments of a patient or baby,” “missing a diagnosis,” “death of the mother or child,” “doubt regarding the decision that has been made,” “not applicable,” or “other.” The answers given by the midwife were not ranked by importance. As soon as the box “other” was ticked, the participant was

free to add additional information. The additional information was coded and analyzed for further interpretation within the results.

The Trauma Screening Questionnaire (TSQ) is a 10-item screening instrument that corresponds to a provisional diagnosis of PTSD according to the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition.¹¹ In the case of this study, the TSQ could only be filled out if a midwife reported having experienced at least one traumatic event more than 4 weeks ago. Prior to answering the questions of the TSQ, “yes” or “no” had to be selected concerning the following 3 questions: 1) “Did you ever experience (a) traumatic event(s) at work during your career as midwife?” 2) “Did you respond to this event(s) with intense fear, horror, or feelings of helplessness?” 3) “Did this event(s) happen at least four weeks ago?” The answer options were “Yes, I answered all three questions with yes” or “No, I did not answer all three questions with yes.” If “yes” were answered to all 3 questions, it was considered likely to be a traumatic event, and consequently the TSQ questionnaire could be filled out. The TSQ consists of 10 yes-or-no questions focusing on 2 of 4 core symptoms of PTSD (re-experiencing and hyperarousal). An example of a yes-or-no question used is, “Are you feeling upset by reminders of the event? Yes/no.” The maximum possible total score for the TSQ was 10 points, of which a score of 6 or higher suggested probable PTSD. In the Netherlands, a TSQ score of 6 or higher was validated to have a sensitivity of 0.94 and a specificity of 0.56.¹² The last question consisted of an open-ended question, asking the midwife to briefly describe the situation perceived as traumatic. We analyzed this question and divided the answers into subgroups such as death of a patient, conflicts with colleagues, and postpartum hemorrhage.

The Hospital Anxiety and Depression Scale (HADS) is a self-report screening questionnaire that has been validated to indicate anxiety disorders and depression among patients who are hospitalized.¹³ It consists of 14 questions, 7 pertaining to anxiety and 7 pertaining to depressive symptoms. The HADS uses a 4-point Likert scale for answers. A HADS-depression or HADS-anxiety score of 8 or higher indicates clinically relevant depression or anxiety symptoms, respectively. The sensitivity of the HADS-anxiety cutoff point 8 or higher is 0.90 with a specificity of 0.78,¹⁴ and the sensitivity of the HADS-depression cutoff point 8 or higher is 0.83 with a specificity of 0.79.¹⁴ The maximum score for all questions indicating possible anxiety symptoms is 21. The maximum score for all questions indicating depressive symptoms is 21. The HADS-total score is used to indicate symptoms of “clinically relevant general distress.” A score of 13 or higher is used as cutoff value for the HADS-total score, resulting in a specificity of 0.77 and a sensitivity of 0.79.¹⁵ The HADS-total score, combining both scores, results in a maximum score of 42 points.

Statistical Analysis

The statistical analysis was performed using SPSS for Windows, version 22 (IBM Corporation, Armonk, NY). Continuous variables were presented as medians and interquartile ranges. Categorical variables were presented as numbers and percentages; differences between groups were tested using the

χ^2 test for categorical variables. A *P* value less than .05 was considered statistically significant.

The responses of midwives working in secondary and tertiary care were merged together as one group for the statistical analysis because of the relatively small size of the groups and the fact that both groups work in a hospital under supervision of an obstetrician-gynecologist. If a midwife were working in primary care as well as secondary or tertiary care, she or he was counted as a member of the primary care group. In the comparison of results between primary care and secondary and tertiary care midwives, 21 (3%) who were not working in clinical settings were excluded. These involved midwives currently working in fields such as research, teaching, sonography, or management. However, this group of midwives was not excluded in the analysis of work-related traumatic events because they may have experienced work-related traumatic events while working as practicing clinical midwives in the past.

RESULTS

The estimated response rate based upon the total population of midwives working in the Netherlands was 23%. The questionnaire concerning demographic variables was completed by 691 midwives. The demographic characteristics of the respondents are listed in Table 1. Most respondents were female (98%), and the average duration of work experience was 10 years. Of the sample, most midwives (*n* = 531; 77%) worked in primary care (working in a partnership, owner of a solo practice, or employed by a partnership); 139 (20%) midwives worked in either secondary care or tertiary care. The remaining group consisted of 21 (3%) midwives who did not work in either a primary setting or a secondary or tertiary setting. Compared with the national statistics published by the Netherlands Institute for Health Services Research,¹⁶ our sample is representative of the total population and subdivision of midwives working in primary care and a hospitalized setting.

The HADS was completed by 675 (98%) midwives, of whom 96 (14%) had clinically relevant anxiety symptoms and 48 (7%) reported symptoms indicating possible depression. Eighty-nine (13%) of the midwives reported encountering a traumatic event; 15 (12%) of these midwives answered the questions in the TSQ, and 15 (17%) met the criteria for probable PTSD. Of the total group, 2% of the midwives were at risk for PTSD. Four midwives reported having experienced a traumatic event but did not complete the TSQ.

The HADS scores for HADS-anxiety and HADS-depression are shown in Table 2. The HADS-anxiety scores of midwives in primary care were significantly higher than those of hospital midwives (16% vs 8%, respectively; *P* = .014). The HADS-depression scores of midwives in primary care were not significantly higher than those of hospital midwives (8% vs 5%, respectively; *P* = .2).

A significant difference was found in HADS-total scores between midwives working in primary care versus hospital midwives (16% and 8%, respectively; *P* = .014). Midwives with elevated HADS-total scores (indicating general distress) were more often dissatisfied with the support offered when compared with their colleagues who were satisfied with

Demographic Characteristics	Total (N = 691)	Primary Care (n = 531, 77%)	Secondary and Tertiary Care (n = 139, 20%)	Remaining Group (n = 21, 3%)
Female, n (%)	680 (98.4)	525 (98.9)	135 (97.1)	20 (95.2)
Male, n (%)	11 (1.6)	6 (1.1)	4 (2.9)	1 (4.8)
Age, y, n (%)				
20-24	21 (3)	21 (4)	0 (0)	0 (0)
25-34	297 (43)	249 (46.9)	44 (31.7)	4 (19)
35-44	188 (27.2)	134 (25.2)	45 (32.4)	9 (42.9)
45-54	126 (18.2)	87 (16.4)	33 (23.7)	6 (28.6)
55-65	57 (8.2)	38 (7.2)	17 (12.2)	2 (9.5)
65+	2 (0.3)	2 (0.4)	0 (0)	0 (0)
Years in practice, mean (interquartile range)	10 (7-16)	11 (7-17)	9 (6-14)	10 (5-20)

support that was offered (20% vs 8%; $P < .001$). Midwives with elevated HADS-total scores also reported working more defensively compared with midwives without elevated HADS-total scores. (20% vs 10%, respectively; $P < .001$).

Of the total group, 32 (5%) midwives reported PTSD symptoms from a previous period caused by a work-related event. The work-related events experienced as emotionally the most traumatic are shown in Figure 1. No statistically significant differences were found between midwives working in primary care or hospital midwives in the types of stressors reported. A significantly higher proportion of midwives in primary care reported adjusting their working conditions after being involved in a traumatic event compared with their hospital counterparts (35% vs 22%; $P = .004$). No significant difference was found between primary care and hospital midwives in the help being offered after an adverse event ($P = .233$).

Figure 2 shows the ways midwives reported seeking support after having experienced an emotionally stressful or traumatic event. Figure 3 shows the type of support the respondents would prefer to receive after an adverse event. Midwives who were aware of the existence of guidelines for support after an adverse event were significantly ($P < .001$) more satisfied about the support offered compared with midwives without guidelines regarding support. Next to this, significantly more midwives working in a hospital setting reported being aware

of guidelines regarding support compared with primary care midwives.

DISCUSSION

In this study, at least one work-related traumatic event was reported by 89 (13%) midwives, of whom 15 (17%) screened positive for PTSD and 14 (2%) met criteria for probable PTSD. Clinically relevant anxiety symptoms were reported by 95 (14%) respondents, and clinically relevant depressive symptoms were reported by 47 (7%) of the total group. Midwives working in a primary care setting scored significantly higher regarding symptoms of anxiety compared with midwives working in a hospital setting.

The probable work-related PTSD prevalence found in this study (2%) is almost twice the PTSD prevalence rates among the general population, which is estimated to be 1.3%¹⁷ and not expected to be specifically work related. Considering this, Dutch midwives could be at increased risk of developing PTSD compared with the general population. Almost 1 of 5 midwives who reported having experienced a traumatic event is suffering symptoms that are suggestive for PTSD.

The PTSD prevalence among midwives in this study was found to be the lowest reported prevalence compared with other studies, in which prevalence rates have been reported as 5%,⁹ 17%,⁶ 26%,⁷ 33%,² and 36%.⁸ In this study, the TSQ

Scale	Total (N = 675)	Primary Care ^a (n = 522)	Secondary and Tertiary Care ^b (n = 132)	P Value
HADS-anxiety score $\geq 8^c$	96 (14)	83 (16)	10 (8)	.014
HADS-depression score $\geq 8^d$	48 (7)	39 (8)	6 (5)	.235
HADS-total score $\geq 13^e$	98 (15)	83 (16)	10 (8)	.014

Abbreviation: HADS, Hospital Anxiety and Depression Scale.

^aExcluding missing values, n = 9.

^bExcluding missing values, n = 7.

^cThe maximum score of HADS-anxiety is 21.

^dThe maximum score of HADS-depression is 21.

^eThe maximum score of HADS-total is 42.

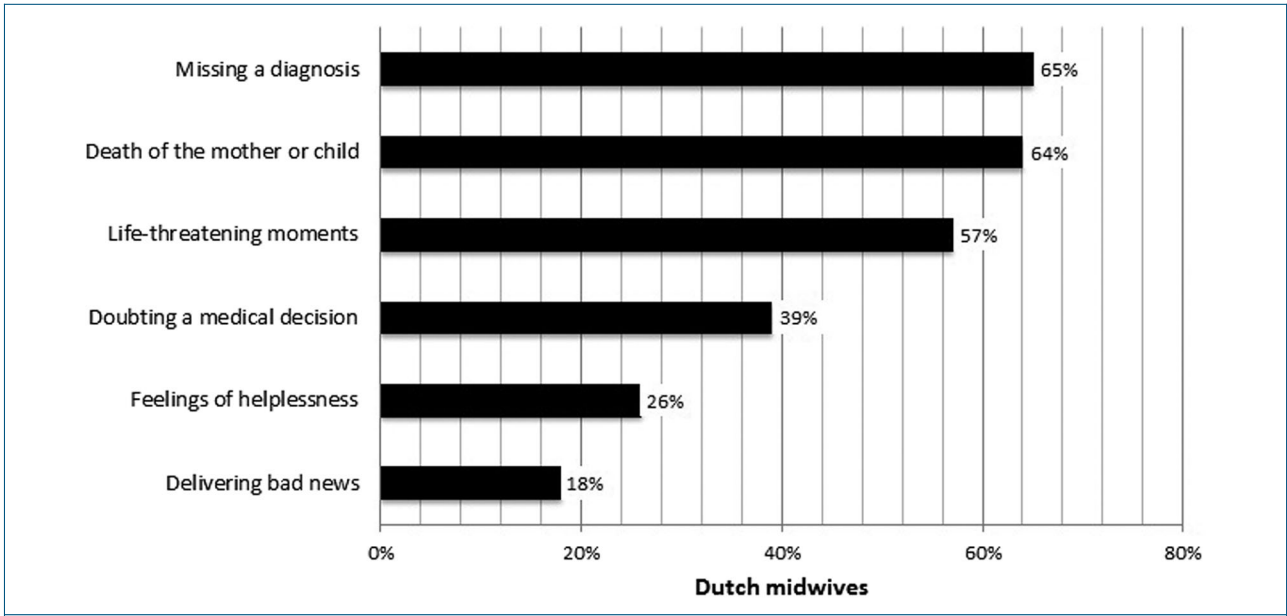


Figure 1. Most Emotionally Stressful Events According to Dutch Midwives

was used, for which a cutoff score of 6 or higher has been validated with a sensitivity of 0.94 and a specificity of 0.56.¹² This somewhat low specificity may result in an underestimation of the prevalence. In this study, midwives were specifically asked to answer questions about work-related events to screen for work-related PTSD only. Other research, such as a study carried out in the United Kingdom, could have included PTSD as the result of non-work-related trauma.² This difference in methods and focus could result in an identified prevalence of PTSD among midwives that overestimates PTSD that is secondary to traumatic work-related events. This could at least partially account for the differences in our findings. Another consideration is that Beck et al^{7,8}

used the Secondary Traumatic Stress Scale, which has been validated for secondary traumatic stress but is less likely to discriminate between PTSD and other mental disturbances such as depression or burnout.¹⁸ For example, it is possible that respondents met the criteria for probable PTSD but were coping with different underlying mental health problems, resulting in more respondents meeting the threshold criteria for traumatic stress. It should also be considered that the survey was unable to reach midwives who have retired or have left the profession, given that one of the outcomes reported by health care workers who experience trauma is changing their position or leaving the profession.¹⁹ Nor was the study able to reach midwives who were not members of KNOV. These

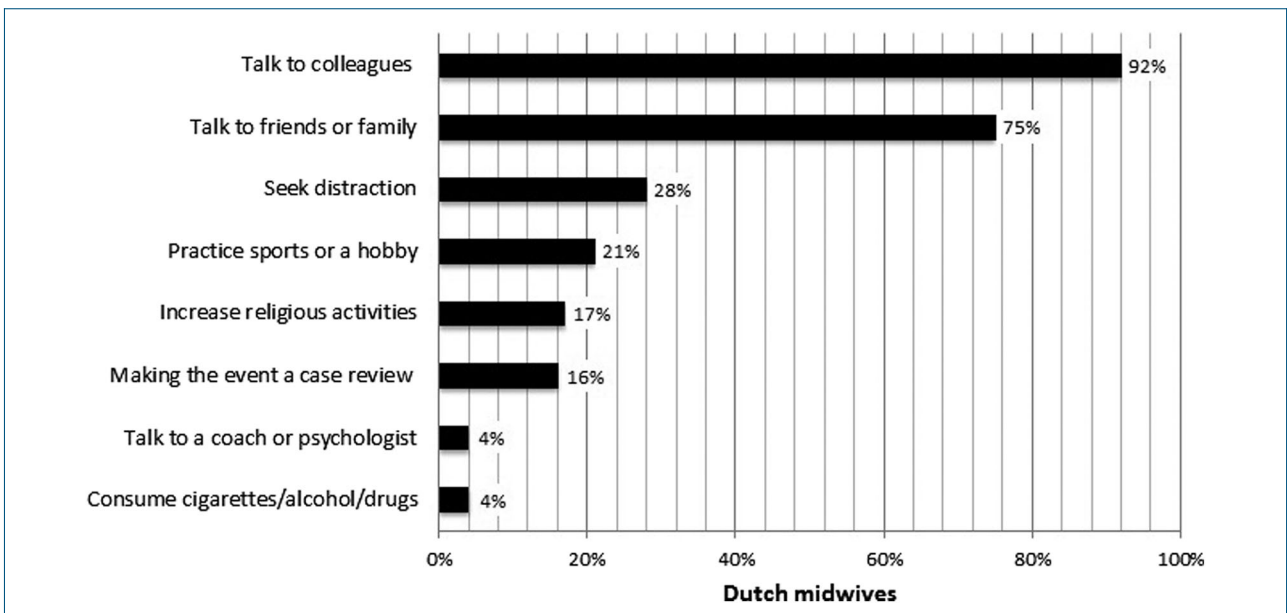
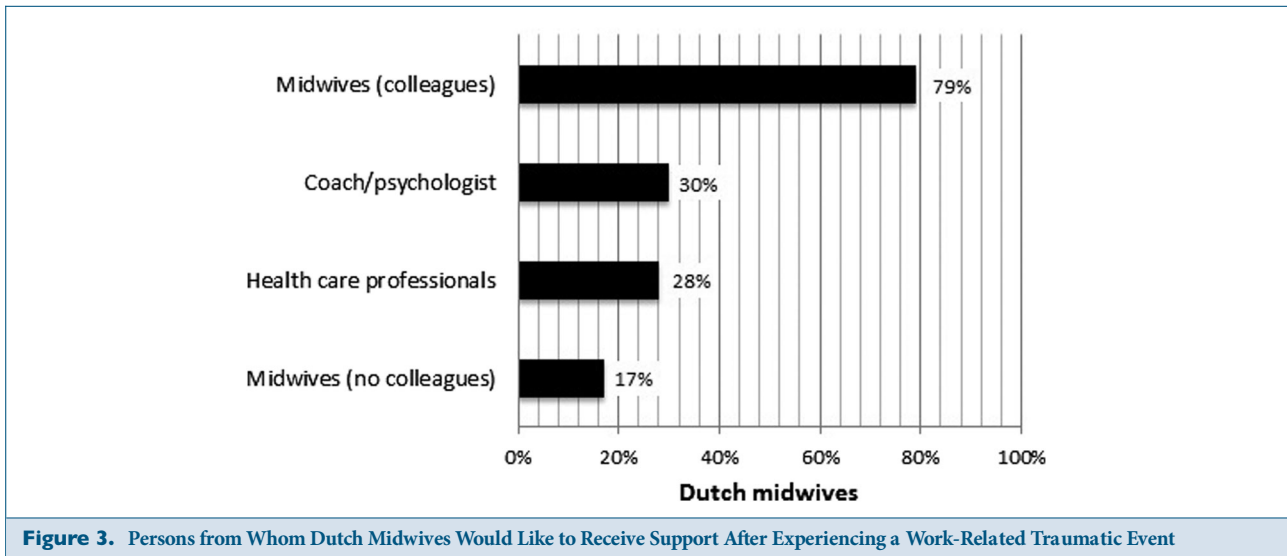


Figure 2. The Ways Dutch Midwives Seek Support After Experiencing a Work-Related Traumatic Event



factors may potentially lead to an underestimation of the total prevalence of PTSD among the population considered in our study. Furthermore, because avoidance is a recognized core symptom of PTSD, it should be considered that there is an unspecified population of midwives with PTSD among the nonresponders.

Events indicated as the most traumatic in our study were death of a patient, complications, and aggression, which are consistent with previous studies.^{8,20} In a comparison of the type of events experienced as traumatic by midwives working in a primary care versus a hospital setting, no difference was found. It can be speculated that as when identical events are experienced as traumatic, regardless of the setting (primary care, secondary care, tertiary care), other factors such as personality, working conditions, or environmental factors are likely to affect the degree of emotional impact.

Our results also show a discrepancy between professional psychological support desired and received. In this study, 26% of the midwives wanted support from a coach or psychologist after a traumatic event. The significant ($P < .001$) increase in satisfaction with the support received by midwives who were aware of the implementation of guidelines was remarkable. These results suggest that implementation of guidelines regarding support after an adverse event could be beneficial for midwives and is likely to improve midwives' satisfaction with the support received.

The last important finding of this study was that midwives working in primary care reported significantly higher levels of anxiety. One explanation for this could be that midwives in primary care work alone most of the time, leading to high levels of personal responsibility for a woman or clinical situation. Another reason could be support, which may or may not occur after an adverse event. It could be harder for midwives working in primary care to deliberate with colleagues because they work alone most of the time. Lack of support after trauma is suggested to be a significant risk factor affecting the development of PTSD.¹³ On the other hand, the increase in anxiety symptoms in primary care midwives could also be explained by initial differences in choosing workplaces. It could be hypothesized that midwives working in primary care feel more

comfortable working with a low-risk population because of preexisting higher levels of anxiety.

Our study's main strength is the high estimated response rate of 23%, with previous studies documenting response rates of 5% to 16%.^{2,7,8} Another strength is the respective breakdown of respondents working in primary care and hospital settings, which is broadly representative of the national proportions.¹⁰ This supports our assertions that the trends seen in this study can be used to analyze overall nationwide prevalence.

However, the estimated response rate of 23% does mean that more than three-fourths of midwives working in the Netherlands at the time did not fill out the survey. This may have increased the chance of selection bias and can be considered a limitation of this study. The study was limited to midwives who are currently working and members of KNOV and/or Talmor. Thus, midwives who are retired, left the profession, or are not members of these organizations were not included.

Another limitation is the use of the HADS scale. This scale was designed and extensively validated for use among patients who are hospitalized. Midwives encountering work-related secondary traumatic stress could have characteristics similar to those of patients in response to trauma in a health care setting. They both encounter an unwanted situation that may cause them to feel like a victim. When midwives feel responsible for a situation and feelings of failure and guilt appear after a traumatic event, they are more vulnerable to developing secondary traumatic stress.⁸ On the other hand, it is possible that midwives and patients do not have enough in common and therefore cannot be compared. Patients often do not know what to expect, whereas midwives have experience and knowledge about different stages of labor. Also, people who are ill are more likely to develop anxiety and/or depression. Overall, obvious uncertainties exist about interpreting the results of a scale that was not originally intended for the group with which it was used. Recent research is increasingly suggesting that the HADS can also be reliably used in non-patient settings.^{10,21-23} But not enough research has been performed on the use of HADS among midwives, and therefore

the reliability and validity of the HADS in our study remains unclear.

The findings of this study indicate that there is a need for more knowledge and acceptance about traumatic work-related events, because these traumatic events can lead to the development of significant mental health disturbances. There is a need for profession-wide scaling up of support offered after a traumatic event—mainly for out-of-hospital midwifery, because primary care midwives report awareness of significantly fewer guidelines for support compared with hospital midwives. This study's results are important for midwives globally who work in solo practices and for whom access to the support of a large institution is not part of their daily interactions. Midwives geographically distant from birth centers or help from colleagues could also benefit from support offered after a traumatic event. According to our study, the opportunity to deliberate with peers, friends, and family after a traumatic event is crucial, and efforts should be made to facilitate this in the work environment. Previous research has found peer support to be the strongest predictor for recovery of a second victim (ie, a health care provider) after a traumatic event.¹⁸ Support from superiors is also likely to have a protective influence against the development of burnout.²⁴ Therefore, a potential suggestion could be the implementation of a mentor or buddy network scheme among primary care midwives to reduce feelings of isolation when encountering traumatic events.

It is also clear that measures need to be taken to address the discrepancy between midwives desiring and midwives receiving professional help. Scaling up access to professional psychological support may be important in reducing the long-term psychological morbidity of midwives exposed to traumatic events, which could be facilitated by making midwives aware of potential services to contact if they are having difficulties with their jobs. At the same time, education should focus upon raising awareness of the frequency of work-related stressful and traumatic events in the midwifery profession so that midwives feel better prepared if they encounter these traumatic events.

Regarding future investigation, repetition of this study in the future could be of interest to assess whether there has been any change in access to psychological support, which would possibly change the overall prevalence of PTSD. By repeating the survey and linking the results to specific policy changes, it could be assessed whether midwives consider such changes beneficial. Future research could also focus on explanations for the increased levels of anxiety reported and elaborate more on the design of the desired support and the possible positive effects such support might bring. In particular, focusing on different ways of providing peer support and on its effectiveness could be of interest to increase evidence for how to support midwives encountering secondary traumatic stress. Lastly, reasons for the difference in PTSD prevalence between the Nordic culture and health care system and other countries could be an interesting topic for future research. These differences could be investigated by repeating this study in other countries to gain insight into international differences in the midwifery profession and their possible effects.

CONCLUSION

This study is the first to investigate the prevalence of probable PTSD and clinically relevant anxiety and/or depression symptoms as well as the coping and support after work-related traumatic events in Dutch midwives. Almost 1 of 5 midwives (17%) who reported having experienced a traumatic event had symptoms that could be suggestive of PTSD. Our findings show that improving access to professional help, improving peer support, and implementation of guidelines regarding support after a traumatic event could have substantial beneficial effects on the mental well-being of midwives.

CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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