



The barometer of moral distress in midwifery: A pilot study

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ABSTRACT

Background: Moral distress is a phenomena that occurs following a compromise to moral beliefs. Moral distress has been reported across health professions, including midwifery. Although there are validated tools to assess for moral distress, none have been identified that suit the Australian healthcare system or midwifery.

Aim: The aim of this study was to pilot the Barometer of Moral Distress in Midwifery.

Methods: This study was the fourth stage of a mixed method project. Using a cross-sectional approach, a survey tool including demographic questions, the Barometer of Moral Distress in Midwifery, and the Copenhagen Burnout Inventory assessed tool stability, reliability, and validity.

Findings: A total of 103 surveys were completed. A test-retest demonstrated tool reliability and stability ($\alpha = .97$). Factor analysis confirmed internal consistency; Factor 1 - Professional Identity ($\alpha = .91$), Factor 2 - Inadequate Resources ($\alpha = .85$), and Factor 3 - Unethical Cultures ($\alpha = .88$). Concurrent validity was demonstrated through positive correlations between self-reported types of moral distress with mean scores for each Factor. Strong correlations were identified between work-related burnout and mean scores, while only weak correlations were noted between client-related burnout and mean scores. Only Factor 1 demonstrated a correlation between leaving the profession and mean scores.

Discussion/conclusion: This was the first moral distress tool that assessed both frequency of exposure and psychological outcomes to score moral distress. Findings indicate that moral distress in midwifery is not associated with caring work but with occupational environments. Further research is required to assess self-sacrifice in moral distress.

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Statement of significance

Problem:

Despite a growing awareness of moral distress, there are currently no validated tools to screen for this in midwifery practice in Australia.

What is already known:

Australia is facing a midwifery workforce crisis. There has been a large attrition from the profession and midwives have described escalating levels of burnout, stress and anxiety-related symptoms. Although these symptoms may be associated with moral distress, there are currently no validated tools to assess for this in midwifery practice.

What this paper adds:

This paper provides evidence to support the preliminary validity of the Barometer of Moral Distress in Midwifery. Further, this study evidences the concept that midwives are not dissatisfied with the caring work associated with working with women but rather from their working environments.

1. Introduction

Moral distress has been described as a ‘matter of great concern for healthcare professions’ [1,p.1]. First identified by Jameton in 1984 [2, 3], moral distress refers to situations of moral compromise when an individual is not able to provide the care they feel a person requires. Further, it encompasses the emotional and psychological response that healthcare professionals experience following these exposures [4]. Moral distress has been associated with decreased work satisfaction and performance [5], reduced levels of client care [6,7], attrition [8], and burnout [1,9].

Jameton’s initial definition of moral distress presented the concept as organisational barriers to doing the right thing [3]. However, contemporary definitions have included the need for both a morally compromising situation and a negative psychological outcome [1,2,4,9, 10]. Although the inclusion of a negative psychological outcome is widely accepted, current tools to assess for moral distress in practice focus on the situation and frequency and/or level of disturbance associated with each situation rather than the types of psychological symptoms [2,10,11]. The primary issue with this approach is that measuring levels of disturbance and the frequency of exposure may not adequately demonstrate the psychological impact [1,12,13].

Work-related stress and burnout are prevalent in contemporary Australian midwifery practice [9,14–19]. Midwives have described escalating levels of stress [17], anxiety [16], depression [14], trauma [15], and declining levels of quality of life [20]. Current workforce shortages, combined with fiscal pressures on health services, have led to unprecedented demands on midwives, creating environments that are not conducive to safe or quality care [21].

While there is a limited description of moral distress in midwifery, emerging literature suggests that many of the practice situations and psychological symptoms described by midwives may be associated with moral distress [4,9]. Despite this growing awareness, no validated tools exist to measure moral distress in a midwifery context. Existing tools are limited both contextually and theoretically and may not be suitable for use in midwifery practice [4].

This study is the final stage of a sequential exploratory mixed methods project focused on understanding the concept of moral distress in midwifery practice. The aim was to assess the validity and reliability of the new tool to measure moral distress in midwifery. The tool was labelled the Barometer of Moral Distress in Midwifery (BMDM).

2. Methods

An exploratory sequential mixed method approach underpinned this project, providing a robust design to generate knowledge and develop a reliable tool [4]. The first three phases of the research were used to develop a conceptual understanding of moral distress through a concept analysis [4], understand the contextual experiences of Australian midwives through in-depth interviews [9], and develop potential items for the BMDM using a Delphi process [9,22]. This mixed method strategy is common in tool design due to the strength of the participant’s voice to inform the content and structure of the tool [23].

A cross-sectional approach was chosen for the pilot study to test the new tool. Cross-sectional studies are observational designs that afford the researchers an opportunity to identify exposure and outcomes in a participant at the same time [24]. This approach is commonly used in tool development as it can serve as a baseline for future longitudinal cohort studies [24]. The key feature in a cross-sectional design is that participants are not required to have the necessary exposure or outcome but must meet broad inclusion/exclusion criteria, which are usually related to a specific environment [24]. In this study, participants were required to have recency of practice. It was not necessary for the midwife to have experienced moral distress. The purpose of this approach was to allow for a range of experiences to test the BMDM across a variety of participants rather than only those identifying as having moral distress.

2.1. Inclusion/exclusion Criteria

The inclusion criteria was having practised midwifery in Australia in the last five years. Exclusion criteria were previous midwifery registration that ceased more than 5 years ago or not having practised in midwifery Australia, and any health professions outside of midwifery.

2.2. Data Collection

Data were collected between August 2022 and May 2023. Participants were recruited via social media. A link directed potential participants to a study website containing information relating to moral distress as a concept, literature and study publications, information on the research team, as well as the participant information and consent forms. Participants who indicated that they met the inclusion criteria and gave consent were able to access the survey.

All data were collected via an anonymous online survey using the Survey Monkey® platform. A test-retest of the BMDM was undertaken to assess reliability. Ten midwives agreed to complete the BMDM twice across a two-week time period. Responses were collected and analysed separately from the pilot survey. Participants in the test-retest provided a unique code at the start of the survey to ensure their two responses could be matched while maintaining anonymity. The test-retest process aimed to determine the extent to which the draft tool truly reflected the construct of moral distress comparably on two separate occasions [25]. While there is no clear guidance on the number of participants required for a test-retest study, as a pilot study, this number was deemed to be satisfactory [25].

Piloting of the BMDM occurred using a three-part survey tool. The three sections included demographic and career intention information, the BMDM, and finally, the Copenhagen Burnout Inventory (CBI) [26].

2.3. Survey Measures

2.3.1. Demographic information

Demographic information provided a profile of participants and practice variables, including the state or territory of Australia in which they practised, area of practice (i.e. rotation, postnatal, labour and birth, etc), practice setting (i.e. public/private), registration type (registered midwife or registered nurse/midwife) and years of practise. An

additional question was asked about career intention for the next six months (staying in their current role, seeking a new position, leaving midwifery, having recently left midwifery, retirement, or other).

2.3.2. Barometer of Moral Distress in Midwifery

Construct and face validity of the BMDM were achieved through a concept analysis [4] and in-depth interviews [9]. To establish content validity, statements and scoping for situations and outcomes were established and refined through a three-phase Delphi study [22].

The draft BMDM had 59 items presented in two sections. Section one (40 items) related to the frequency of exposure to morally compromising situations (situation items). Participants were asked to rate their exposure to situations using a 5-point Likert scale of never = 1 to always = 5. Section two (19 items) contained psychological outcome items. Each outcome item had been assigned a rank score during the Delphi process ranging from 1 = moral distress to 5 = moral injury. Participants selected all psychological outcome statements that related to them. Scores for the BMDM were calculated by combining the frequency score of items with the psychological outcomes scores.

Following the BMDM, a separate question asked participants to identify which type of moral distress they believed they were experiencing. Categories according to severity were 1 = moral frustration, 2 = moral frustration/distress, 3 = moral distress, 4 = moral distress/injury and 5 = moral injury.

2.3.3. Copenhagen Burnout Inventory (CBI)

The CBI is a validated tool that measures burnout using three subscales: personal burnout (six items), work-related burnout (seven items) and client-related burnout (six items) [26]. Twelve items relate to the frequency on a five-point Likert scale ranging from '100 (always), 75 (often), 50 (sometimes), 25 (seldom) and 0 (never/almost never) [25]. Seven items relate to intensity ranging from 'a very low degree' to 'a very high degree' [25]. In each category, scores below 50 are considered mild, 50–74 are moderate, and 75–99 is considered high. A score of 100 characterises severe burnout [26].

3. Data Analysis

All data were analysed using SPSS version 28. The reliability of the BMDM test-retest was analysed using a weighted Kappa coefficient. Based on the recommendations of Cohen, a lower limit of 0.2 identified situation items that were not reliable [27]. Any items that fell below this limit were assessed and discussed by the team.

Prior to analysis, all pilot data were assessed for errors and outliers. Histograms were used to assess the distribution of data, which was not normal, therefore, non-parametric testing using bivariate correlations was used to compare the scale variables. All cases with missing data were assessed, and the 'exclude cases pairwise' option was chosen. This option allows for all cases which may be incomplete but have the required information to be included in the statistical analysis [25].

Factor analysis was conducted to establish relationships between items (construct validity) and reduce the total number of items. Based on the recommendations of Pallant [25], assumptions for a factor analysis were assessed. Both the Kaiser-Meyer-Olkin (KMO) (=0.84) and Bartlett's Test of Sphericity ($p < 0.001$) demonstrated acceptability for analysis. Direct Oblimin rotation with Kaiser normalisation was used. Factor extraction was conducted using Kaiser's criterion of eigenvalues of greater than one, assessment of the scree plot, and parallel analysis. Following this assessment, the correlation matrix was analysed for coefficients of >0.3 to support factorability.

The BMDM scores were calculated for factors and a total score. These scores were correlated to the CBI factor scores using Spearman's rank coefficient to determine concurrent validity. Concurrent validity was also determined using the Kruskal Wallis H test to assess any correlation between self-identified types of moral distress and the BMDM scores. Predictive validity was measured using a Mann-Whitney U test between

the BMDM factor scores and intention to leave or stay in the profession, along with appropriate effect size statistics according to Cohen's criteria (0.1 = small effect, 0.3 = medium effect, 0.5 = large effect).

3.1. Ethical considerations

All responses were anonymous and could not be linked back to any individual participant. Given the potential for the questions to trigger distress, participants were provided links to mental health services before commencing the survey. These links were also available on the study website. This study received Human Research Ethics Committee approval (ref: 208085) from an Australian university.

4. Findings

4.1. Participant demographics

A total of 103 surveys were completed. As demonstrated in Table 1, there was an even representation of midwives with single registration (50.5%) and dual registered nurse/midwives (49.5%). All Australian states and territories, except the Australian Capital Territory, had representation. All practice roles were represented and included clinical practice across the entire scope of midwifery practice, management, and education. Length of practice as a midwife ranged from graduate (less than one year) to more than 21 years. While half of the respondents ($n = 56$, 54.4%) indicated they were planning on staying in their current role, around a quarter were seeking a new position in midwifery ($n = 24$,

Table 1
Participant Characteristics.

Characteristics	Category	n = 103	%
Registration	Registered midwife	52	50.5
	Registered nurse/midwife	51	49.5
State	South Australia	36	35.0
	New South Wales	25	24.3
	Queensland	20	19.4
	Victoria	16	15.5
	Western Australia	4	3.9
	Northern Territory	1	1
	Tasmania	1	1
	Australian Capital Territory	0	-
Practice Scope	Rotation	40	38.8
	Midwifery group practice/ continuity of care model	26	25.2
	Labour and birth	16	15.5
	Postnatal	6	5.8
	Antenatal/gynaecology	5	4.9
	Private/independent practice	4	3.9
	Special care nursery	2	1.9
	Clinical education	2	1.9
	Management	2	1.9
	Practice Site	Public	86
Country		8	7.8
Years of practice	Private	6	5.8
	Less than 1	3	2.9
	1–2	11	10.7
	3–5	28	27.2
	6–10	28	27.2
	11–15	10	9.7
	16–20	5	4.9
	21+	18	17.5
	Career Intentions for the next 6 months	Continuing in your current position	56
Seeking a new position in midwifery		24	23.3
Have already left midwifery		6	5.8
Leaving midwifery to pursue a different carer path		9	8.7
Leaving midwifery to leave the workforce (retire)		2	1.9
Other		6	5.8

23.3%), and less than ten percent (n = 9, 8.7%) were leaving midwifery to pursue a different career path.

4.2. Test-retest

The BMDM demonstrated reliability with a Cronbach alpha of 0.97. Stability was established through the test-retest process, The lower limit of the weighted Kappa coefficient (0.2) was not met by two items (6 = .11 and 9 = -.14) indicating poor stability over time. Consideration of the Kappa co-efficients; principal components analysis values, the high Cronbach’s alpha (.97); and high eigenvalues in the factor analysis prompted the subsequent removal of these two items from the BMDM.

4.3. Factor analysis

The factor analysis revealed eight items with an Eigenvalue >1, accounting for 33.2%, 8.7%, 7.1%, 5.6%, 4.6%, 3.8%, 3.5% and 2.7% respectively. The scree plot indicated a flattening of the curve around the 7th component. Guidance from the parallel analysis indicated four factors with eigenvalues above the random mean. Although three, four, five, and six-factor structures were assessed, the three-factor solution was deemed the most interpretable due to statistical coherence, alignment with the literature on moral distress, and earlier feedback from the Delphi consultation processes. The three-factor loading explained 49% of the overall variance. Table 2 presents the factor loadings of the situation items.

The emerging factors were labelled Professional identity (Factor 1), Inadequate resources (Factor 2), and Unethical culture (Factor 3). Situation items number one and 39 did not load on any factor and were, therefore, not included in the ongoing analysis of the BMDM. The Cronbach’s alpha for each factor demonstrated good internal consistency (Professional identity $\alpha = 0.91$, Inadequate resources $\alpha = 0.85$ and Unethical culture $\alpha = 0.88$).

4.4. Frequency of exposure

The most frequently experienced morally distressing situation was number 39, which scored a mean of 4.26 (out of 5) (SD 0.77), indicating that nearly all participants ‘always’ experienced this situation (see Table 3).

The next three most frequently experienced situations related to Inadequate resources (Factor 2) led with situation item 26, ‘The workload is so great that I am not able to give the type of care that I want/should to babies/families’ (4.06 SD0.95). The most frequently experienced situation related to Professional identity (Factor 1) was item 40, ‘I work in a system that does not promote or support normal physiological pregnancy and birth’ (3.86, SD1.01). The most commonly experienced situation in the Unethical culture Factor was 24 ‘I am forced to prioritise health service policy over care’ (3.76 SD0.95).

4.5. Psychological Impact

Participants were asked to select the psychological outcome statement that best related to them (as shown in Table 4). The most commonly reported was number 2, ‘I think about my shift in the days following’ (n = 88, 85.4%). The least frequently selected psychological outcome was number 10, ‘I am ashamed of my actions at work (n = 11, 10.7%).

4.6. Self-reported type of moral distress

Participants identified the type of moral distress experienced (n = 98). Moral frustration (n = 39, 37.9%) and moral distress (n = 39, 37.9%) were the highest reported types, followed by moral injury (n = 14, 13.6%). Only a small number of participants selected frustration and distress (n = 4, 3.9%); frustration, distress, and injury (n = 3, 2.9%); and

Table 2
Factor analysis of situation items.

Situation Items	Factor 1: Professional identity, autonomy and acknowledgement	Factor 2: Unsafe/inadequate resources	Factor 3: Unethical culture
14 I practice in a workplace where midwifery is not valued as a profession	0.77		
13 The philosophy of midwifery is not valued in my workplace	0.73		
12 There is a negative ethical culture in my workplace	0.72		
5 My relationship with the family is not respected by peers/other health professionals	0.71		
10 My professional opinion is not sought or considered by peers/other health professionals	0.70		
8 My professional judgement is inappropriately invalidated by peers/other health professionals	0.69		
31 I do not believe the midwifery code of ethics is congruent with the culture of my workplace	0.68		
17 I fear the repercussions of challenging poor practice	0.62		
11 I am prevented from working to my full scope of practice	0.59		
32 I am not supported by my team leaders or managers	0.58		
22 Health service policy prevents me from providing care that could positively impact on the family’s/baby’s outcomes	0.57		
3 Inappropriate inter professional communication impacts on the care of the family	0.54		
40 I work in a system that does not promote or support normal physiological pregnancy and birth	0.51		
37 I work in a culture where unnecessary intervention is accepted	0.49		
21 I am unable to offer services to families they could benefit from	0.48		
33 I work with staff who do not provide the same standard of care as myself	0.42		

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Table 2 (continued)

Situation Items	Factor 1: Professional identity, autonomy and acknowledgement	Factor 2: Unsafe/inadequate resources	Factor 3: Unethical culture
26 The workload is so great that I am not able to give the type of care I want/should to families and babies		0.83	
27 I am not supported enough with my workload to give families/babies the care they require		0.76	
25 There are insufficient resources to adequately care for the families/babies in my health service		0.73	
28 I am too busy with administration to give adequate care		0.70	
23 I am required to send families/babies home within a specific timeframe to meet organisational outcomes despite having concerns regarding their preparedness		0.58	
16 I work with staff who do not have adequate skills, knowledge or attitude for the required care	0.41	0.56	
15 I work with staff who do not have the skill or expertise to care for families and babies to a high standard	0.40	0.54	
30 I am unable to practice in accordance with my midwifery philosophy		0.41	
2 I do not speak up when I witness interventions occurring without informed consent			0.77
29 I conform to the culture of the health service even though I do not believe it supports my practice beliefs			0.65
36 I perform unnecessary interventions			0.65
34 I do not speak up against poor practice			0.62
35 I undertake actions that are not in the best interest of the baby/family			0.59
38 I undertake unnecessary tests and interventions to appease others			0.57
18 I withhold information/choices from families			0.51
7 I am unable to challenge poor decisions in practice	0.43		0.51

Table 2 (continued)

Situation Items	Factor 1: Professional identity, autonomy and acknowledgement	Factor 2: Unsafe/inadequate resources	Factor 3: Unethical culture
19 I fear I may lose my job if I do not conform to hospital culture			0.47
20 I fear I may lose the respect of my colleagues if I do not follow hospital norms			0.44
4 Families are treated punitively if they do not conform to standard care options			0.42
24 I am forced to prioritise health service policy over care			0.41
1 I perform interventions when there has not been informed consent	Did not factor		
39 I provide the care I feel is necessary for the woman/baby but this occurs at my own expense i.e skipping meal breaks, working additional unpaid hours	Did not factor		

distress and injury (n = 2, 1.9%).

4.7. BMDM scores

There was a wide range of scores for each of the three BMDM Factors. The mean score for Factor 1 (Professional identity) was 81.40 (range 25 – 133 out of a possible 140, SD 21.53); 57.8 (range 21–93 out of a possible 100, SD 17.22) in Factor 2 (Inadequate Resources); and 62.45 (range 17–110 out of a possible 120, SD 18.48) in Factor 3 (Unethical Culture).

The Kruskal Wallis H test demonstrated significant positive correlations between self-reported types of moral distress and BMDM scores across all three Factors (Table 5). Due to the small number of participants (n = 9) who selected combined types of moral distress (frustration, distress, and injury) and the difficulty in interpreting the meaning behind their choice, the decision was made to exclude these cases from this analysis.

Career intentions were re-coded into a dichotomous variable (staying in current role = 0 or leaving = 1) and examined against BMDM Factor mean scores. Factor one (Professional Identity) showed a significant relationship between leaving and moral distress scores (U=1484, p =.05). Factor two (Inadequate Resources) and Factor three (Unethical Culture) did not demonstrate any significance between leaving and BMDM scores (Factor 2, U=1407, P = 0.97, Factor 3, U=1452, P = 0.80).

4.8. Concurrent Validity

The CBI in this study demonstrated a good Cronbach’s alpha for each Factor (personal-related burnout $\alpha = 0.92$; work-related burnout $\alpha = 0.87$ and client-related burnout $\alpha = 0.86$). Spearman’s rank correlation examined relationships between BMDM and CBI Factors. As demonstrated in Table 6, work-related burnout had the highest correlation with each BDMD Factor. Personal-related burnout demonstrated moderate correlations, while Client-related burnout demonstrated weak correlations with the BMDM subscales.

Table 3
Frequency of morally distressing events.

Situation Item	Mean	Std. Deviation	Factor
39 I provide the care I feel is necessary for the woman/baby but this occurs at my own expense i.e skipping meal breaks, working additional unpaid hours	4.26	0.77	-
26 The workload is so great that I am not able to give the type of care I want/should to families and babies	4.07	0.95	2
27 I am not supported enough with my workload to give families/babies the care they require	3.91	0.98	2
28 I am too busy with administration to give adequate care	3.89	0.93	2
40 I work in a system that does not promote or support normal physiological pregnancy and birth	3.86	1.01	1
37 I work in a culture where unnecessary intervention is accepted	3.79	1.01	1
3 Inappropriate inter professional communication impacts on the care of the family	3.76	0.87	1
24 I am forced to prioritise health service policy over care	3.76	0.95	3
25 There are insufficient resources to adequately care for the families/babies in my health service	3.72	1.08	2
30 I am unable to practice in accordance with my midwifery philosophy	3.59	0.90	2
13 The philosophy of midwifery is not valued in my workplace	3.54	1.11	1
31 I do not believe the midwifery code of ethics is congruent with the culture of my workplace	3.53	1.01	1
23 I am required to send families/babies home within a specific timeframe to meet organisational outcomes despite having concerns regarding their preparedness	3.49	1.22	2
4 Families are treated punitively if they do not conform to standard care options	3.46	0.9	3
12 There is a negative ethical culture in my workplace	3.40	1.12	1
11 I am prevented from working to my full scope of practice	3.38	1.18	1
22 Health service policy prevents me from providing care that could positively impact on the family's/baby's outcomes	3.35	0.95	1
17 I fear the repercussions of challenging poor practice	3.32	1.31	1
29 I conform to the culture of the health service even though I do not believe it supports my practice beliefs	3.27	0.98	3
33 I work with staff who do not provide the same standard of care as myself	3.25	0.95	1
21 I am unable to offer services to families they could benefit from	3.25	1.15	1
32 I am not supported by my team leaders or managers	3.14	1.05	1
7 I am unable to challenge poor decisions in practice	3.07	0.99	3
10 My professional opinion is not sought or considered by peers/other health professionals	2.96	0.87	1
8 My professional judgement is inappropriately invalidated by peers/other health professionals	2.92	0.90	1
38 I undertake unnecessary tests and interventions to appease others	2.90	1.06	3
14 I practice in a workplace where midwifery is not valued as a profession	2.89	1.16	1
20 I fear I may lose the respect of my colleagues if I do not follow hospital norms	2.89	1.24	3
19 I fear I may lose my job if I do not conform to hospital culture	2.80	1.41	3
5 My relationship with the family is not respected by peers/other health professionals	2.77	1.11	1
16 I work with staff who do not have adequate skills, knowledge or attitude for the required care	2.69	1	2

Table 3 (continued)

Situation Item	Mean	Std. Deviation	Factor
15 I work with staff who do not have the skill or expertise to care for families and babies to a high standard	2.57	0.96	2
36 I perform unnecessary interventions	2.53	1.11	3
2 I do not speak up when I witness interventions occurring without informed consent	2.47	1	3
34 I do not speak up against poor practice	2.43	0.82	3
1 I perform interventions when there has not been informed consent	2.19	1.18	0
35 I undertake actions that are not in the best interest of the family/baby	2.16	0.91	2
18 I withhold information/choices from families	1.40	0.62	3

Table 4
Frequency of psychological outcomes.

Psychological outcome items	n = 103	%
2 I think about my shift in the days following	88	85.4
7 I am burnt out	74	71.8
6 I spend time reflecting on what has occurred and am able to make sense of my experiences	62	60.2
4 I feel powerless to make a difference	62	60.2
17 I am stressed/anxious when I think about going to work	62	60.2
15 My work environment has impacted negatively on my self esteem	59	57.3
9 I dread going to work	59	57.3
3 I think about my shift for weeks/months following	53	51.5
1 I cry following my shift	51	49.5
11 I experience guilt at my actions/inactions at work	46	44.7
19 I do not have a sense of fulfilment at my work	45	43.7
12 I am considering leaving midwifery practice	45	43.7
16 I advocate less for women now than I used to	36	35.0
5 I am not proud of my work	35	34.0
14 I blame myself for not speaking up	32	31.1
18 I am less involved in the care of women now than I used to be	31	30.1
13 I know I will do better next time I am faced with a moral issue in practice	24	23.3
8 I have taken unplanned leave from midwifery practice	24	23.3
10 I am ashamed of my actions at work	11	10.7

5. Discussion

This pilot study tested a new tool for moral distress in midwives. The BMDM is the first tool to include both frequency of exposure and psychological outcomes of moral distress across a spectrum of frustration, distress, and injury. Findings from this study provide evidence for the preliminary validity of the BMDM.

To date, most tools developed to assess moral distress in practice focus on situation frequency and/or level of disturbance associated with each situation rather than the types of psychological symptoms [2,10,11]. Despite this approach being the most common, Litz and Kerig [13p. 341] described the issue of ‘events versus outcomes’ and noted that exposure to a morally compromising situation is necessary but not sufficient to be described as an outcome. Other researchers suggest that the level of outcome may be the deciding factor in what type of moral distress an individual may experience [9,13,22]. When comparing the self-reported types of moral distress with the BMDM scores, there is emerging evidence that those with lower scores identify more closely with the description of moral frustration, while those with higher scores identify with moral distress and moral injury. Although there is statistical evidence to support the positive correlation of the BMDM scores with self-reported types of moral distress, the scores of those identifying with moral injury appear to be lower than those identifying as having moral distress in Factor three. Factor three relates specifically to unethical cultures and specific actions such as withholding information from families, performing unnecessary interventions or not speaking up

Table 5
Self-reported types of moral distress and mean scores.

Factor	N=	Test Statistic	Degree of freedom	Asymptotic Sig. (2-sided test)	Mean score (Frustration)	Mean score (Distress)	Mean score (Injury)
Factor 1 (Professional Identity)	89	27.81a	2	<.001	66.55	89.68	94.69
Factor 2 (Inadequate Resources)	88	24.93a	2	<.001	45.86	63.89	66.23
Factor 3 (Unethical Culture)	89	22.09a	2	<.001	50.57	70.21	67.15

Table 6
Correlations between BMDM and CBI factors.

Variables	Spearman's rho	95% CI range
Factor 1 & Personal related burnout	0.43***	0.25 – 0.59
Factor 1 & Work related burnout	0.69***	0.56 – 0.78
Factor 1 & Client related burnout	0.22*	0.017 – 0.40
Factor 2 & Personal related burnout	0.48***	0.30 – 0.62
Factor 2 & Work related burnout	0.76***	0.65 – 0.83
Factor 2 & Client related burnout	0.29*	0.09 – 0.46
Factor 3 & Personal related burnout	0.44***	0.26 – 0.59
Factor 3 & Work related burnout	0.67***	0.54 – 0.76
Factor 3 & Client related burnout	0.25*	0.05 – 0.43

* = $p < .05$; ** = $p < .01$; *** = $p < .001$.

when witnessing poor practice. The difference in scores in this Factor may result from social desirability bias. Social desirability bias is common when investigating sensitive topics and relates to participants underreporting specific beliefs, values, feelings, and emotions that may conflict with group norms [28]. Some midwives can be veracious in their commitment to their philosophy of midwifery, with woman-centred care being central to practice [29]. This is demonstrated in the findings of Bloxome et al. [30], who reported quotes from midwives who stated midwifery was part of their personal and professional identity, with woman-centred care being paramount to practice. Therefore, it may be seen as a personal failing by the midwife to select items in the unethical culture Factor. Despite this variation, the BMDM scores in this Factor did identify a difference between low and high levels of moral distress.

Studies have demonstrated an association between moral distress and attrition from health professions [31,32]. Conversely, research has also identified that midwives are reluctant to leave the profession despite reporting significant psychological distress associated with moral distress [9]. Some midwives have indicated that they chose to stay in the profession in preference to women receiving what they perceived to be inadequate care from other practitioners [9]. This may explain the low effect of moral distress on career intentions in this study, however, larger-scale research with a more sensitive measure of career intentions may clarify this further.

Consideration of situation item 39 “I provide the care I feel is necessary for the woman/baby but this occurs at my own expense i.e. skipping meal breaks, working additional unpaid hours” was warranted due to its obvious importance to participants in this study. The inability of this item to load onto a factor was not surprising, however, as it was the only item that reflected the individual rather than the work environment. This item is related to personal sacrifice and is a moral issue in the context of ‘morality to self’ [22]. While many items in the BMDM are similar to those in existing tools, the impact of self-sacrifice has not previously been included in any moral distress surveys. The construct of self-sacrifice in moral philosophy is a contemporary issue that has only recently gained attention [33]. As an emerging concept, the findings of this study have provided insights into self-sacrifice in care ethics and revealed its importance in the context of moral distress. Future research could involve the inclusion and testing of more items related to personal sacrifice as an additional Factor in the BMDM.

Establishing validity reflects the extent to which a tool measures the construct of interest rather than a different concept [34]. In this study, all three subscales of the BMDM correlated highly to work-related burnout, moderately to personal-related burnout, and weakly to client-related burnout. This is a key finding that demonstrated the distress midwives experienced did not occur from ‘caring work’ with women, but rather from their working environments. This finding is consistent with research that has indicated midwives want to provide the best possible care to women but are physically and psychologically fatigued from working in morally untenable environments [9,22]. Recent research has identified that many health services lack the culture and environment needed to support woman-centred care [35]. This misalignment of culture with midwives’ practice philosophies can compromise moral integrity, potentially leading to moral distress.

The use of the BMDM in practice has the potential to provide midwives with a comparable means to measure moral distress and language to describe their experiences and associated feelings. As a screening tool, the BMDM may be a trigger for the user to identify the impact of moral distress on their mental health status and seek professional support. From an organisational perspective, the BMDM may assist in identifying areas of the health service where morally distressing situations are more prevalent and could assist with education, training and staff support in these environments. Further to this, the BMDM may be useful to evaluate interventions to address workplace wellbeing.

6. Limitations

As a pilot study, the primary limitation of this research is the small sample size. Although the number of participants met the assumptions required for statistical analysis and the sample represented a broad range of demographics reflective of the midwifery profession in Australia, a larger sample of over 300 would assist in demonstrating tool reliability and validity [25]. Ideally, future research should include all participants of the larger sample in the test-retest process.

This study did not capture any data regarding the timing of the survey and when a participant had last undertaken a clinical shift. Recent exposure to a distressing situation may influence how participants identified their distress, as it is not known if the length of time away from situations may reduce the acuity of recognition [36]. Despite this variance, the BMDM does appear to differentiate between low (moral frustration), moderate (moral distress) and high (moral injury) levels of moral distress and could be used effectively as a risk screening tool.

While the BMDM has demonstrated initial validity and reliability, it should be noted that this tool was developed specifically for the context of midwifery practice in Australia. For this reason, the findings are not generalisable to other countries.

7. Conclusion

Following a methodologically robust process, the BMDM has provided preliminary evidence to measure a spectrum of moral frustration, moral distress and moral injury in the midwifery workforce. The BMDM

demonstrated the importance of including psychological outcomes to measure moral distress. Additional research is required to evaluate the use of the BMDM on a larger population and could benefit from longitudinal analysis to assess changes in levels of moral distress. Further research is also required to evaluate items related to personal sacrifice in relation to moral distress.

Author contributions

The authors confirm contribution to the paper as follows: study conception and design was undertaken by Wendy Foster. Data collection was undertaken by Wendy Foster. Analysis and interpretation of results was a combined effort of Wendy Foster, Debra Creedy, Lois McKellar, Linda Sweet and Julie Fleet. The draft manuscript was initially prepared by Wendy Foster, with the support of Debra Creedy, Lois McKellar, Linda Sweet, Julie Fleet. All authors reviewed the results and approved the final version of the manuscript.

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Ethical statement

We confirm that this project has received approval from the Human Research Ethics Committee (HREC) of The University of South Australia. Approval was granted on the 24th of June, 2020. Ethics Protocol number: 202801 - "Exploring Moral Distress in Midwifery Practice".

Conflicts of interest

Conflicts of interest to be declared include Professor Linda Sweet who is Deputy Editor for Women and Birth and Associate Professor Lois McKellar who is on the editorial board. Neither had have any part in the review process of this paper.

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References

- [1] L. Kolbe, I. de Melo-Martin, Moral Distress: What Are We Measuring? *Am. J. Bioeth.* (2022) 1–13 (ahead-of-print(ahead-of-print)).
- [2] M.C. Corley, et al., Development and evaluation of a moral distress scale, *J. Adv. Nurs.* 33 (2) (2001) 250–256.
- [3] G. Lamiani, L. Borghi, P. Argentero, When healthcare professionals cannot do the right thing: A systematic review of moral distress and its correlates, *J. Health Psychol.* 22 (1) (2017) 51–67.
- [4] W. Foster, et al., Moral distress in midwifery practice: A concept analysis, *Nurs. Ethics* (2021) 09697330211023983.
- [5] P. Clark, B. Hulse, B.J. Polivka, Resilience, Moral Distress, and Job Satisfaction Driving Engagement in Emergency Department Nurses: A Qualitative Analysis, *JONA: J. Nurs. Adm.* 52 (2) (2022) 112–117.
- [6] E.H. Elpern, B. Covert, R. Kleinpell, Moral distress of staff nurses in a medical intensive care unit, *Am. J. Crit. Care* 14 (6) (2005) 523–530.
- [7] J. Wilkinson, Moral distress: a labor and delivery nurse's experience, *J. Obstet., Gynecol., Neonatal Nurs.* 18 (6) (1989) 513–519.
- [8] S.B. Norman, et al., Moral distress in frontline healthcare workers in the initial epicenter of the COVID-19 pandemic in the United States: Relationship to PTSD symptoms, burnout, and psychosocial functioning, *Depress Anxiety* 38 (10) (2021) 1007–1017.
- [9] W. Foster, et al., Exploring moral distress in Australian midwifery practice, *Women Birth* (2021).
- [10] L.D. Wocial, M.T. Weaver, Development and psychometric testing of a new tool for detecting moral distress: the Moral Distress Thermometer, *J. Adv. Nurs.* 69 (1) (2013) 167–174.
- [11] A.B. Hamric, C.T. Borchers, E.G. Epstein, Development and Testing of an Instrument to Measure Moral Distress in Healthcare Professionals, *AJOB Prim. Res.* 3 (2) (2012) 1–9.
- [12] S. Oelhafen, E. Cignacco, Moral distress and moral competences in midwifery: A latent variable approach, *J. Health Psychol.* 25 (13-14) (2020) 2340–2351.
- [13] B.T. Litz, P.K. Kerig, Introduction to the Special Issue on Moral Injury: Conceptual Challenges, Methodological Issues, and Clinical Applications, *J. Trauma. Stress* 32 (3) (2019) 341–349.
- [14] D. Creedy, et al., Prevalence of burnout, depression, anxiety and stress in Australian midwives: a cross-sectional survey, *BMC Pregnancy Childbirth* 17 (1) (2017) 1–8.
- [15] J. Toohill, et al., Trauma and fear in Australian midwives, *Women Birth* 32 (1) (2019) 64–71, 2019. Date of Publication: February 2019.
- [16] B. Hunter, et al., Midwives in the United Kingdom: Levels of burnout, depression, anxiety and stress and associated predictors, *Midwifery* 79 (2019) 102526.
- [17] B. Hunter, et al., Work, Health and Emotional Lives of Midwives in the United Kingdom: The UK WHELM study, *Midwifery* 79 (2019) 102526.
- [18] K. Reiger, K. Lane, 'How can we go on caring when nobody here cares about us?' Australian public maternity units as contested care sites, *Women Birth* 26 (2) (2013) 133–137, 2013. Date of Publication: June 2013.
- [19] E.B. Thumm, et al., Burnout of the US midwifery workforce and the role of practice environment, *Health Serv. Res.* 57 (2) (2022) 351–363.
- [20] K. Stoll, J. Gallagher, A survey of burnout and intentions to leave the profession among Western Canadian midwives, *Women Birth* 32 (4) (2019) e441–e449.
- [21] R.P. Matthews, et al., Midwifery workforce challenges in Victoria, Australia. A cross-sectional study of maternity managers, *Women Birth* (2023).
- [22] M.W. Foster, et al., Moral distress in midwifery practice: A Delphi study, *Women Birth* (2023).
- [23] J.W. Creswell, V.L.P. Clark, *Designing and Conducting Mixed Methods Research*, SAGE Publications, 2017.
- [24] M.S. Setia, *Methodology Series Module 3: Cross-sectional Studies*, *Indian J. Dermatol.* 61 (3) (2016) 261–264.
- [25] J. Pallant, *SPSS survival manual: a step by step guide to data analysis using IBM SPSS*, Seventh edition, ed., Routledge, Place of publication not identified, 2020.
- [26] T.S. Kristensen, et al., The Copenhagen Burnout Inventory: A new tool for the assessment of burnout, *Work Stress* 19 (3) (2005) 192–207.
- [27] S. Vanbelle, A New Interpretation of the Weighted Kappa Coefficients, *Psychometrika* 81 (2) (2016) 399–410.
- [28] R.F. DeVellis, C.T. Thorpe, *Scale Development: Theory and Applications*, SAGE Publications, 2021.
- [29] Z. Bradfield, et al., 'It's what midwifery is all about': Western Australian midwives' experiences of being 'with woman' during labour and birth in the known midwife model, *BMC Pregnancy Childbirth* 19 (1) (2019) 29.
- [30] D. Bloxsome, S. Bayes, D. Ireson, I love being a midwife; it's who I am': A Glaserian Grounded Theory Study of why midwives stay in midwifery, *J. Clin. Nurs.* 29 (1-2) (2020) 208–220.
- [31] K.N. Sheppard, et al., Nursing Moral Distress and Intent to Leave Employment During the COVID-19 Pandemic, *J. Nurs. Care Qual.* 37 (1) (2022) 28–34.
- [32] S.M. Hally, et al., Relationship between moral distress and intent to leave a position among neonatal intensive care nurses, *Adv. Neonatal Care* 21 (6) (2021) E191–E198.
- [33] M. van Ackeren, A. Archer, Self-Sacrifice and Moral Philosophy, *Int. J. Philos. Stud.* 26 (3) (2018) 301–307.
- [34] M.G. Findley, K. Kikuta, M. Denly, External validity, *Annu. Rev. Political Sci.* 24 (2021) 365–393.
- [35] E. Newnham, M. Kirkham, Beyond autonomy: Care ethics for midwifery and the humanisation of birth, *Nurs. Ethics* 26 (7-8) (2019) 2147–2157.
- [36] M. Eddleman, K. Montz, L.D. Wocial, Moral Distress in the ICU: Measuring, Tracking, and Responding to Staff Experiences, *Nurse Lead.* 21 (3) (2023) e64–e72.