

Modified Moral Distress Scale (MDS-11): Validation Study Among Italian Nurses

Scala sullo Stress Morale Modificata (MDS-11): Studio di Validazione tra gli Infermieri Italiani

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ABSTRACT

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BACKGROUND: Moral distress (MD) has significant implications on individual and organizational health. However there is a lack of an instrument to assess it among Italian nurses. **AIM:** The main aim of this study was to validate a brief instrument to assess MD, developed from the Corley's Moral Distress Scale (MDS).

METHODS: The modified MDS scale was subjected to content and cultural validity. The scale was administered to 347 nurses. Psychometric analysis were performed to assess construct validity.

RESULTS: The scale consists of 11 items, investigating MD in nursing practice in different clinical settings. The dimensionality of the scale was investigated through exploratory factor analysis (EFA), which showed a two-dimensional structure labeled futility and potential damage. The futility refers to feelings of powerlessness and ineffectiveness in some clinical situations; the potential damage dimension captures feelings of powerlessness when nurses are forced to tolerate or perform perceived abusive clinical proceedings. Nurses who experienced higher MD, were more likely to experience burnout.

CONCLUSIONS: The modified MDS showed good psychometric properties, and it is valid and reliable for assessing moral distress among Italian nurses. Hence, the modified MDS allows to monitor the distress experienced by nurses and it is an important contribution to the scientific community and all those dealing with well-being of health workers.

KEYWORDS: moral distress, professional burnout, medical futility, nursing ethics, clinical ethics

RIASSUNTO

INTRODUZIONE: Lo stress morale (DM) ha implicazioni significative sul benessere individuale e sull'organizzazione lavorativa. Tuttavia allo stato attuale non disponiamo di uno strumento per valutare il DM tra gli infermieri italiani.

OBIETTIVO: Lo scopo principale del presente studio è stato quello di validare uno strumento sintetico per la valutazione del MD, sviluppato dalla Scala dello Stress Morale di Corley (MDS).

METODO: La MDS modificata è stata sottoposta a validità di contenuto e culturale. La scala è stata quindi somministrata a 347 infermieri. Si è eseguita l'analisi psicometrica per valutare la validità di costruito.

RISULTATI: La scala consta di 11 items che studiano il moral distress nell'assistenza infermieristica in diversi setting clinici. Le dimensioni della Scala sono state studiate con l'analisi fattoriale esplorativa (EFA), che ha evidenziato che essa consta di due dimensioni chiamate futilità e danno potenziale. La futilità si riferisce a sentimenti di impotenza e di inefficacia in alcune situazioni cliniche; a dimensione del danno potenziale cattura invece i sentimenti di impotenza quando si è costretti a tollerare o ad eseguire procedure cliniche ritenute abusive. Gli infermieri che maggiormente sperimentavano MD, erano più probabilmente esposti al burnout.

CONCLUSIONI: La MDS modificata ha buone proprietà psicometriche, ed è uno strumento valido e affidabile per la misurazione dello stress morale tra gli infermieri italiani. Quindi la MDS modificata permette di monitorare lo stress morale vissuto dagli infermieri, e fornisce un importante contributo alla comunità scientifica e a tutti coloro che si occupano di benessere e salute dei lavoratori.

PAROLE CHIAVE: stress morale, burnout, futilità medica, etica infermieristica, etica clinica

INTRODUCTION

Nurses usually undertake many ethical decisions during their work, but they cannot always act in accordance with their ethical principles (Tschudin, 2003), a situation eliciting moral distress. In this scenario, Jameton (1984) was the first to define moral distress (MD) among nurses as a phenomenon in which a nurse knows the right action to take but (s)he is also constrained from taking that action due to the possible organizational and institutional constraints. Thus moral distress refers to those painful feelings and psychological distress that occurs when “a person is aware of a moral problem, acknowledges moral responsibility, and makes a moral judgment about the correct action; but, as result of real or perceived constraints, the person participates in perceived moral wrongdoing” (Nathaniel, 2006, p. 421).

Nurses and other healthcare professionals have to face many moral choices simultaneously; in fact they face moral actions in a variety of clinical situations, including the birth, illness, aging, suffering, and death of patients (Wilkinson, 1988).

Nursing is a relational discipline and traditionally is considered as a moral practice involving caring and compassion (Watson, 2008); for this reason, sometimes, the personal, intimate nature of caring, which implies respect for the patient’s body and for its integrity, can conflict with contemporary practices and policies (Kälve-mark et al., 2004). This mismatch can be deleterious for nurses and ethical dilemmas can lead nurses to experience MD.

For nurses, MD appears to have personal and emotional consequences such as frustration, anxiety, anger, feelings of resentment, sadness (Gutierrez, 2005; Holly, 1993; Zuzelo, 2007), insecurity, and guilt. These negative feelings might be associated with a perception of a lack of power in making decisions (Fry et al., 2002; Sundin-Huard & Fahy, 1999), self criticism, and self-blame (Kelly, 1998). Nurses experiencing MD also might develop physical symptoms such as hypertension and headaches, identified as stress-related disorders, and emotional disorders such as feelings of detachment and job dissatisfaction (Aiken et al., 2002; Gutierrez, 2005; Hanna, 2005; Wiegand and Funk, 2012; Wilkinson, 1988).

Professional consequences for nurses suffering from moral distress could include the inability to provide good care to patients because of job dissatisfaction (Cutcliffe & Links, 2008; Fry et al., 2002; Kain, 2007; Rutenberg & Oberle, 2008; Sundin-Huard & Fahy, 1999) or abandonment of the profession (Nathaniel, 2002).

The manifestations of MD and the situations that can cause it, if experienced for many years, also can lead nurses to develop burnout (Gutierrez, 2005; Meltzer & Huckabay, 2004; Mobley et al., 2007; Rushton, 2016;

Shoorideh et al., 2015; Sundin-Huard & Fahy, 1999; van Mol et al., 2015; Whitehead et al., 2015).

So when nurses are forced to endure MD for a long time and experience burnout as well, they might avoid aspects of patient care with reduced patient advocacy (De Villers & DeVon, 2013). MD among nurses also might affect health organizations as it leads to high nursing turnover, poor quality of care, and decreased patient satisfaction (Corley, 2002).

This phenomenon particularly is burdensome in specific healthcare settings, such as palliative care (Pereira et al., 2011), critical care (Meltzer & Huckabay, 2004; Wilson et al., 2013), adult acute tertiary medical and surgical area (Rice et al., 2008), intensive care units and high intensity settings (Cavaliere et al., 2010; Gutierrez, 2005; Özden et al., 2013; Rushton, 2016; Shoorideh et al., 2015; van Mol et al., 2015), mental health settings (Wojtowicz et al., 2014), and trauma centers (Houghtaling, 2012). Scholars have developed several instruments to measure MD among nurses (see Table 1). Some authors developed versions specific to clinical settings such as intensive care units (Shoorideh et al., 2015), psychiatric settings (Ohnishi et al., 2010), and paediatric services (Lazzarin et al., 2012). Other authors developed shortened version of the Moral Distress Scale (MDS) such as the 21-item Moral Distress Scale revised by Hamric et al. (2012).

Among these instruments, the 32-item Corley’s Moral Distress Scale (MDS-32) was the first to be developed and is the most used. Corley et al. identified three factors in the MDS: “individual responsibility”, in which MD is due to discrepancy between responsibilities and working autonomy, “not in patient’s best interest” in which MD is caused by being unable to act according to the patient’s best interest, and “deception” which is the failure experienced by nurses in providing care. Corley identified several sources of MD in nurses, including continued life support that is not in the best interest of the patient, inadequate communication about end of life between providers and patients or families, staff who are not adequately trained to provide the required care, and false hopes given to patients and families (Corley et al., 2002). Organizational constraints (such lack of time, lack of material or human resources), institutional policies or legal and interpersonal aspects can cause obstacles to actions that the nurse considers to be ethically correct.

Currently, MDS with 32 items developed by Corley et al. (2001) is widely used in researches to assess MD. To the best of our knowledge, however, we don’t have an Italian validated version of the Corley MDS for assessing MD among nurses’ caring for adults (Lazzarin et al., 2012). Hence, when researchers tried to assess MD among Italian nurses, they used a shortened version of MDS, without assessing the scale construct validity (Negrisolo & Brugnarò, 2012). This can be an issue when research-

Table 1. Summary of existing moral distress questionnaires (1995-2015)

Instrument	Items	Sample	Dimensions of MD	Studies
Moral Distress Scale	32 (Corley, 1995;2001)	111 critical care nurses employed in a medical centre and in a private hospital in USA (Corley, 1995)	1) individual responsibility	Corley (1995)
	38 (Corley, 2005)	214 nurses from several USA hospitals (Corley, 2001)	2) not in patient's best interest	Corley (2001)
		106 nurses from two medical centres in USA (Corley, 2005)	3) deception	Corley (2005)
Ethic Stress Scale	56	229 oncology nurses in USA	1) somatic response 2) self reliance 3) uncertainty	Raines (2000)
Stress of Conscience Questionnaire	9	444 healthcare personnel in Sweden from 8 primary healthcare centres	1) internal demands 2) external demands and restrictions	Glasberg et al. (2006) Glasberg et al. (2007) Glasberg et al. (2008)
Sporrong Moral Distress Questionnaire	9	259 staff members from 4 medical departments and 3 pharmacies in Sweden	1) level of moral distress 2) tolerance/openness towards moral dilemmas	Sporrong et al. (2006)
Moral Distress Questionnaire	15	179 Israeli nurses from different work settings, as community and hospital nurses	1) relationships 2) resources 3) time pressure	Eizenberg (2009)
Moral distress Scale for Psychiatric Nurses	15	391 Japanese psychiatric nurses from 6 hospitals	1) the unethical conduct by caregivers 2) low staffing 3) acquiescence to patient's right violation	Ohnishi et al. (2010)
The Moral Distress Scale-Revised	21	169 nurses and 37 physicians in 8 intensive care units in the South-eastern United States	-	Hamric et al. (2012)
Moral Distress Scale-Paediatric Version	33	235 paediatric oncology and haematology nurses from 6 Italian hospitals	-	Lazzarin et al. (2012)
Moral Distress Scale (derived from CMD scale)	25	111 Italian nurses from different clinical settings	1) individual responsibility 2) medical decisional power 3) organization	Negrisola and Brugnaro (2012)
ICU Nurses' Moral Distress Scale	30	159 intensive care unit nurses in Iran	1) inappropriate competencies and responsibilities 2) errors 3) not respecting the ethic principles	Shorideh et al. (2015)

Note: MD = moral distress; CMD = Corley Moral Distress

chers try to compare their results. Overall, the authors considered the need of a valid and reliable tool to measure MD occurring in the nurses' everyday practice and not specific for clinical settings (Lazzarin et al., 2012). Therefore, the primary aim of this study was to validate a brief instrument to assess MD, developed from the MDS, sensitive to Italian health care context and suitable in a variety of work clinical settings. The secondary aims were: (a) to determine the correlations with burnout dimensions, and (b) to test the MDS in different clinical settings.

METHOD

This is a descriptive correlational study using a cross-sectional design to validate the modified MDS and measure the MD levels among Italian nurses and its association with burnout. This study included two steps: step 1 involved scale and item selections; the step 2 focused on psychometric testing of the scale.

Step 1

Between June and September 2012, a working group, composed of an organizational psychologist and three nurse researchers, completed a broad literature review in Pubmed, Cinahl and Scopus about the tools used to measure MD (Table 1). Findings of the literature review revealed that the MDS-32 by Corley et al. (2001) was the most used and it was developed and tested on critical care nurses. They helped to choose which items include in the modified MDS. Reviewing the original items from MDS-32, they selected the most challenging clinical situations occurring in the everyday practice and every clinical setting, not specific only for critical care. Moreover they excluded items not culturally relevant to the Italian health care facilities. Finally, they selected 11 items.

Step 2

Sample, Setting and Procedure

The sample was recruited among Italian registered nurses (RNs) employed in a university hospital in Rome with approximately 500 beds, including an intensive care

unit and trauma center. Data were collected between September and December 2012. Five hundred questionnaires were distributed by a research assistant or ward supervisors to all hospital nurses. An informational letter attached to the questionnaire described the aim and the descriptive nature of the study.

Participation in the study was voluntary, and potential respondents were assured the data would be used in an anonymous and aggregate form untraceable to individual nurses. Participants were given 1 week to fulfill the questionnaires and to return them either to the principal researcher via their nurse managers or in a drop-off box located in the nursing administration office. The Ethics Committee of the hospital was asked for institutional review board approval for this study and it decided that, according to Italian regulation, no specific permission was needed from the Committee.

Instruments

Moral distress. Moral distress was measured by 11-item selected from MDS.

The Italian modified MDS uses a 5-point Likert scale to rate MD associated with nurses' clinical practice events. In line with the original MDS, it measures both the frequency of MD events occurring during the working day, ranging from 1 (never) to 5 (always), and the intensity of MD associated with those events, ranging from 1 (never) to 5 (a lot of). Lower scores indicate light MD experienced by nurses in clinical practice, and higher scores denote perception of extreme distress. For each participant, the score of each item of the MDS was calculated as the product of frequency and intensity in line with what is reported in literature (Corley et al., 2001; Corley et al., 2005; Hamric et al., 2012). Therefore, the item score may range from 1 to 25.

Burnout. Burnout was measured using the Maslach Burnout Inventory (MBI, Maslach & Jackson, 1981). The MBI is an 18-item scale using a 7-point Likert scale ranging from 0 (none) to 6 (every day). It includes items regarding three dimensions: (a) emotional exhaustion, which is a feeling of exhaustion associated with the perceived failure of the person to give more of the self; (b) depersonalization, which occurs when relationships with patients and colleagues become cold, distant, and pervaded by cynicism, and (c) interpersonal strain, which is the feeling of discomfort in the relationships with people at work resulting from high emotional pressures. Higher scores denote greater levels of burnout.

Data Analysis

Descriptive statistics (mean, standard deviation, frequencies, and percentages) of sample socio-demographic variables (age, sex, education, and clinical setting) were calculated. For each item of the MDS, we computed mean, standard deviation, skewness, and Kurtosis to

evaluate the type of distribution.

The dimensionality of the scale was examined through exploratory factor analysis (EFA), with maximum likelihood estimator (ML) and geomin oblique rotation (Muthén & Muthén, 2012). The factoriability assumption was verified through Bartlett's sphericity test and Keiser-Meyer-Olkin indicator prior to EFA.

We assessed the best EFA solution and the number of factors to extract according multiple criteria: the simplicity of solution (primary factor loadings $>.30$ and no cross loadings), interpretability of the factor structure (Thurstone, 1947), screen plot of eigenvalues, and the theoretical sense of the factors (Comrey & Lee, 1992).

According to Hoyle's (Hoyle, 1995) recommendations and a multifaceted approach to the assessment of the model fit (Hu & Bentler, 1998; Tanaka, 1993), we considered omnibus fit indices such as the chi-square (χ^2) and incremental fit indices such as the Comparative Fit Index (CFI; values ≥ 0.90 indicate a good fit), Tucker and Lewis Index (TLI; values ≥ 0.90 indicate a good fit), Standardized Root Mean Square Residual (SRMR; values ≤ 0.08 indicate a good fit), and Root Mean Square Error of Approximation (RMSEA; values ≤ 0.06 indicate a good fit).

The factors were labeled by critically analyzing the factor loadings and the item contents according the dimensions explored. We evaluated the reliability of the MDS using Cronbach's alpha coefficient and the differences in the mean of the MDS using repeated analysis of variance (ANOVA) measures. The concurrent validity of the Italian MDS was evaluated using Pearson's correlation with the three dimensions of burnout (emotional exhaustion, depersonalization, and interpersonal strain). Finally, correlation analysis and ANOVA were computed to identify statistically significant ($p < 0.05$) associations among socio-demographic and job variables and moral distress.

Data were analyzed with Statistical Package for Social Science SPSS-22.0 for descriptive statistics, correlations analysis and ANOVA (Mplus 7.1- Muthén & Muthén, 2012) was used for exploratory factor analysis.

RESULTS

Characteristics of the Sample

Questionnaires were distributed to 500 RNs. The final sample was composed of 347 nurses who had correctly completed the questionnaire (69% of all filled questionnaires). The study participants ($N = 347$) were employed on a full-time or part-time basis as direct-care providers in all types of clinical settings and a variety of care units.

The sample had an average age of 37.15 years ($SD = 6.99$) and the majority of the nurses were women

(66.6%). Half of the participants (50.4%) had a bachelor's degree in Nursing Science and only a small percentage (13.3%) had a master's degree in Nursing Science. The slightly majority of respondents (50.4%) had completed a baccalaureate degree in nursing, but this degree did not necessarily include formal study in biomedical ethics. The mean number of years of RN licensure was 12.21 (SD = 6.63; range 0–37), and the mean number of years working in the hospital was 7.5, mainly in the medical and surgical unit (50.4%), the intensive care unit (15%), or the emergency room (12.1%). Participants worked on average 7–8 hours a day.

Items Analysis and EFA

Table 2 presents the results of the item analysis. Skewness and Kurtosis indexes for each item revealed a normal distribution. The skewness of frequency items ranged from -0.22 to 0.50, the skewness of intensity items ranged from -1.04 to -0.19, and the skewness of the score item (Frequency X Intensity) ranged from 0.99 to 0.25.

The mean of frequency items ranged from 2.23 (item 10) to 3.29 (item 4), indicating that nurses sometimes were exposed to moral distress situations. The mean for intensity items ranged from 3.30 (item 5) to 4.05 (item 11), indicating that nurses were considerably affected by

moral and ethical working situations. The mean for the score item ranged from 8.17 (item 10) to 12.51 (item 4), indicating a moderate level of moral distress.

The Kaiser–Meyer–Olkin (KMO) indicator was calculated to assess sample size adequacy. The minimum acceptable level is 0.5. In this study the KMO was equivalent to 0.878 which indicates that the sample is adequate and we may proceed with the Factor Analysis. Bartlett's test of sphericity is significant at $p < 0.001$ for all scales. In this study the Bartlett's Test of Sphericity taking at 95% level of Significance is $\alpha = 0.05$. The p -value (Sig.) < 0.001 , indicates that the factor analysis is valid.

The screen plot was consistent with a two-factor solution (Figure 1) as the slope of the curve leveled off after two segments. A two-factor model was found to have good fit indexes: chi-square (dof = 34, N = 347) = 73.181, $p = 0.0001$; CFI = .969; TLI = 0.950; RMSEA = 0.058 (90% confidence interval = 0.039–0.076), $p = 0.229$; SRMR = 0.028 (Table 2). Overall, the EFA solution accounted for 44% of the total item variance.

The first factor was labeled “futility” because it refers to items concerning clinical actions that nurses can report as futile (e.g., item 4, “Initiate extensive life-saving actions when I think they only prolong death”). It was loaded by six items and accounted for 25% of the total variance.

The second factor was labeled “potential damage”

Table 2. Psychometric characteristics of each item of the Italian Corley Moral distress scale among nurses (N = 347)

	Frequency		Intensity		Items score		EFA	
	Mean	SD	Mean	SD	Mean	SD	F1	F2
1) Provide less than optimal care due to pressure from administrators to reduce costs.	2.65	1.04	3:7	1.24	10.40	5.78	.33	.23
2) Witness healthcare providers giving “false hope” to a patient or a family.	2.82	1.9	3.82	1.234	11.15	6,23	.54	.13
3) Follow a family's wishes to continue life support even though it is not the best interest of the patient.	3,06	1.14	3.66	1.238	11.66	6.95	.86	-.06
4) Initiate extensive life-saving actions when I think they only prolong death.	3.29	1.11	3.60	1.26	12.51	6.33	.85	.002
5) Follow a family's request not to discuss death with a dying patient who ask about dying.	2.72	1.24	3.30	1.28	9.35	6:33	.40	.19
6) Carry out physician's order for what I consider unnecessary tests and treatments.	2.79	1:8	3.67	1.20	10.60	5.94	.25	.52
7) Continue to participate in care for a hopelessly ill person who is being sustained on a ventilator, when no one will make a decision to withdraw support.	2.80	1.32	3.37	1.33	9.83	6,78	.59	.10
8) Avoid taking action when I learn that a nurse colleague has made a medication error and does not report it.	2.40	.93	3.40	1.6	8.30	4,40	-.06	.69
9) Assist a physician who, in my opinion, is providing incompetent care.	2.61	1.9	3.98	1.8	10.68	5,67	-.005	.71
10) Be required to care for patients I don't feel qualified to care for.	2.23	.89	3.50	1.33	8.17	4,85	-.002	.47
11) Witness some medical students perform painful procedures on patients solely to increase their skill.	2.93	1.22	4.5	1.15	12.18	6.73	.13	.52

Table 3. Correlation between Moral distress and burnout.

Variable	Mean	SD	α	Skew	Kurt	Futility	Potential Damage	Exhaustion	Disaffection
Futility	10,90	5,05	.82	0,61	-0.14				
Potential Damage	9.99	3,97	.76	0,39	0,26	.61***			
Exhaustion	2.6	1,30	.90	0,19	-0.23	.18***	.20***		
Disaffection	1.65	1,28	.85	0,79	0,40	.16**	.20***	.59***	
Interpersonal Strain	1,28	1.13	.91	1,31	2,31	.07	.14**	.40***	.60***

Note: α = Cronbach's alpha; skew = skewness; Kurt = kurtosis; * < 0 .05; ** < 0 .01; *** < 0 .001

Table 4. Differences in MD according to clinical setting (ANOVA)

Clinical Setting	N (%)	Futility Mean (SD)	Potential Damage Mean (SD)
Medical Area	121 (34.9)	11.70 ^a (5.43)	10.19 ^a (3.92)
Surgical Area/ Operating room	68 (19.6)	10.06 ^{ab} (4.25)	10.54 ^a (3.87)
Emergency Room	42 (12.1)	12.08 ^a (5.21)	10.59 ^a (3.70)
Intensive Care	53 (19.3)	11.35 ^{ab} (5.04)	9.69 ^a (4.54)
D.H./ Ambulatory	63 (18.2)	9.10 ^b (4.49)	8.86 ^a (3.69)
<i>p</i>		0.003	0.9

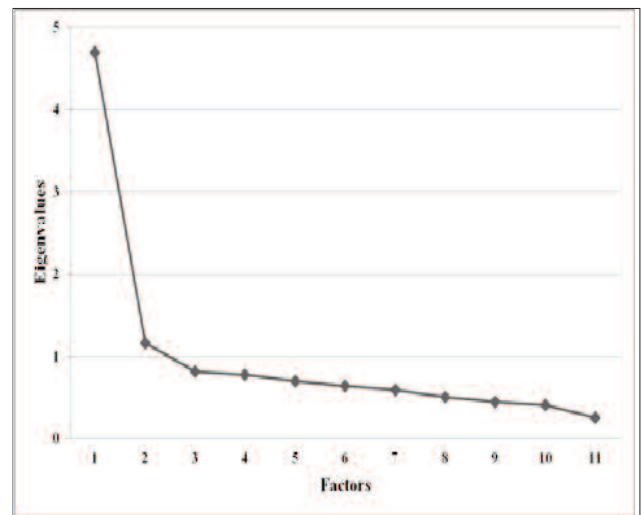
Note: means by column with different superscripts letter are significantly different from each other at pair comparisons with Tukey post hoc test; SD = standard deviation; D.H. = Day Hospital

because it refers to items that nurses can consider potentially injurious of a patient's physical and psychological integrity or virtually clinical dangerous (e.g., item 10, "Be required to care for patients I don't feel qualified to care for"). It was loaded by five items and accounted for 19% of the total variance.

All the primary factor loadings were greater than 0.30. They ranged from 0.33 for item 1 ("Provide less than optimal care due to pressure from administrators to reduce costs") to 0.86 for item 3 ("Follow a family's wishes to continue life support even though it is not the best interest of the patient"). The ratio of primary and secondary loadings was at least greater than 2 with the exception of item 1, which was 1.44. The two factors were significantly correlated ($r = 0.63$, $p < 0.05$).

The Cronbach's alpha coefficients were 0.823 for the futility dimension and 0.756 for the potential damage dimension, indicating high reliability (Nunnally & Bernstein, 1994). The corrected item total correlation coefficients ranged from 0.435 to 0.737 for the futility dimension and from 0.411 to 0.598 for the potential damage dimension. For the futility dimension, however, the Cronbach's alpha for item 1 increased to 0.824, indicating a worsening of

Figure 1. Screen plot of the Modified Moral Distress Scale (MDS-11)



reliability. Item 1 was deleted considering its poor contribution to the reliability of the futility dimension, a cross loading across the two factors, and an unclear meaning. The mean score for futility dimension was 10.90 (SD = 5.05), and the mean score for the potential damage dimension was 9.99 (SD = 3.97).

Correlations and ANOVA

Overall, as shown in Table 3, the mean of the futility dimension was higher than the mean of potential damage dimension (10.82 vs. 9.99). Repeated measures ANOVA showed a significant difference ($p < 0.001$) between the two dimensions of MD. Thus, participants were more affected by the futility dimension of MD than by the potential damage dimension. The moral distress results significantly and positively correlated with the three dimensions of burnout. Only interpersonal strain was not correlated with the futility dimension of MD.

Table 4 shows the results of the ANOVA with Tukey post-hoc test to investigate differences in nurses' moral distress among clinical settings. The nurses working in the day hospital and ambulatory unit reported lower levels of MD in the futility dimension compared to the nurses working in the medical area ($p < 0.007$) and the emergency room ($p < 0.023$). ANOVA results for the potential damage

dimension did not reveal any significant difference among clinical settings. Younger nurses reported lower levels of futility MD than older ones ($r = -0.12$, $p < 0.05$) (table 5).

Table 5. Correlations between MD and sociodemographic and job characteristics

	Futility	Potential Damage
Age	-.12*	-.10
Sex (female)	.25	.10
Years of nursing experience	-.06	-.04
Hours a day	.13*	.01
Overtime hours	.08	.06

Note: * $p < 0.05$

DISCUSSION

This study aimed to test the validity of modified Moral Distress Scale among Italian nurses working in different clinical settings. The scale consists of 11 items that investigate morally and ethically stressing situations in nursing practice.

In accordance with the EFA of MDS-11, it is possible to distinguish moral distress into two factors. The first dimension was named futility because it refers to the negative feelings of nurses related to clinical conditions that might elicit feelings of powerlessness, ineffectiveness with regard to critically ill patients, endurance of useless life-saving actions, inability to speak up in challenging situations (Hamric et al., 2006; Wilkinson, 1988), and a sense of powerlessness to act ethically while facing pressures from patients' families. The ethical conflicts associated with an experience of the futility of care might result from different perspectives among health professionals on treatment goals, especially regarding the balance between aggressive treatments and their anticipated benefit.

The second dimension was named potential damage because it refers to clinical situations that might elicit the nurses' concerns for the patient's health. These situations are likely to be inherent to the healthcare system or the work setting and involve clinical actions that potentially could be damaging to the integrity of the patient or conflict with the patient's needs. The nurse experiencing the potential damage type of MD often is forced to tolerate or perform abusive clinical proceedings (e.g., incompetent care, power hierarchies, medical policies, professional priorities).

This was the first study to compare levels of MD across clinical settings. We found that nurses working in the emergency room and medical area reported higher levels of futility MD than nurses working in the day hospital and ambulatory unit. This significant result might be explained in relation to the specific characteristics of patients that usually are cared for in the medical area and emergency room. In fact, nurses in medical settings are frequently involved in the care of older patients with multiple comorbid conditions and at high risk for aggressive and futile treatments. The treatment of these patients is more likely to elicit greater ethical conflicts among nurses than lighter treatment of young patients without comorbidities.

In these settings, nurses frequently are asked to witness a patient's suffering and deterioration and thus develop feelings of futility and powerlessness. Caring for such patients also might be challenged by unrealistic expectations from the patient's family. In particular, nurses in medical units often are in contact with chronic patients and their families. Likewise, nurses in the emergency room deal with high-risk situations including aggressive treatments for patients with advanced illness or poor prognosis, potential violation of patients' directives, and distressed family members who might not agree with the caring plan.

In these clinical settings, nurses seldom have the opportunity to reflect on the ethical sense of clinical actions. All these situations might elicit in nurses an ethical conflict between their own professional mandate and the futility of some clinical decisions or actions.

With regard to the associations between the frequency of MD and socio-demographic variables, older nurses reported greater levels of futility than younger nurses. This is in line with several studies (Mobley, 2007; Rice et al., 2008), although other scholars did not find any significant correlation between MD and age (Corley et al., 2001; McAndrews et al., 2011; Ohnishi et al., 2010; Pauly et al., 2009; Silen et al., 2011). Younger nurses might be less affected by the futility type of MD because they are more confident in the effectiveness of the care provided when compared with older nurses, who may have lower expectations.

We found a positive correlation between burnout and MD in line with other studies (de Lima Dalmolin et al., 2012; Meltzer & Huckabay, 2004; Özden et al., 2013; Severinsson, 2003; Shoorideh et al., 2015; Sundin-Huard & Fahy, 1999) with the exception of the association between interpersonal strain and futility. Among the MBI subscales, interpersonal strain

seems to be the most unstable and, according to some authors, it might not reflect the core dimension of burnout (Cox et al., 1993). Therefore measuring the MD is important for all who are concerned with the health and well-being of workers, because it could be an important wake-up call in the development of the burnout syndrome.

It seems clear that high levels of MD are directly related to exhaustion and depersonalization. Indeed, many ethical problems and dilemmas can occur in clinical situations that also elicit burnout among nurses because they are exposed to a unique emotional strain (Davis, 2012; Varcoe, 2012). Thus, burnout and MD need to be investigated simultaneously to clarify the nature of the interaction of these important constructs.

LIMITATIONS

As there are several instruments that measure concepts closely related to MD, a concept analysis of MD might help scholars to have a deeper understanding of the term moral distress by clarifying its attributes, similarities, and contrary cases. In addition, some scholars used items from different scales to capture the complex phenomenon of MD such as ethical decision making, experience of moral problems, ethical reasoning, perceived stress related to moral dilemmas, and stress of conscience. Thus, it seems reasonable that the final 11 items of the Italian MDS cannot measure all aspects of the MD experience.

This study was conceived as a pilot test assessing MD among nurses working inside multiple types of clinical units of a university hospital in Italy. The major limitation of the study was that the data were collected inside one institution and the nurse sample was small. We did, however, include different clinical practice environments and compared the level of MD across settings.

The majority of studies have focused on the investigation of moral distress among critical care nurses or among nurses working in neonatology and pediatrics (Corley, 1995; Elpern et al., 2005; Falcó-Pegueros et al., 2015; Gutierrez, 2005; Hamric & Blacchall, 2007; Karanikola et al., 2014; Lazzarin et al., 2012; Meltzer & Huckabay, 2004; Ohnishi et al., 2010; Pauly et al., 2012).

Therefore, a MD scale suitable for all clinical settings might help stakeholders compare the level of MD across different work environments. Future studies should compare these data with those from

other health facilities and further test the dimensionality of the scale through confirmatory factor analysis.

CONCLUSIONS

Nursing is recognized as a profession with meaningful ethical dimensions. Nurses aim to achieve ethical goals such as protecting patients, providing care without possible complications, and maintaining a healing psychological environment. When nursing goals are challenged, nurses can suffer moral distress (Corley, 2002). This complex phenomenon, potentially present in all healthcare settings, can have a specific ethic impact on nurses. In particular, emergency room and medical units can present specific, ethically stressful situations that elicit high MD among nurses.

The importance of the MD risks have been underestimated within many healthcare organizations (Elpern et al., 2005). Therefore it is important to identify the frequency and intensity of the MD experience, as it could represent an important point of view on the workers' well-being. This study showed the validity of the Italian MDS and therefore provides stakeholders and researchers with a practical instrument to assess MD levels among nurses.

Strategies to prevent the occurrence of MD, by removing the common sources of this phenomenon, need to be designed to eliminate unnecessary suffering and negative consequences for nurses, patients, and organizations (Epstein & Hamric, 2009; Epstein & Delgado, 2010; Pauly et al., 2012). The modified Moral Distress Scale (MDS-11) should be helpful to assess MD in different clinical context, considering that it is a valid and reliable instrument for Italian nurses.

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