THE EVALUATION OF TWO DEATH EDUCATION PROGRAMS FOR EMTS USING THE THEORY OF PLANNED BEHAVIOR

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The goal of this study was to evaluate the effectiveness of two death education programs by comparing pretest and posttest scores of behavioral intentions and (reported) behavior of EMTs when at the scene of a death. After the interventions, the majority of EMTs intended to change their behavior at the scene of a death when compared to the control group. In a three-month follow-up study, the majority of EMTs who received the intervention (and made a death notification) changed their behavior. In this sample, these programs were effective in changing the behavioral intentions of EMTs.

Several levels of Emergency Medical Technicians (EMTs), EMT-Basic (EMT-B), EMT-Intermediate (EMT-I), and EMT Paramedic (EMT-P) were used in this study and are collectively labeled as EMTs. Due to new trends in end-of-life care and changes in protocols, the role of the EMT has changed. EMTs now use protocols or follow doctors’ orders to terminate resuscitation and pronounce death on scene (Cummings, 2000; Dalbridge, Fosnecht, Garrison, & Aublee, 1996). Consequently, EMTs have the responsibility of making the death notification and consoling the family, as well as pronouncing death. One survey reported that Emergency Medical Services (EMS) providers convey 83% of death notifications that occur outside of the hospital (Norton et al., 1992). EMS providers who make death notifications also counsel families and provide emotional support. These roles are uncomfortable and unfamiliar for most EMS providers (Coleman, 1993; Leash,
One study showed the ineffectiveness of EMTs in these roles (Critz, 1989). It is not surprising that many EMTs seek education on delivering effective death notifications and mitigating the family’s grief (Coleman, 1993; Norton et al., 1992).

Educational courses for EMTs must be unique when compared to death education courses for other allied health providers. These courses must encompass the diversity of the different types of death, yet focus specifically on the differences between hospital and prehospital death. The trauma of grief after a death in the emergency setting requires special knowledge and a unique repertoire of skills (Dubin & Sarnoff, 1986; Gifford & Cleary, 1990). Few death and dying courses teach medical professionals to interact appropriately with families at the moment of death (Field & Howells, 1988; Tye 1996), and most courses do not cover the unique features of death in the prehospital setting (Smith & Walz, 1995). The national curricula, published by the National Highway Traffic and Safety Administration (NHTSA), for EMT Basics (NHTSA, 1998a) and EMT Paramedics (NHTSA, 1998b) contain few objectives related to death and are not specific to EMTs.

EMTs seeking classes to meet their professional needs will find traditional death and dying courses unacceptable. From these concerns arose the Emergency Death Education and Crisis Training Program (EDECT©). The EDECT© program, 16 hours in length, was often a large time commitment for many organizations; thus, a two-hour Continuing Medical Education (CME) session also arose (Smith, Walz, & Smith, 1999). These two courses provide education about death and dying designed specifically for emergency responders. Course participants learn how to reduce the trauma of a death notification, help mitigate grief, and respond to legal and ethical issues surrounding death. Yet, formal evaluations of these programs were lacking, so it remained unclear whether these programs benefited EMS providers and bereft families, and if so, why they were effective.

The EMTs in the EDECT© program received a two-day (consecutive days), 16-hour seminar which included a variety of teaching methods: lecture with computer presentation, small group discussion, multiple videotapes including videos of actual death notifications, case studies, self-assessments, and role-playing of death notifications by the participants. A debriefing followed each
role-play activity. Specific behavioral goals to this program included using death words (not euphemisms) during a death notification, using successive preannouncements during a death notification, allowing families to view the deceased, following the four-step death notification process, and leaving follow-up information. The seminar covered the behavioral goals (see Table 1), thoroughly including the supporting literature and potential effects arising from their use. A detailed outline including the goals, units, and resources of the EDECT™ curriculum is found in the literature, but the program has not been published in its entirety (Smith et al., 1999).

The EMTs in the two-hour CME group received a lecture-style presentation enhanced with computer generated slides and videotapes of death notifications. After an introduction and review of the four-step death notification process, participants evaluated three videotaped death notifications. The participants were exposed to the behavioral goals briefly; however, they were given little information regarding the research that guides them, and had no opportunity to practice them.

Participants in the control group received a didactic presentation on advanced airway management of unconscious patients. The two hours consisted of a lecture-style presentation enhanced with audiovisuals. This presentation did not include death-related information.

Ajzen’s Theory of Planned Behavior (TPB; Ajzen, 1985; Ajzen & Fishbein, 1980) was chosen to provide insight into course effectiveness, to aid in the development of future courses, and to provide answers to why EMTs choose to engage in death-related behaviors. This theory allows for the prediction of behavior by examining changes in attitude, perceived behavioral control, subjective norms (what others think we should do), behavioral intent, and behavior (Ajzen & Madden, 1986). According to the TPB, attitudes towards a behavior (ATT), perceived control over a behavior (PBC), and subjective norms (SN) lead to one’s intentions to change a behavior (behavioral intent). Behavioral intention (BI) then leads to actual behavior. Examples of questions used in this study include “My using the words “death,” “died,” or “dead” when making a death notification is beneficial/harmful” (ATT); “I am confident that I could use the four-step death notification process during a death notification” (PBC); “My supervisors think
<table>
<thead>
<tr>
<th>(Intend to …)</th>
<th>Control Group [(n = 29)]</th>
<th>2 Hour CME [(n = 30)]</th>
<th>16-Hour Group [(n = 24)]</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
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<tr>
<td>Use the words dead or died</td>
<td>1.76 (.79)</td>
<td>1.69 (.76)</td>
<td>2.20 (1.06)</td>
</tr>
<tr>
<td>Allow viewing of body</td>
<td>1.72 (1.06)</td>
<td>1.72 (.70)</td>
<td>1.97 (.81)</td>
</tr>
<tr>
<td>Leave follow-up information</td>
<td>1.76 (.69)</td>
<td>1.83 (.80)</td>
<td>2.03 (.89)</td>
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<tr>
<td>Use successive preannouncements</td>
<td>2.86 (.58)</td>
<td>2.79 (.56)</td>
<td>2.89 (.57)</td>
</tr>
<tr>
<td>Use four-step DN process</td>
<td>2.66 (.25)</td>
<td>2.86 (.58)</td>
<td>2.86 (.44)</td>
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<tr>
<td>Help the family’s grief</td>
<td>2.00 (8.86)</td>
<td>2.21 (.77)</td>
<td>2.30 (1.06)</td>
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</table>

*Note.* DN = Death Notification, Scores range from 1 (Strongly Agree) to 5 (Strongly Disagree).
that I should allow the family to view the body” (SN); “I intend to leave follow-up information with the family after a death” (BI).

Using the objectives from the EDECT™ curriculum and the Theory of Planned Behavior, the goal of this study was to investigate if exposure to a long experiential or short didactic death-related program would impact an EMT’s intentions to perform six death-related behaviors on scene of a patient’s death more than a control lecture. This goal was based on the following: EMTs in the treatment groups will intend to (a) use the words “death,” “died,” or “dead” during the death notification process; (b) use successive preannouncements during a death notification; (c) leave follow-up information; (d) allow the family to view the deceased; (e) use the four-step death notification process; and, (f) assist the family in managing their grief, more often than EMTs in the control group. The secondary goals were to determine actual (reported) behavior and to determine the theoretical underpinnings associated with any changes by examining the correlations of the constructs in the TPB.

**Method**

**Participants**

This study incorporated a quasi-experimental pretest-posttest comparison design using two experimental groups and one control group. A large group of EMTs from several EMS agencies in rural Wisconsin volunteered to participate in the study. A volunteer sample provided the most appropriate sampling frame, as students enrolling in future course offerings will do so voluntarily. All EMTs in the study sample worked as EMTs in Wisconsin and held National Registry of EMTs certifications either EMT-B, EMT-I, or EMT-P (The pre-test data did not differ between the levels of EMTs). The final sample size of 83 participants (48 men and 35 women) was determined adequate after reviewing effect sizes from the available literature (Durlak & Riesenburg, 1991; Maglio & Robinson, 1994). They averaged 32.9 years in age; all were white; and about half (43, 52%) were married. They ranged from less than 1 to 33 years of EMS service with an average of 5.3 (SD = 5.24), and they averaged 46.8 calls per month.
Information was also elicited about recent critical incidents, as it was unclear if the attitudes of EMTs who experienced one of these incidents were different from EMTs who have not had one. A critical incident is an EMS call that involves the fatality of a victim(s) and overwhelms the psychological coping capacity of the EMT. The pretest scores for the four EMTs who reported a recent critical incident (6 months) did not differ from the group; thus, they were included in the final data set.

**Materials**

Ajzen and Fishbein (1980) suggest very specific guidelines for creation of an instrument to test the TPB. Following these guidelines, an instrument was created by soliciting EMTs (not included in the study) for their salient behavioral (attitudes), (subjective) normative, and perceived behavioral control beliefs to each of the behavioral goals from the program (Ajzen, 1985). This data led to the creation of six questions in each of the following three areas: BI, ATT, PBC, and 12 questions from the SN area as EMTs identified two subjective norms (supervisors and other paramedics). The subscales, which were created by totaling the questions in each of the four areas, were used to test the correlation of ATT, PBC, and SN to BI. Several filler items were placed intermittently throughout the scale to counter response bias; thus, the final instrument contained 37 items. Each question was presented in a 5-point Likert format from strongly agree or very beneficial (1) to strongly disagree or (5) very harmful (See Table 1 for a list of the BI items). In the follow-up questionnaire, the items were in a yes/no format, e.g., “I allowed the family to view the body.”

The instrument was then reviewed by several EMS experts for content and face validity. The instrument was cognitively-tested by EMTs (not from the sample) who read the instrument verbally and silently to elicit problems in structure and word content. These problems were corrected and the instrument was pilot-tested among 35 EMTs enrolled in a CME program not related to death. The instrument was stable over one week with the correlation coefficients for the subscales ranging from .73 to .82 (Smith-Cumberland, 2004). Reliability coefficients ranged from .74 to .83 for the subscales (alpha = .74 for ATT, .83 for PBC .74 for
SN, and .78 for BI) and .94 overall (Smith-Cumberland, 2004). The initial alpha for the attitude subscale was .69; however, one item was deleted for this study raising the alpha to .74.

Procedure

After sufficient responses to the recruitment letters, EMS agencies were randomly assigned to one of three groups; the two-day death education; the two-hour CME session; or the control group who received a two-hour lecture on advanced airway techniques. Due to travel distance and schedules, individual participants could not be randomized to treatments groups. The courses were free to the participants, and they received CME credits for the number of hours spent in the session. All participants received the questionnaire prior to the intervention and at the end of the intervention.

After three months, all participants received a follow-up letter eliciting information about six behaviors when they responded to a call involving a death. These behaviors corresponded directly to the behavioral intention items. Three weeks after the first letter, a second letter was sent to the non-respondents urging them to respond. Additionally, the EMS agency was contacted to encourage the EMTs to return the follow-up information. A total of 45 (54%) of the 83 participants responded to follow-up.

Results

A test of correlation suggested that a relationship existed between pretest and posttest measures; therefore, a covariate analysis of variance (ANCOVA) was used to control these effects with the pretest entered as the covariate. EMTs who attended the 16-hour program or the two-hour CME session intended to change their behavioral intentions more often than those in the control group \((F(2, 80) = 11.62, p < .000, \eta^2 = .225)\). In LSD post-hoc tests, significant differences occurred between both the 16-hour and the control group \((p < .000)\), and the two-hour CME session and the control group \((p < .001)\). The two treatment groups did not significantly differ from each other (see Table 1). However, the results show a trend for those EMTs who received the 16-hour seminar to intend to change their behaviors related to death more often than those EMTs who received the two-hour course.
Of the 45 (54%) participants who responded to the follow-up measure, 18 (40%) stated they had made a death notification; however, the small sample size limited the statistical analysis using the BI scale. The trends show that the EMTs in the 16-hour program changed their behaviors most often, whereas the EMTs in the two-hour CME session changed less often, but more than the control group.

After consulting with EMS experts and a thorough review of the literature, it appeared that attitudes were the most important motivator for BI. Therefore, ATT was entered first, followed by PBC, and finally SN in a hierarchical multiple regression, in which ATT accounted for 85% of the variance in BI ($F(1, 82) = 464.36$, $p < .001$). The remaining regression coefficients for PBC (0.2) and SN (0.4) were non-significant (see Table 2 for correlations).

**Discussion**

Present data indicate that this 16-hour seminar and a two-hour CME session changed EMTs’ behavioral intentions. After either course, they were more likely (to intend) to allow families to view the deceased, use successive preannouncements, use the four-step death notification process, use death-related words instead of euphemisms, and leave follow-up information. Changes tended to be greater for the 16-hour seminar than the two-hour group.

When reporting their behaviors, more than two-thirds (7/9) of the 16-hour group and two-thirds (6/9) of the two-hour group reported that they used the words “dead” or “died” to make the death notification, whereas only one-third (1/3) of the control group reported that they had used one of these words. Only three

<table>
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<th>TABLE 2 Correlations Among Subscales for Treatment Groups</th>
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<tr>
<td>----------------</td>
</tr>
<tr>
<td>1. Intention</td>
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<td>2. Perceived control</td>
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<td>3. Subjective norm</td>
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<td>4. Attitude</td>
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*Note. ***$p < .001$; **$p < .01$; *$p < .05$.*
out nine in the 16-hour group, and two out seven in the two-hour group, but none of the control group left follow-up information with the family. Many of the EMTs reported using successive preannouncements prior to the death notification (16-hour = 7/9, two-hour = 3/6, and control = 2/3). At least half of the EMTs (16-hour = 5/8, two-hour = 3/6) who had received the intervention, but none of the control group, reported using the four-step death notification process. The majority of the EMTs allowed a viewing by the family (16-hour = 6/6, two-hour = 4/5, control = 2/3).

A multiple regression indicated the EMTs' behavioral intentions stemmed from changes in their attitudes, not their perceived behavioral control or motivation to comply with their subjective norms. The large amount of variance accounted for by the EMTs' attitudes indicate they hold positive beliefs that performing these six behaviors will lead to positive outcomes. The data also suggest that EMTs are not perceiving social pressure to perform these behaviors from other EMTs or their supervisors. Furthermore, the EMTs feel confident to perform these behaviors. Thus, EMTs who believe that these six goals will help themselves or the victims’ families will be more likely to perform these behaviors than EMTs who hold less favorable beliefs.

Several limitations to the study include a sample drawn from a single region, which might not represent EMTs nationwide, and only three months from intervention to follow-up, so that many of the EMTs had made no death notification. Finally, lack of randomization of individuals to treatment conditions must be taken into account when interpreting the data.

Despite these limitations, this study shows EMTs are responsive to death-related programs. The results indicate that a short CME session can effect changes in EMTs. Courses that meet the unique needs of EMTs need to include detailed instruction on how to make a death notification or handling the post-mortem arrangements. Current educational curriculums that teach the five stage psychosocial model designed by Kubler Ross may not be effective for EMTs, as EMTs often do not see the later stages, such as acceptance. These results demonstrate that theory can be used to evaluate EMTs programs and that the theoretical underpinnings of course success can be identified, which can help educators restructure their programs to become more beneficial to EMTs.
EMS educators and administrators should strive to provide quality training in this important area of education for EMTs.

References


