EMTs’ ATTITUDES’ TOWARD DEATH BEFORE AND AFTER A DEATH EDUCATION PROGRAM

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ABSTRACT

Objective. To test the hypothesis that emergency medical technicians’ (EMTs’) attitudes toward death will change after exposure to a death education program. Methods. A convenience sample of 83 rural EMTs participated in this pretest–posttest study after exposure to an educational program related to death. Intact groups of EMTs were randomly assigned to one of three conditions. The short-intervention group received a two-hour class solely on making death notifications. The long-intervention group received a 16-hour, two-day workshop based on the Emergency Death Education and Crisis Training (EDECT®) program. The control group received a program about toxicology. Each participant completed a questionnaire with items structured in a Likert five-point format with “strongly agree” and “strongly disagree” as the anchors. Results. Before the training programs, most (77%) participants reported that an EMT’s actions impact the family’s grief. Less than half (43%) reported that an EMT’s role should include making a death notification. The majority (84%) reported that their training was inadequate to make a death notification or to help the family with their grief. Most (84%) felt uncomfortable making a death notification. Those EMTs in the long-intervention group were significantly more likely (92%) to feel that their training was adequate after the intervention when compared with those EMTs in the short-intervention group (43%) or those in the control group (21%). Conclusion. The data showed that EMTs’ attitudes toward death changed after exposure to a training program about death. Keywords: emergency medical technician; paramedic; death; dying; education; attitudes.

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Emergency medical technicians (EMTs) of all levels [EMT-Basics (EMT-Bs), EMT-Intermediates (EMT-Is), and EMT-Paramedics (EMT-Ps)] encounter death regularly in the course of their jobs. In 2000, the American Heart Association published the futility protocol,1 which directs EMTs to terminate resuscitation efforts or not to start resuscitation in certain cases. More often now, EMTs have the responsibility of making the death notification and consoling the family, as well as pronouncing the death. Of patients who die outside the hospital, EMTs convey 83% of death notifications.2 It remains unclear what attitudes EMTs have formed toward these roles. For example, do EMTs feel that they have adequate training to handle a patient’s death? The literature suggests that their training is less than adequate.2-4

Most EMTs receive their training from instructors who follow the National Standard Curriculums,5,6 which cover very little information about death notifications and reacting to the family’s grief. Furthermore, EMS textbooks do not cover these issues well.7 Some courses such as Pediatric Advanced Life Support and Pediatric Education for Prehospital Professionals have sections on dealing with death; however, these courses are not mandatory for EMTs, and they contain limited information. Overall, EMTs do not receive adequate training in death and dying.2,3 Few studies have explored EMTs’ attitudes toward the adequacy of their training4-8,10 Most did not explore EMTs’ attitudes toward their role on scene. Few studies have examined the adequacy of training to complete these roles or how comfortable EMTs felt about these roles.2,11 Therefore, the purposes of this study were to ascertain EMTs’ attitudes toward death and, secondly, to examine whether these attitudes change from exposure to a death-related program.

THE PROGRAMS

The Emergency Death Education and Crisis Training (EDECT®) seminar12 is a theoretically based13-15 experiential training program designed to change death-related attitudes and behaviors of emergency medical service (EMS) professionals. The teaching methods include lectures, discussions, small-group exercises, role-playing, and workbook activities.

The seminar begins with an introduction of participants and overview of the program. The course includes small-group activities and group-building exercises that aid in the development of discussions, role-playing, and other seminar group activities. The next session covers the legal and ethical issues of deaths seen by emergency providers. This session was chosen to be next because it is immediately useful and practical for adult learners.13 It also serves to transition from the medical and technologic aspects of death to the more psychological and social processes of death.
of transition is needed especially for EMTs, who often maintain rigid attitudes. After lunch on the first day, the program resumes with a session on the typology of death. This first day concludes with an examination of the special issues in death, including the cultural and religious influences, dealing with children after a death, and the death of a child. On the second day, a brief review and introductory session helps to recreate the learning environment. The day proceeds with a session on communications, including interacting with the bereaved and making the death notification. After lunch, the program continues with sessions on grief reactions and how to interact with bereaved persons effectively. The day and the seminar conclude with role-playing exercises and practice scenarios. In this last session, students learn to apply, in totality, skills learned earlier in the seminar. The last activity is completion of the posttest instruments.

The curriculum for the two-hour continuing medical education (CME) session is taken from Unit 6 of the EDECTSM program and covers the four-step death-notification process. A single instructor presents the material in a lecture-style format aided by a computer-generated presentation program. The session lasts approximately one hour and 40 minutes, allowing for a brief question-and-answer period. The question-and-answer period is spent in a large-group format; thus, the interactive discussion is limited to the large-group environment.

These two programs center around death and dying in the prehospital environment, with the entire instructional time being devoted to death in the prehospital setting. The EDECTSM program was found to be effective in two different samples; however, it should undergo further testing to determine its validity in other populations. The two-hour CME session has been used effectively in multiple populations.

The two most common educational formats for death and dying courses for EMS providers are two-day seminars (including workshops) and short CME sessions, usually two hours. Wager suggested that initial training programs on death and dying take place in a workshop setting over a one- to two-day period, and that short review sessions follow these programs to enhance the learning process, however, the author did not test these recommendations. The two-day seminar format appears in many EMS educational offerings, i.e., Critical Incident Stress Debriefing, Advanced Cardiac Life Support, and Pediatric Advanced Life Support, and has been used effectively to teach EMTs about behavioral emergencies. Furthermore, death and dying educators have found the seminar format successful to teach death education courses.

The short two-hour CME session provides another effective teaching format. It is convenient to EMS educators because it can be scheduled for a single session in the evening. Cowles and Swain supported the use of a one-hour lecture and discussion (CME class) on death and dying to teach health professionals; however, they did not provide an evaluation of their program. Other studies support the use of a short course. For example, a four-hour seminar detailing the death-notification process helped those who make death notifications on a frequent basis, and a two-hour experiential seminar changed physicians’ attitudes related to death. Hoge and Hirschman showed that brief training programs (two-hour sessions) were effective to teach psychological interventions to EMTs. Many of these studies have methodologic flaws; thus, they must be interpreted with caution. Despite this, it seems that a two-hour course is an effective option for EMT education.

Furthermore, research supports the need for the evaluation of a short CME course. A study using a short curriculum of death-related topics would help identify whether brief training programs effectively teach death and dying to EMS professionals. Without these studies, it remains unclear whether short CME sessions are effective in teaching EMTs. It is reasonable that more changes will occur from the longer two-day seminar than the two-hour CME session; however, it is unclear whether a short two-hour session can effect change. If it cannot, it may not be the best educational format to teach death and dying to EMS professionals. In this case, the longer intervention would be necessary, despite the time and monetary commitment required of a longer training program. Therefore, the two-hour course was included as an intervention to determine whether it is an effective option to the longer training programs.

In summary, the two-hour CME provided a lecture-oriented session enhanced with a computer presentation. It solely addressed the process of making a death notification. The EDECTSM program is a 16-hour, two-day program that provides a comprehensive examination of death in the prehospital setting. Both programs help EMTs acquire new skills to use when making death notifications and when interacting with bereaved families during the death process.

**METHODS**

**Study Design and Setting**

The study used a quasiexperimental, randomized, control-group, pretest-posttest design using three groups. Intact groups were randomized to one of three conditions. The control group (n = 29) received a two-hour EMS program about toxicology. The short-intervention group (n = 30) received a two-hour CME session solely about making a death notification. The long-intervention group (n = 24) received a 16-hour, two-day training program.

All participants received their training program in the educational center of a community college or
in the educational room of a fire department. The death courses were taught by a Nationally Registered EMT-P (NREMT-P) (the principal investigator), and the toxicology course was taught by an EMS educator (NREMT-P) who was not affiliated with the study. Instructors who were not part of the investigation were solicited, but lack of EMTs trained in death and dying eliminated the option of using outside instructors.

All participants were part of a larger study that examined the effectiveness of these two programs in a theoretical evaluation. In addition to this evaluation, the author also elicited information about the EMTs' attitudes and roles toward death. Answers from these results provided the basis for this study and are presented here separately because they represent an independent domain.

Selection of Participants

Participants were recruited from EMS agencies in Wisconsin. The EMS agency ensured that they were all practicing EMTs in the state of Wisconsin. The participants gave informed consent and were assured that the questionnaires were anonymous and confidential. Participants were blinded to the nature of the study; none of the participants knew of the different levels of intensity until after the study concluded. Intergroup rivalry was not an issue because each group lived at a sufficient distance from the other groups. Other than receiving CME credit for time spent in the training session, participants were not compensated.

Intact groups from six fire departments and EMS agencies were used. Each group was randomized to one of the three treatment conditions: the short-intervention (two-hour CME session) group (n = 30), the long-intervention (16-hour program) group (n = 24), or the control group (n = 29). After randomization, the agencies were contacted to schedule training times. All three training courses occurred in the same week.

Methods of Measurement

Each participant completed a questionnaire about death behaviors and attitudes on scene. The five specific items about the EMTs' attitudes used in this study were 1) whether their actions as EMTs impacted the grief of family members, 2) whether their training to help the families was adequate, 3) whether their training prepared them to make compassionate death notifications, 4) whether they felt comfortable making death notifications, and 5) their attitudes toward the EMTs' role to make death notifications on scene. These five items (along with the other 32 items) were structured in a Likert five-point format (5 = strongly agree, 4 = agree, 3 = unsure, 2 = disagree, and 1 = strongly disagree). The other 32 items elicited information about their behaviors on scene and pertained to the larger study.

Instrument

This study was limited to five times; it was not an option to add additional items beyond the five. These questions were added to the instrument used in the larger study to break up response sets as suggested by the developers. The instrument that contained these items was reviewed by multiple experts in the EMS field, cognitively tested, and pilot-tested (n = 35) before use. Testing showed the instrument to be reliable and stable (Cronbach's alpha = 0.94). The test–retest reliability showed the instrument to be stable in EMTs (reliability coefficient = 0.79).

Data Collection, Processing, and Analysis

One hundred twenty EMTs were solicited for the estimated sample size of 72. Sample size was determined from a power analysis with power set at 0.80 (1-beta or I–20) and an effect size of 0.287. Effect size was determined from a review of the literature. From this process, 87 EMTs were recruited. Four participants did not finish the program or did not complete the posttest. Thus, the final sample was 83 EMTs.

A survey instrument was given to 83 EMTs before and after the training program. All groups received the same instrument and the same instructions for completing the instrument. Each participant created an identification number that was used throughout the study. Program administrators collected the data immediately after the programs were completed. Once collected, the data were entered (by identification number) into the SPSS package (SPSS Inc., Chicago, IL). The frequencies and descriptive data were examined on the entire sample.

From a review of the literature, several demographic variables were identified. They were included on a separate questionnaire (gender, age, marital status, and educational level). Several occupational variables were
also included (years in EMS, calls per month, death calls per month, death notifications per month, comfort level in making a death notification, and previous education in death and dying). Scores with partial years were rounded down to the closest whole number of years, e.g., 3.5 years was entered as 3 years. The demographic and occupational variables that were continuous (age, years of experience, etc.) were recoded to categorical variables. This recoding allowed the Kruskal-Wallis test to explore the relationship between the demographics and the groups.

In the hypothesis testing, an analysis of covariance (ANCOVA) controlled for differences in the demographic and occupational variables. The EMTs were coded into the three treatment groups: the long-intervention group, the short-intervention group, and the non-death-related program, or the control group. There were no pretest differences between the groups.

RESULTS

The majority of the participants were white men who lived in rural areas of Wisconsin. Analysis of the demographic variables showed no differences between the treatment and control groups. Several occupational characteristics were examined (see Table 1). The participants in the two-hour CME session ran fewer calls \( H(2, n = 83) = 9.902, p < 0.05 \) and fewer calls involving a death \( H(2, n = 83) = 48.243, p < 0.01 \) than the other treatment group or the control group. The participants in the two-hour CME group lived in very rural areas, and the EMS agencies they worked for ran fewer EMS calls. These differences were controlled for with the use of covariate procedures.

The participants were evaluated by level of certification because previous research has shown that EMTs' attitudes differed based on level of certification. All EMT- Bs and EMT-Is were coded into one group and all EMT-Ps were coded into a second group. When the pretest data were examined to determine whether level of training affected differences in the EMTs' attitudes toward death, there were no significant differences.

The Mann-Whitney U test (the nonparametric equivalent of the ANCOVA) was used for the hypothesis testing. The first research item asked EMTs whether they thought that an EMT's actions impacted the grief of the family. Before the interventions, the majority (77%) of all three groups agreed (or strongly agreed) that an EMT's actions on scene impacted the grief process of the family. After receiving the EDECTM program, there were no statistical differences between the groups; however, there was greater likelihood for the EMTs in the long-intervention group to respond that an EMT's actions affected the family's recovery than in the short-intervention group or in the control group \( [F(2, 83) = 0.162] \).

The second research item asked whether EMTs thought that their role as an EMT included making a death notification. On the pretest, many (57%) EMTs disagreed (or strongly disagreed) that a death notification was part of their duties. After receiving the educational programs, more EMTs in the intervention groups reported that their professional role included making a death notification. The long-intervention group (92%)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control Group ( (n = 29) )</th>
<th>Two-Hour CME ( (n = 30) )</th>
<th>EDECTM ( (n = 24) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of years spent in EMS</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1 year or less</td>
<td>0.17 (5)</td>
<td>0.20 (6)</td>
<td>0.25 (6)</td>
</tr>
<tr>
<td>2 to 3 years</td>
<td>0.38 (11)</td>
<td>0.17 (5)</td>
<td>0.25 (6)</td>
</tr>
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<td>4 to 6 years</td>
<td>0.31 (9)</td>
<td>0.20 (6)</td>
<td>0.08 (2)</td>
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<tr>
<td>7 to 15 years</td>
<td>0.14 (4)</td>
<td>0.27 (8)</td>
<td>0.17 (4)</td>
</tr>
<tr>
<td>16 years or more</td>
<td>0.00 (0)</td>
<td>0.17 (5)</td>
<td>0.25 (6)</td>
</tr>
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<td>Number of EMS calls per month*</td>
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<td></td>
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<tr>
<td>10 or fewer calls</td>
<td>0.17 (5)</td>
<td>0.27 (8)</td>
<td>0.25 (6)</td>
</tr>
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<td>11-20 calls</td>
<td>0.07 (2)</td>
<td>0.43 (13)</td>
<td>0.42 (10)</td>
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<td>21-49 calls</td>
<td>0.21 (6)</td>
<td>0.23 (7)</td>
<td>0.08 (2)</td>
</tr>
<tr>
<td>50 or more calls</td>
<td>0.35 (16)</td>
<td>0.07 (2)</td>
<td>0.25 (6)</td>
</tr>
<tr>
<td>Calls involving a death notification per month*</td>
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<td></td>
</tr>
<tr>
<td>2 or fewer calls</td>
<td>0.76 (22)</td>
<td>1.00 (29)</td>
<td>0.75 (18)</td>
</tr>
<tr>
<td>3 or more calls</td>
<td>0.24 (7)</td>
<td>0.00 (0)</td>
<td>0.25 (6)</td>
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<tr>
<td>Death notifications (DNs) per month</td>
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<td></td>
<td></td>
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<tr>
<td>2 or fewer DN's</td>
<td>0.86 (25)</td>
<td>1.00 (30)</td>
<td>0.91 (20)</td>
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<td>3 to 5 DN's</td>
<td>0.14 (4)</td>
<td>0.00 (0)</td>
<td>0.09 (2)</td>
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<td>Formal death education</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.14 (4)</td>
<td>0.03 (1)</td>
<td>0.17 (4)</td>
</tr>
<tr>
<td>No</td>
<td>0.86 (25)</td>
<td>0.97 (29)</td>
<td>0.83 (20)</td>
</tr>
</tbody>
</table>

*Significant group differences at the \( p < 0.05 \) level (Kruskal-Wallis test).

CME = continuing medical education; EDECTM = Emergency Death Education and Crisis Training; EMS = emergency medical services.

Note: missing data included one EMT in the two-hour CME group on calls involving a death notification per month, and one EMT in the EDECT group on the death notifications per month.
reported that this task was part of their duties more often than the short-intervention group (83%). Most (75%) EMTs in the long-intervention group reported they "strongly agreed" that this was part of their duties. In the short-intervention group, only 27% "strongly agreed." Thus, EMTs receiving the long intervention were most likely to agree that their role as an EMT included making a death notification. The EMTs in the short-intervention group also showed this change, but not to the same degree as the long-intervention group [F(2, 79) = 22.910, p < 0.001].

The third item elicited information on EMTs' attitudes toward their comfort level on scene making a death notification. This item did not elicit any information about training. The pretest showed that only 1% of EMTs were comfortable when making a death notification on scene and few (15%) reported that they were "somewhat comfortable" making a death notification. Thus, most (84%) EMTs reported that they were not comfortable making death notifications prior to the interventions. After the training programs, the treatment groups felt more comfortable making a death notification when compared with the control group, with the long-intervention group showing the most significant change [F(2, 79) = 19.486, p < 0.001].

The fourth item asked the EMTs whether they had adequate preparation to make a compassionate death notification. Again, the intervention groups were significantly more likely to agree that they had adequate preparation to make death notifications. The long-intervention group showed greater changes than the short-intervention group or the control group. Prior to the training program, the long-intervention group felt the least trained in making death notifications; however, after the training, the EMTs in this group were more likely to report they had adequate training than the other two groups [F(2, 79) = 14.715, p < 0.001]. On the posttest, EMTs who received the EDECT™ training program (92%) were more likely to report that their preparation to make a death notification was adequate than the other two groups on posttest scores (two-hour CME group = 43%, control group = 21%).

The fifth item asked whether the EMTs thought they had adequate training to help the families at the time of a death. At the time of the pretest, most EMTs felt that their training was inadequate (83%). However, at the time of the posttest, the intervention groups were more likely to feel that their training was adequate when compared with the control group [F(2, 82) = 3.245, p = 0.044]. Again, the long-intervention group showed the greatest change in their responses. On the posttest, all EMTs (100%) in the EDECT™ program reported that their training to help families was adequate, whereas only 70% of the EMTs in the short-intervention group reported that their training was adequate.

**DISCUSSION**

There were no significant differences between the groups when asked about their impact on families, because most EMTs agreed with this item. While it was encouraging that most (77%) EMTs recognized their impact on bereaved families, it was disappointing that more (all) EMTs did not recognize that they impact the families when at the scene of a patient’s death. Further educational offerings in the area may pave the way for this number to approach 100% in the future. EMT educators should not assume that all EMTs understand that their actions impact the families; therefore, they should provide education in this area.

More importantly, this study shows that longer units of instruction can help EMTs feel more comfortable making a death notification, and that shorter units of instruction do not appear to effect these changes. This is not surprising as the concepts in the two-hour session are presented very concisely and quickly. Little instruction is spent on expanding or reinforcing the concepts. Unlike the students in the EDECT™ program, the students in the two-hour CME group did not practice making death notifications. For these reasons, the students in the two-hour CME group gained no additional comfort in making a death notification, even though they did realize that it was part of their role. This finding may be of concern because more EMTs realized it is a role, yet few felt comfortable in this role. These findings suggest, that longer and more comprehensive units of instruction, e.g., the EDECT™ program, provide instruction that increases an EMT’s comfort level when making a death notification as well as clarifying his or her role in making death notifications. It is unclear whether this finding is a result of the time spent in the course or the depth and breadth of the coursework.

In the two items related to training, the EMTs who received either intervention were more likely to report that their training to make death notifications and assist the family was adequate. Prior to the interventions, most EMTs (84%) reported that their training in making death notifications was suboptimal and 83% felt their training to help families was inadequate. Based on the review of the literature, this finding was expected. After the interventions, the EMTs who received the EDECT™ training program (92%) were more likely to report that their death notification training was adequate than the other two groups. The EMTs in the short-intervention group also showed changes, but they did not feel as adequately trained as those in the long-intervention group.

The second item on training showed that the EDECT™ program increased the number of EMTs who felt that their training was adequate to help families after the death of a loved one. On the posttest, all the EMTs (100%) in the long-intervention group reported that their training to help families was adequate, whereas
only 70% of the EMTs in the short-intervention group reported their training as being adequate. This further supports the effectiveness of these training programs and suggests that these training programs warrant further validation in other samples.

Finally, education can help EMTs realize that making a death notification is part of their professional duties. Prior to the interventions, many EMTs were unsure whether their duties included making a death notification. However, after receiving these educational units, most (87%) agreed that their duties as an EMT included making a death notification. This study showed that education about death notifications changes EMTs’ attitudes toward their role to make death notifications. Moreover, these changes can occur with short (two-hour) units of education related to death notifications.

LIMITATIONS

The study would have been improved with an expanded pool of questions. For example, questions that further explored previous training might have been helpful. Other questions related to pronouncing a death on scene could have added insight. For example, Norton et al.2 elicited information on pronouncing a patient dead versus transporting the patient to the hospital. More questions might have increased the understanding of EMTs’ attitudes toward death by providing a more comprehensive look. However, these five items did shed new light on EMTs’ attitudes, and they also provide stimulation for future studies in the area.

Creating a less heterogeneous sample by using EMTs (EMT-Bs, EMT-Is, and EMT-Ps) from other states and urban areas would have helped improve the study. Another study with a larger, more diverse population would aid in generalizing these results to other populations of EMTs and other emergency providers, e.g., nurses, physicians, and law enforcement officers.

Randomizing intact groups weakened the ability to make valid comparisons between the groups, which limits the internal validity of this study. The quasi-experimental design used in this study would have been strengthened with a true experimental design, e.g., randomization of participants. Although it is logistically problematic in EMS samples, future studies should try to use random assignment of participants to groups.

Finally, several sources of bias limit the interpretation of the results. For example, the developer and instructor of the interventions was also the principal investigator and, thus, was a part of the evaluation process. Even though other individuals handled parts of the research process, an outside evaluation would have reduced this bias further. Of note, the authors of this curriculum are not seeking any financial gain or other gain from their curriculum. Despite these limitations, this research provides a valuable contribution to the literature about EMTs’ attitudes toward death.

CONCLUSION

The EMS community must recognize that most EMTs believe their training in death and dying is not adequate to meet their professional needs, and that most EMTs do not feel comfortable making death notifications. Editors of EMS trade magazines need to encourage submission of more articles about EMTs’ roles and their impact on the scene of a death. Each article that discusses an EMT’s impact on grieving families will serve to meet this goal. This will also serve to increase EMTs’ awareness of their impact on bereaved families.

Furthermore, EMS educators need to increase education in death and dying issues, especially making death notifications and responding effectively to initial grief reactions. EMS educators need to allot more time in primary training programs. Continuing education programs need to be developed for existing EMTs. EMS educators should evaluate existing training programs and eliminate the parts (or all) that do not aid EMTs on the scene of a patient’s death. For example, centering the death-related education around the psychosocial stage theory of Elizabeth Kubler-Ross25 may not be the most effective approach for EMTs. The effectiveness of this approach, teaching EMTs the Kubler-Ross five stages of dying, should be validated as would any other approach to teaching EMTs about death and dying. EMS educator should not assume it is an effective approach simply because it had been the standard in textbooks and the national curriculums.

Death education courses can change EMTs’ attitudes toward death on scene. Therefore, it is important to provide courses that will help EMTs realize their impact on families, recognize their professional duties on the scene of a patient’s death, help them feel more comfortable with making a death notification, and provide them with new skills to help them interact with bereaved families.

References


