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Evaluation of a Video Decision Aid to Reduce Decisional Conflict in Physician Orders for Life-Sustaining Treatment (POLST) Decision-Making

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Abstract

Background/Objectives: Physician Orders for Life-Sustaining Treatment (POLST) is recommended as a preferred practice for advance care planning with seriously ill patients. Decision aids can assist patients in advance care planning, but there are limited studies on their use for POLST decisions. We hypothesized that after viewing a POLST video, decision aid participants would demonstrate increased knowledge and satisfaction and decreased decisional conflict.

Design: Pre-and postintervention with no control group.

Setting/Participants: Fifty community-dwelling adults aged 65 and older asked to complete a POLST based on a hypothetical condition.

Interventions: Video decision aid for Sections A and B of the POLST form.

Measurements: Pre- and postintervention participant knowledge, decisional satisfaction, decisional conflict, and acceptability of video decision aid.

Results: Use of the video decision aid increased knowledge scores from 11.24 ± 2.77 to 14.32 ± 2.89 , $P < .001$, improved decisional satisfaction 10.14 ± 3.73 to 8.70 ± 3.00 , $P = .001$, and decreased decisional conflict 12 ± 9.42 to 8.15 ± 9.13 , $P < .001$. All participants reported that they were comfortable using the video decision aid, that they would recommend it to others, and that it clarified POLST decisions.

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Author Contributions

All authors contributed to study design and concept, analysis and interpretation of data, and preparation of the manuscript. J.V. Gallegos and B. Edelstein contributed to acquisition of participant and/or data.

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Declaration of Conflicting Interests

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Supplemental Material

Supplemental material for this article is available online.

Conclusions: Participants endorsed the use of a POLST video decision aid, which increased their knowledge of POLST form options and satisfaction with their decisions, and decreased their decisional conflict in POLST completion. This pilot study provides preliminary support for the use of video decision aids for POLST decision-making. Future research should evaluate a decision aid for the entire POLST form and identify patient preferences for implementing POLST decision aids into clinical practice.

Keywords

advance care planning; POLST; video decision aid

The National Quality Forum recommended the Physician Orders for Life-Sustaining Treatment (POLST) as a preferred practice for advance care planning with seriously ill patients.¹ Physician Orders for Life-Sustaining Treatment converts patients' treatment goals into medical orders that are actionable across health care settings. The Institute of Medicine recommended that every state implement a POLST program²; at present 45 states have or are developing one.³

In a 2015 review, Hickman et al identified areas in need of further research, including evaluation of the quality of POLST decision-making, and the development of decision aids.⁴ High-quality health care decisions are considered to have been made when (1) the decision-making process is informed by the best available evidence on options and patients' values⁵; and (2) treatments align with patients' goals.⁶ A decision aid standardizes the information upon which patients make their decisions and enables them to reach more informed, values-based decisions.⁷

Compared to verbal descriptions, video decision aids have been shown to increase patient knowledge, reduce their uncertainty in decision-making, and increase preferences for less intensive and more comfort-focused medical interventions.^{8,9} Over and above verbal descriptions and written decision aids, videos may assist with advance care planning because they can help patients imagine compromised health states, visualize different treatment options, and become more informed and confident about their preferences for care at end of life.¹⁰ After a systematic review and analysis of randomized controlled studies of video decision aids versus traditional methods of decision support such as verbal description, pamphlets, and usual care, researchers concluded that there is a need for more evidence about outcomes of their use before they are routinely integrated into clinical practice.¹⁰

Despite the importance of POLST and the potential value of video decision aids, there has been little research on their use for POLST completion.⁴ In video decision aids, Volandes and colleagues have studied patients' preferences for level of medical intervention—life-prolonging care, basic care, and comfort care—similar to the 3 levels of medical intervention in Section B of the POLST form,⁹ and they offer a written and video decision aid for POLST on their website.¹¹ To our knowledge, only one study, using a video decision aid to assist goals of care conversations with decision makers for persons with dementia, has examined the role of a decision aid on POLST completion and provided the first evidence that an aid can increase it.¹²

The purpose of the present study was to develop and evaluate a novel video decision aid for the Cardiopulmonary Resuscitation and Medical Interventions sections of the West Virginia version of POLST (Figure 1). We sought to investigate the acceptability of the aid and its impact on patient knowledge, decisional conflict, and decisional satisfaction.

Methods

Participants and Recruitment

The sample consisted of 50 cognitively intact, English-speaking, community-dwelling adults aged 65 years and older. Participants were recruited from senior citizens centers, online advertisements, and newspaper ads for a study of medical decision-making. The protocol was approved by the West Virginia University Institutional Review Board.

Study Design and Procedures

A pre/post design with no control group was used. Participants were informed about POLST and provided a hypothetical condition, stating that the participant was terminally ill from meta-static lung cancer. A single hypothetical medical problem was used to increase internal validity by limiting variability due to a range of potential medical problems hypothesized by participants. Participants completed a demographics questionnaire and baseline assessments of knowledge, decisional conflict, and decisional satisfaction. After viewing the 7-minute video decision aid, participants completed postintervention assessments of the same measures and aid acceptability.

Decision Aid Development

The development of the aid content was guided by recommendations made by the International Patient Decision Aids Standards (IPDAS) Collaboration.¹³ The current aid meets all 6 IPDAS qualifying criteria, including the essential components to be recognized as a decision aid. The aid also meets several certifying and quality criteria. As researchers have noted, it may not be realistic to expect decision aids to meet all IPDASi (v3.0) quality criteria, and minimum standards for a cutoff value for minimum acceptable quality for a decision aid have not been established.¹⁴ Authors (J.V.G. and B.E.) reviewed the medical literature for the risks and benefits of the medical treatment options in POLST (Figure 1). They developed a script covering POLST Sections A and B which was revised with input from the third author (A.H.M.), the physician director of the West Virginia POLST program (Supplemental Information online). Evaluation of the current decision aid was based on IPDAS recommended standards for examining the effectiveness of an aid.¹⁵ Outcomes assessed in the current study included the evaluation of constructs related to the quality of the decision-making process and decision quality.

Knowledge Assessment

We developed an 18-item multiple-choice test to evaluate participant knowledge of treatment options in Sections A and B of the POLST. A participant's total knowledge score was calculated by summing the number of correct answers (Supplemental Information online).

Satisfaction With Decision Assessment

The Satisfaction with Decision Scale is a 6-item measure of patient satisfaction with a health care decision.¹⁶ It uses a Likert scale with 5 response categories from Strongly Disagree to Strongly Agree. The measure has good reliability ($\alpha = .88$) and construct validity.¹⁷ Participant ratings are summed, with lower scores indicating increased satisfaction.

Decisional Conflict Assessment

The Decisional Conflict Scale (DCS), which measures patient uncertainty when making health-related decisions, is a 16-item measure containing 5 subscales: informed, clear values, support, uncertainty, and effective decision.¹⁸ It uses a Likert scale with 5 response categories from Strongly Agree to Strongly Disagree. The measure has good reliability ($\alpha = .78-.92$)¹³ and convergent and discriminant validity in older adults making advance care planning decisions.¹⁹ Participant ratings are summed, with lower scores indicating less decisional conflict.

Acceptability Assessment

A 9-item questionnaire was developed to assess participants' ratings of video decision aid acceptability. Item content included comfort with the aid, perceived usefulness and bias, and general acceptability. Items were rated using a 5-point, Likert scale from 1 = Strongly Disagree to 5 = Strongly Agree, and responses were dichotomized into Agree (Agree or Strongly Agree) and Disagree (all other responses) (Supplemental Information online).

Statistical Analyses

Descriptive statistics were used to summarize participant characteristics and acceptability of the video decision aid. Paired samples *t* tests were performed to compare mean scores of knowledge, decisional conflict, and decision satisfaction at preand postintervention. All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 24 (IBM SPSS 24, Armonk, New York).

Results

Participant Characteristics

Participants included 50 older adults, 33 females and 17 males, who ranged in age from 65 to 93 years (73 ± 7.5). Table 1 lists participant demographics. A majority had a college degree (64%). Most had one or more chronic illnesses (66%).

Impact on Patient Knowledge, Satisfaction With Decision, and Decisional Conflict

There was a significant increase in participant total knowledge scores from preintervention (11.24 ± 2.77) to postintervention (14.32 ± 2.89), with a mean difference of 3.08 (95% CI: 2.49-3.67, $P < .001$), which represented a large effect size, $d = 1.09$ (Table 2).

Participants reported higher decisional satisfaction after intervention (8.70 ± 3.00) compared to preintervention (10.14 ± 3.73) with a mean difference of 1.44 (95% CI: 0.62-2.26, $P = .001$), which represented a medium effect size, $d = 0.43$ (Table 2).

Participants reported a significant decrease in decisional conflict from preintervention (12 ± 9.42) to postintervention (8.15 ± 9.13), with a mean difference of 3.85 (95% CI: 2.00-5.70; $P = .001$), which represented a medium effect size, $d = 0.42$ (Table 2).

Video Decision Aid Acceptability

All participants reported that they were comfortable using the video decision aid, that they would recommend it to others, and that it clarified POLST decisions. Over 90% of participants agreed that it did not appear to be biased; and 74% reported that it helped to clarify personal values that influence decisions (Table 3 in Supplemental Information online).

Discussion

In these older-aged, community-dwelling participants who were asked to complete a POLST based on a hypothetical condition, use of a video decision aid increased knowledge and decisional satisfaction and decreased decisional conflict. This study provides initial support for the use of video decision aids in the process of POLST completion and suggests that video decision aids may promote higher quality POLST decisions. In a recent review of implementing shared decision-making in clinical practice, the commentators recommended the use of decision aids for complex medical decisions regarding “consequential choices” such as those required to complete a POLST form and noted that patient decision aids provide structured, standardized, and comprehensive information to improve the quality of patients’ decisions.²⁰

This preliminary study has several limitations. Without a control group, the exact influence of the decision aid cannot be stated with certainty. Sample demographics for sex and education were not representative of the United States older adult population. Third, the study employed a hypothetical scenario for participants to use to make decisions about end-of-life care despite not being terminally ill. Hypothetical future-oriented scenarios may not allow for the same level of engagement as real end-of-life medical decision-making.

Because the participants in this study found the video decision aid to be acceptable and helpful to clarify their personal values, this study lends support for future research in which it can be tested in seriously ill patients. Further research should also develop a video decision aid that addresses the entire POLST form with attention to IPDASi quality criteria, and identifies patient preferences for implementing video decision aids into the clinical practice of POLST completion.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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HIPAA PERMITS DISCLOSURE OF POST TO OTHER HEALTH CARE PROFESSIONALS AS NECESSARY

West Virginia Physician Orders for Scope of Treatment (POST)
By state law, these medical orders must be followed until changed. Any section not completed indicates full treatment for that section.

REVISE ADVANCE DIRECTIVES AS NEEDED FOR CONSISTENCY WITH POST ORDERS.

Last Name		First	Middle
Mailing Address			
City/State/Zip			
Date of Birth (mm/dd/yyyy)		Last 4 SSN	Gender ☐ M ☐ F

A Check One
CARDIOPULMONARY RESUSCITATION (CPR): Person has no pulse and is not breathing.
☐ Attempt Resuscitation/CPR When not in cardiopulmonary arrest, follow orders in B, C, and D.
☐ Do Not Attempt Resuscitation/DNR

B Check One
MEDICAL INTERVENTIONS: Person has pulse and is breathing.
☐ Comfort Measures Treat with dignity and respect. Keep clean, warm, and dry. Use medications by any route, positioning, wound care and other measures to relieve pain and suffering and promote comfort. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. Do not transfer to hospital for life-sustaining treatment. Transfer only if comfort needs cannot be met in current location. Treatment Plan: Maximize comfort through symptom management.
☐ Limited Additional Interventions Includes care described above. Use medical treatment, IV fluids and cardiac monitoring as indicated. Do not use intubation or mechanical ventilation. Transfer to hospital if indicated. Avoid intensive care unit. Treatment Plan: Hospitalize for routine medical treatment.
☐ Full Interventions Includes care above. Use intubation, advanced airway interventions, mechanical ventilation, and cardioversion as indicated. Transfer to hospital if indicated. Include intensive care unit. Treatment Plan: Provide all medically indicated treatment including mechanical ventilation.
 Additional Orders: _____

C Check One Box Only in Each Column
MEDICALLY ADMINISTERED FLUIDS AND NUTRITION: Oral fluids and nutrition must be offered as tolerated.
☐ No IV fluids (provide other measures to assure comfort) ☐ No feeding tube
☐ IV fluids for a trial period of no longer than _____ ☐ Feeding tube long-term
 Additional Orders: _____

D
 Discussed with:
☐ Patient/Resident ☐ Health care surrogate ☐ MPOA representative ☐ Spouse
☐ Court-appointed guardian ☐ Parent of Minor ☐ Other: _____ (Specify)
Authorization INITIAL BOX if you agree with the following statement: If I lose decision making capacity and my condition significantly deteriorates, I give permission to my MPOA representative/surrogate to make decisions and to complete a new form with my MD/DO/APRN/PA in accordance with my expressed wishes for such a condition or, if these wishes are unknown or not reasonably ascertainable, my best interests.
☐
Registry Opt-In INITIAL BOX if you agree to have your POST form, do not resuscitate card, living will and medical power of attorney form (if completed) submitted to the WV e-Directive Registry and released to treating health care providers. REGISTRY FAX - 844-616-1415
☐
 Signature of Patient/Resident, Parent of Minor, or Guardian/MPOA Representative/Surrogate (Mandatory) Date

 Signature of MD/DO/APRN/PA
 MD/DO/APRN/PA Name (Print Full Name) MD/DO/APRN/PA Phone Number
 MD/DO/APRN/PA Signature (Mandatory) Date and Time

FORM SHALL ACCOMPANY PATIENT/RESIDENT WHEN TRANSFERRED OR DISCHARGED

Figure 1.

The West Virginia version of the POLST form; participants' knowledge, satisfaction and decisional conflict in completing Sections A and B were studied in this research.

Table 1.

Participant Demographics (n = 50).

Variable	n	%
Gender		
Male	17	34
Female	33	66
Race		
White	49	98
African American	1	2
Marital status		
Single	3	6
Married	19	38
Live-in partner	4	8
Divorced	7	14
Widowed	17	34
Education		
GED/High school	11	22
Some college	7	14
College	10	20
Postgraduate	22	44
Occupation status		
Working part-time	4	8
Retired	45	90
Other	1	2
Chronic illnesses (1 or more)		
Yes	33	66
No	17	34
Prior major medical procedure		
Yes	20	40
No	30	60
Advance directive		
Living will	3	6
MPOA	4	8
Combined Will & MPOA	33	66
Medical order		
DNR card	10	20
POST	7	14
Physical health		
Excellent	4	8
Very good	25	50
Good	18	36
Fair	3	6

Abbreviations: DNR, do not resuscitate; GED, general equivalency diploma; MPOA, medical power of attorney; POST, physician orders for life-sustaining treatment.

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Table 2.Descriptive Statistics and *t* test Results for Knowledge, Conflict, and Satisfaction.

Outcome	Pretest		Posttest		n	95% CI for Mean Difference	<i>t</i>	<i>df</i>
	M	SD	M	SD				
Knowledge	11.24	2.77	14.32	2.89	50	3.67-2.49	-10.43 ^a	49
Conflict	12.00	9.42	8.15	9.13	47	2.00-5.70	4.20 ^a	46
Satisfaction	10.14	3.73	8.70	3.00	50	0.62-2.26	3.54 ^b	49

Abbreviations: M, mean; SD, standard deviation.

^a $P < .001$.^b $P < .01$.