Title

Advanced Directives in Palliative Care: physician's role on caregiver's empowerment as patient's surrogates.

Date: 18th April 2018

Title:

Advanced Directives in Palliative Care: physician's role on caregiver's empowerment as patient's surrogates.

Study Design and setting:

Prospective, single-blinded, controlled, and randomized trial to analyze if Advance Directives' discussion between patients and caregivers, promoted by a palliative care physician, improves concordance between them.

Trial conducted in Trás-os-Montes and Alto Douro Hospital Centre, on Portugal's north inland.

Trial followed ethical procedures under the Declaration of Helsinki and was approved by the Ethics Committee of Hospital Centre of Trás-os-Montes and Alto Douro, on 18 June 2018 (Doc nº 245/2018).

Participants recruited were patients referenced to the palliative care service, from September 2018 to September 2019, and their caregivers, assigned to the study on their first consult.

Participants' assessment for eligibility, was performed by an experienced nurse.

All participants gave written consent to enroll in the trial.

Participants:

Patients' inclusion criteria were:

- ✓ adult patients with 18 years or more
- ✓ patients referenced to palliative care service with a chronic, progressive and uncurable disease
- ✓ patients with ability to comprehend, write and speak Portuguese language
- ✓ patients with absence of major cognitive disorders (Portuguese validated Mini Mental State Test score superior to 22, 25 or 27, according to patients' scholarity)
- ✓ patients´ acceptance to participate in the trial
- ✓ patients capable of nominating a caregiver as their surrogate in decision making.

Caregivers' inclusion criteria were:

- ✓ adults with 18 years or more
- ✓ being nominated by patients as their surrogate decision-maker
- ✓ ability to comprehend, write and speak Portuguese language
- ✓ caregivers' acceptance to participate in the trial.

Exclusion criteria were:

- ✓ patients or caregivers' refusal to participate
- ✓ patients' cognitive impairment
- ✓ patients' incapacity to dialogue
- ✓ patients being too sick to cooperate
- ✓ patients without a caregiver

Interventions:

This trial occurred in two phases, within 1-month interval.

At baseline (phase 1) participants separately filled in the Advance Directives' document considering patients' preferences for end-of-life care (patients wrote their own preferences and caregivers wrote their decisions as patients' surrogates). Besides this, caregivers also filled in a similar document with their own end-of-life preferences.

Dyads were then randomly assigned to two different groups - Intervention and Control group.

Simple individual randomization was previously informatically achieved and the randomization sequence was disclosure by a sealed envelope only after trial enrollment of the dyad, to ensure proper investigator concealment. Both patients and caregivers were blinded to the assigned group until the end of the trial.

In both groups (Intervention and Control), dyads were engaged in a conference meeting, in the same room, with the same average duration, with the same investigator.

In the Intervention group, the palliative care physician promoted an open discussion between patients and caregivers, about patients' answers to the Advance Directives' document. In the Control group, the palliative care physician undergone a conference with both patients and caregivers to evaluate patients' clinical symptoms.

At phase 2, one month after the first interview, caregivers were asked to fill in another Advance Directives' document, as patients´ surrogates.

All participants (patients or caregivers) had the choice to drop out at any moment of the trial, and the pair was excluded from data analysis.

Portuguese official Advance Directives was the central instrument used in this trial. Participants were asked to choose 1 to 3 different scenarios, to apply the following 12 questions regarding end-of-life preferences.

Each question in each scenario were informatically registered as a Yes or No item, respectively corresponding to items selected or not by the participants. For each participant, the investigators expected 36 possible answers for concordance analysis.

Outcomes:

The primary goal was to analyze the agreement between patients' and caregivers' answers, in both Intervention and Control groups, at phase 1 and phase 2, to find if the discussion of the Advance Directives, promoted by the physician, reflects an agreement improvement between the dyad.

Themes with major concordance were found and statistical significance of the results calculated.

Secondary goals of the study were: To describe the sociodemographic characteristics of the palliative care sample and to compare caregivers' answers as a surrogate with their own end-of-life preferences, to elicit their real understanding of the surrogacy role.

Sample:

The target population consisted of patients referenced to the palliative care service of Hospital Centre of Trás-os-Montes and Alto Douro, from September 2018 to September 2019. Patients were sequentially approached, according to their consultation date, to find eligibility for the trial.

Randomization and blinding:

Simple individual randomization was previously achieved, informatically (www.random.org). To ensure proper investigator concealment, the randomization sequence was disclosed to physician, by a sealed envelope, only after the dyads' enrollment on the trial, after all sociodemographic data were collected and all Advance Directives' documents were filled in.

Both patients and caregivers were blinded to the assigned group during the trial. In both groups, dyads were engaged in a conference meeting, in the same room, with the same average duration, with the same investigator.

Statistical analysis:

Categorical variables were described by absolute and relative frequencies. Age was described by the mean and standard deviation (mean ± SD), as its distribution was not deviated from normality in each group, according to visual analysis of histograms and confirmed with the Shapiro-Wilk's test of normality.

Agreement between patients and their caregivers was assessed (in each question) with the Overall Proportions of Agreement, with respective 95% confidence intervals. The investigators assumed that, when the 95% confidence interval included the value 0.50, the Proportion of Agreement between the pair was poor, not significantly different from agreeing in half of the answers, or less.

Maximal Proportion of Agreement in each question (PA=1), was reached when all dyads fully agree on all answers.

Reliability was accessed with Cohen's kappa (κ). We assumed Landis and Koch's (1977) interpretation of κ value (ranging from a lower limit of $\kappa = 0.2$ which represents slight reliability to $\kappa = 0.81–1.00$ that indicates almost perfect reliability).

Descriptive data analysis was performed using SPSS® Statistics (version 26.0; SPSS Inc., Chicago, IL, USA). Proportions of agreement and Cohen's κ with respective confidence intervals were computed using packages "*obs*. *agree*" and "*psych*" from R software, v 3.4.0 (R Core Team, 2020).

We used a significance level of 0.05 in all the statistical analyses.