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研究課題名（和文）Modelling End of Life Care Priorities with a Discrete Choice Experiment

研究課題名（英文）Modelling End of Life Care Priorities with a Discrete Choice Experiment

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研究成果の概要（和文）：本研究ではケア受容者とACP/ADプロセスの特性に基づき、日本市民と医療従事者のアドバンス・ケア・プランニング（ACP）の話し合いと事前指示書（AD）への受け入れについての理解を深めることを目的とし一連の離散選択実験の結果を得ました。最初の実験では人々が重篤な状態に陥った場合の治療選択におけるトレードオフについてモデル化しました。また、既存のACP/ADの実施やそれらに対する判断能力と受容性の研究に関して、病気の時の状況の違いが人々の感じ方にどう影響するかをモデル化しました。医師と看護師のサンプルを用いて、医療従事者がACP/ADを実施する際の態度や経験についても並行して研究を行いました。

研究成果の学術的意義や社会的意義

This study has provided an insight into both the Japanese preferences for their own end-of-life care interventions and for what issues affect the implementing of Advance Directives more generally. The resulting analysis and policy implications includes comparison with attitudes of clinicians.

研究成果の概要（英文）：This study culminated in a series of discrete choice experiments to better understand the acceptance of Advance Care Planning (ACP) discussions and written Advance Directives (AD) among the public and clinicians in Japan based on the characteristics of the care plan, care recipient and ACP/AD process. The first of the choice experiments modelled the trade-offs in the Japanese public's own treatment preferences if they were to be critically ill. Additional studies modelled how different circumstances at the time of illness affect how the public feels about implementing an existing ACP/AD and also a study of competence and acceptability of ACP/AD. A parallel study with a sample of doctors and a sample of nurses for these was used to also report on clinician attitudes and experiences in implementing ACP/AD.

研究分野：Health Economics

キーワード：Health Economics End-of-Life Care Advance Care Planning Advance Directive Palliative Care Choice Experiments Stated Preference

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1. 研究開始当初の背景

With improvements in health technology and effectiveness, an increasing number of options are becoming available for treatment of patients approaching the end of life. Beyond increased probability of life extension for the patient, there are other health outcomes as well as implications for Quality of Life (QoL) factors and meeting other goals which patients and their families may have. The priorities for and attitudes to when and how medical treatments at the end of life should be implemented, both as a matter of public policy and for respondents own preferred choices for themselves, vary across the public.

2. 研究の目的

This study set out to apply the Discrete Choice Experiment method to quantify the priorities for improvement of care at the end-of-life in Japan. Approaching the end of life and terminal illness care decisions often involve difficult trade-offs between direct health outcomes, QoL, capabilities, impacts on family / caregivers and a wide variety of other goals which patients and their care providers have. The study includes not just understanding service and treatment preferences of the public but also being able to estimate and quantify the difficult trade-offs which these present. As the study progressed, the focus narrowed down to two issues. The first is the determinants of support for implementation of Advance Care Planning / Advance Directives (ACP / AD) by both the general public and clinicians. The second was the public's varying attitudes to life sustaining treatments versus care focused on patient comfort in circumstances with severe and high-risk interventions such as the context of an Intensive Care Unit (ICU) admission.

3. 研究の方法

The Health Economics method of a Discrete Choice Experiment (DCE) was applied as a means of statistically modelling the care priorities of the study participants. It is based on the principle that it is the characteristics (attributes) of a service or treatment or health outcome option which determines the value attributed to it and therefore people's choices. The DCE approach enables the statistical estimation trade-offs in the priorities and preferences based on choices made across efficient and carefully designed sets of such options.

When other sociodemographic, medical history or attitudinal questions are collected along with these choices, the variation of preferences can be distinguished across these. The choices are used to estimate a utility function for the study samples and sub-groups.

The DCE approach is a multi-attribute stated preference measure which is both statistically robust and in which choices are presented as complete sets of options. Two different DCE question format approaches were applied along with a variety of statistical models applied to these and comparative analysis across respondents to derive robust estimates.

4. 研究成果

After the reviews and qualitative preparation, this study conducted three separate choice experiments. The two of the DCE were on questions related to when it is appropriate to implement an ACP or AD. These were conducted with a representative sample of 2700 members of the

Japanese public and 900 clinicians (450 physicians and 450 nurses). These were designed to understand the Japanese public as well as to see if they differ significantly with clinical experience and training (and to compare doctors with nurses within those who are clinically trained).

A subsequent study of preferences for the circumstances in which people who opt for life sustaining treatments with possible severe other health and lifestyle effects versus more comfort-orient (palliative) services was conducted separately with a representative sample of 1900 members of the Japanese public.

Additionally, two types of DCE were included, one approach was a four-level strength of preference such that traditional binary models could be run as well as additional sensitivity analysis with comparison to threshold cut-offs and ordered logit. The data is further analysed with additional models based on sociodemographic characteristics and latent class modelling.

The attributes in the core study of the ACP / AD ultimately included consideration of what type of care instructions were covered, the patient condition, expected survival and factors around patient age and support from family and professionals. Described care plans were presented with the respondents assessing their willingness to support the implementing of each of these. The basic results indicate that when presented with hypothetical cases, the Japanese public has a strong tendency to support the implementation of an ACP / AD, but that supporting implementation did vary with the described content and conditions of each ACP / AD. (That is, across the presented choice sets 85% of respondents has some for which they supported implementation and others for which they did not based on the ACP / AD content and patient condition). In a simple count, the most frequent response among all samples was a weak support for the implementation.

The differences across samples were more clearly observed in the statistical modelling of the importance of each DCE attribute. In all samples, having the support of medical professional for the planned actions was weighted heavily. Physicians were by far the most put off by care plans in which the content was focused on aggressive treatment plans, with similar negative views but weaker among the other samples. (Withdrawal of treatment as the focus of the care plan showed much heterogeneity across the sample.) Support of spouse and intergenerational (children / parents) also significantly increased support of implementing the care plan among all groups.

The study of personal preferences for life sustaining interventions for the respondent themselves was largely based on previous literature which examined whether members of the public would rather continue life support or stop if admitted to hospital intensive care (ICU) with various prognoses. This included factors around hospital treatment duration and the risk probabilities of bad outcomes (death, needing residential nursing care, needing assistance in daily activities or permanent memory / concentration problems). In two-thirds of presented cases, withdrawal of treatment is the weakly preferred or strongly preferred option. The attribute with the strongest impact on the choices was probably of death with the impact among needing residential care or needing daily living assistance or memory / concentration problems all having similar effects are similar probability levels.

The further statistical analysis of the results by sociodemographic factors and other distinctions, along with more flexible modelling approaches to account for respondent heterogeneity, are being undertaken.

5. 主な発表論文等

〔雑誌論文〕 計0件

〔学会発表〕 計0件

〔図書〕 計0件

〔産業財産権〕

〔その他〕

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6. 研究組織

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7. 科研費を使用して開催した国際研究集会

〔国際研究集会〕 計0件

8. 本研究に関連して実施した国際共同研究の実施状況

共同研究相手国	相手方研究機関