

# Applicability of a Patient Decision Aid in App-Format for Patients with Chronic Kidney Disease

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# Background

- A patient decision aid (PDA) makes the decision explicit, describe the options available, and help people to understand these options as well as their possible benefits and harms.
- ‘Dialysis choice’ for patients with kidney failure who have to make a decision regarding future mode of dialysis
- Meet the IPDAS criteria



Outcomes	Quality of Evidence (GRADE)
<b>Knowledge</b>	⊕⊕⊕⊕ <b>High</b>
<b>Accurate risk perception</b>	⊕⊕⊕⊖ <b>Moderate</b>
<b>Congruence between the chosen option and informed values</b>	⊕⊕⊖⊖ <b>Low</b>
<b>Decisional conflict: uninformed</b>	⊕⊕⊕⊕ <b>High</b>
<b>Decisional conflict: unclear about personal values subscale</b>	⊕⊕⊕⊕ <b>High</b>
<b>Participation in decision making</b>	⊕⊕⊕⊖ <b>Moderate</b>
<b>Adverse events</b>	There were no adverse effects on health outcomes or satisfaction, and no other adverse effects were reported.

## Decision aids for people facing health treatment or screening decisions

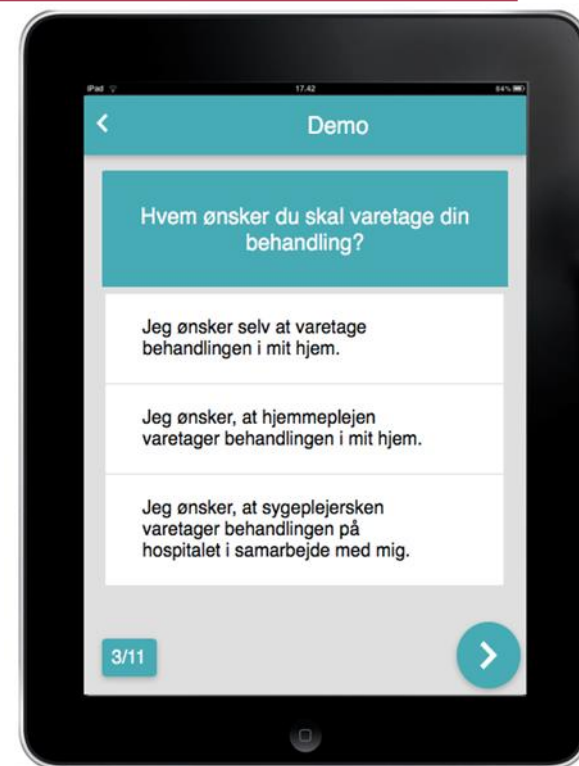
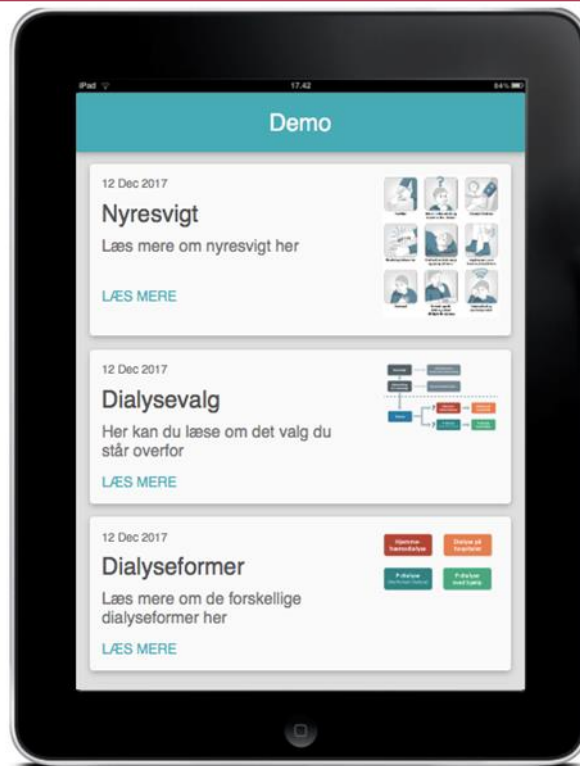
[Stacey et al, 2017; (n=105)]

# Background

- 84 % of all homes in Denmark have a smartphone
- The National Kidney Foundation in Denmark has developed an App
- Literature search
  - No PDAs about dialysis choice have been identified
  - Only two PDAs in total have been identified



# Background



# Background

- Adaptation of 'Dialysis choice' into an App-format
- A qualitative pilot study with two focus groups
  - Old age and too far away from starting dialysis were identified as barriers to use the App
  - To use the App takes time
  - The information is relevant and easy to understand
  - Some feedback on the content
- A final assessment made by an advisory board consisting of nurses and patients



# Hypothesis I

- A PDA in App-format reduces the patients' decisional conflicts

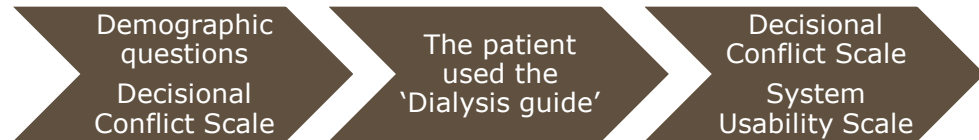
# Hypothesis II

- A PDA in App-format has a high level of usability



# Methods

- A cross-sectional study with a pre- and post-intervention questionnaire
  - Decisional Conflict Scale (DCS)
  - System Usability Scale (SUS)
  - Some demographic questions





# Methods

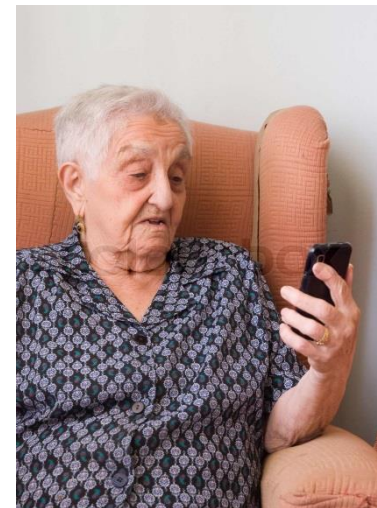
Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"><li>➤ &gt; 18 years old</li><li>➤ 10 ml/min &lt; eGFR &lt; 20 ml/min</li></ul>	<ul style="list-style-type: none"><li>➤ Not able to read or understand Danish</li><li>➤ Do not use electronic devices</li><li>➤ Has cognitive difficulties</li><li>➤ Has received dialysis treatment earlier</li><li>➤ Already started dialysis treatment</li></ul>

23<sup>rd</sup> November 2017 and 30<sup>th</sup> June 2018

# Results

Table 1: Demographic characteristics (n=22)

Characteristics	Number (% or range)
Age in years	
Mean (range)	65.05 (44-86)
Gender	
Female	7 (31.82 %)
Male	15 (68.18 %)
Region	
North Denmark Region	0 (0 %)
Central Denmark Region	10 (45.45 %)
Region of Southern Denmark	0 (0 %)
Region Zealand	1 (4.55 %)
Capital Region of Denmark	11 (50.00 %)
Attended patient school	
Yes	20 (90.91 %)
No	2 (9.09 %)
Attended a conversation about dialysis with a health practitioner	
Yes	13 (59.09 %)
No	9 (40.91 %)
Electronic device used	
Smartphone	12 (54.55 %)
iPad/tablet	5 (22.73 %)
Computer	5 (22.73 %)



# Results

Table 2: Changes from DCS1 to DCS2 (n=22)

	<b>DCS1 M (SD)</b>	<b>DCS2 M (SD)</b>	<b>D</b>	<b>p</b>
<b>Total Score</b>	26.42 (18.12)	25.21 (16.93)	-1.21	0.49
<b>Uncertainty Subscore</b>	30.30 (24.87)	26.89 (19.57)	-3.41	0.13
<b>Informed Subscore</b>	22.73 (14.13)	21.97 (15.97)	-0.76	0.67
<b>Values Clarity Score</b>	25.38 (18.81)	28.03 (18.64)	2.65	0.41
<b>Support Subscore</b>	21.14 (17.45)	21.97 (18.10)	0.83	0.83
<b>Effective Decision Subscore</b>	29.26 (21.42)	26.70 (19.88)	-2.56	0.29

M = mean, SD = standard deviation, D = difference, p = p-value.

# Results

Table 4: System Usability Scale answers in percentages (n=22)

Question	1	2	3	4	5
I think that I would like to use the Dialysis Guide frequently	4.55%	0%	31.82%	50%	13.64%
I found the Dialysis Guide unnecessarily complex	9.09%	31.82%	50%	9.09%	0%
I thought the Dialysis Guide was easy to use	0%	0%	27.27%	54.55%	18.18%
I think that I would need the support of a technical person to be able to use the Dialysis Guide	31.82%	13.64%	36.36%	18.18%	0%
I found the various functions in the Dialysis Guide were well integrated.	4.55%	0%	22.73%	63.64%	9.09%
I thought there was too much inconsistency in the Dialysis Guide.	9.09%	45.45%	36.36%	4.55%	4.55%
I would imagine that most people would learn to use the Dialysis Guide very quickly.	0%	9.09%	18.18%	59.09%	13.64%
I found the Dialysis Guide very cumbersome to use	22.73%	45.45%	31.82%	0%	0%
I felt very confident using the Dialysis Guide	0%	4.55%	31.82%	36.36%	27.27%
I needed to learn a lot of things before I could get going with the Dialysis Guide	18.18%	22.73%	36.36%	22.73%	0%
<b>Total SUS score, M (SD)</b>					<b>66.82 (14.54)</b>

M = mean, SD = standard deviation. The values for the questions in SUS range over a five point Likert scale: (1) Strongly disagree, (2) Disagree, (3) Neither agree nor disagree, (4) Agree, (5) Strongly agree.

# Conclusion

- The Dialysis Guide does not reduce the decisional conflict significantly, though the results indicated that the Dialysis Guide helped the patients deciding on a dialysis mode.
- The usability of the Dialysis Guide was not found sufficient, which might be a result of the respondents' use of a computer or an ipad.
- The applicability of the Dialysis Guide cannot be definitively determined on the basis of this study.