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Patients' Perceptions of Relative Importance of Discharge Elements (PRIDE) Study

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BACKGROUND

- ❖ Almost 20% of patients experience potentially preventable adverse events within 30 days of hospital discharge (Forster, et al, 2003).
- ❖ The Agency for Healthcare Research and Quality recommends structured and patient-centered discharge communication to prevent adverse events post-discharge (2018).
- ❖ The Joint Commission mandates information that must be included in all discharge communication including reason for hospitalization, significant findings, procedures and treatment provided, patient's discharge condition, patient and family instructions, and attending physician signature (Horwitz, et al, 2013).
- ❖ There is limited data suggesting how healthcare providers believe discharge communication should be prioritized.
- ❖ Blaine, et al, 2018 cites "Discharge Education/Teach-back" and "Involve Care Team" as the aspects perceived by providers as having the highest importance.
- ❖ Sorita, et al, 2017 cites medical history, physical findings, cognitive and functional status at discharge, and rationale for medication changes to be "very important"
- ❖ Patient satisfaction with discharge information strongly correlates to overall satisfaction with hospital care (Waniga, et al, 2016).
- ❖ Surprisingly, there is no data on patient's perceptions about discharge instruction elements and on the relative importance of discharge information.
- ❖ One study demonstrated that 44% of patients felt that improvements were needed to the areas of formatting/layout, clarity, correcting discrepancies/omitted information (Corser, et al, 2017).
- ❖ Determining how discharge information should be prioritized may help to make discharge communication more patient-centered, and prevent readmissions and adverse events.

STUDY AIM

To determine the perceptions of hospitalized patients on the relative importance of the elements of discharge information.

METHODS

- ❖ This study was deemed exempt by the Virginia Commonwealth University (VCU) Institutional Review Board (IRB).
- ❖ We conducted a survey of patients admitted on the hospital medicine service at VCU Health System
- ❖ Survey tool included the following six discharge instruction elements: discharge medications, hospital stay summary, discharge instructions, dietary/activity restrictions, when to call 911/doctor, and follow-up information
- ❖ Patients were asked to rank these elements from 1 to 6 (the most important to least important) using each ranking only once.
- ❖ Age, gender, race, education level, number of medications, and comorbid conditions were self-reported by patients.
- ❖ We excluded patients who did not provide consent or were unable to complete the survey due to language or physical barriers.
- ❖ To examine if patient characteristics affect a given item's ranking, we used Kruskal-Wallis rank test
- ❖ To account for the complex ordered ranking, we used Plackett-Luce model to determine relative 'worth' of each element to the patients. Rank-ordered logistic regression models were used to examine the effect of potential confounders.

RESULTS

- ❖ Of the 317 surveyed patients, 179(60%) were males with a mean (SD) age of 56 (13) years (Table 1)
- ❖ The relative worth for patients of discharge medication information was 3 times greater than the dietary/activity restrictions (Figure)
- ❖ We found statistically significant differences in individual item ranking by participant characteristics

RESULTS

- ❖ African Americans, heart failure patients, and individuals without college degree ranked information on when to call 911/doctor higher than others (P-value=0.05, 0.04, 0.001 respectively)
- ❖ However, in rank-ordered logistic models, we did not find any association between ranking and population characteristics (Table 2)

Table 1. Population characteristics broken down by education status

Variables	No College Education	College Education
Age, in years (mean, SD)	56.5 (15.3)	56.5 (14.2)
African Americans (N, %)	120 (71.4)	48 (28.6)
Males (N, %)	109 (60.9)	70 (39.1)
Medications (median, IQR)	1 (2)	2 (2)
DC summary (median, IQR)	4 (3)	3 (3)
DC instructions (median, IQR)	3 (2)	3 (2.5)
Dietary/Activity restrictions (median, IQR)	4 (2)	4 (2)
When to call 911 (median, IQR)	4 (3)	5 (3)
Follow-up/Appointments (median, IQR)	4 (4)	4 (2)

Table 2: Multilevel Ordered Logistic Model; Effect of Patient Characteristics on Item Ranking Pattern

Variable	N (%)	Odds Ratio [95%CI]; P-value
Elderly (>64 years)	92 (29)	0.89 [0.74, 1.07]; 0.22
College Education	128 (40)	1.01 [0.85, 1.20]; 0.94
African American	168 (53)	1.02 [0.86, 1.22]; 0.83
Female	130 (42)	0.98 [0.82, 1.16]; 0.78
Diabetes	99 (31)	1.12 [0.93, 1.35]; 0.24
Hypertension	148 (47)	1.04 [0.88, 1.24]; 0.63
Heart Failure	61 (19)	1.19 [0.95, 1.48]; 0.14
Chronic Kidney Disease	58 (18)	0.89 [0.71, 1.10]; 0.28
COPD	50 (16)	1.05 [0.83, 1.33]; 0.68
Asthma	37 (12)	0.89 [0.68, 1.17]; 0.41
Current Smoker	44 (14)	0.98 [0.77, 1.26]; 0.90

Table 3: Results of the Kruskal-Wallis rank test results, p-values were determined using chi-square with ties

	Meds	DCS	DCI	DAR	911 Call	FUA
DM	0.49	0.46	0.51	0.20	0.44	0.33
HTN	0.31	0.84	0.41	0.84	0.35	0.56
HF	0.94	0.61	0.47	0.32	0.04	0.26
CKD	0.71	0.33	0.67	0.51	0.58	0.98
COPD	0.88	0.79	0.83	0.92	0.40	0.83
Asthma	0.32	0.79	0.89	0.21	0.68	0.01
Tobacco use	0.82	0.68	0.56	0.30	0.23	0.12
Other illness	0.10	0.31	0.40	0.04	0.62	0.83

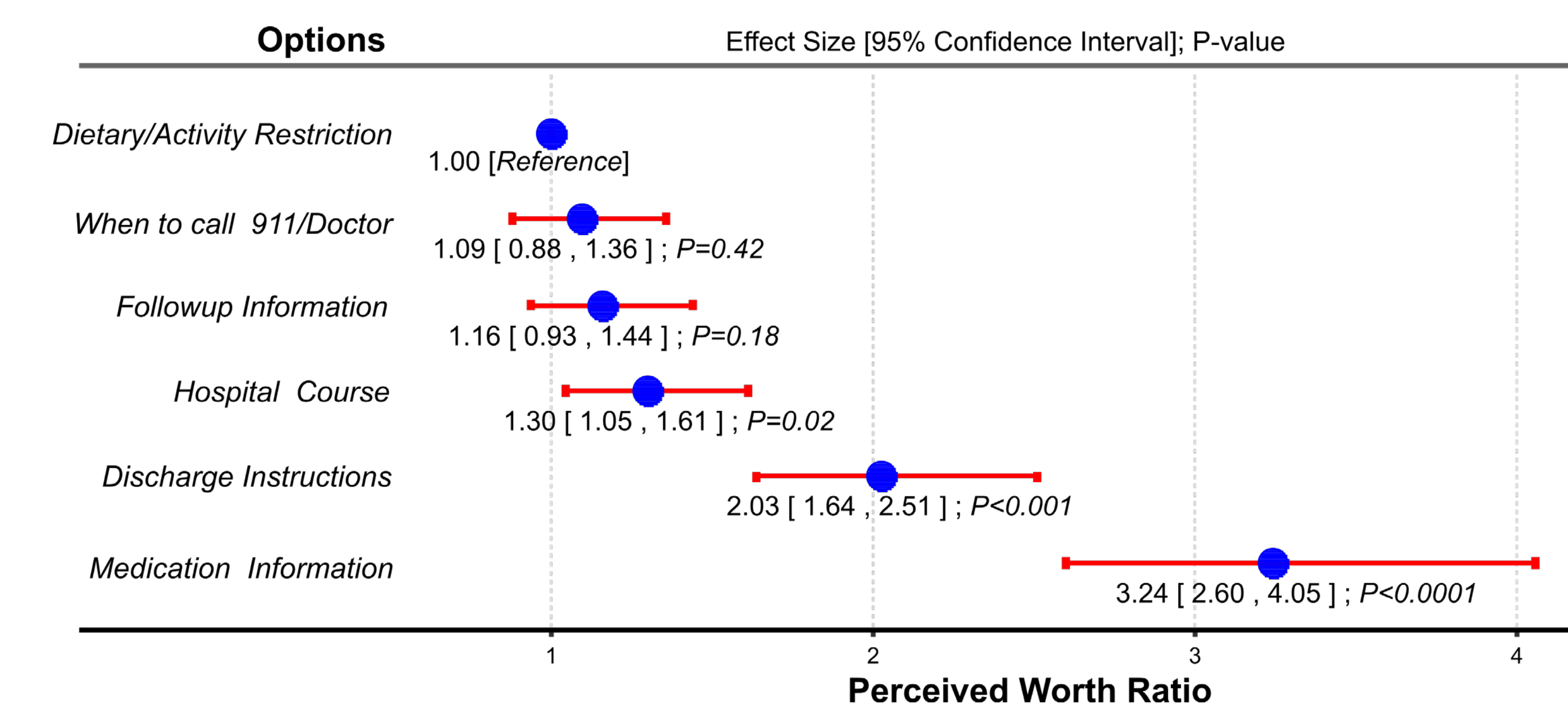
Abbreviations: DCS = discharge summary, DCI = discharge instructions, DAR=dietary/activity restrictions; FUA = follow-up appointment

RESULTS

Table 4: Results of Spearman correlation

	1	2	3	4	5	6
1. Meds	1					
	-					
2. DC summary	0.057	1				
	<i>p</i> =0.31					
3. DC instructions	-0.078	0.024	1			
	<i>p</i> =0.16	<i>p</i> =0.67				
4. Dietary/Activity restrictions	-0.045	-0.107	0.065	1		
	<i>p</i> =0.42	<i>p</i> =0.06	<i>p</i> =0.24			
5. When to call 911	-0.203	-0.207	-0.04	0.036	1	
	<i>P</i> <0.001	<i>P</i> <0.001	<i>p</i> =0.48	<i>p</i> =0.52		
6. Follow-up	-0.119	-0.161	-0.136	-0.05	0.015	1
	<i>p</i> =0.03	<i>p</i> =0.004	<i>p</i> =0.02	<i>p</i> =0.38	<i>p</i> =0.78	

Figure: Plackett-Luce Model Relative Worth of Discharge Communication Elements



CONCLUSIONS

- ❖ Hospitalized patients on Medicine Service at VCU Health System rated information on medications as the most important discharge communication
- ❖ Our study findings have the potential to benefit patients by allowing the healthcare systems to design enhanced discharge instructions that will increase patient understanding and compliance
- ❖ Improvement in discharge instructions may increase patient satisfaction and decrease readmissions or emergency room visits
- ❖ Potential limitations: First, it was a single-center study and only medicine patients were surveyed. Second, the majority of patients were from a low socio-economic status given that our research took place in an urban area with poverty, potentially limiting the generalizability of our findings
- ❖ Whether committing resources to communicate discharge instruction elements based on patient's perceived importance results in better patient health and hospital outcomes needs to be seen.

CONFLICTS OF INTEREST

Authors have no conflicts of interest to declare.