

South Central SHA Hydrant Project – analysis of the data

Introduction

This brief paper offers brief and simple analysis of the data produced during a study of the acceptability and efficacy of Hydrant – a hands free drinking system. For further information on Hydrant visit this link – <http://www.hydrateforhealth.co.uk/the-hydrant.html>

It is not the purpose of this document to fully describe and discuss the study and its conduct.

The data collection method

The data was collected via patient and staff questionnaires using a 5 point Likert Scale:

Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
SD	D	N	A	SA

The data is ordinal level

The Data

Table 1. Staff Questionnaire responses

	SD	D	N	A	SA	Number
patients to drink safely and independently	2	4	11	6	3	26
Is an effective alternative to a jug and cup	4	2	7	10	3	26
Is easy to explain to patients	3	1	8	11	3	26
Is easy to set up	0	0	4	13	9	26
Is easy to maintain	0	1	5	13	7	26
Encourages patients to Drink more	3	4	7	11	1	26

Table 2. Patient Questionnaire responses

	SD	D	N	A	SA	Number
Is easy to drink from	4	4	15	11	13	47
Help me drink without assistance	4	7	12	8	15	46
Is an effective alternative to other drinking methods	4	5	13	11	12	45
Is easy to understand	4	0	13	11	12	40
Should be available to all patients	3	3	19	12	9	46
Helped me drink more	5	9	3	5	14	36
Is preferable to a tumbler	8	4	4	6	13	35

Analysis

Given that the data is ordinal level measures of central tendency are used as the main analytic tool. Modal and median values are explored to allow interpretation of the data.

Mode – the most common response – more people gave this response than any other single response.

Median – the middle response when all responses are put in ranked order – as many people scored ‘higher’ as scored ‘lower’ than this response.

Percentages of people agreeing or disagreeing are also calculated.

Staff questionnaire - analysis

	Percentage overall disagreeing (SD or D)	Percentage overall agreeing (A or SA)	Of those who agreed or disagreed (i.e. excludes neutral scores) Percentage who agreed	MODAL SCORE	MEDIAN SCORE
patients to drink safely and independently	23.1%	34.6%	60.0%	N	N
Is an effective alternative to a jug and cup	23.1%	50.0%	68.4%	A	N
Is easy to explain to patients	15.4%	53.8%	77.8%	A	A
Is easy to set up	0.0%	84.6%	100.0%	A	A
Is easy to maintain	3.8%	76.9%	95.2%	A	A
Encourages patients to Drink more	26.9%	46.2%	63.2%	A	N

Patient questionnaires

	Percentage overall disagreeing	Percentage overall agreeing	Of those who agreed or disagreed (i.e. excludes neutral scores) Percentage who agreed	MODAL SCORE	MEDIAN SCORE
Is easy to drink from	17.0%	51.1%	75.0%	N	N
Help me drink without assistance	23.9%	50.0%	67.6%	SA	A
Is an effective alternative to other drinking methods	20.0%	51.1%	71.9%	N	A
Is easy to understand	10.0%	57.5%	85.2%	N	A
Should be available to all patients	13.0%	45.7%	77.8%	N	N
Helped me drink more	38.9%	52.8%	57.6%	SA	A
Is preferable to a tumbler	34.3%	54.3%	61.3%	SA	A

Interpretation of the analysis

None of the questions have a median or modal rating that is disagree or strongly disagree and on the basis of this analysis it may be legitimate to draw the following conclusions from the available data:

- Generally
 - Smaller than planned sample
 - Not all patients answered all questions
 - Efficacy in terms of avoided IVs, avoided infections, better outcomes was not explored by the data collected
- Staff responses
 - There is no conclusion regarding staff's view of its ability to help patients drink independently (modal and median scores 'N' and only 35% agree)
 - There is some evidence to suggest staff believe it is an effective alternative to a jug and cup (modal score A and median N – 24% disagree and 50% agree)
 - Hydrant is easy for staff to explain (modal and median scores both 'A')
 - Hydrant is easy for staff to set up (modal and median scores both 'A')
 - Hydrant is easy for staff to maintain (modal and median scores both 'A')
 - There is some evidence that staff think it helps patients to drink more (modal score A and median N – 27% disagree and 46% agree)
- Patient responses
 - There is some evidence to support the view that patients find it easy to drink from (modal score N and median N – 17% disagree, 51% agree)
 - There is good evidence that patients found it helped them drink without assistance (modal score SA and median A - 24 % disagree, 50% agree)
 - There is some evidence to support the view that patients found it an effective alternative to other methods (modal score N and median A - 20% disagree and 51% agree)
 - There is evidence that patients found it easy to understand (modal score N and median A – 10% disagree and 58% agree)
 - There is some evidence to suggest patients think it should be available to all patients (modal score N and median N – 13% disagree and 46% agree)
 - There is good evidence that patients believed it helped them drink more (modal score SA and median A - 39% disagreed, 53% agree – indicating more polarised responses) NB: small numbers of respondents
 - There is good evidence that patients found it preferable to a tumbler (modal score SA and median A - 34% disagreed, 54% agree - again more polarised responses) NB: small numbers of respondents

Discussion

Given the small sample size caution regarding findings must be exercised however on the basis of this evidence the following may be cautiously inferred:

- Staff responses are somewhat equivocal with respect to how helpful they believe Hydrant to be in promoting hydration
- Patient reported acceptability of Hydrant is generally high – they are more convinced than staff of hydrant's benefit to them
- Most staff and patients in the study reported they find hydrant easy to use
- Most patients in the study find it helps them to drink and to drink more
- For the right patient this is a good alternative to a tumbler.

Further thoughts

It is known that studies are being conducted in other hospitals and institutional settings with higher numbers of participants – the findings of these studies are awaited with interest – it is to be hoped these are responsive to the issue of efficacy.