Using the Omaha System to describe outcomes of MCH clients receiving public health nurse home visiting services

Karen A. Monsen, BA, BSN
Washington County Minnesota Department of Public Health and Environment
University of Minnesota School of Nursing

Introduction

Today's MCH programs need to demonstrate their effectiveness to funding sources.

Routine documentation using the Omaha System allows public health nurses to generate client outcomes information.

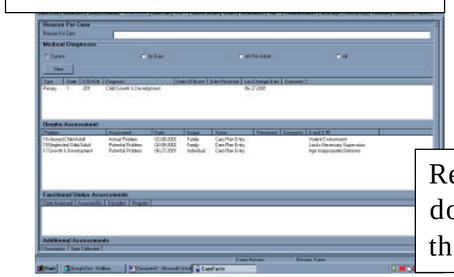
This research demonstrates how Omaha System data describe nurse-sensitive client outcomes.

Omaha System

The Omaha System is a standardized nursing vocabulary recognized by the American Nurses Association.

It is a taxonomy comprised of three schemata: Problem Classification Scheme (nursing diagnoses), Intervention Scheme, and Problem Rating Scale for Outcomes.

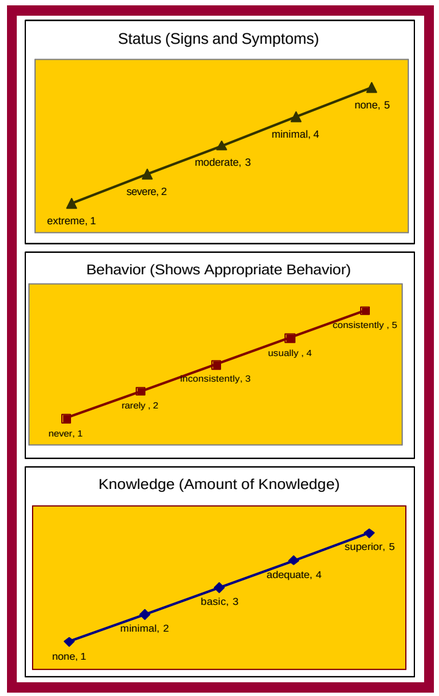
The structure of the Omaha System lends itself to automation and data retrieval.



KBS Ratings

The Omaha System's outcomes scheme, *Problem Rating Scale for Outcomes*, consists of three Likert-type five point scales.

Nurses and other practitioners use these scales to rate client knowledge, behavior and status (KBS) upon admission and discharge, in relationship to identified client problems, according to standardized definitions.



Methods

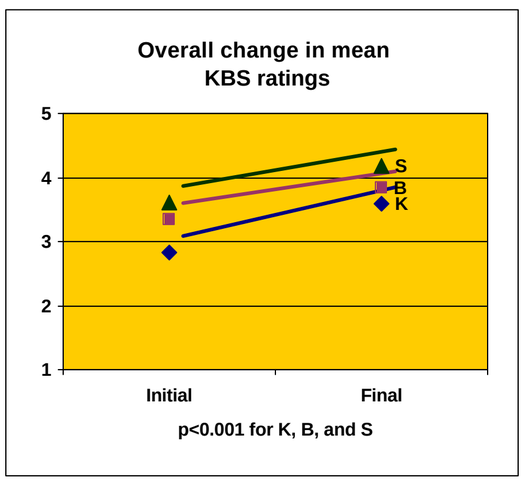
Reliable electronic Omaha System documentation data were aggregated, then analyzed using SPSS.

Sample

The sample consisted of reliable Omaha System documentation for 208 maternal-child health clients, aged newborn to 53 years. Of caregivers, 17% were married and 29% were teens. Nurses visited each subject a median of 4 times (range 2-39).

Results

Clients showed significant overall improvement in knowledge, behavior and status following nursing services.



Pre-Post Comparison

Clients improved in knowledge, behavior and status related to most Omaha System problems.

Omaha System Problem	n	Scale	Initial Rating	Final Rating	t	p-value
Antepartum/Postpartum	75	K	2.79 (.79)	3.67 (.84)	-8.77	<.001
		B	3.31 (.94)	3.92 (.88)	-6.23	<.001
		S	3.72 (1.02)	4.45 (.74)	-6.59	<.001
Caretaking/Parenting	74	K	2.95 (.72)	3.57 (.76)	-6.94	<.001
		B	3.66 (.71)	3.95 (.81)	-3.04	.003
		S	3.88 (1.05)	4.07 (1.08)	-1.84	.070
Growth and Development	68	K	3.00 (.77)	3.68 (.85)	-7.14	<.001
		B	3.37 (.81)	3.99 (.78)	-5.47	<.001
		S	3.82 (1.07)	4.37 (.86)	-5.15	<.001
Income	66	K	2.79 (.90)	3.38 (.82)	-4.84	<.001
		B	2.97 (.70)	3.44 (.77)	-4.84	<.001
		S	3.30 (.99)	3.88 (.94)	-4.16	<.001
Communication with Community Resources	56	K	2.52 (.81)	3.71 (.73)	-8.38	<.001
		B	3.00 (.69)	3.82 (.81)	-6.57	<.001
		S	3.14 (1.00)	4.09 (.94)	-6.24	<.001
Residence	43	K	2.86 (.94)	3.47 (.83)	-5.44	<.001
		B	3.44 (.77)	3.70 (.89)	-2.21	.033
		S	3.84 (1.02)	4.12 (1.05)	-2.22	.032
Family Planning	39	K	2.62 (.63)	3.41 (.64)	-6.20	<.001
		B	2.77 (.84)	3.44 (.97)	-4.63	<.001
		S	3.10 (1.17)	4.03 (1.01)	-4.99	<.001
Abused Child/Adult	38	K	2.71 (.80)	3.50 (.83)	-4.91	<.001
		B	3.50 (.69)	4.00 (.81)	-3.23	.003
		S	3.82 (1.11)	4.47 (.80)	-3.12	.004
Substance Use	33	K	2.85 (1.00)	3.42 (.94)	-3.41	.002
		B	3.21 (.93)	3.42 (.90)	-1.56	.129
		S	3.55 (1.09)	3.79 (.93)	-1.54	.133

Stepwise Regression Model

Factors
- Teen status
- Marital status
- Race/Ethnicity
- Number of visits
- Length of services
- Number of Omaha System problems
- Initial knowledge, behavior and status scores

Final knowledge score

Factor	Standardized ß	t	d.f.	Sig
Initial knowledge	0.43	5.72	135	<.001
Teen	-0.23	-3.10		0.002

Model $R^2 = 0.26$

Final behavior score

Factor	Standardized ß	t	d.f.	Sig
Initial behavior	0.60	8.76	135	<.001
Teen	-0.14	-2.11		0.036

Model $R^2 = 0.37$

Final status score

Factor	Standardized ß	t	d.f.	Sig
Initial status	0.49	8.02	136	<.001

Model $R^2 = 0.19$

After controlling for initial knowledge and behavior, being a teen significantly added to a lower final knowledge score and a lower final behavior score.

Conclusion

Omaha System data describe client problems and outcomes for purposes of research and program evaluation.