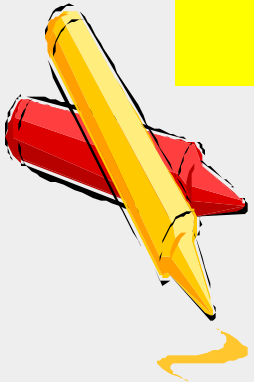


Efficacy of the School-based Academic and Counseling Program:

Staying Healthy – Asthma Responsible & Prepared

Eileen Kae Kintner, PhD, RN
Alla Sikorskii, PhD, MS
Marilou Clary, MA, BBA
Gwendolyn Cook, PhD, MSN, RN

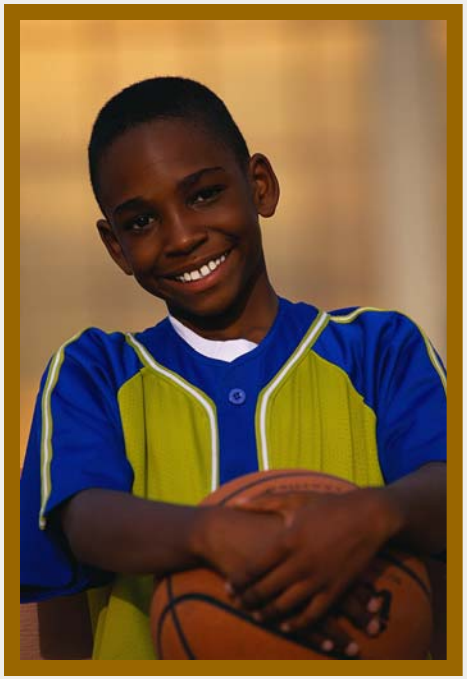
Michigan State University College of Nursing Research Center

Objectives

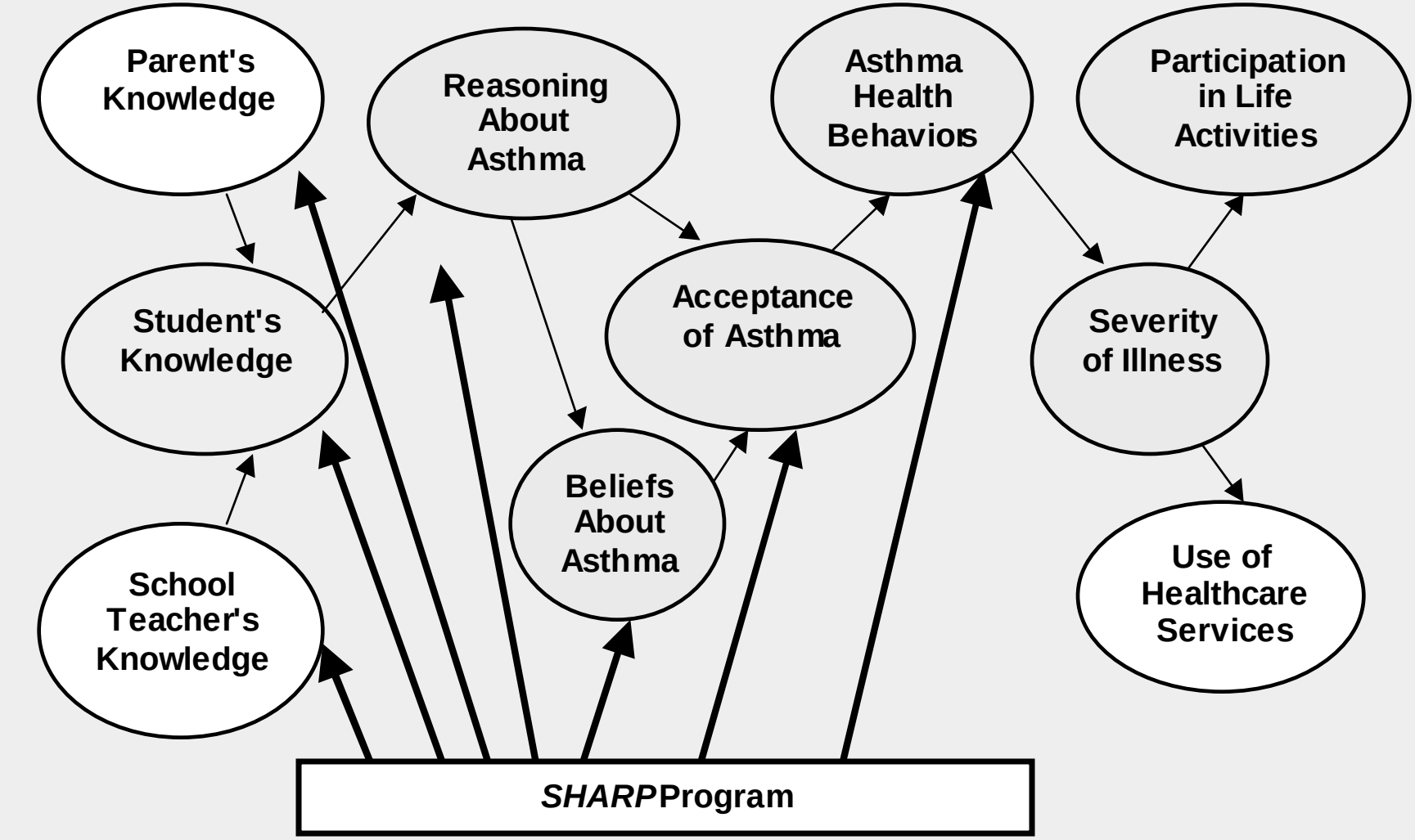
- Describe academic and counseling aspects of the SHARP program.
- Identify measurable cognitive, behavioral, psychosocial, and quality of life outcomes.
- Evaluate efficacy of SHARP to improve cognitive, behavioral, psychosocial, and quality of life outcomes.

Why the Need for SHARP?

- ✓ Reflection on the current National Asthma Guidelines
- ✓ Gaps in the Science in an Era of No Child Left Behind
- ✓ Innovations that integrate into older elementary school curriculum
- ✓ Key features to increase public knowledge and awareness to decrease morbidity.



Acceptance of Asthma Model



Purpose of SHARP Study

Evaluate the feasibility, benefits, and preliminary efficacy

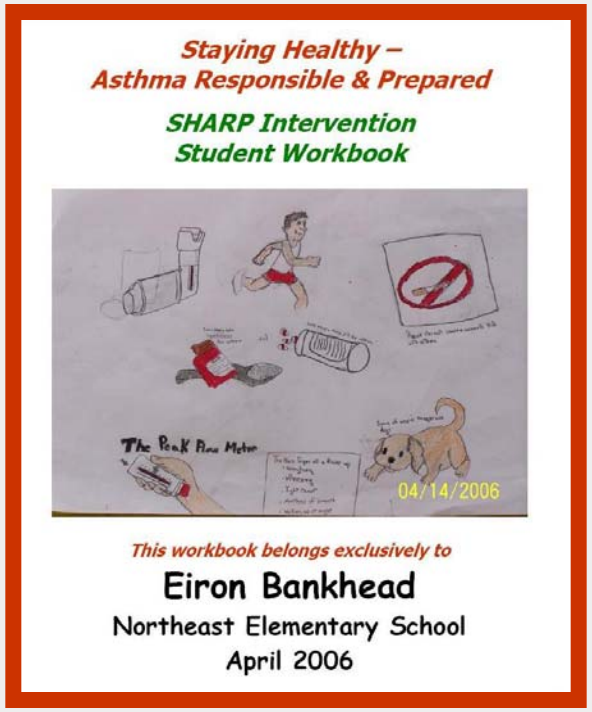
- ✓ increase asthma knowledge
- ✓ increase logical reasoning abilities
- ✓ psychosocial acceptance of asthma
  - taking control (responsible)
  - vigilance (prepared)
- ✓ use of asthma health behaviors
  - episode management
  - prevention/risk reduction
- ✓ decrease severity of illness rating
- ✓ increase participation in life activities

SHARP Student & Community Components

- Student Component
  - Older Schoolage Students with asthma
  - 50 minute session once a week for 10 weeks
- Community Component
  - Parents, Caregivers, Extended Family Members, Close Friends, School Personnel, Club/Sports Leaders, and others

SHARP Student Component

- ✓ 100-page Individualized Keepsake Work/Scrapbook
- ✓ Academic Aspects
- ✓ Counseling Aspects
- ✓ Capstone Reasoning Session
- ✓ Creative Artistic Expression
- ✓ Creative Written Expression
- ✓ Recently Retired, Certified Elementary Schoolteachers



SHARP Community Component

- ✓ 3-hour Information Sharing
- ✓ Display Tables
- ✓ Presentations
  - Asthma Information
  - SHARP Program
  - Asthma Coalition
- ✓ Scheduling
- ✓ Supportive Incentives
- ✓ Childcare Services

Design

Year 1

- ✓ A single group quasi-experimental descriptive design

Year 2

- ✓ Two-group longitudinal, prospective, randomized, experimental clinical trial

- Sample Eligibility Criteria
- Accrual, Enrollment, Retention
- Randomization by Schools
- Fidelity, Dosage, Quality Monitoring

Sample

Year 1

- 28 dyads were recruited from grades 6-7 enrolled in five elementary schools and one middle school

Year 2

- 66 dyads were recruited from grades 4-6 enrolled in six elementary schools

Combined Demographic Data

- 38% Black, 35% White, 16% Black/White, 2% Native American, 2% Hispanic/Latino, 1% Pacific Islander, 6% Not Reported
- Annual income ranged from < $5K to >$100K (M=$19K, SD= $10K)
- SES grouped as low to low middle (75%)
- Males represented 51%.

Data Collection

- Audio-linked data entry systems loaded on password protected & encrypted laptop computers were used in the homes of students and caregivers at baseline & immediate post-intervention.
- Monetary awards for time involved at data collection time points
- Students and Caregivers each completed 5 self-report surveys
- 75% of caregivers completed surveys <65 minutes (25-120 min)
- 75% of students completed surveys <90 minutes (40-150 min)
- Enjoyable, fun, & non-burdensome with virtually no missing data

Instruments

	Item #	Sample N	Alpha α	Range Potential Score	Range Actual Scores	Mean (SD)
Student Knowledge	15	93	.70	0-20	2.9-12.8	7.8(2.3)
Reasoning about Mgmt	4	93	.80	0-2	0.5-1.6	1.2(.2)
Risk Reduction Behavior	6	93	.73	0-4	0.0-3.5	1.1(.8)
Episode Mgmt Behavior	6	93	.71	0-4	0.0-4.0	1.8(.9)
Acceptance Taking Control	6	93	.60	1-5	0.0-5.0	3.6(.7)
Acceptance Vigilance	4	93	.65	1-5	2.0-4.8	3.5(.6)
Participation in Activities	3	93	.72	0-3	0.0-3.0	1.8(.8)

Data Analysis

- Descriptive statistics
- t-tests and chi-square for differences in demographic characteristics between groups at baseline
- Psychometric evaluation of instruments
- Paired t-test pre- to post-intervention in Year 1
- Independent samples t-test in Year 2 with means adjusted for baseline group differences

SHARP Feasibility

- ✓ Recruitment and enrollment efforts were effective.
- ✓ Identifying evaluators through the coalition was a success.
- ✓ Data collection in the home was convenient for all.
- ✓ Data entry systems were user friendly, non-burdensome, and understandable.
- ✓ Recently retired certified elementary schoolteachers lined up to serve as interveners.
- ✓ Entry into schools was accomplished with ease.
- ✓ Delivery of student component during school hours was reinforced.
- ✓ Efforts to increase community attendance were needed.

SHARP Benefits

Pre- to post-intervention comparisons of outcomes (N=26)

	Pre-Intervention		Post-Intervention		*Effect size*	*p-value*
	Mean	*SD*	*Mean*	*SD*		
Student Knowledge	8.14	2.52	10.63	2.25	1.04	<.01
Reasoning about Mgmt	1.10	0.23	1.46	0.24	1.35	<.01
Risk Reduction Behavior*	1.94	0.75	2.70	0.73	1.15	<.01
Episode Mgmt Behavior*	1.19	0.82	1.76	1.01	.29	.03
Acceptance Taking Control	3.60	0.71	4.04	0.54	.52	.01
Acceptance Vigilance*	3.41	0.61	3.71	0.62	.46	.03
Participation in Activities	1.57	0.92	1.98	0.62	.44	.03

**N*=25

Refinement of the Program

- Guided Interactive *Beliefs about Asthma* Discussion was added.
- *Personal Sharing* during the Final Session was expanded.
- Community Components were offered after the *Stethoscope* Body Listening Session.
- *Childcare Services* were offered for younger siblings during the Community Component.

Preliminary Efficacy of SHARP

Unadjusted and adjusted means of outcome variables by group

	Usual Care Control (n=28)		SHARP Intervention (n=33)		Adjusted Means		*p-value*	*Effect size*
	Pre	Post	Pre	Post	Control	SHARP		
	Mean (SD)	*Mean (SD)*	*Mean (SD)*	*Mean (SD)*	Mean (SE)	Mean (SE)		
Student Knowledge	7.94(2.19)	8.05(2.60)	7.39(2.34)	10.0(3.03)	7.96(0.47)	10.18(.43)	<.01	0.91
Reasoning about Mgmt	1.28(0.20)	1.29(0.23)	1.14(0.19)	1.38(0.21)	1.24(0.03)	1.42(0.03)	<.01	1.19
Risk Reduction Behavior	1.65(0.75)	1.71(0.64)	1.49(0.87)	2.08(0.76)	1.66(0.09)	2.13(0.08)	<.01	0.98
Episode Mgmt Behavior	0.87(0.79)	1.01(0.81)	1.04(0.76)	1.41(0.96)	1.09(0.15)	1.34(0.13)	0.20	0.33
Acceptance - Control	3.76(0.66)	3.71(0.63)	3.43(0.61)	3.85(0.62)	3.61(0.17)	3.88(0.15)	0.26	0.47
Acceptance - Vigilance	3.63(0.57)	3.69(0.61)	3.45(0.63)	3.76(0.50)	3.61(0.15)	3.77(0.13)	0.42	0.32
Participation in Activities	1.90(0.77)	1.72(0.71)	1.78(0.77)	2.12(0.65)	1.70(0.11)	2.13(0.10)	<.01	0.72

Funded by the National Institutes of Health

- National Institute for Nursing Research
  1 R21 NR009517-01
- National Heart, Lung, & Blood Institute
- National Institute for Allergy & Infectious Diseases
- National Institute for Child Health & Human Development

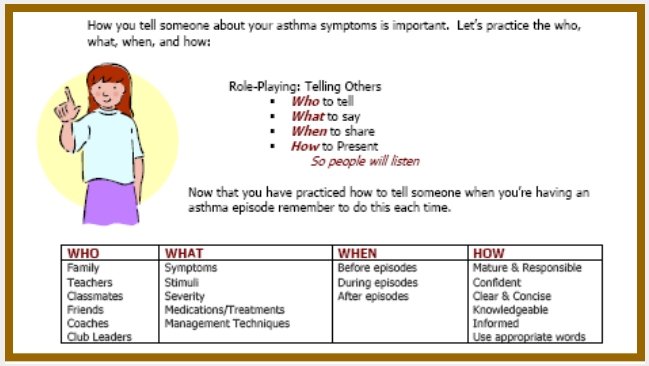
Discussion

SHARP is a comprehensive, theory-driven, evidence-guided, school-based academic and counseling program developed to:

- Integrate into existing curriculum
- Enhance academic skills
- Be delivered by certified elementary schoolteachers
- Address developmentally-appropriate needs of older schoolage students
- Reach all members of the community through students supportive networks.

Addressing Study Limitations

- ✓ Larger sample sizes are needed.
- ✓ More diverse populations represented (i.e., Hispanic/Latino, Asian, Native American)
- ✓ Objective assessments to augment self-reports of individuals participating in the study
- ✓ Long-term effectiveness at 12 & 24 months



How you tell someone about your asthma symptoms is important. Let's practice the who, what, when, and how:

Role-Playing: Telling Others

- ***Who*** to tell
- ***What*** to say
- ***When*** to share
- ***How*** to Present

So people will listen

Now that you have practiced how to tell someone when you're having an asthma episode remember to do this each time.

WHO	WHAT	WHEN	HOW
Family	Symptoms	Before episodes	Mature & Responsible
Teachers	Stimuli	During episodes	Confident
Classmates	Severity	After episodes	Clear & Concise
Friends	Medications/Treatments		Knowledgeable
Coaches	Management Techniques		Informed
Club Leaders			Use appropriate words

Summary & Conclusions

- Academic and Counseling Aspects of SHARP
- Measurable Cognitive, Psychosocial, Behavioral, & Quality of Life Outcomes
- Efficacy of SHARP to Improve Outcomes