



U.S. Department of Health and Human Services

Unraveling the Mysteries of Writing Research and Clinical Abstracts



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MAIN ELEMENTS

- Title
- Authors and Affiliations
- Introduction
- Methods
- Results
- Conclusions



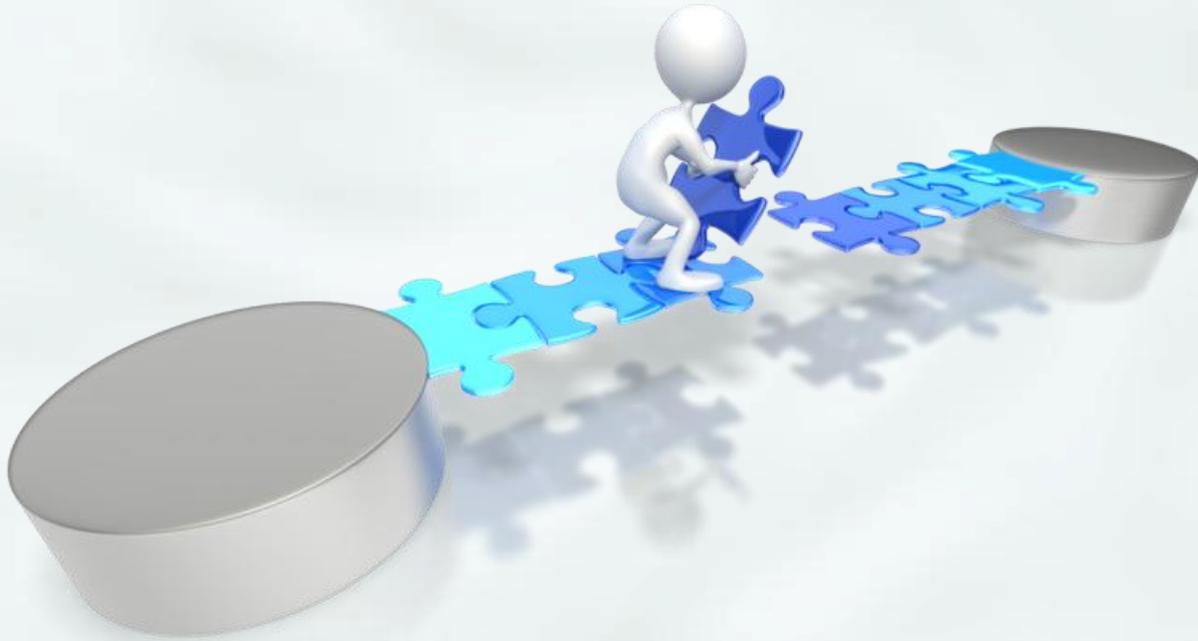
GENERAL HINTS

- Content limited by specified word count, usually 250-300 words.
- Use review element specified by conference call for abstracts
- Include all specific elements requested including behavioral objectives.



INTRODUCTION

- Include two or three sentences about background and or significance of the problem you studied.
- Capture the reader's (audience) interest.



METHODS

- Essential aspects of the methods utilized in the study including sample and instrumentation.
- For reviews of theoretical papers the methods may include specific scope of literature review.
- For a methods paper methods may include the essential features and range of application of the proposed method.
- For a clinical paper the method is the intervention.

RESULTS

- The main results of the research or the outcomes of the clinical intervention or practice issue.
- Include a sentence on qualitative and/or statistical analysis unless there is a separate section for analyses.



CONCLUSIONS

- The implications or meaning of the study.
- If the abstract is about ongoing research or clinical practice this section might include future implications and the relevance of the practice issue to the “bigger” picture.
- What questions are raised for future research or theory?

**INCREASE YOUR ODDS BY
USING THE CHECKLISTS!!**



TITLE CHECKLIST

- Are title and research/clinical question closely related
- Would you attend?
- Special study features mentioned?
- Tone of the title objective?
- Does title reflect conference theme

ABSTRACT CHECKLIST

-  Even if there are not specific headings, are the introduction, methods, results and conclusions/implications included?
-  Are the main features of the study included?
-  Are the key results of the study stated in narrative form?

ABSTRACT CHECKLIST CONTINUED...



Do the conclusions/implications follow from the results to make a meaningful statement that ties the abstract together?



Did you follow all the submission rules?





U.S. Department of Health and Human Services

Drawing a Crowd: Creating a Poster Presentation



CDR Mike Krumlauf, RN, BSN

Nurse Consultant

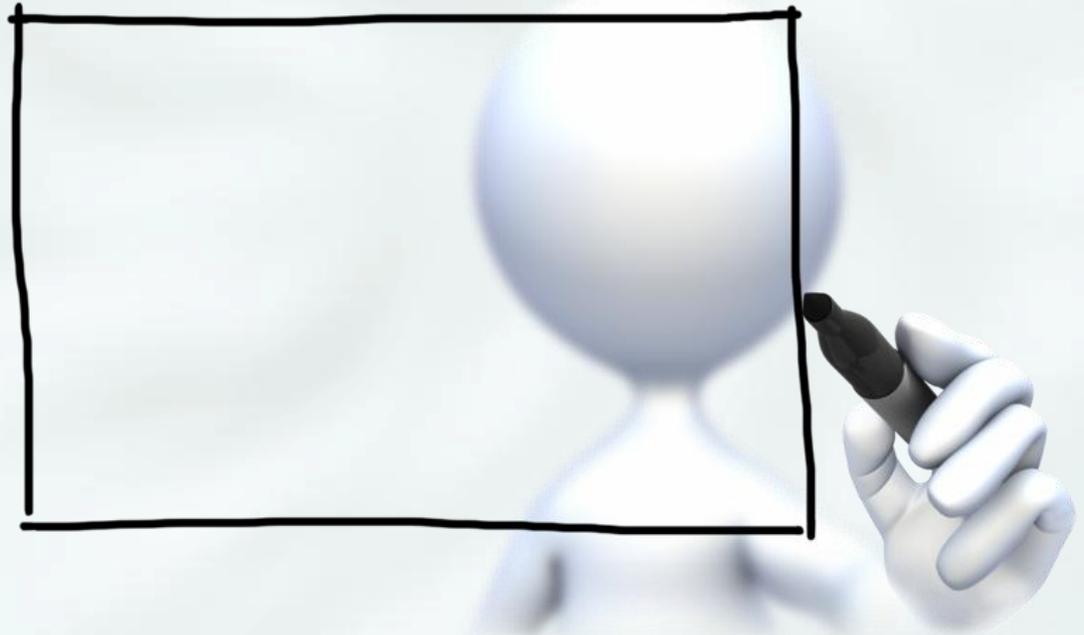
Nursing Research & Translational Science

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BEFORE YOU START

- Letter of acceptance
- Preparation
- Poster type and size



EFFECTIVE POSTER PRESENTATIONS

- Organized and legible
- Concise, use the most pertinent information
 - Use bullet points whenever possible
- Visually enticing
- Presented clearly
- Remember the 10:10 rule
- Use graphics that enhance BUT don't distract

RESEARCH POSTER LAYOUT

- Introduction/Background
- Study Design
 - Sample
- Methods
- Results/Analysis
- Conclusions/Discussions/Implications
- Future Research
- References/Acknowledgements

CLINICAL POSTER LAYOUT

- Introduction/Background
- Intervention
- Clinical practice outcomes
- Conclusions/Implications
- Future Directions
- References/Acknowledgements

Nanotechnology in Cancer Research: A Phase 1 Clinical Trial of TNF-Bound Colloidal Gold.

Melissa Walker RN, BSN¹, Geoff Seidel RN, BSN, MS², Lawrence Tamarkin, PhD³, Giulio Paciotti, PhD³, Ryan Haynes³, Steven K. Libutti MD¹
 National Cancer Institute, Center for Cancer Research, Surgery Branch¹
 SAIC-Frederick²
 CytImmune Sciences, Inc.³



BACKGROUND

Nanotechnology is a new trend making its way into the medical community to both detect and diagnose diseases, along with treating patients.

Targeted therapy using nanotechnology is emerging into Oncology clinical research trials

Goal of Using Nanotechnology: Target malignant cells, while preserving healthy cells therefore reducing/eliminating systemic toxicities

History

1980's: Native (plain) Tumor Necrosis Factor (TNF) was given systemically with a maximum dose of 150mcg/m², but Dose Limiting Toxicities (DLT) were noted:

- Severe hypotension
- Multi-organ system failure
- Death

1990's: TNF was revived for Isolated Limb Perfusion therapy which also demonstrated remarkable anti-tumor effects with a response rate of 85% in combination therapy

Recently a new concept of using TNF has developed. This involves attaching TNF to a "drug delivery" system to deliver the TNF to the targeted tumor tissue

Pre-clinical Testing

TNF attached to a colloidal gold nanoparticle, the delivery mechanism, was named **CYT-6091**

In pre-clinical testing, **CYT-6091** has:

- Trafficked preferentially to tumor tissue
- Demonstrated anti-tumor effects
- Eliminated the DLTs noted above associated with native TNF

The results of the pre-clinical testing warranted further investigation in human subjects resulting in a phase 1 clinical trial.

PURPOSE

Primary Objectives

- Phase 1 dose escalation trial evaluating the maximum tolerated dose (MTD) of TNF-bound colloidal gold (CYT-6091)
- Monitoring for adverse events and serious adverse events

Secondary Objectives

- Disease response to CYT-6091
- Evaluating the trafficking of gold nanoparticles
 - Tumor tissue
 - Healthy tissue

METHODS AND ANALYSIS

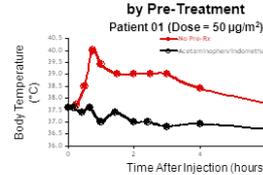
Traditional Phase 1 Study

- Dose escalation in cohorts of 3-4 patients
- Dose levels ranging from 50-600mcg/m²
- Patients received 2 doses
 - 1st dose day 1
 - 2nd dose day 15
 - Restaging 4 weeks after the 2nd dose

Drug Administration

- Patients were admitted to the **Intensive Care Unit** for dosing
- **Hydration** of 1/2NS at 100cc/hr started 2 hours prior until 4 hours after CYT-6091 administration
- **Pre-medications** were given 1 hour prior to the CYT-6091 injection
 - Diphenhydramine 25mg IV
 - Ranitidine 50mg IV
 - Acetaminophen 650mg PO
 - Indomethacin 50mg PO

Control of the CYT-6091-Induced Febrile Response



- Personal Protective Equipment (PPE) required for Chemotherapy and Biotherapy precautions
- Administered through a Central Catheter
 - Single IV push over 20-30 seconds
 - Flush afterwards with 20cc of NS
- **Vital signs** taken at specific intervals.
- **Labs:** Drawn at 4 & 8 hours post injection
 - CBC with a differential
 - Chemistry panel
 - Urinalysis
- Blood was drawn for pharmacokinetic studies (PK)
- Biopsies were taken 24 hours post CYT-6091 injection #1
 - Tumor tissue
 - Adjacent normal tissue
- Biopsies were evaluated for gold content using **Electron Microscopy (EM)**

Findings and Analysis

- Twenty-nine patients were dosed with CYT-6091
 - Eleven males
 - Eighteen females
- Twenty-eight patients were evaluated for a response using the **Response Evaluation Criteria for Solid Tumors (RECIST)**
 - *Three patients had stable disease
 - *One patient had a partial response

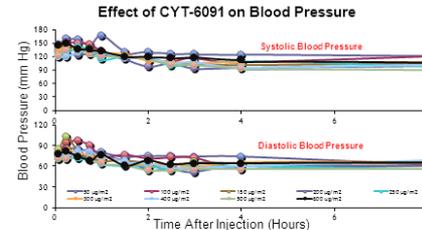
Adverse Events

Adverse events were graded using the **Common Terminology Criteria for Adverse Events (CTCAE) version 3.0**

Most common adverse events:

- Lymphopenia
- Electrolyte imbalances

All adverse events were reversible within twenty-four hours after treatment

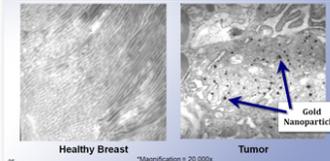


No DLTs occurred indicating that TNF-bound colloidal gold, CYT-6091 is tolerated at a dose three times greater than native TNF

Electron Microscopy (EM)

- Gold nanoparticles were present in greater quantities in tumor tissue compared with normal adjacent tissue
- Demonstrated affinity of gold nanoparticles to tumor tissue

Electron Micrographs* of Biopsies from a Patient with Inoperable Breast Cancer: Gold Nanoparticles in Tumor



NURSING IMPLICATIONS

- Limited and transient side effects
 - Medical management of side effects
 - Electrolyte replacements
 - Pre-medications
 - Pain medications
 - Anti-emetics
- Improved quality of life
 - Decreased duration of side effects
 - Limited hospitalization
- Chemotherapy administration precautions
- Drug preparation
 - Reconstituted in Pharmacy
 - Stable for 1 hour at room temperature
- Drug administration
 - Pre-meds
 - Hydration
 - IV push
- Post CYT-6091 Management
 - Out-patient labs 1 week post injection 1 & 2 to include:
 - CBC with differential
 - Chemistry panel
 - Monitoring of Adverse Events
 - Restaging visit 4 weeks post injection #2

CONCLUSION

- The maximum planned dose of 600mcg/m² was administered without experiencing DLT.
- This is a dose 3 times greater than when plain TNF was administered
- Using Electron Microscopy, gold nanoparticles demonstrated the ability to traffic preferentially to tumor tissue versus normal tissue.
- Limited and transient adverse events were remarkably well tolerated compared with standard chemotherapy.
- Future studies plan to evaluate the efficacy of CYT-6091 in combination therapy.

REFERENCES

- All art courtesy of Larry Tamarkin, PhD, CytImmune Sciences, Incorporated

INTRODUCTION

Over the past three decades nursing workload assessment has become a highly discussed topic within the medical field. Hughes (1999) defines workload assessment as an attempt to predict the nursing time and skill to provide nursing care. At NIH, a process oriented acuity workload measurement tool, AcuityPlus, was implemented in February 2009. This tool measures patient classification acuity, overall acuity based on procedures, admissions, discharges and transfers (ADT), and provides nursing workload and staffing recommendations.

One component of nursing workload that significantly factors into overall acuity and staffing recommendations is the workload associated with ADT activity. The workload associated with a patient admission has been reported in the literature of taking up to 1 hour for a noncomplex patient and up to 2 hours or more for an acute complex patient (Joyce et. al 2005).

In April 2009, the time associated with ADT activity was measured on the Patient Care Units (PCU) at the Clinical Center. The time associated with each activity was reported as:

- Admission – 100 minutes
- Transfer In – 100 minutes
- Transfer Out – 70 minutes
- Discharge – 90 minutes

The recommendation was to repeat the study to capture a greater sample size and to include the time associated with completing *Upon Admission Orders* as part of the admission and transfer in activities.

OBJECTIVES

- Revalidation study of the time associated with admission, discharge and transfer activities on the PCU.
- Increase sample size and include *Upon Admission Orders* as part of the admission and transfer in data collection.
- Demonstrate the impact ADT activities contribute to overall acuity and nursing workload.

METHODS

In order to collect the data, the participation of the PCU Clinical Managers and bedside nurses was key to accurately document the time associated with ADT activities. The data collection period was June 28 through July 24, 2009. The process included the following components:

- ADT activities were defined and the tools were revised to include *Upon Admission Orders* for admission and transfer in activities
- Training and status reports were provided to the Clinical Managers at Patient Classification Meetings.
- The bedside nurse responsible for the care of the patient documented the time associated with the ADT activities. The data was collected daily on a day shift
- An independent observer monitored the accuracy of the time documented with ADT activities for consistent application across PCU's.

RESULTS

Figures 1-4 show the mean time associated with the admission, transfer in, discharge and transfer out activities by PCU.

- The factors that contributed to a wide range of ADT activity included patient complexity, skill mix of nursing staff and the workflow of the PCU.

Figure 5 shows the total activity for each PCU during the data collection period and the percent of total activity that was sampled.

- The study was able to capture 30% of total PCU activity.
- The sample size increased from 253 activities in April to 423 activities in July.
- The number of total ADT activities was significant with an average of 155 activities per unit with a range of 53 to 300 activities.

Figure 6 shows the comparison of average time in minutes for admission, transfer in, discharge and transfer out activities for April and July, 2009.

- The time associated with admission and transfer out activities increased by 10 and 17 minutes, respectively.
- The time associated with discharge and transfer in activities decreased by 21 and 22 minutes, respectively.

Figure 7 shows the significance of ADT workload on overall acuity and recommended staffing for 1NW over a 24 hour period of time.

- The ADT workload increased staffing within a 24 hour day by 2 nurses and increased the overall unit acuity from 1.2 to 1.4.

Capturing the *Upon Admission Orders* accounted for 23% of the total admission time and 15% of the transfer in time.

- The mean time for *Upon Admission Orders* was 25 minutes during the admission process with a range of 10-56 minutes.
- The mean time for *Upon Admission Orders* was 12 minutes during the transfer in process with a range of 1-30 minutes.

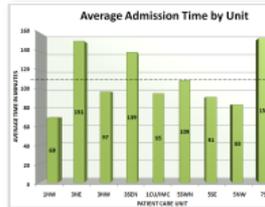


Figure 1: Average Admission Time by PCU



Figure 2: Average Transfer In Time by PCU



Figure 3: Average Transfer Out Time by PCU

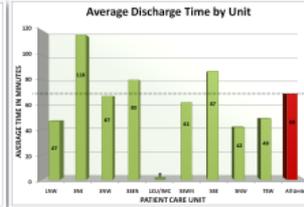


Figure 4: Average Discharge Time by PCU

CONCLUSION

There are several conclusions that can be drawn from this study. These include:

- The ADT time for admissions was consistent with the data from April. The transfer in, transfer out and discharge was not consistent with a difference of 17-22 minutes which is significant when determining workload. The sample size of this study is 53% greater, therefore the validity of the data collected is more reliable.
- The time associated with ADT in this study is consistent with what is reported in the literature.
- Capturing the *Upon Admission Orders* did not significantly change the time associated with ADT activities; however, it did assure consistent data collection across PCU.
- Workload associated with ADT activities significantly increased recommended staffing requirements and overall unit acuity.
- The next step is to load the data into Acuity Plus. A decision will be made to enter the data based on one of the following options:
 - The time associated with each ADT activity is loaded by individual PCU
 - The time associated with each ADT activity is averaged for all PCU
 - The time associated with each ADT activity is loaded by clinical specialty area, specifically oncology and med-surg.

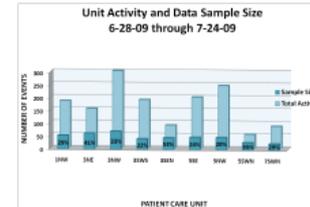


Figure 5: Unit Activity and Data Sample Size

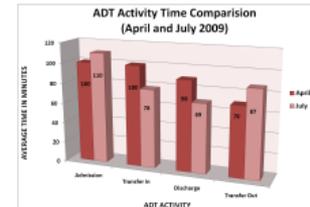


Figure 6: ADT Activity Time Comparison

The Impact of ADT Workload on Overall Unit Acuity and Staffing

Example: 1NW Patient Care Unit 7-23-09

- 1 Admission (1 x 100 minutes)
 - 3 Transfers In (3 x 100 minutes)
 - 6 Discharges (6 x 90 minutes)
 - 4 Transfers Out (4 x 70 minutes)
- ADT Total Time = 20.3 hours

Targeted Hours per Workload Index (THPW1) = 7.0

ADT Workload = 20.3/7 = 2.9

Length of Stay (LOS) Adjusted Census = 12.5

$$\begin{array}{r} \text{Classification Workload} \quad 14.8 \\ + \text{ADT Workload} \quad 2.9 \\ \hline = \text{Total Workload} \quad 17.7 \end{array}$$

Classification Acuity = 14.8/12.5 = 1.2 ~ 13 RN

Overall Acuity = 17.7/12.5 = 1.4 ~ 15 RN

Workload Index (WI) x THPW1 = Recommended Staff Hours/8 = Staffing Requirements

Figure 7: Significance of ADT Workload in Overall Unit Acuity and Staffing

REFERENCES

1. Shangkha, M., Aurilio, L., Baker, R., Bironka, B., Moss, E., & Tabor, M. (2010, April). Initiation and evaluation of an admission, discharge, transfer (ADT) nursing program in a pediatric setting. *Issue in Comprehensive Pediatric Nursing*, 33(2), 45-50. Retrieved July 23, 2009, from CINAHL Plus database.
2. Hughes, M. (1999, November). Nursing workload: an unquantifiable entity. *Journal of Nursing Management*, 7(6), 337-342. Retrieved July 23, 2009, from CINAHL Plus database.
3. Joyce, C., Kellerman, M., Lirio, L., Reed, D., & Sherman, C. (2005, November). Transfer admission discharge teams keep things moving: how often do you need a TAD more help with patient throughput? *Nursing Management*, 20(11), 38. Retrieved July 24, 2009, from CINAHL Plus database.

For Further information:
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BACKGROUND

- Sleep disturbance and depressive disorders are common among persons with sickle cell disease (SCD).
- Studies suggest a 28-44% prevalence of depressive disorders in adults with SCD.
- Depression and sleep disturbances have been associated with increased pain, greater distress from pain, lower quality of life, and poorer adherence to treatment regimens.



OBJECTIVES

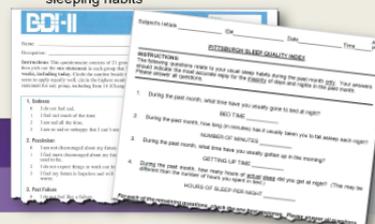
- Explore the prevalence of depression and sleep disturbances in adult patients with SCD.
- Examine the relationships between pain (both episodic and chronic), depression and sleep disturbances in adults with SCD.

METHODS

- As part of an on-going pulmonary hypertension screening protocol, 136 adult patients with SCD were assessed for depression (BDI-II), sleep disturbance (PSQI), and self-reported pain (0-10 NRS) during a regular visit to the outpatient clinic.
- Separate chi-square analyses were conducted to assess associations between depression, sleep disturbance, and self-reported typical SCD pain intensity with episodic pain (n=58) as well as chronic pain intensity (n=63).

MEASURES

- Numerical Rating Scale (NRS) for pain**
 - 11-point scale from 0-10, where 0 is no pain and 10 is the worst possible pain
- Beck Depression Inventory (BDI-II)**
 - 21-item measure for the presence and severity of depression in adults
 - The higher the score, the more depressed an individual is
 - For this study, those with a score ≥ 17 were considered depressed
- Pittsburgh Sleep Quality Index (PSQI)**
 - Measures sleep quality and disturbances using a 19-item self-rated questionnaire
 - There are seven "component" scores which combine to get a global score. A score of >5 indicates poor sleeping habits



ANALYSIS

Characteristic	PSQI ≤ 5 (n=33) N(%)	PSQI ≥ 6 (n=103) N(%)	p ¹
Gender			
Male	16 (48.5)	52 (50.5)	0.8
Female	17 (51.5)	51 (49.5)	
Age			
20-44	24 (72.7)	61 (61.6)	0.2
45+	9 (27.3)	38 (38.4)	
Weight, kg			
<68	12 (38.7)	51 (52.0)	0.2
68+	19 (61.3)	47 (48.0)	
Race/ethnicity			
BB	36 (81.3)	77 (76.2)	0.8
BC	4 (12.5)	18 (17.8)	
Other	2 (6.2)	6 (7.0)	
Self-Reported History of Headache			
No	23 (67.7)	47 (49.5)	0.08
Yes	10 (32.3)	48 (50.5)	
Self-Reported History of Stroke			
No	27 (84.6)	78 (82.1)	0.8
Yes	5 (15.4)	17 (17.9)	
Self-Reported History of ACS²			
No	8 (25.0)	10 (10.6)	0.07
Yes	24 (75.0)	86 (89.6)	
ED Visits in Past Year			
0	10 (55.6)	31 (47.0)	0.5
1+	8 (44.4)	35 (53.0)	
Hypertension			
No	15 (50.0)	42 (50.0)	1.0
Yes	18 (50.0)	42 (50.0)	
BDI Score			
≤ 17	33 (100.0)	71 (70.3)	0.0004
≥ 18	0 (0.0)	38 (29.7)	

¹ From Fisher's exact test when expected cell count < 5 , otherwise chi-square test.
² Acute Chest Syndrome

Pain Intensity, 10-point scale	Total (n=58) N(%)	PSQI ≤ 5 (n=7) N(%)	PSQI ≥ 6 (n=41) N(%)	p ¹
Typical Episodic Pain²				
0-6	9 (15.5)	4 (25.0)	5 (12.2)	0.13
7-8	26 (45.6)	6 (50.0)	17 (41.7)	
9-10	22 (38.9)	5 (41.7)	19 (46.3)	
Chronic Pain²				
0 (None)	40 (68.9)	17 (85.0)	23 (57.5)	0.04
1-6	18 (31.1)	3 (15.0)	16 (37.2)	
7-10	5 (7.9)	1 (5.0)	4 (9.3)	

¹ From Fisher's exact test when expected cell count < 5 , otherwise chi-square test.
² Data not available for entire cohort.

Pain Intensity, 10-point scale	Total (n=58) N(%)	BDI ≤ 17 (n=41) N(%)	BDI ≥ 18 (n=10) N(%)	p ¹
Typical Episodic Pain²				
0-6	10 (17.2)	10 (21.7)	0 (0.0)	0.15
7-8	21 (43.1)	20 (43.5)	5 (41.7)	
9-10	23 (39.7)	16 (34.8)	7 (58.3)	
Chronic Pain²				
0 (None)	39 (68.9)	33 (87.4)	6 (42.9)	0.04
1-6	19 (30.2)	11 (22.5)	8 (57.1)	
7-10	5 (7.9)	3 (10.2)	0 (0.0)	

¹ From Fisher's exact test when expected cell count < 5 , otherwise chi-square test.
² Data not available for entire cohort.

RESULTS

- Participants were 50% male with a mean age of 39 years.
- Thirty individuals (22.1%) reported depressive symptoms (BDI-II ≥ 17), and 102 (75%) reported global PSQI scores > 5 indicating either severe difficulties in at least 2 areas affecting sleep quality or moderate difficulties in more than three areas.
- For those who reported typical SCD pain intensity, no association was found between pain severity and either depressive symptoms or sleep disturbances.
- However, for those who reported whether or not they had chronic pain, a significant relationship was found between chronic pain severity and both depressive symptoms (p= .04), and sleep disturbances (p= .02).



IMPLICATIONS

- A substantial proportion of participants in this sample reported symptoms consistent with depression and sleep disturbance.
- A positive, significant association was found between the severity of depressive symptoms, sleep disturbances and chronic pain scores.
- These findings suggest the need to assess for the presence and potential treatment of depression, sleep disturbances, acute pain, and chronic pain as important components of routine care for persons with SCD.

For additional information, contact Dr. Wallen: GWallen@cc.nih.gov

BACKGROUND

- Sanguinaria canadensis (Canada pucoon):
 - perennial, herbaceous flowering plant native to the North America continent
- Sanguinarine is extracted from the root of Sanguinaria canadensis
 - Demonstrates capacity as an antimicrobial, anti-inflammatory, and antioxidant properties
 - Associated with cell death and stimulation of apoptosis (Choi, et Al, 2009)
 - Clinical case studies support a potential role for this compound in management of atypical cervical cells (Hudson, 1994)
 - Mechanisms of action and clinical outcomes are not clearly documented and require investigation



Figure 1. Canada pucoon by S. Graham Edwards from The Botanical Magazine (1793)

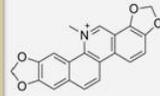


Figure 2. Sanguinarine, C20H14N4O4

SPECIFIC AIM

The aim of this study is to investigate the effects of Sanguinaria canadensis on Human Foreskin Keratinocyte primary cells (HFK), C33A, and HeLa immortalized cell lines.

METHODS

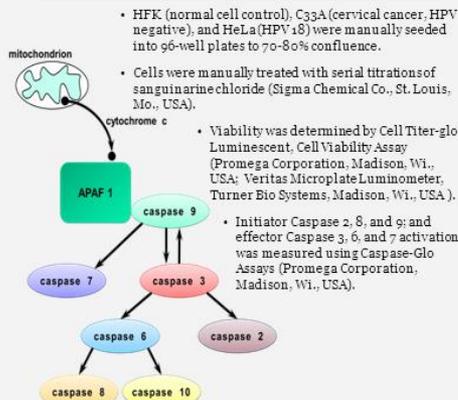


Figure 3. Caspase Cascade

- HFK (normal cell control), C33A (cervical cancer, HPV negative), and HeLa (HPV 18) were manually seeded into 96-well plates to 70-80% confluence.
- Cells were manually treated with serial titrations of sanguinarine chloride (Sigma Chemical Co., St. Louis, Mo., USA).
- Viability was determined by Cell Titer-glo Luminescent Cell Viability Assay (Promega Corporation, Madison, WI, USA; Veritas Microplate Luminometer, Turner Bio Systems, Madison, WI, USA).
- Initiator Caspase 2, 8, and 9; and effector Caspase 3, 6, and 7 activation was measured using Caspase-Glo Assays (Promega Corporation, Madison, WI, USA).

RESULTS

- Sanguinaria canadensis induced a dose-dependent cell death of HFK primary cells, C33A, and HeLa immortalized cell lines.

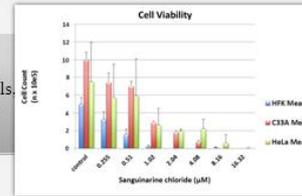


Table 1. Cell viability assay 24 hr after treatment with sanguinarine chloride

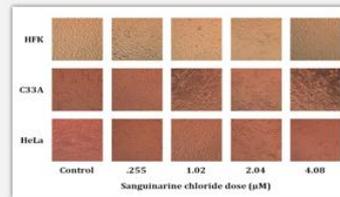


Table 2. Cell morphology: photographed at 24 hours following treatment with Sanguinarine chloride

- Microscopic plate inspection revealed morphologic signs of cell death including cell shrinkage, round up and detachment from plate surface.

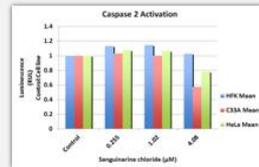


Table 3. 24 hour caspase 2 assay

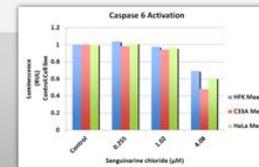


Table 4. 24 hour caspase 6 assay

INITIATORS

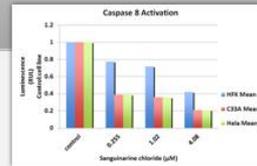


Table 5. 24 hour caspase 8 assay

EFFECTORS

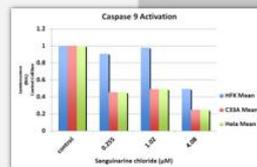


Table 7. 24 hour caspase 9 assay

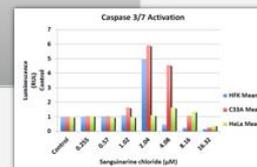


Table 6. 24 hour caspase 3/7 assay

CONCLUSIONS

- Sanguinarine chloride induce cell death in HFK, as well as C33A and HeLa
- In C33A immortalized cell line caspase 3/7 activation was unique with an increased at 2.04µM and 4.08µM
- Further investigation of apoptotic properties and signaling pathways for cell death are required

IMPLICATIONS

- This bench knowledge can be transferred to naturopath's knowledge base leading a clearer path for integrating complementary modalities in the management of atypical cervical cells.
- To build on this bench research a Delphi study is underway to delineate consensus for naturopathic management of cervical atypia.

REFERENCES

- Choi WE, Kim G, Lee WH, Choi YH. Sanguinarine sensitizes human gastric adenocarcinoma AGS cells to TRAIL-mediated apoptosis via down-regulation of AKT and activation of caspase-3. *Anticancer Res.* 2009 Nov; 29: 4457-65.
- Hudson T. Consecutive Case Study Research of Carcinoma in situ of cervix Employing Local Escharotic Treatment Combined with Nutritional Therapy. *J of Naturopath. Med.* 1991; 6-10.

Acknowledgements

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Background

Sleep disturbances among alcoholics are an area of interest to clinicians and researchers alike.

Prolonged and heavy use of alcohol are associated with persistent sleep disturbances.

Alcoholics frequently experience the following:

- Significant clinical, economic, and social consequences
- Prolonged sleep latency, decreased sleep time, decreased REM sleep, decreased sleep efficiency and difficulty maintaining sleep
- Early awakening and non-restorative sleep
- Sleep fragmentation which can persist 1-3 years after sobriety



Source: <http://www.flickr.com/photos/boobing/4647342226/>

Objective

The purpose of this study is to examine the prevalence of sleep disturbances in patients undergoing inpatient alcohol treatment.

Study Design

- Descriptive, prospective, repeated measures design.

Sample:

- Adult research participants (n=41) admitted to the inpatient behavioral health unit and enrolled onto protocol 05-AA-0121: *Assessment and Treatment of People with Alcohol Drinking Problems.*

MEASURES

Pittsburgh Sleep Quality Index (PSQI)

- ✓ Measures sleep quality and disturbances using a 19-item self-rated questionnaire.
- ✓ There are seven "component" scores which combine to get a global score.
- ✓ A score of >5 indicates poor sleeping habits.

Epworth Sleepiness Scale (ESS)

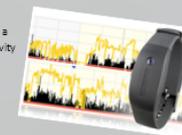
- ✓ Measure of a general level of daytime sleepiness, or their average sleep propensity in daily life.
- ✓ 8 item self-administered questionnaire asking respondents to rate, on a 4-point scale (0-3), their usual chances of dozing off during activities.
- ✓ A score >10 indicates excessive daytime sleepiness.

Daily Sleep Diary

- ✓ Documentation tool utilized to record self assessment each morning and at the end of each day

Actiwatch 2 (Respirics)

- ✓ Small actigraphy-based data logger that records a digitally integrated measure of gross motor activity
- ✓ Objective measure of sleep/wake activity
- ✓ Battery life for 30+ days depending on settings



Methods

- Participants enrolled in an inpatient alcohol treatment completed the self-reported Epworth Sleepiness Scale (ESS) on day 5, Pittsburgh Sleep Quality Index (PSQI) on day 2, and daily sleep diaries.
- Actigraphy watches that track ambient light and motion as an objective measure to assess sleep and wake times were worn by participants throughout their inpatient stay.

Results

	n (%)	Total n
GENDER		41
Male	24 (58.5)	
Female	17 (41.5)	
RACE		41
White	22 (53.7)	
Black/African-American	16 (39.0)	
American Indian/Alaska Native	1 (2.4)	
Native	1 (2.4)	
More than one race	1 (2.4)	
Unknown or not reported		
ETHNICITY		41
Not Hispanic or Latino	39 (95.1)	
Hispanic or Latino	2 (4.9)	
Mean (± SD)		
AGE	41.90 (9.83)	41
ESS SCORE (Day 5)	7.59 (4.92)	37
Possible range: 0-24		
PSQI SCORE (Day 2)	11.78 (4.04)	37
Possible range: 0-21		
MEAN SLEEP QUALITY*	5.05 (1.61)	41
Possible range: 0-10		
MEAN "FEELING TIRED IN AM"*	5.28 (1.46)	41
Possible range: 0-10		
MEAN HOURS OF SLEEP*	6.28 (1.38)	41
Range: 4.26-9.20		

Table 1: Sample characteristics

- This sample (n=41) was 59% male and ranged in age from 22 to 61 years (mean 41.9, SD ± 9.8).
- The mean Day 5 ESS score was 7.59 (SD ± 4.92) indicating no excessive daytime sleepiness at baseline in our sample.
- The mean baseline PSQI score of 11.78 (SD ± 4.04) indicated a prevalence of sleep disturbances over the month prior to admission.



Conclusions

- Participants were able to complete all self reports and tolerate wearing the actigraphy watches 24 hours daily.
- Significant sleep disturbance was reported by the majority of participants in the month before entering treatment.
- In this sample, participants did not report baseline excessive daytime sleepiness.
- During the first week of inpatient stay, participants report sleeping only 6.28 hours per night on average; less than the recommended 7.5 to 8 hours.

Implications for Research

- Ongoing analysis of sleep prevalence data may be a valuable tool for the development of customized sleep hygiene interventions in a similar future sample.
- Mounting evidence shows that alcoholic dependent patients with good prognoses sleep better than patients at risk for relapse.
- If sleep problems are related to relapse then treatment of sleep problems in alcoholic patients could potentially decrease relapse rates.
- Develop nurse led interventions focused on improving sleep quality in patients undergoing alcohol intoxication and treatment.
- Future work will include:
 - analyzing corresponding objective measures
 - actigraphy and clinician progress notes, which may provide a more complete and accurate quantification of sleep quality and efficiency among alcoholics.

References

- Brown, K.J., Conroy, D.A., and Almeida, J.T. (2007). Treatment Options for sleep disturbances during alcohol recovery. *Journal of Addictive Diseases*, 26 (4), pp 41-50.
- Buysse, D.J., Reynolds, C.F., Monk, T.H., Berman, S.R. and Kupfer, D.J. (1989). The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. *Psychiatry Research*, 28, pp 189-213.
- Currie, S.A., Clark, S., Rimes, S. & Mehotra, S. (2003). Comprehensive assessment of insomnia in recovering alcoholics using daily sleep diaries and ambulatory monitoring. *Alcoholism: Clinical and Experimental Research*, 27(8), 1262-1269.
- Johns, M.W. (1992). Reliability and factor analysis of the Epworth Sleepiness Scale. *Sleep*, 15(4), 376-381.

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"The worst thing in the world is to try to sleep and not to." - F. Scott Fitzgerald

POSTER TEXT

Font styles:

- Arial
- Helvetica
- Verdana
- Times or Times Roman
- Garamond
- Georgia
- Franklin Gothic
- Tahoma

Helvetica:
The Quick Brown
Fox Jumps Over
The Lazy Dog. **g**

Franklin Gothic:
The Quick Brown
Fox Jumps Over
The Lazy Dog. **g**

Tahoma:
The Quick Brown
Fox Jumps Over
The Lazy Dog. **g**

POSTER TEXT CONTINUED...

Font sizes (guidelines):

- Title - at least 60pt, title case
- Subtitle – smaller than title
- Section headings - 48 point
- Main text – 24 point (no smaller than 14-18pt)
- Text for labeling – 20 point

MOCK PRESENTATION

- Are the major and most relevant points communicated?
- Is the information well organized?
- Is the information legible from 4 to 6 feet away?
- Can the viewer absorb the information within 3 to 5 minutes?
- Are there any typographical errors?
- How does the poster look?

POSTER HINTS



- Follow guidelines
- Set up as soon as possible, earlier is better
- Legible, concise
- Avoid cramming
 - Avoid too much text and graphics

MORE POSTER HINTS

- Acknowledgements
- Transport using tube or cover poster with brown paper
- Dress professionally
- Bring tape, push pins with you

DURING

- Stand by (but not in front of) poster during designated times. Be early.
- Make believe you are a host/hostess
- Don't ignore people
- Provide reprints of poster (8.5 x11) or other pertinent handouts
- Include contact information at the bottom of the poster and bring business cards if you have some available

AFTER PRESENTATION

- Evaluate how you think the presentation went and jot down notes for next time.
- Check out other posters being exhibited.
- Relax - it's done!! Celebrate!!!



**INCREASE YOUR ODDS BY
USING THE CHECKLISTS!!**



POSTER CHECKLIST

- Are all the necessary components included?
- Does the color scheme enhance the poster?
- Is the poster clear and easy to read?
- Have you followed the guidelines provided?

POSTER PRESENTATION CHECKLIST

- Have you allowed enough time?
- Are brochures handouts ready?
- Do you have thumbtacks, tape, glue?

RESOURCES



- Creating Scientific Posters, The Handout, Centers for Disease Control and Prevention.
- Day RA, Gastel B. How to Write and Publish a Scientific Paper. 6th ed. Westport CT: Greenwood Press; 2006: chapter 28.
- Peterson SM, Eastwood S. Posters and Poster Sessions. Reston, VA: Council of Biology Editors [now Council of Science Editors]; 1999.
- Shelledy DC. How to Make an Effective Poster, Respiratory Care, October 2004, 49(10):1213-1216
- Hess G., Tosney K., Liegel L. Creating Effective Poster Presentations. <http://www.ncsu.edu/project/posters>

Additional Resources:

- https://www.training.nih.gov/events/view/2/135/Creating_and_Presenting_Dynamic_Posters
- <http://writing.colostate.edu/guides/speaking/poster/index.cfm>

** Resource Reach sub-committee for NPAC is developing some suggested guidelines for poster presentations that will be available in the next couple months.

Thank you



