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Engaging Sleeplessness In Seattle at Clinical Site 1

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Introduction

The National Library of Medicine notes an emerging area of research interest is the relationship between substance abuse and sleep (Mahfoud et al., 2009). According to the same 2007 National Survey on Drug Use and Health, “7.6 percent of Americans older than 12 years met the criteria for alcohol abuse or dependence” and goes on to highlight the mundanity of sleep disorder. Additionally, the 2008 National Sleep Foundation’s “Sleep in American” poll demonstrated “addicts in recovery are 5 to 10 times more likely to experience sleep disorders.” (Moufoud et al., 2009). Clinical Site 1 is an agency in Downtown Seattle focusing on maintaining recovery, reducing relapse, building relationships, and regaining a sense of independence. The agency notes the importance for healing and hope, and has already helped many people transform their lives. It has become a safe, home-like, and family-oriented place filled with meals, coffee, love, and respect. Four nursing students from Seattle Pacific University were assigned to design and implement an intervention in this population. To determine a nursing diagnosis, a windshield survey and verbal assessments were conducted. The results indicated a comprehensive knowledge deficit among the clients related to social determinants of health (SDOH) as evidenced by reported sleep hygiene habits.

Background

The assessments at Clinical Site 1 populated a wide variety of health needs, dependent on each person's unique recovery journey. It was collectively decided that a significant health concept that affects the majority of the population at the site is sleep quality. Multiple clients reported not getting quality sleep, as well as a sleep hygiene knowledge deficit. Sleep is a basic

human necessity that affects both a person's physical and mental status. Researchers at Harvard Medical School noted the functions and mechanisms of sleep is, “essential for many vital functions including development, energy conservation, brain waste clearance, modulation of immune responses, cognition, performance, vigilance, disease, and psychological state” (Zielinkski, et al., 2016). Additionally, targeting interventions around sleep hygiene can improve the client's recovery progress (Substance Use and Mental Health services Administration, 2014). Many adjustments to this populations sleep routine did not require access to medical supervision or expensive supplies. Individuals can improve their sleep habits themselves after receiving education regarding sleep hygiene. These recommendations based in education can turn into new habits and furthermore increase their sleep quantity and quality, and the overall functions of their mind and body. The Model of Change states that interventions at the preparation and action stage lead to the maintenance stage where clients can self-sustain habits (Raihan, 2023). Improper sleep hygiene is prevented at the secondary level of prevention in the Three Levels of Prevention model because it targets an already existing problem by encouraging behavior modification (Kisling, 2022).

Activities with rationale

To maintain a schedule and focused goal as a team, a GANTT chart and Logic Model were produced prior to beginning implementing the intervention (Table 4, Table 1). To more fully determine the sleep quality of the population, a 10 question survey was produced (Table 3, Figure 3). Over the weeks of intervention, the survey was also readministered on previously educated clients to assess intervention efficacy (Table 5). To target the secondary level of prevention at the preparation and action stages of change, client educational pamphlets and

client sleep kits were made using the budget of $30. The client education pamphlets addressed 5 drug-free topics — exercise habits, sleep environment, diet and substance habits, power napping, and consistency, inspired by the Tips For Better Sleep (Centers for Disease Control and Prevention, 2022), which coincides with published findings at Fargo that demonstrate “Sleep hygiene education has the potential to be a key strategy for improving sleep in the general population” (Irish, 2015). Because researchers at Baylor conclude “participants who wrote a to-do list at bedtime fell asleep faster” (Scullin, 2018), sleep kits included pens and journals, as well as earplugs, toothbrushes, toothpaste, hand sanitizer, and hand lotion. In the study, regardless of what they wrote down, their sleep improved, and those who used the strategy of making a to-do list before bed further eased their transition into sleep. With both of the sleep kit and education interventions, the main focus was to find realistic interventions that would not only be effective but also achievable and sustainable for the client population. Distribution of pamphlets and sleep kits was a both passive and active process. Both resources were set-out on the coffee counters as well as solicited directly to accommodate different levels of client sociability. In the Knowledge-Skills-Abilities (KSA) framework, this intervention targets the knowledge stage with education, and the skills stage with supplies to practice journaling (Centers for Disease Control and Prevention, n.d.). This project engages the assurance stage of the Public Health Function model by directly engaging the community (Centers for Disease Control and Prevention, 2023). This intervention also targets the behavioral outcomes in the Pender model of individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcomes (Pender, 2011). Lastly, survey data and open ended responses were compiled into graphics and tables to determine their impact.

Outcome

Overall, clients at Clinical Site 1 demonstrate a moderate knowledge deficit related to SDOH as evidenced by reported sleep hygiene habits. From the approximately 64 clients at Clinical Site 1 interacted with, 57% voluntarily engaged in the intervention process (Figure 1). From the 10 Question Survey, most clients reported sleeping at night (91%), most sleep in their own living space (77%), and nearly none use ear plugs to sleep (8%) (Figure 3). Across the span of 3 weeks, 20 sleep kits and approximately 50 pamphlets were distributed directly to clients (Table 2, Figure 2). Statements from clients regarding habit changes post-education are recorded in Table 5. Notably, the most common response regarded improving the quietness of their sleep environment, followed by working towards a consistent time to sleep. Overall, clients demonstrated an increased understanding in sleep hygiene.

Conclusion

In conclusion, clients have expressed a desire to increase their quality of sleep based on interventions performed. For the clients that actively engaged, the data shows a growth in their progress towards improving their sleep. For the unengaged clients at Clinical Site 1, further work is needed to promote healthy sleep habits. Moving forward, more resources can be considered including sleep masks and meditation training. These resources can potentially be obtained through fundraising and/or neighborhood outreach. Throughout this intervention, limited resources and time have negatively influenced the depth of behavior modifications. Findings conclude clients with knowledge deficit related to SDOH improved in regard to sleep hygiene behaviors.

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Appendix

Table 1

Logic Model Created Week 3

Inputs	Activities	Outputs	Outcomes	Impact
$30 4 nursing students Clinical Site staff Clinical Site clients Public Health Department Business relationships Clinical Site has previously established	Sleep Hygiene education Sleep Survey Sleep Kits (earplugs, journal, oral hygiene) Educational Pamphlets	Tracking survey data Tracking remaining sleep kit and pamphlet inventory	Education level of Clinical Site clients measured by teach back proficiency Reported changes r/t sleep by clinical site clients	client health literacy client Empowerment to access available public resources

Table 2

Number of Sleep Kits started with, given, and total remaining per week

	Week 4	Week 5	Week 6	Week 7
Kits started shift with:	0 (ordered supplies)	24	11	5
Kits ended shift with	0 (ordered supplies)	11	5	4
Number of kits given	0 (ordered supplies)	13	6	1

Note*. All remaining kits left with the Clinical Site 1 for them to distribute at their discretion.*

Table 3

10 Question Sleep Survey

QUESTION	WEEK 4	WEEK 5	WEEK 6	WEEK 7	TOTAL
Do you sleep?	Yes: 8 No: 2	Yes: 18 No: 0	Yes: 6 No:0	Yes: 1 No:0	Yes: 33 No:2
How many hours do you sleep?	>5: 7 <5: 4	>5: 14 <5: 4	>5: 4 <5: 2	>5: 1 <5: 0	>5: 26 <5: 10
Do you nap?	Yes: 6	Yes: 6 No: 12	Yes:1 No: 5	No: 1	Yes: 14 No: 17
Where do you sleep?	Apartment: 9 Streets:1 Shelter:1	Apartment: 16 Streets: 0 Shelter: 2	Apartment: 2 Streets: 1 Shelter: 3	Shelter: 1	Apartment: 27 Streets: 2 Shelter: 7
Do you have a "getting ready for bed" routine?	Yes: 1 (knitting)	Yes: 3 No: 15	Yes: 0 No: 5	No: 1	Yes: 4 No: 21
Do you wash your face/brush your teeth before bed?	Yes: 1	Yes: 6 No: 12	Yes: 2 No: 3	No: 1	Yes: 9 No: 16
Do you use ear plugs?	Yes: 1	Yes: 1 No: 17	Yes: 1 No: 5	No: 1	Yes: 3 No:23
Do you take anything to relax and fall asleep before bed?	Yes: 4	Yes: melatonin(1)xanax(1) No: 15	Yes: 1 No: 4	No: 1	Yes: 7 No: 20
Do you drink any tea before bed?	Yes: 3	Yes: 2 No: 16	Yes: 1 No: 5	No: 1	Yes: 6 No: 22
Do you journal?	Yes: 2	Yes: 2 No: 16	Yes: 5 No: 1	Yes: 1	Yes: 10 No: 17

Note. *Some clients who responded did not answer all questions, producing partial data.*

Table 4

GANTT Chart

Tasks	W2 4/5	W3 4/12	W4 4/19	W5 4/26	W6 5/3	W7 5/10	W8 5/17	W9 5/24
1. Review Gantt chart, strategize, delegate tasks		Ally	Kiana	Ben	Luis	Ally	Kiana	Luis
2. Team Process work: (what tasks are needed to form/maintain team environment?)								
A. Team agreement	ALL							
B. Weekly report		Ally	Kiana	Ben	Luis	Ally	Kiana	Luis
C. Finding research articles before class	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
D. Positive affirmations to encourage group success and a healthy morale!	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
3. Assessment of Community:								
A. Windshield survey	Ally							
B. Context (local and national statistics? Cultural?)	Kiana							
C. Factors of social equity	Luis	Luis						
D. Review of relevant literature		Ben						
E. Individuals sleep habits and environment			ALL	ALL	ALL			
F. Client's level of health literacy			ALL	ALL	ALL	ALL	ALL	ALL
4. Diagnosis - health need/s of target population:								
A. Priority diagnosis – Recovery Center 1 clients at risk for knowledge deficit r/t SDOH aeb by sleep hygiene habits.		ALL	ALL					
B. Additional dx – Recovery Center 1 clients at risk for altered mental health status r/t SDOH aeb mood and affect.	ALL	Kiana Ally	Kiana Ally					
C. Additional dx – Recovery Center 1 clients at risk for housing instability r/t SDOH aeb verbal report.	ALL	Ben Luis	Ben Luis					
5. **Planning and Outcomes Identification:**								
A. Select priorities: increasing health literacy and resource access to sleep hygiene and techniques	ALL	ALL						
B. Identify framework/model to guide work: assessing current sleep habits, make an informational handout to guide us in a group teaching, bring “sleep kits” to give to the clients, reassess any changes in sleep habits		ALL	Kiana	Ally	Ben	Luis		

C. Identify SMART goals/objectives (consider cultural and socioeconomic context): Clients will receive education and materials to improve their quality of sleep hygiene within the next 3 weeks.			ALL	Luis	Ben	Ally	Kiana	
D. Identify evidence-based interventions (2-3 resources min.; keep APA reference list); note levels of prevention: sleep environment and mental status.			ALL	ALL				
E. Address sustainability, health equity, cultural sensitivity: addressing as wide of a population at this site as we can.			ALL	Ben	Luis	Kiana	Ally	
F. Identify plan to evaluate interventions (method? Literature review for evidence-based evaluation tools?): teach back method, verbal surveys/confirmation, pre/post measurement within the same day, and keeping track of number of sleep kits and handouts given.				Ally	Kiana	Luis	ALL	
6. **Implementation:**								
A. Develop project deliverable/s in coordination with the agency/site: Communicate weekly with our instructor and liaison at Recovery Center 1 about our plans.		Ben	Ally	Kiana	Luis	Ben	Ally	Kiana
B. Do a mock presentation of education before presenting at Recovery Center 1.				ALL				
C. Do a mock presentation of overall project before presenting to agency.							ALL	
D. Present project to agency/site: We will present project on week 9 at Recovery Center 1. This will show a reflection of our intended goals.								ALL
E. Submit all project deliverables to agency and SPU: We will submit our project by week 9 to both the agency and SPU.								ALL
7. **Evaluation:**								
A. Evaluate intervention and deliverables: Pre and post evaluation on our implementation				Luis	Ally	Kiana	Ben	
B. Evaluate sustainability: Keeping track of how many sleep kits and informational handouts given, as well as checking in on clients that have been present in more than one implementation week.				Ally	Ally	Ally	Ally	
C. Limitations: Consistency in crowd of clients that show up on Wednesdays; We will Pre-evaluate, provide education and				Kiana	Ben	Luis	Kiana	

post evaluate on the same day through weeks 5-8.								
D. Show appreciation towards agency staff and clients for participating in our project (:	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL

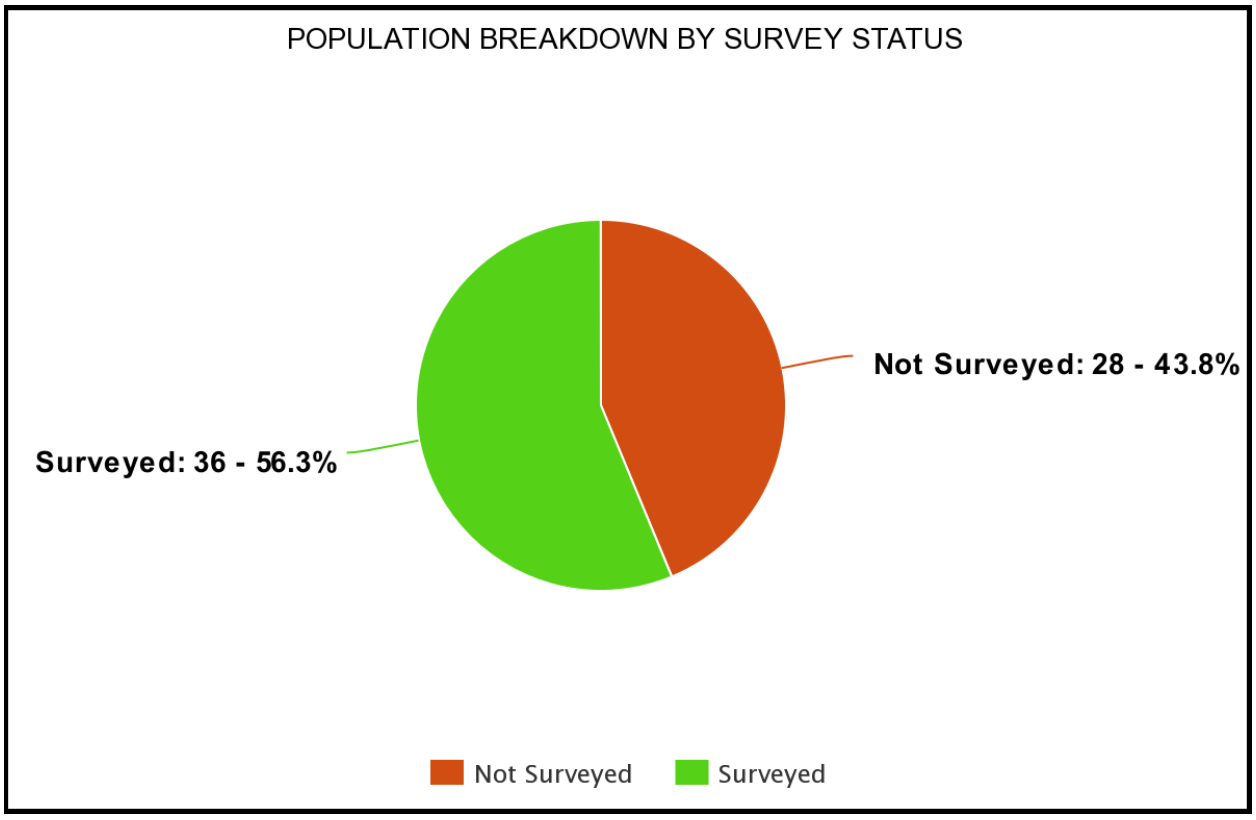
Table 5

Open Ended client Responses to Survey Regarding Sleep Habits

Week 1 open ended client responses	- Write “to-do” list before bed (1) - Drink a glass of water in the morning (1) - Brush teeth (1) - Have a quiet sleep environment (2) - Go to bed at the same time (3) - Decrease electronic use before bed (2) - Decrease amount of napping (2) - Stop eating large meals before bed (1)
Week 2 open ended client responses	Updates reported by clients who responded previous week: - Has worked on having a quiet sleep environment (2) - Has worked on drinking more water throughout the day (1) - Has used earplugs (1) - Taking less naps (1) Reported takeaways from new clients: - Use earplugs (1) - Use journal (1) - Brush teeth (1) - Smoking and alcohol cessation (1)
Week 3 open ended client responses	Updates reported by clients who responded previous week: - Has worked on drinking more water throughout the day (1) - Has worked on having a quiet sleep environment (1) - Reducing caffeine amount (1) - Stop using phone an hour before sleeping and read the newspaper (1) - Trying to stop smoking (1) Reported takeaways from new clients: - Use journal to help debrief after the day (1)

Figure 1

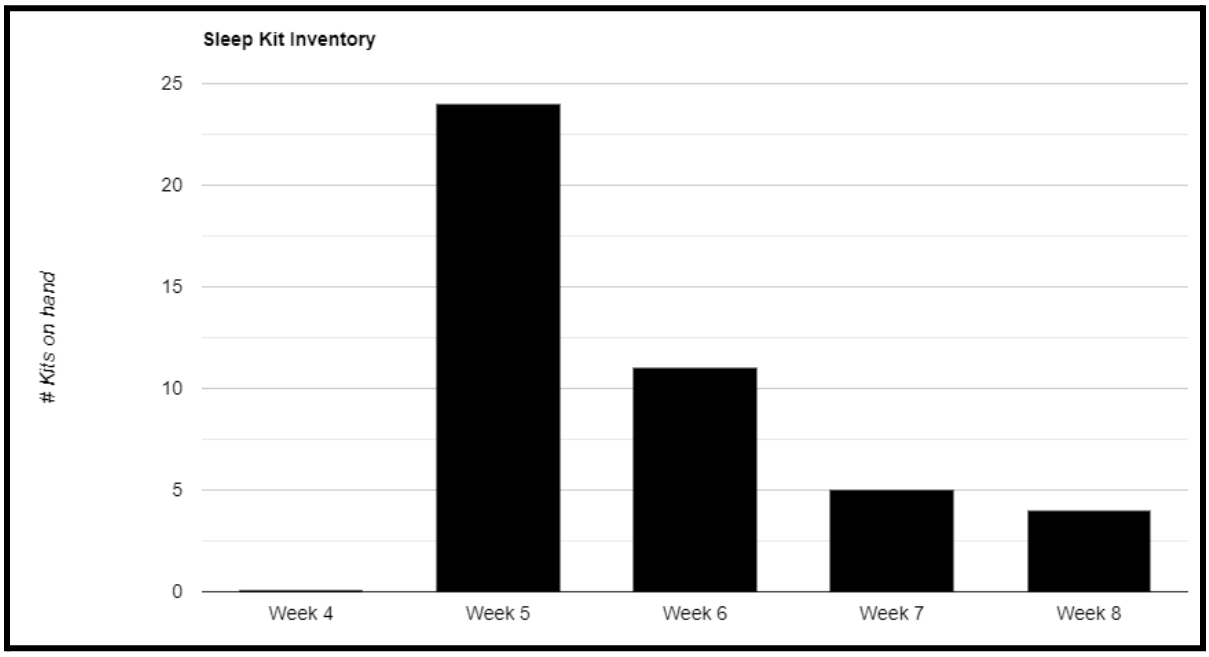
Survey Response to Non-response Ratio



Note. *Total population of n=~64 is an approximation of all unique clients who were in Clinical Site 1 during the hours the survey was taking place. It is not the combined raw headcount, as that would count returning clients multiple times. Total population is a rough approximation +/- 5 unique clients.*

Figure 2

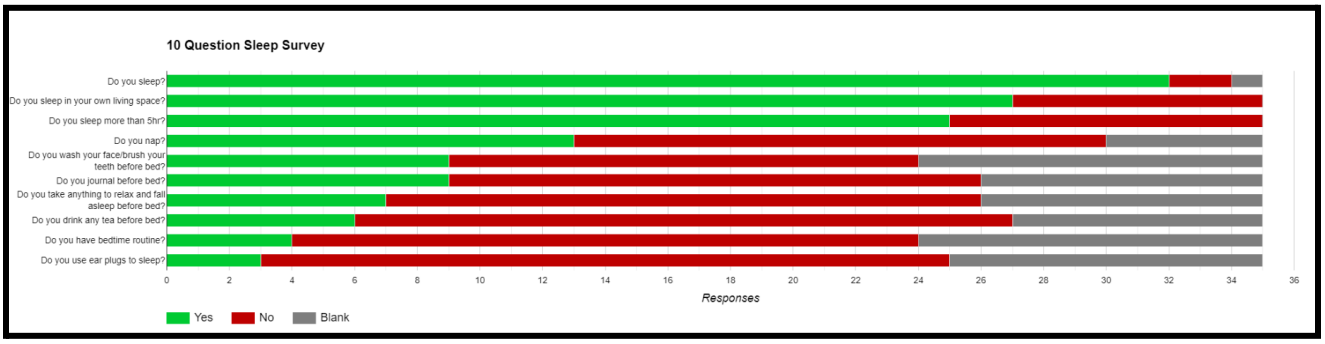
Sleep Kit Inventory



Note. *Week 4 supplies were ordered. All remaining kits and supplies were left with Clinical Site 1 at the end of week 8 for them to distribute at their discretion.*

Figure 3

Survey Data



Note. *Some participants did not answer all questions, resulting in blank responses.*