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Mission

ATINER is a *World Non-Profit Association* of Academics and Researchers based in Athens. ATINER is an independent **Association** with a **Mission** to become a forum where Academics and Researchers from all over the world can meet in Athens, exchange ideas on their research and discuss future developments in their disciplines, **as well as engage with professionals from other fields**. Athens was chosen because of its long history of academic gatherings, which go back thousands of years to *Plato's Academy* and *Aristotle's Lyceum*. Both these historic places are within walking distance from ATINER's downtown offices. Since antiquity, Athens was an open city. In the words of Pericles, *Athens "... is open to the world, we never expel a foreigner from learning or seeing"*. ("Pericles' Funeral Oration", in Thucydides, *The History of the Peloponnesian War*). It is ATINER's **mission** to revive the glory of Ancient Athens by inviting the World Academic Community to the city, to learn from each other in an environment of freedom and respect for other people's opinions and beliefs. After all, the free expression of one's opinion formed the basis for the development of democracy, and Athens was its cradle. As it turned out, the Golden Age of Athens was in fact, the Golden Age of the Western Civilization. *Education* and *(Re)searching* for the 'truth' are the pillars of any free (democratic) society. This is the reason why *Education* and *Research* are the two core words in ATINER's name.

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All ATINER's publications including the e-journals are open access without any costs (submission, processing, publishing, open access paid by authors, open access paid by readers etc) and are independent of the presentations made at any of the many small events (conferences, symposiums, forums, colloquiums, courses, roundtable discussions) organized by ATINER throughout the year. The intellectual property rights of the submitted papers remain with the author.

Before you submit, please make sure your paper meets some [basic academic standards](#), which include proper English. Some articles will be selected from the numerous papers that have been presented at the various annual international academic conferences organized by the different [divisions and units](#) of the Athens Institute for Education and Research.

The plethora of papers presented every year will enable the editorial board of each journal to select the best ones, and in so doing, to produce a quality academic journal. In addition to papers presented, ATINER encourages the independent submission of papers to be evaluated for publication.

The current issue of the Athens Journal of Health and Medical Sciences (AJH) is the second issue of the sixth volume (2019). The reader will notice some changes compared with the previous issues, which I hope is an improvement.

Gregory T. Papanikos, President
Athens Institute for Education and Research



Athens Institute for Education and Research

A World Association of Academics and Researchers

19th Annual International Conference on Health Economics, Management & Policy,
22-25 June 2020, Athens, Greece

The [Health Economics & Management Unit](#) of ATINER will hold its 19th Annual International Conference on Health Economics, Management & Policy, 22-25 June 2020, Athens, Greece sponsored by the [Athens Journal of Health and Medical Sciences](#). The aim of the conference is to bring together academics, researchers and professionals in health economics, management and policy. You may participate as stream leader, presenter of one paper, chair of a session or observer. Please submit a proposal using the form available (<https://www.atiner.gr/2020/FORM-HEA.doc>).

Academic Members Responsible for the Conference

- **Dr. Paul Contoyannis**, Head, [Health Economics & Management Unit](#), ATINER & Associate Professor, McMaster University, Canada.
- **Dr. Vickie Hughes**, Director, [Health & Medical Sciences Division](#), ATINER & Assistant Professor, School of Nursing, Johns Hopkins University, USA.

Important Dates

- Abstract Submission: **19 November 2019**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **25 May 2020**

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- Exploration of the Aegean Islands
- Delphi Visit
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 - More information can be found here: <https://www.atiner.gr/social-program>

Conference Fees

Conference fees vary from 400€ to 2000€
Details can be found at: <https://www.atiner.gr/2019fees>



Athens Institute for Education and Research

A World Association of Academics and Researchers

8th Annual International Conference on Health & Medical Sciences 4-7 May 2020, Athens, Greece

The [Medicine Unit](#) of ATINER is organizing its 8th Annual International Conference on Health & Medical Sciences, 4-7 May 2020, Athens, Greece sponsored by the [Athens Journal of Health and Medical Sciences](#). The aim of the conference is to bring together academics and researchers from all areas of health sciences, medical sciences and related disciplines. You may participate as stream leader, presenter of one paper, chair a session or observer. Please submit a proposal using the form available (<https://www.atiner.gr/2019/FORM-HSC.doc>).

Important Dates

- Abstract Submission: **1 October 2019**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **6 April 2020**

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- **Dr. Vickie Hughes**, Director, Health & Medical Sciences Research Division, ATINER & Assistant Professor, School of Nursing, Johns Hopkins University, USA.
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More information can be found here: <https://www.atiner.gr/social-program>

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Effect of Yoga, A Complementary and Alternative Medicine (CAM) on Anxiety: A Literature Review

By Edna Aurelus*

Anxiety disorders are the most common form of psychiatric disorders in the US. They affect up to 40 million adults, or 18% of the population aged 18 and older. Anxiety disorders have a 60% comorbidity rate with depression. Our purpose is to reiterate the effect of yoga on anxiety. A thorough literature research was completed utilizing PubMed, Cochrane, Medline, Elsevier, Psych Info as well as some psychiatric textbooks. Over 10 articles were selected with inclusion criteria of the terms anxiety, complementary and alternative medicine (CAM) and yoga. No exclusion data for a target population was included. These articles were then saved on Zotero, a free software available to collect, save, share and cite research articles. While historically, the goal of yoga has been to create a spiritual state of unity, it is also practiced to produce physical and emotional wellbeing. Research suggests that yoga can improve anxiety. Yoga not only limited benefits individuals with mental health disorders, but can also benefit those with physical disorders. The relevance of integrating yoga into the psychiatric nursing practice should be a priority. Due to its undeniable effectiveness in relieving the symptoms of anxiety, yoga must be integrated and promoted into psychiatric practice.

Keywords: Anxiety, Complementary and Alternative Medicine, Yoga, Wellbeing, Psychiatric Practice

Overview

Yoga is known to be one of the most commonly used Complementary and Alternative Medicine (CAM) in the United States to help with anxiety. Yoga has been used to reduce symptoms of depression, anxiety, and epilepsy (Streeter et al. 2010). The neurotransmitter, γ -Aminobutyric acid (GABA)-ergic activity is reduced in mood and anxiety disorders. The practice of yoga postures is associated with increased brain GABA levels (Streeter et al. 2010).

The main objective of this literature review is to demonstrate that yoga is effective in the treatment of anxiety. It also looks at how yoga can be beneficial for the healthcare system as a whole.

CAM is often referred to as integrative medicine (IOM-Institute of Medicine 2009). The word integrative, evokes the essence of a holistic approach in the sense of caring for the whole; accounting for both the biological and psychosocial aspects of the person. The quest for mental wellness and recovery from mental and emotional setbacks is fundamental to everyone's path in life. Any search for insight into one's life purpose, any quest for knowledge of the self, must treat mental adversity as an opportunity for growth and for enlightenment. That is the spiritual core of the recovery concept. And it is in that spirit that this outline is offered, for those on the quest of mental health (CAM and Mental Health 2016).

It is important when treating a client psychiatrically to investigate the genetic, temperamental and environmental components of this person. Including

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these components, especially the genetic aspect can provide objective data to the provider or the evaluator. This is why genogram is such an important factor when it comes to psychiatry. Information about a grandparent can provide pertinent information regarding a person behavioral or mental health. Thus, when it comes to a biopsychosocial approach, CAM adheres to those three factors respectively, but emphasizes the psychosocial aspect a great deal without minimizing the importance of the biological factor.

Literature Review

Yoga is reasonably new in the western hemisphere and that not many people understand the practice. In order to provide an in-depth explanation of its philosophical approach, thorough literature research was completed utilizing PubMed, Cochrane, Medline, Elsevier, Psych Info as well as some psychiatric textbooks. It is important to note that the articles chosen for review were high-level articles. Over 10 articles were selected for this literature review project using the keywords "anxiety" and "yoga", since it is the treatment modality selected for the improvement of anxiety disorder for the purpose of this paper. However, an observation made very apparent from the start of the review is that many of these articles did not only mention solely the effective of yoga on anxiety, but also the effect of yoga on other mental health issues, such as depression and mood disorders. Finding the articles that focused on the effect of yoga on anxiety was a tedious task. In order to revisit the article found, Zotero, a software was utilized to revisit and organize the articles selected for review. In addition to Zotero, the Wagner inter-library loan made it possible to retrieve articles without fees. These articles were then saved on Zotero, a free software available to collect, save, share and cite research articles. Some of the articles not all, were very descriptive in reference to yoga and anxiety. Of the articles reviewed, the majority depicted 12-week long studies that examined the efficacy of yoga in regards to anxiety and mood disturbance. One specific article details not only the effect of yoga on mood, but also the effect of yoga on heart rate (Chu et al. 2017). Knowing the relationship of the body and mind it was an expected finding when it comes to the effect of yoga on the cardiovascular system. However, our focus remained true to the effect of yoga on anxiety. Every article was reviewed in relation to yoga and its effectiveness in improving mental health disorder especially anxiety despite the fact that awareness of its full positive effect on the medical aspects has been observed relentlessly on people. On multiple occasions countless stories and documentaries about the effectiveness of yoga on anxiety have been observed and witnessed.

Impact on Individuals and Healthcare Providers

Yoga has been very effective in times of high anxiety, such as preparation for a state board exam or preparing for the fourth year review as an assistant

professor of an institution. It was surprising to see that it was evident that such treatment modality, CAM, has been adapted in the Western hemisphere for over three decades with positive effectiveness. People have been very vocal about embracing yoga as part of their daily life due to the positive results seen in the improvement of their anxiety. During healthcare visit, a client was convinced that, since starting yoga, he is less irritable, less on edge, and more at peace. This client traveled to India and spent a month in a shrine where he learned everything he now knows about yoga. As his healthcare provider, the changes were evident not only psychologically, but physically. Witnessing these phenomenal changes on real life clients helped to confirm the claims made in this article.

Discussion

One of the functions of CAM in America is to allow patients the freedom in directing a portion of the treatment spectrum without prior medical authorization (CAM and Mental Health 2016). Too often complaints are heard from clients that, providers do not really care about their illnesses, and that more focus is placed on the number of clients than on the individual clients' health. Facing these daily complaints personally in the clinical settings and knowing CAM focus when it comes to client-centered care approach, has triggered the interest in delving deeper into CAM. Complementary and Alternative Medicine (CAM) stresses prevention and focuses on the clients' physical, mental and spiritual needs (IOM 2009). A true health provider's goal is to be able to provide improvement in all three of those arenas. As was mentioned before, many of the approaches of CAM have originated from non-Western cultural traditions and are fairly new to the west. The movement toward the use of CAM in the Western health care is relatively new, but clients are becoming receptive to such philosophy by changes in dominant scientific theory and beliefs (Weldon et al. 2011). Patient often adhere to the treatment modalities and are very curious to know more about their effectiveness. The philosophy of these treatment modalities, such as yoga is geared toward complete healing as providers pay close attention to the client as a whole: mind, body and spirit including the lifestyle of clients with their choice of treatment. As a contributing member of the team, the client is more likely to adhere to such approaches. They feel that they have autonomy when it comes to their own health; an interesting finding with CAM is that clients are able to select the modality of care they prefer. This, unfortunately, is an approach lacking in traditional medicine. Clients often have little to no involvement in their treatment plan.

Cultural, Legal and Economic Considerations

Forty percent or more of Americans treat themselves with CAM without professional supervision, often without disclosing it to their psychiatrist or

primary care provider (NCCIH 2011). Therefore it is imperative for providers to inquire about the client's interest or participation in CAM treatment modality. It is notably important to know these facts in order to prevent any risks to the clients' health.

As mentioned earlier, this paper will develop the importance of yoga as one of the several CAM therapies currently available. The United States have embraced CAM so much so that the National Institutes of Health (NIH) created the National Center for Complementary and Alternative Medicine (NCCAM) in 1998 (NCCIH 2011).

In order to incorporate CAM into Western health care practice, providers had to change their way of thinking in respect to clients' beliefs. Contrary to the traditional western healthcare approach, providers had to understand the importance of integrating alternative care into their practices (Van der Riet 2011). To assure that such approach is well known, fundamental change must be systematic. An example of a systematic approach, to revisit the course curriculum of healthcare career students, such nurses, physicians, physician assistants, physical therapist, occupational therapist, pharmacist, medical assistant among others. In the psychiatric field we have witnessed an integration of such treatment modality, however other healthcare fields are alienated of such productive proven approaches. CAM is being adapted for various significant mental health problems, such as depression, substance abuse treatment and neurocognitive disorders (Edwards 2012). Clients have testified of long term improvement by adhering to yoga as one of the CAM treatment modalities. Anxiety disorder is one disorder that CAM has been proven to be an effective treatment modality for. Among the ten most common CAM treatment modalities adapted by adults in the United States (US), yoga is ranked number six (ANA and AHNA 2007). It is not by mistake that the public are waging about the effectiveness of yoga on mental health disorder such as anxiety. Beside yoga, the most frequently used CAM therapies in the US are the following: natural products, such as probiotics found in food as number one, deep breathing as number two, meditation as number three, chiropractic & osteopathic as number four, massage as number five, diet-based therapy as number seven, progression relaxation as number eight, guided imagery as number nine and homeopathic treatment as number ten (ANA and AHNA 2007). It is vital that providers familiarize themselves with the population or community they are serving before suggesting a CAM therapy, because the belief system of these consumers can affect treatment adherence to certain CAM. Belief system and cultural background may be a barrier to getting clients to adhere to yoga.

In places like the Caribbean, yoga is still emerging, whereas natural products such as herbal tea are very common. It is imperative to learn about your population and community before starting to promote yoga. In 2014, a colleague completed a study supporting the claim that yoga has been effective for the treatment of hypertension. She was invited to present such finding to a group of a community of Christian denomination, however the attendance turnout was a failure. The provider did not understand the reasons behind the failed attendance until

locals in the community admitted that they did not consider yoga a Godly thing to do; therefore they did not show up for the presentation due to the belief that yoga is not a divine approach. CAM can be controversial. One could argue that yoga is just physical exercise, how can it conflict with a person's religious values? Questions like this one supports the importance of individual beliefs as well as the CAM approach. In traditional medicine, providers have the tendency to ignore the cultural background of a client and focus on just the person's physical. However, we cannot ignore that the whole being of a person is shaped by her environment, culture and biological aspects. Hence, is what was mentioned earlier in this paper about the importance of a thorough assessment of the bio-psychosocial approach of a person. All healthcare professional would benefit from assessing clients using this approach. In retrospect, this type of assessment will prevent bias and allow us to treat clients effectively and full understanding of their beliefs. Familiarizing ourselves with the population belief system is important in order to offer or provide the most effective and acceptable CAM therapy. As providers, we can make recommendations, however the client must be the decision maker. Providers may intervene, if a clinical treatment modality such as yoga is deemed harmful. Providers using CAM must exercise effective listening skills to prevent dictating clients into doing something that is not their choice or preference. Guidance is the approach in CAM, not dictation. Healthcare providers, more specifically psychiatric mental health providers, must understand that CAM can be effective if used appropriately without pressuring the clients.

Anxiety disorders are the most common form of psychiatric disorders in the US. They affect up to 40 million adults, or 18% of the population aged 18 and older (Kessler et al. 2005). Given the high number of people with this disorder, it is only appropriate that other treatment approaches such yoga are investigated and analyzed. Anxiety disorders are comorbid with depression at a rate of 60% (Sadock et al. 2015). It is such an alarming statistic about anxiety disorders, providers must educate themselves about different alternative treatment modalities, such as yoga to better serve their clients. Yoga is a relaxation technique that helps clients create a balance within the core of the bodily structure in the quest of becoming "in tune" with oneself. It usually includes a number of physical postures, meditation and breathing techniques. While the goal of yoga historically has been to create a spiritual state of unity, it is also practiced to produce physical and emotional wellbeing. Clients have argued the positive impact of yoga on their mental wellbeing. Yoga has become so popular these days, it seems there is a yoga studio popping up on every corner. This increased interest in yoga is due to the positive outcomes that clients have been describing. Not only does yoga improve mental stability, but it improves physical stability as well. Research suggests that yoga can improve anxiety (Khalsa and Cope 2006). Such confirmation is not secret to the public nor is a secret to the healthcare system.

Studies have shown that yoga can have positive benefits for people with several types of mental health conditions, including depression, attention deficit hyperactive disorder, anxiety, schizophrenia and Post-traumatic stress disorder

(CAM and Mental Health 2016). As mentioned early on in this paper, we are aware that yoga is very effective, however, for the purpose of this paper, we will focus solely on its effect on anxiety. When people in treatment acquire treatment modality, like yoga for reducing anxiety, they are better able to tolerate the painful memories and emotions that arise during therapy sessions as well as in their outside daily life (CAM and Mental Health 2016). Integrating such a treatment modality within one's practice should be encouraged especially for clients suffering from anxiety disorders. Public awareness must be completed in promotion of yoga and its outcomes. Education of faculty in the healthcare field is also warranted for the promotion of CAM inclusion as a treatment modality approach. Yoga has been shown to be effective in alleviating symptoms of anxiety in healthy volunteers and psychiatric populations (Bilderbeck et al. 2013). This proof is instrumental to both populations: clients with and without any mental health disorders. Yoga has been shown to be effective as primary, secondary and even tertiary approach when it comes to treating anxiety. This information is instrumental in understanding the depth of positive impact yoga can have on clients. Another important factor that consumers have concerning yoga is cost. Often clients or consumers ask the following questions: why should I try yoga? what are the costs? These are legitimate questions that require accurate answers and explanations. The evidence in effectiveness of yoga as an alternative treatment for anxiety can help alleviate healthcare cost both for the clients and the healthcare system as a whole. How can such claim be confirmed? The review of the articles indicates that people with anxiety disorders frequently seek health care services for relief of physical symptoms, at a cost of approximately \$22 billion per year (Kessler et al. 2005). Information on the saving of expenditures of healthcare costs should be made more widely available to the healthcare system in order to promote the use of yoga more frequently in the healthcare field, more specifically in mental health. Yoga has received considerable attention for its therapeutic benefits over the past few decades (West et al. 2004). It is understandable why yoga would be popular in the mental health: including yoga in the treatment plan can help reduce the healthcare cost, which is a win-win situation for both parties the clients and the healthcare institution. For example, as a member of a yoga course the membership course rate ranges \$100 to \$150 and clients are at liberty to stop at anytime if they feel that the techniques are not effective, which in turn will help them save and control their financial funds. This is why clients feel that they are in control of their own health and financial stabilities. Clients who choose to continue even after improvement of their anxiety disorder are encouraged to adhere to such routine, as long as it is their choice to continue the treatment modality. It is important for the provider to be aware of the yoga instructor's credibility. With technology enabling easy proliferation of information, there are increased opportunities for scams. Anyone can claim that they are a certified yoga instructor, therefore it is imperative to have referral process in place. Providers must be vigilant about where they are referring their clients. Additionally, since the relationship is a team approach, providers should subject responsibilities in choosing a credible and reliable yoga

instructor. If the psychiatric nursing provider is not certified in the practice of yoga, it is important to refer the client to a known, reliable and respectable certified yoga instructor. It is important to do so because although yoga is a relaxation technique, there are some contraindications associated with it. Therefore, providers must be aware of the client's wellbeing and clinical status before referring clients to this type of CAM therapy. Because rapid yoga breathing can lower serum lithium levels, people being treated with lithium alone should not attempt it (CAM and Mental Health 2016). The population that will most likely be treated with Lithium would be clients with bipolar disorder, therefore thorough medical history data and physical exam are warranted to be part of the clients' health clearance prior to starting yoga, especially rapid yoga breathing. The public is not aware of this pertinent information; because when sharing this information with consumers, very seldom the feedback is that they were aware of these facts. Therefore continuous education should be part of the treatment sessions of the yoga modality. It is our responsibility as providers to have policies or guidelines in place for clients inquiring about yoga treatment as well as other providers to follow and adhere to. Client education regarding yoga should be thoroughly provided to clients if the treatment will be initiated by the provider in combination with his/her conventional treatment plan. Approach of treatment however, is different when the clients started their quest with yoga on their own. Concerns regarding credibility is not the responsibility of the providers, however it is part of treatment plan to educate our clients about the pros and cons of their treatment approach of choice. It is undeniable, however if the client is under the care of a mental health provider, it is the responsibility of the provider to collect pertinent subjective data from the client to assure that the client is safe to continue such treatment. Clients must be made aware and understand both the efficacy and contraindications yoga. Pregnancy, uncontrolled hypertension, a recent heart attack or serious heart disease, seizure disorders, migraine headaches, chronic obstructive pulmonary disorder (COPD), asthma, and physical injuries are all contraindications for rapid or forceful yoga breathing. People in this population should be recommended to adhere to slow, gentle yoga breathing practices as they have been proven to be both safe and effective (CAM and Mental Health 2016).

Findings

The evidence is clear and precise that yoga is one of the CAM therapies most explored by clients in the US (CAM and Mental Health 2016). However, the mechanism of action on how yoga is effective is not totally understood. The reason behind the effect of yoga on anxiety, is not clear for us and may be transient (Shohani et al. 2018). Integrating yoga into the care plan of clients with anxiety proves to be effective when used in combination with conventional therapy. Pharmacologic agents that increase the activity of the GABA system are prescribed to improve mood and decrease anxiety (Streeter et al. 2010).

Therefore, clients need to adhere to the appropriate treatment plan formulated by their psychiatric provider. Its relevance into the psychiatric nursing practice is of priority and it will be integrated and promoted into future practice as a psychiatric nurse practitioner.

Even with the evidence so clearly supporting the efficacy of the effect of yoga on anxiety, there are clients who are still ambivalent about starting treatment. This behavior is expected to face because some people will always be skeptical of anything new to them. Not everyone will take initiative and try a treatment modality despite the facts that such treatment has been proven to be largely effective. The strength of this study has been proven within the findings that yoga, whether it be rapid breathing or basic, is indeed effective in improving anxiety. However, as mentioned earlier, the inability to promote rapid or forceful yoga breathing on certain populations with pre-morbidity issue such as pregnancy, uncontrolled hypertension, seizure disorders place a limitation in finding if that type of yoga would be beneficial for the specific populations.

Framework

A technique used in the past proven to assist clients in need of help with mental health disorders was the motivational interview known as MI in the psychiatric field. Miller and Rollnick (2013) described the Motivational Interview (MI) as a technique in which the psychiatrist or psychologist becomes a helper in the change process and expresses acceptance of the client. It is possible for some patients to change on their own, however for others, it requires continued support throughout their journey to recovery. In studies conducted in the past, the used of MI for clients using antipsychotics who wanted to lose weight resulted from lack of exercise was adopted to identify readiness period from clients willing to make a change in their behavior. It is very important to address principles to identify the phase that the client is at. Miller and Rollnick described these principles as the following: express empathy through reflective listening, develop discrepancy between clients' goals or values and their current behavior, avoid argument and direct confrontation, adjust to client resistance rather than opposing it directly and support self-efficacy and optimism. Once these principles are established with the clients, readiness to change should be assessed in order to create reachable goals individually made for the client. Clients in the aforementioned study were all ready to lose weight and wanted to participate in a twelve-week program. Light exercise movements along with the elimination of soda consumption and education on a healthy diet were part of their program. Continuous support and encouragement were provided to the participants when needed. Mental health providers are encouraged to apply such techniques when helping clients who are willing to try yoga to improve their anxiety. After reading one of the best books in psychiatry, written by Sadock et al. (2015) it has come to the realization that motivational interviewing (MI) can be a great tool used to fight anxiety. The mentioned authors define MI as a technique used to motivate the patient to change his or her

maladaptive behavior. As Tusaie and Fitzpatrick (2013) mentioned, the overriding goals of treatment are to decrease intensity and number of symptoms, modify risk factors, and increase protective factors. It is almost certain that the process will not always be an easy process, therefore clients must be made aware of such possibilities. However, if providers display an empathetic approach in order to understand the patients' problem, then that is the first step of the process. Support must then be provided while making note of the client's strengths. Once strengths are noted, then it is very important to explore the ambivalence and conflicting thoughts of the patient regarding the specific change.

Engaging the clients to actively participate in discussion about how yoga will be impacting during the interview is important. Encouraging clients to participate in MI during psychotherapy has proven to be effective (Sadock et al. 2015). Therefore it is essential that MI be implemented in mental health practices and that participation in psychotherapy be mandated for clients with anxiety.

Substance Abuse and Mental Health Services Administration (SAMHSA) is on a campaign to bring awareness to the risk and protective factors that contribute to a patient's mental health and or substance abuse disorders. They developed what is called the Strategic Prevention Framework (SPF). It is a comprehensive guide that helps providers to plan, implement, and evaluate prevention problems. The SPF includes five steps: Step one is to assess the needs (what is the problem and how can I learn more), step two is to build capacity (what do I have to work with), step three involves planning (What should I do and how should I do it), step four includes implementation (How can I put my plan into action) and finally step five which includes evaluation (Is my plan succeeding).

Resilience is one of the strategic approaches that mental health providers should adapt for clients at risk for mental health disorders such as anxiety, when using SPF. For example a female client currently dealing with a history of anxiety who has recently been divorced is at risk for anxiety exacerbation. This particular client would require a sense of resilience to overcome her unfortunate situation. Davidov et al. (2010), indicates that resilience can be viewed as a defense mechanism, which enables people to thrive in the face of adversity and improving resilience may be an important target for treatment and prophylaxis. Knowing the unavoidable risk factors can help mental health providers assess their clients to see if they acquire such defense mechanism. Identifying the level of resilience each client has can be difficult. Although environmental factors play a strong role into an individual's level of resilience, Davidov et al. (2010), proved that gene-environment combinations may determine both risk and resilience in a patient. Mono-causal belief is actually losing sight of multi-causal approaches in mental health, because as providers we should see our patient as a system, which include biomedical, psychology and socio-cultural in order formulate the proper diagnosis for a specific client. We should also individualize client care approaches due to the differences of each client's resilience level. Identifying the level of our clients' resilience can provide us a sense of directing our clients to treatment modalities such as yoga that can improve the symptoms of their anxiety.

Anxiety can be debilitating to the point of clients refusing to go out to the public, due to their malaise and uneasy feelings felt experienced with agoraphobia. The constant worry that someone is possibly judging them is a complaint that many clients have verbalized during psychiatric evaluation. It is very common to have two people who have experienced the same somatic disorders, such as trauma and stress, and react totally different from each other. One can become very successful in life, even thrive in society, while the other person, who faces the same adversity, becomes institutionalized in a mental health facility. Although it is difficult to clearly depict why two individuals experiencing the same hardship can have distinctly different outcomes, we, as providers, often think it is based on the level of resilience each of them obtain.

Screening and Education

Screening the population at risk for certain mental health disorders such as anxiety clients is important in order to prevent delayed referral for yoga treatment. Inquiring about previous treatment modalities beside traditional medicine should be completed in addition to acquiring family past mental health history to investigate any signs of resilience. Once screening is completed, clients should be educated about the effect of yoga on anxiety. Mental Health providers will provide the clients' access to the community resources information so that they can seek help if needed. CAM is known as an approach that allows clients to be engaged in their own care plan. The yoga instructor will then determine the type of yoga the clients should follow based on their medical or psychiatric history.

Conclusion

Normal anxiety is a healthy response to stress that is essential for survival. Persistent anxiety, however, can result in anxiety disorders. Anxiety disorders tend to be persistent and are often disabling. Yoga needs to be part of the treatment guidelines of all psychiatric providers, because it has proven through the literature review, to be very effective in clients with anxiety as well as in the saving cost of the healthcare system.

It is crucial that early intervention is offered to clients dealing with those illnesses to prevent further comorbidity problem such as depression. Therefore to prevent this problem, providers can follow these simple steps: early detection of anxiety, readiness for change based on the MI, identify resiliency and encourage clients to participate in yoga, because the evidence is clear that yoga is effective in clients with anxiety. Clients must be encouraged to adhere to their pharmacological treatment in conjunction with their yoga practice. It is suggested that further studies are completed to investigate the mechanism of action of yoga on anxiety.

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Sterilisation of People with Learning Disabilities: A Comparative Study of the UK and the US on the "Best Interests Test"

By Yvoni Komodromou*

The sterilisation of people with learning disabilities is a subject of great importance as it is surrounded by ethical concerns. Ethical problems arise when viewing sterilisation of people with learning disabilities, regarding the violation of the basic human right to procreate along with the capacity to consent. Therefore, it is vital to implement certain safeguards to protect people with learning disabilities from falling victim to improper decision-making for their treatment. This paper comparatively analyses the ethical concept of the "best interests" of the patient in the jurisdictions of the UK and the US. The evolution of the decision-making process for sterilisation within these two countries is considered throughout its progression from a eugenics-based to a more ethics-based approach. Analysis of today's perception on this topic is presented in the paper, as the idea of determining whether or not sterilisation is in an individual's best interests can include paternalistic elements. This is a significant issue to examine because of the invasiveness of the procedure, the ethical concerns surrounding the topic as well as the essential removal of the human right to procreate. However, it is important to bear in mind the constant need to consider the best interests of the patient.

Keywords: *Best Interests of the Patient, Comparative Analysis, Sterilisation, United Kingdom, United States*

Introduction

The purpose of this paper is the consideration of sterilisation of people with learning disabilities, focusing on the best interests of the patient in a comparative study between the UK and the US. The treatment of people with learning disabilities encompasses many aspects of bioethics such as the capacity to consent, informed consent and the best interests of the patients (National Disability Authority 2009). However, this paper will specifically be examining the authority of the physician and courts to order the sterilisation of an individual with learning disabilities and the way in which they reach this decision. This is a highly contentious topic due to the nature and invasiveness of the procedure (Greenwood and Wilkinson 2013), while also keeping in mind the other side of the spectrum, regarding the procedure being in the best interests of the patient (The Guardian 2015).

The paper will consider how the "best interests test" compares and how it differs in the UK and US while also examining how the relevant authorities approach the issue of sterilisation regarding the best interests of the patient.

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Brief History on Sterilisation and Eugenics

Eugenics is considered to be the improvement of our biological character by using methods to reach this aim (Wilkinson 2008). In the UK, sterilisation and in turn, eugenics, were deeply considered topics, in the beginning of the 19th century through the "English Eugenics Society and the National Association for the Care of the Feeble-minded" (Roy et al. 2012). The "eugenists", during this time, claimed that social position was directly related to specific characteristics of an individual, such as mental ability (MacKenzie 1975). As these characteristics were oftentimes inherited, a rough equation was drawn between the idea of social standing and hereditary worth (MacKenzie 1975). This Society also proposed legislation in order to avert the idea of parenthood and reproduction in cases of individuals with learning disabilities. Nevertheless, this legislation never came to pass (Roy et al. 2012), as opposed to the US, where 32 States enacted their own sterilisation laws (Kaelber 2009). The idea of encouraging schemes relating to individuals with favourable traits to procreate and the discouragement of parenthood for those who were considered "unfit", however, had firmly established itself during this period (MacKenzie 1975).

In the United States, the case of *Buck v Bell* (1927) jumpstarted a widespread phenomenon of sterilisation of mentally disabled people without their consent for eugenic purposes, claiming that this was to protect society as a whole (Roy et al. 2012). This case led to 65,000 sterilisations of people with developmental disabilities from the 1920s to the 1970s (Ko 2016). The harsh approach, enabled by *Buck v Bell* (1927) was backed up by the equally harsh words of Justice Oliver Wendell Holmes in the case, stating that "three generations of imbeciles are enough".

Despite the fact that sterilisation was a topic that was in the forefront of "eugenists" minds at the time, it is still of significance today as there are still cases of sterilisation of people with learning disabilities, as recent as 2015 (Mental Health Trust v DD 2015).

United Kingdom

The "Best Interests Test"

It is important to mention that, briefly, during the 1970s, sterilisation was a procedure governed by the distinction between therapeutic and non-therapeutic reasoning (Re B 1987). However, based on two cases during that time, the courts found that the distinction was not a helpful test. In fact, the English courts were quite reluctant to state that non-therapeutic sterilisation was "never" justified (Tobin and Luke 2013). In the case of *Re D (a minor)* (1976), the mother of an 11-year old girl with Soto's Syndrome sought her sterilisation for reproductive and eugenic reasons. The Court held in this case, that there was overwhelming evidence that the girl's understanding of the issue would

eventually improve, if given some time, and would eventually be able to make the decision herself (Re D (a minor) 1976). Going through with this non-therapeutic sterilisation without her consent, was deemed to be a violation of her basic right to reproduce (Re D (a minor) 1976).

The second case is that of *Re B* (1987), a few years later, regarding a 17-year-old girl with the mental capacity of a six-year-old who, according to her doctors, would never truly understand the concepts of sex and pregnancy, even though she was exhibiting signs of sexual awareness. It was decided amongst her doctors that reproduction would be positively harmful to her (Re B 1987). Although the concern of depriving her of the human right to reproduce was brought up, the court made the point that this human right was only of value "if accompanied by the ability to make a choice" (Re B 1987). Therefore, the Court completely moved away from the test of therapeutic and non-therapeutic sterilisation and stated that this was not the correct consideration when dealing with this procedure (Norrie 1989). The paramount consideration, instead, according to the court, should be whether sterilisation is in the best interests of the patient and whether the procedure is necessary "for the welfare and benefit" of the patient (Re B 1987).

Implementation of the "Best Interests Test"

After determining that the best interests test would be the correct pathway when dealing with the question of whether or not to sterilise (Re B 1987), the case of *F v West Berks HA* (1989) emphasised the point by stating that physicians should be able to operate on a person, unable to give their consent, when saving their life, to ensure improvement or to prevent physical or mental deterioration. Hence the reluctance of the UK courts to explicitly say that non-therapeutic sterilisations were in no way justifiable (Tobin and Luke 2013), as the last two points are not clearly therapeutic.

The Mental Capacity Act (MCA) of 2005 sets out a "best interests test" which provides guidelines when determining whether to operate on a patient. Firstly, the personal characteristics of the patient need to be considered including such things as their age, their personality or something that would "lead others to make unjustified assumptions about what might be in" their "best interests" (Mental Capacity Act 2005, section 4(1)). Also, the person's relevant circumstances (Mental Capacity Act 2005, section 4(2)) and the possibility that they will have the ability to consent to the treatment themselves in the future (Mental Capacity Act 2005, section 4(3)), need to be considered carefully. Finally, a very important element to the test would be the reasonable consideration of factors such as the wishes, beliefs and feelings of the individual before making a decision (Mental Capacity Act 2005, section 4(6)).

Necessity and the "Best Interests Test"

In conjunction with the "best interests test" found in section 4 of the MCA 2005, there is also a Practice Note which was designed in 1993. The purpose of

this Practice Note was to set out a procedure for the decision-making process regarding the sterilisation of people with learning disabilities. The Practice Note consists of four elements that must be satisfied in order to authorise the sterilisation. Firstly, it is important to assess whether the patient is incapable of making his or her own decision and whether it is likely that this person will ever develop sufficient judgment to make this decision. Secondly, the possibility of the undesirable condition occurring, which in this case includes pregnancy and a definite possibility of engaging in sexual activity, should be considered. Thirdly, in the event that the individual will suffer a substantial trauma or psychological damage if these conditions occur, then sterilisation would be beneficial to the patient. Finally, there is a need to consider less invasive alternatives to the sterilisation while also assessing whether sterilisation would cause more damage than the trauma that would occur in the event of a pregnancy (Practice Note 1993).

These guidelines, along with the "best interest test" of the MCA 2005, aided in the decision made in a 2015 case (*Mental Health Trust v DD* 2015). This case was concerned with a 36-year-old woman who had Autistic Spectrum disorder with an IQ of 70. She had already had 6 children and wanted to have a seventh child. However, she had no contact with the children who had been taken away to permanent alternative care because of her developmental disability. Therefore, when she expressed her desire for another child, the local authority intervened, stating that she could not do so because of her inability to engage in the children's lives and provide them with a safe and nurturing environment. The court made it clear that this was not a case of eugenics but of avoiding the potential for "further pregnancy" which "would be a significantly life-threatening event for" the woman in question (*Mental Health Trust v DD* 2015). In fact, they went on to state that "the risk to" her, regarding a future pregnancy, "especially if concealed, is highly likely to lead to her death" (*Mental Health Trust v DD* 2015). Although it is clear from previous case-law (*Re B* 1987) that taking away a person's human right to procreate is a serious violation, "it may be justified in extreme circumstances" (Gallagher 2015).

United States

The "Eugenics Approach" to Sterilisation

It is important to note, that the "United States was the first country to undertake sterilisation for eugenic purposes" (Roy et al. 2012). As stated above, eugenics was considered to be the means of ensuring that society would be safe from the reproduction of individuals with "undesirable traits" and who were deemed inferior, including the poor, the mentally ill and the disabled (Ko 2016). This view was backed up by the *Buck v Bell* (1927) case already mentioned above. The opinion that prevailed during this time in history was that it would be better for the world "if instead of waiting to execute degenerate

offspring for crime, or to let them starve for their imbecility, society" could prevent those who were "manifestly unfit from continuing their kind" (Buck v Bell 1927).

The United States case-law essentially was showcasing that the right to procreate was a protected right more in *dicta* rather than in reality (Binion 1988). In the case of *Skinner v Oklahoma* (1942), which was concerned with the compulsory sterilisation of criminals, it was decided that the prisoner should not undergo a sterilisation procedure. However, the decision was not reached with the contemplation of procreation being a fundamental right, but rather on the concern of discrimination between felons, regarding the type of crime they had committed. The fundamentality of the right to procreate was not in the forefront of the court's mind during the time these cases took place (*Skinner v Oklahoma* 1942).

The "Best Interest Test" and Guidelines on Decision-Making

By the first half of the 20th century, 65,000 people had been sterilised (Roy et al. 2012) for eugenics-based purposes (Binion 1988). However, much like in the UK, the United States has tried to create certain standards and safeguards in order to prevent the idea of eugenics from resurfacing (Binion 1988). A prime example of guidelines would be the American College of Obstetrics and Gynaecologists 2007 recommendation.

This recommendation and subsequent recommendations have the primary intention of ensuring the respect of a woman's reproductive system. A physician needs to take care in the event of sterilisation procedures by providing pre-sterilisation counselling, stressing the permanence of the procedure (The American College of Obstetrics and Gynaecologists 2017). In the event that an individual's mental capacity is limited, then sterilisation has to be considered by the physician very carefully and he must consult with the individual's family, agents and other care givers (The American College of Obstetrics and Gynaecologists 2007). This requirement was included in order to ensure the formation of a plan that protects the individual. Specifically, the purpose of this recommendation is to protect a patient's best interests and autonomy (Roy et al. 2012).

Furthermore, the case of *Re Grady* (1981) has also provided important insight into the consideration of the decision-making process in relation to the sterilisation of individuals with a learning disability. The court set out a "test" of sorts in order to determine the best interests of an individual (*Re Grady* 1981), resembling the guidelines in the Practice Note (1993) of the UK on the subject of sterilisation. The court stated that in order to determine the best interests of a person with learning disabilities regarding the possibility of sterilisation, certain factors need to be considered, such as the possibility of a pregnancy along with the possibility of the individual experiencing trauma or psychological damage because of this pregnancy or giving birth. On the other hand, however, the court included in this factor, the need to consider the

possibility of the occurrence of psychological damage in the event of the sterilisation operation (Re Grady 1981).

Furthermore, the inability of the individual to understand reproduction or contraception needs to be examined. Also, the feasibility of less “dramatic” means to allow for contraception is another factor that needs to be carefully considered. Finally, unlike the Practice Note in the UK, the court in *Re Grady* stated that the demonstration of the proponents of the sterilisation procedure need to showcase that their "primary concern is for the best interests" of the individual and that they are seeking this procedure in good faith. In other words, they should demonstrate that they are not seeking this procedure "for their own or the public's convenience" (Re Grady 1981).

The Evolution of Sterilisation in both Countries

As seen from the information disclosed above, both the UK and the US began the 20th century with a eugenics-based approach to people with learning disabilities, with the purpose of preventing these individuals from procreating (Roy et al. 2012). Today, however, sterilisation is no longer performed for eugenic purposes in these countries. More specifically, the "best interests test" is the tool with which to determine the approval of a sterilisation procedure.

Furthermore, both jurisdictions have set up certain safeguards and tests, realising the need to ensure that sterilisation for eugenics-based purposes should not be repeated (McIntyre 2007). In the UK, the sterilisation of individuals with learning disabilities requires the authorisation of the court, which will act in what it deems are the best interests of the individual (Rowlands and Amy 2017). In the US, the same applies and as previously stated, the court needs to consider the recommendation of the parents or guardians, the feasibility of less intrusive means of contraception and the physical and emotional trauma caused by pregnancy (McIntyre 2007) as well as the sterilisation (Re Grady 1981).

Ethical Concepts Regarding the best Interests of the Patient

Problems with the "Best Interests Test"

It is all well and good to merely state that it is in the patient's best interests to be sterilised. But what does this mean? There are many ethical concerns that surround the "best interests" of the patient. For example, there may be disagreements over what is in fact in the best interests of the patient (Lo 2013). These disagreements can occur between the individual's relatives and physicians. Therefore, the best option in resolving the conflict is the communication regarding the benefits and burdens of an intervention of such magnitude (Lo 2013).

It is important that all parties reach an agreement on how best to provide care to the individual. According to Lo, there must be some understanding of the patient's perspective on the matter (Lo 2013). Therefore, in the case of sterilisation, it would be prudent to understand whether or not a patient can comprehend the concepts of contraception, pregnancy and reproduction in general (McIntyre 2007). In the event that this patient does understand or will someday possibly understand what these concepts entail then the decision should be postponed until the complete comprehension by the patient occurs (Re D (a minor) 1976).

Another significant issue regarding the best interests of the patient is medical paternalism. Paternalism, in broad terms, "is an action performed with the intent of promoting another's good but occurring against the other's will or without the other's consent" (Drolet and White 2012). The biggest problem of medical paternalism is the fact that the physician may override the patient's wishes "because of their own psychological and emotional reaction" in each case (Drolet and White 2012). By allowing the physician's own emotions into the mix, there is a greater possibility for a return, however slight, of eugenics.

Alternative Routes in Place of Sterilisation

As mentioned earlier, it is also important to consider alternative routes to the best interests of individuals with learning disabilities regarding the need for medical intervention (Re Grady 1981). Why were not other contraceptive measures that would not cause a permanent effect considered in the cases of *Re D (a minor)* and *Re B* mentioned above? Contraceptive pills and medroxyprogesterone injections could easily be used for "contraception and menstrual management" (Roy et al. 2012). These alternative methods to solving the problem are much less invasive and much less violating (McIntyre 2007). On the other hand, it is important to consider whether these alternatives could possibly create trauma of some sort (McIntyre 2007).

When considering the option of sterilisation, the physician and the patients' families must consider the fact that they are taking away a basic human right of reproduction and they must also consider the procedure itself. It is an operation, and with any operation there are risks (World Health Organization 2014). Therefore, disclosure of alternative approaches is necessary (Lo 2013).

Conclusion

After the strong eugenics movement in the UK (MacKenzie 1975) and the US (Kaelber 2009), both jurisdictions have put in place certain safeguards and procedures to ensure the protection of people with learning disabilities when determining the necessity of sterilisation. As can be seen by the above, these safeguards roughly consider the same factors, such as the possibility of

psychological trauma when giving birth and being pregnant (Practice Note 1993). The United States, through case-law, have also included the factor of assessing whether the proponents of the sterilisation procedure are genuinely looking out for the best interests of the individual (Re Grady 1981).

Therefore, the predominant consideration in both countries is now the "best interests test". The test itself has been considered above, but there is also a need for a balance between helping the individual and not infringing upon their fundamental right to reproduce (World Health Organization 2014). Finally, alternative methods to sterilisation need to be implemented or at the very least considered first, before moving on to the more invasive procedure of sterilisation (Lo 2013).

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Explicating Transformative Participation and Contributions of Black Youth in Heart Disease Campaign

By Agaptus Anaele*

Scholarly research and government reports reveal that heart disease is the leading cause of death in the US, and African Americans bear a disproportionate burden due to socio-economic, political, and health disparities. Despite this burden, there is limited qualitative communication research addressing the engagement of Black youth in heart disease prevention and the interpretive frames used by Blacks to discuss participation. This research seeks to help close this gap in communication theory and practice. The research documents the enactment of participation among Black youth engaged in a Culture Centered Approach (CCA), heart disease prevention campaign at a high school in Indiana. In doing so, the research highlights the important role of communication to understand the enactment of participation, the distinctions between authentic and inauthentic participation, and the utility of CCA. Data gathered using participant observation, a reflexive journal, and in-depth interviews with 20 Black teenagers, and 3 external collaborators revealed that authentic participation is distinct and transformational, and is characterized by collective ownership of the process.

Keywords: Black Youth, Culture Centered Approach, Heart Disease, Participation and United States of America

Introduction

Despite the recognition of participation as important in communication scholarship, literature that focuses on the enactment of participation is limited (Airhihenbuwa and Obregon 2000, Dutta-Bergman 2004a, 2005, Dutta 2008, Dillard et al. 2018). A substantial body of communication research focuses on descriptions of the messages and strategies used in the dissemination of such messages (Dutta 2007, Freimuth and Quinn 2004). Simultaneously, minimal attention has been paid to the interpretive frames used by Blacks to talk about participation. There is also general underrepresentation of Black students in research in America (Mastin et al. 2007, Shavers et al. 2012). Such underrepresentation led Ruffin and Flagg-Newton (2001) to call for more research on the health of Black students. Since the call, there has been some effort by researchers to bring issues concerning African American youth to the forefront. Topics studied have included disparities faced by African American youth in the areas of mental health, HIV/AIDS, and asthma (Dutta et al. 2018); (in) equitable access to health care services (Dutta and Kreps 2013). (In) equitability is variability in how individuals who suffer from similar health conditions receive treatment based on their ethnicity, income, gender, and socio-economic status (Dutta et al. 2018). Other topics studied include disproportionate burden of cardiovascular disease among Blacks (American Heart Association 2018, Dutta and Kreps 2013).

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The body of work concerning African Americans document racial disparities and highlight the outcomes of interventions geared toward African American youth. Mayer-Davis et al. (2012) analyzed data sets from a multi-center data base that provide information about diabetes diagnosis and reported that 60% of the African American youth diagnosed with types 1 and 2 diabetes were from low-income families. Also, Resnicow et al. (2005) reported that a church weight control program for overweight African American adolescent females yielded little success. The focus on the outcomes of interventions limit our understanding of the transformative potentials of Blacks, who have been historically represented as voiceless. This is a void that the present research seeks to fill. A research that document the engagement of black youth in addressing heart health conditions will (a) advance our understanding and the merits and demerits of engaging Black youth in addressing a health problem, and (b) identify ways of engaging black youth in ways that are rooted in their cultural values. We consider this research as an opportunity for building community communication infrastructure.

Therefore, we extend the research on African American youth and respond to Newton's call with a qualitative study that uses the Culture Centered Approach or CCA (Airhihenbuwa 1995, Dutta 2008) as a lens to document *transformative Participation* among Black teenagers engaged in a heart disease communication campaign in a high school located in Indiana. This research is part a larger ethnographic study documenting the engagement of Black teenagers as equal partners in the collaboration process. From this larger data set, we focus on the enactment of participation. We conducted thematic analysis of the data, and foreground our argument in CCA, which promotes equity and social justice as vital for sustainable social change (Dutta 2008).

Transformation embodies change in appearance. In the youth project, transformation involves a change in the status quo in terms of who decides how black youth should be reached with heart health information. This project is transformative because it ruptures the communicative inequality that characterizes dominant communication projects (Dutta et al. 2016). We complicate the notion of transformation, and contend that transformation involves explicating the role of Black teenagers in their own health; writing Black youth back into history, and problematizing the process that leaves them out; unpacking the silences; and using the neglected past to ask pertinent questions about the present.

Research that explicates how participation is enacted will contribute to knowledge about the role of communication in equitability in social change processes. Furthermore, it will balance a theoretical understanding of communicative phenomena with an applied case, and will allow researchers to understand the dynamics and nuances of participation, especially in underserved populations. Additionally, the discourse about participation, and the *how* of participation in a communication project merits attention, because of the discrepancy in the rhetoric of participation and the reality of participation in community driven interventions (Dutta and Basnyat 2006, 2008a, 2008b).

The nature of the present research, preventing heart disease among black teenagers in an inner city high school, makes it especially important to document the enactment of participation, in that the failure to do so may reify cosmetic

narratives of participation that critical communication scholarship seeks to inverse. This research contributes three key insights into the participation literature: (a) It provides a concrete case that illuminates the distinctions between in-authentic and authentic participation; (b) It establishes the importance of narrative paradigm in understanding participation; and (c) It demonstrates the utility of CCA in understanding participation. Specifically, it shows how CCA scholarship offers a distinctive vantage point for understanding participation.

Project Description

This research is based upon a Youth Heart Initiative (HHIYI), which is part of a \$20,000 collaborative grant involving a large university in the Midwest, a local nonprofit, and a high school. The objective of the grant was to prevent heart disease among Black teenagers in Marion county, a place that is characterized by high mortality linked to cardiovascular diseases (Indiana State Office of Rural Health 2012). The project began by listening to the narratives of heart disease among the teenagers and their ideas about culture-centered ways of addressing the problem. The description of the outcomes of the HHIYI is beyond the scope of this manuscript. We focus solely on the enactment of participation in the project.

Culture Centered Approach

A Culture-Centered Approach avoids top down approaches to disease prevention that ignore local articulations. CCA instead provide level playing field between academic experts and cultural members to address health and social problems. By legitimizing local narratives, CCA alters the communication theory and ruptures the representation of local narratives as unscientific (Dutta 2008). CCA embodies three pillars: Culture, Structure, and Agency. (a) Culture is the local articulations and meanings that shape and influence the behavior of indigenous populations as they negotiate daily living. (b) Structure is the institutional barriers that undermine the ability of indigenous communities from participating in policy circles where decisions about them are taken. (c) Agency refers to the abilities of cultural members to identify problems and corresponding solutions (Dutta-Bergman 2005, Basu and Dutta 2007, Dutta 2008, Dutta and Basu 2007). Through these pillars, CCA theorizes how community members negotiate their lived experiences amid disparities (Dillon and Basu 2013). CCA projects strive to legitimize the narratives of minority populations, because it holds that such narratives open possibilities for alternative knowledge. Furthermore, CCA holds that the development of interventions accounting for the unique circumstances of Black minority teenagers is contingent upon scholarship that focuses on patterns of communication within the group. Given the centrality of participation in CCA projects, the two questions this research seeks to answer are:

RQ 1: What does it mean to participate in a culture centered health project?

RQ 2: What is the nature of participation in a culture centered health project?

Culture Centered Discovery Method

This research was a partnership among a local non-profit, an academic institution, and a high school in the Mid-West. The partnership was aimed at creating a culturally centered strategy for listening to the articulations of black youth in addressing heart disease. The non-profit was formed after the release of Hecker report that revealed disparities between minority and white populations in the state. It serves as advocate for addressing minority health in the state. This includes coordinating local minority coalitions, working with legislators on minority issues, monitoring minority-related issues. The non-profit facilitated our access to the community and engaged in the co-construction of the project. Culture centered discovery places high premium on collaboration building among partners over a period. In culture centered discovery, special attention is placed on reciprocal relationship among partners in ways that are non-hierarchical. Culture centered discovery also fosters inclusivity, and practice reflexivity in the interaction among the collaborators.

At first sight, one might argue that CCA discovery is no different from other forms of engaged scholarship, because quality engaged scholarship share some of the listed commitments (Dempsey and Barge 2014, Simpson and Seibloid 2008). Culture centered discovery embodies and extend these principles. In particular, CCA discovery places priority on equitable, non-hierarchical, sustainable and ethical relationship among the community and academic partners. Second, it also requires the researcher to reflect upon the processes and goals. In this project, we did this by asking questions about our actions and goals throughout the process (Collier and Lawless 2016).

We draw on qualitative data collected throughout the collaboration. Focus groups, observations, and one-on-one interviews were selected as the most appropriate research methods for this project. CCA projects begin by providing space for dialogue among the collaborators. We organized weekly dialogue among the collaborators. Participants included Black teenagers at the high school, the school representative, the media partner, representative of the nonprofit, and the author. Audio-recordings of the meetings, notes taken by a student volunteer, and reflective journals constitute the data sets for this manuscript. The meetings were useful in that it provided a space for the partners and the students to listen to the different perspectives during the collaboration. Such experiences are considered salient for grasping human communicative actions (Lindlof and Taylor 2002).

Data Collection and Analysis

Data Collection

We collected the data for this project in three phases. Phase 1 included minutes of meetings between the nonprofit and the academic partner. The purpose of the meetings was to decide upon the school selection criteria, the signing of the Memorandum of Understanding (MOU) that provides specific details of the

expectations from the partners. Phase 2 included focus group discussions with the teenagers about the meaning of heart disease. The academic partner framed the meeting as a gathering to understand their meaning of heart disease and for the teenagers to collaboratively propose culturally relevant solutions. Data collected included ten focus group discussions with 5-6 students in each, in-depth interviews with 20 students, participant observations during the weekly campaign tailoring workshops. Phase 3 data included post evaluation in-depth interviews with student volunteers that emerged peer leaders, who spearheaded the planning and execution of the campaign, the school representative, representative of the non-profit, and the school representative. The interviews lasted between 30-90 minutes. 20 persons were interviewed. Questions focused on their experiences in the campaign, their roles, challenges, strengths and strategies that were employed to overcome such strategies. Additionally, the questions also allowed participants to contrast their experience in the Young at Heart campaign to other projects in the past.

Data Analysis

The data were organized chronologically, and inductively analyzed. Through an iterative process that involved multiple readings of the data sets, the author manually identified patterns (Tracy 2013). Initial analysis focused on emergent themes, using a constant-comparative method to compare the data for each code and refine and modify codes (Charmaz 2006). A second round of analysis focused specifically on rereading the data to address the research questions on the meaning of participation.

Findings

The two overarching research questions driving this research are: what does it mean to participate in a culture centered project? and what is the nature of participation in a culture centered project? The two themes that emerged from analysis of the data (Strauss and Corbin 1998) are (a) participation as having a strong voice, and (b) participation as transformative.

Theme 1: Participation in Culture-Centered Project--Meaning and Experience

The first theme is the meaning of participation. We present the narratives of voice and freedom to make decisions in the planning and execution of the project. Participants talk about how they made decisions in different aspects of the project.

Megan is from a mixed racial background and served as one of the co-chair leaders of the project. The three Chair leaders served as the interface between the peer leaders and other partners. Her father is black, while her mum is white, but she identifies herself as black, hence her participation in the project. Here is how Megan communicates participation:

It means getting active in everything that is going on; getting involved in every step not just coming in, sitting there and do nothing. [She compares her experience in other projects thus,]... It was all different. I have not done a project like this before. I made a schedule of everybody's email addresses, expressed my opinion freely, contributed to the discussions, and made obstacle crossing, marked many things; I think I made a pretty good contribution to this project. I helped the DJ, helped set up stuffs and was master of ceremony during the event sometimes, and ensured everything worked perfectly. I spoke and got people involved.

Shumain is another Black youth who participated in the project. Shumain is a sophomore and co-chair of the peer leaders. She is the oldest of four siblings and lives with her mum and step dad. She desires to be a neuroscientist, or mortuary scientist, because of her family's experience with brain-related conditions. Her cousin suffered brain damage from drug related problem, a condition she feels could have been treated. Similarly, her grandmother died of brain damage. Shumain's meaning of participation resonates with Megan's articulation: I get the understanding that participation is participating in a work or project and not waiting to be involved until the last day; it means contributing so, you can earn for example, a deserved credit for a job done and not waiting to be credited for what you did not do. I participated in this project. I was one of the people who helped, other than Megan. We did the extra stuffs. We had some people who were in some of the meetings but did not do anything. But I was not like that. I contributed to the discussions. I was involved till the last day. That is what I mean by extra stuffs.

Shumain's meaning of participation is similar to the articulations by Megan. She says: This project was student driven, that was the big difference. In sports, it is the coach who decides and tells you what you need to do. But here, we make our own inputs. We worked on everything together, talked about everything and agreed before we adopted such as our decision. For example, the names, logo, who will be in it was a whole team decision.

The analogy between participation in sports and CCA is salient and depicts the equal partnerships between cultural participants and external experts in culture centered participation.

Keira is 17-year-old black and a junior. She is the oldest of four siblings and lives with her father and step mother. Keira was recruited by her Physical Education teacher who shared information about the project and invited her to attend one of the meetings. Keira was the secretary of the group. She was appointed by her colleagues at the inaugural meeting as Secretary. She took notes during weekly meetings, circulated the notes to her peers and partners via email. The weekly meetings served as spaces for the co-construction of ideas about the project. The task of writing meeting minutes and circulating it to the entire team was daunting and requires commitment.

For Keira, participation means: "being involved actively. Like I participated in the different stuffs. I went to the meetings and gave opinions, as well as helped in the carnival. I took notes, suggested ideas. I enjoyed that writing aspect and the privilege of suggesting some ideas; really, being heard". Keira is 17, and a junior. She took notes during weekly meetings, circulated the notes to her peers and

partners via email. The meetings served as spaces for the co-construction of ideas about the project.

Daren is 17-year-old black teenager and a senior. Daren and her younger sister live with their mother. Like Megan and Shumain, Daren also has a family history of heart disease. Daren's father died from heart attack "my dad passed away when she was one" (referring to her younger sister). She tells me "I think he had heart problem but did not know about it. He was just playing basketball when he had a heart attack and passed on". Darion desires to become a pediatrician to correct negative impression about pediatricians. Daren's friend lost her infant sister to a medical mistake and has since developed animosity towards pediatricians. For other participants such as Daren, participation entails:

Coming up with ideas and just helping to plan the meetings; taking leadership roles, making inputs, helping put the carnival together. We handled stuffs and participated actively rather than just watching others do it all. All the ideas came from us, like we thought out the logo, etc. Again, what becomes apparent here is participation as voice. The construction, "coming up with ideas, taking leadership roles" is synonymous with having a voice in the decision making in the project. Daren's story illuminates a consistent pattern in the narratives of participants. The construction "we" and "actively participated" corroborates CCA's commitment to collective decision-making processes in a CCA project.

Like Megan, Shumain, and Daren argues that participation involves active engagement in the process of a program, "It means having a voice and your voice being heard. It means suggesting ideas, and your ideas being accepted and integrated into the planning and execution of the project" Onye's narrative about participation is not different from her peers. Onye is not a designated officer of the team, regardless, she was committed. She frames participation this way: It means being involved, working and being active in something. I did some of the drawings, sketches and the blueprint; took notes and stuffs like that.

Onye draws an analogy between teacher-guided and culture-centered projects in the following statement, I think in a class project, a teacher would give us a specific part or plan to achieve. But this one was beyond a class project. I can compare this to my US History project. We basically had to describe the lyrics in a song and why it was important. We had to make a movie or power point presentation. But this gave us the freedom to be more creative.

Apparent in the discourse is the independence and freedom that characterizes culture centered participation. She notes that whereas other class projects are teacher directed, the youth culture-centered heart campaign was student directed and provided spaces for creativity among her peers.

Tekia is another member of the team. She is 16 year- old black and a sophomore. Unlike her peers, Tekia does not have family history of heart disease. She is the oldest of four siblings. She tells me, "I have two brothers and a sister. One of my brothers is 12, and the other four, and my sister is 14 years old". Tekia wants to become a Pediatric Nurse. Her interest in the nursing career is connected to her family's background in healthcare services. She frames participation this way: It means to do something or be a part of it. I participated because I helped

and I was dedicated to it. I helped come up with ideas; everybody did. It was our idea and whatever we said was what we did.

For Keila, participation means giving equal opportunity for cultural members to share their views on how to plan and execute a project. Keila says: Participation is everybody having equal opportunities. Like giving your opinions about a project. I participated by coming to the meetings and actively involving in its planning and actual execution of the project. We had the meetings like every week; I think twice or so; Mondays and Wednesdays. We all contributed and were actively involved and some of our decisions were taken into consideration. Like the names and logos. We thought since the name has something to do with the heart, we had a picture of a heart and some designs around it.

Berth wore the hat of instructor as well as co-participant. For her, participation involves active engagement in a project. This is how she describes it, Participation means being involved in an activity whether is listening to someone that is speaking at a time, whether is communicating with youth giving ideas verbally or writing things down. It just means being actively involved in whatever that is going on. She describes the student's participation this way: Yes, they did a good job participating. I mean there were some days when some were just sitting and not saying a whole lot, and there are other days that they are constantly communicating and participating throwing out an idea here, changing an idea here. I mean participation for the most part was pretty good.

The narrative here sheds light on participatory processes as well as features of participation. The construction about the dynamics of participation is symbolic. As the construction depicts, participants were diverse and exhibited varying levels of participation. On certain occasions, they were very participatory, while on some others, they were passive.

Like Berth, Kelly wore hat as an outsider as well as a participant. She is the community organizer for the youth heart health project. She shares her impressions about participation and her experience in the project, "It means involvement. It also means actively interested in something; and probably investing in the form of time or money. It requires activity or involves in facilitating a project".

Kelly narrates her experience: I will say, yes, the students participated in the project. The students participated because they were present and whether, or not their ideas were taken, they were part of it; either with each other or just something that shaped the project. Even though it was a side conversation, it still means they were all engaged.

With respect to the nature of participation, Kelly paints the picture this way: As you know, everybody is not going to go the same way; there are bound to be smaller voices. Like there was this girl who wanted to say something, but she would not say it loud and in the next second, someone says it loud and she would say, wow that was my idea. It was interesting to find someone who could be the leader of the pack.

Someone whose voice would be so loud it is heard. Things like that you cannot control, especially where you have to wait on the students to respond to the last question.

The narrative here depicts the characteristics of participation. Apparent in the dialogue is the heterogeneity in participation as well as the role of time and relationships in participation. Heterogeneity means difference. In this context, it refers to the diverse identities of the participants. It reveals that not all participants are vocal as such, and CCA practitioners should pay attention to the nuance of participation, or else undermine the equity that is the hallmark of culture centeredness. The dialogue below is an example of participation in the youth project. In this instance, the dialogue focused on identifying the project name. It began with a question asked by Ms. Crick, the P.E. teacher, who was our primary contact at the school. She asked:

Crick: have you come up with a project name?

Peer Leaders: We could do that next week

Crick: So how are we going to have a logo without a name?

Peer leaders simultaneously: No

Crick: Here is my suggestion, draw out couple of project names and they can make logo based on whatever we draw out right now, heart you know.

All: laughter

Following the laughter, one of the peer leaders, Megan suggested a name.

Apparent in the dialogue are the multiple voices contributing to the ideas, turn-taking, collective agreement, and commitment to the cause. In place of expert directives, ideas are co-created with all contributing to the dialogue. This is direct opposite of unilateral decision making in dominant communication projects.

Here is another instance of participation. The dialogue here centers on the order of activities during the campaign launch. The conversation begins with a progress report from the media partner TJ, and dovetails into dialogue. The dialogue is worth quoting in its entirety:

TJ: Would you want a DJ or announcer or anybody to open this event up and then introduce the doctor?

Peer leaders: Yeah

TJ: And then the doctor talks and then introduce Nicky, and Nicky talks about healthy eating, and getting people pumped up to get on the wall, so I need some advice from you guys

M: I like him

All peer leaders: Yeah, we want him...

The dialogue reveals the multiple voices contributing to the campaign decisions. These include the media partner, the peer leaders, and the P.E. teacher, who is our primary contact at the school, and the researcher. The centering of the voices of the teenagers in the decision making here is a quintessential example of a culture centered stance on equity in academic community partnerships. The second theme that emerges from the depictions is the convergence of response in participation. The discourse reveals the agreement in the responses of the teenagers to the suggestion by one of the participants. While the participants agree to the idea in this instance, there are instances where they disagree. The lesson from the convergent and divergent views is that participation is not a linear

process, and culture centered projects should pay attention to the aggregation of ideas in terms of who gets what, or whose ideas are adopted in decision making.

Here is another instance of participation in the youth project. In this instance, the workshop focused on the various activities executed on the campaign launch date. Starting with suggestion by the P.E. teacher about the stations on the launch date, here is how the dialogue unfolded:

Crick: Here is the doors, and this is the lobby. So, we said we were gonna pull out these set of right seats, how about that, so we are saying like the speaker here, and the cooking demo right behind, so this will be like the stage in the area.

M: Are we having like a stage thing?

Others: No.

Crick: Speaker/cooking over there so all that door that, now we have these whole open space over there, okay we have to designate enough space for the climbing wall

Onye/Kelly: I think that should go by the door.

Kriech: Like over here?...

The dialogue above depicts participation in a CCA project. Participation here is characterized by dialogue, voice, collective agreement, turn taking, power, and multiple voices contributing to the decision making.

Theme 2: Participation as Transformative

The second theme is the articulation of participation as transformative. In the introduction of this manuscript, we discussed the erasure of Blacks from discursive spaces where policies that impact their health are taken. The infusion of teenagers' voices here is transformative because it disrupts the status quo of dominant communication campaigns often scripted by outside experts (Airhihenbuwa 1995, Dutta 2008, Dutta-Bergman 2005). Transformation also emerges here as individual level changes that occur because of participation in the project. The trio, including Keira, Megan and Shumain describe their experiences as transformative.

This is how Shumain frames her experience in the project: "It taught me how to work with other people and appreciate the different skills and gifts people have, including the different attitudes of people when it comes to group assignment or work". According to Shumain, the project provided space for identifying the strengths and capacities different participants bring to the table. She also talks about the lessons learned about team work. Noteworthy in the construction is recognition of the "skills" co-participants exhibited in the planning and implementation of the project. The discourse serves as counter narrative to the dominant representation of underserved populations as agency-less.

Like Shumain and Keira, Onye says: For instance, when we figured out what the carnival would be like, I gave opinion on who is going to speak and for how long the person would speak. As a young person, I knew what we want to do and do not want to sit there for too long. I gave my opinion as to the type of people who should be there as well as who should address them; who should speak and for how long, what we would need in the big carnival and all that.

What emerges from these narratives is transformation at the individual as well as structural levels. At the structural level, the changes are also salient. For

instance, centering voices of the peer leaders in the campaign decision making reverses the expert versus community relationship that dominates traditional campaigns. Locating decision making in the hands of Black teenagers changes their representation from voiceless to a group that has voice and agency. The construction, "privilege of suggesting some ideas; really, being heard", is poignant. On one hand, it reveals the voicelessness of black youth in other projects. On the other hand, it depicts their voice in the youth project. The construction, "really being heard" embodies transformation from their previous representation as agency-less.

Narratives of transformation are also visible in Daren's story. She says: I think it was overall an excellent experience, because for us to inform others about heart health, and probably something they never knew before. Tell them how to handle heart issues and how to prevent it too.

Apparent in the discourse is the sense of power located in the hands of the teenagers in driving the project. The construction, "us to inform others about heart problem" is poignant. What emerges from the construction is instead of being told how to prevent heart disease by external experts, they (peer leaders) are engaging their peers on how to prevent heart disease.

Briana was elected by her peers as the contact person for the peer leaders on day one of the project. She received information from the instructor and media partner and disseminated same to her peers. Brianna's interest in the project is also connected to her family's experience with heart condition. Her grand mum had a bypass surgery. Briana echoes Daren's argument in the following excerpt, "We decided most of what we did. Basically, we took charge. I think everybody's ideas were put to use". Again, apparent in the discourse is the location of power in the hands of the peer leaders. The depictions here signify transformation in that the peer leaders took charge of the decisions reached in the project, a gesture that reverts the power inequity that often characterize dominant projects (Airhienbuwa 1995, 2007, Dutta 2008, Lupton 1994).

Transformation is also apparent in the format and dialogic pattern of the workshops. The workshops served as dialogic spaces for the co-construction of campaign ideas. Here is one example. In this instance, the conversation focused on setting the ground rules of our engagement. Starting with a comment by the researcher, here is how it unfolded:

R: Our project, the adolescent heart health project, is working with you the youth to identify the key problems related to heart disease in minority populations, specifically African American community. We work with the theory called Culture centered approach, which basically feels that the communities know what the problem is. They have the power to identify the problem. They also have the power to propose solutions, so you are going to be the boss in this. After a short while I am going to take the back seat and you will drive, so that's the idea. I am not coming here to tell you what to do, you will tell us the issues you want to address and how you want to address them, so I just want to make that clear, so that's the core of our message here today. Sound good?

Peer leaders: Ehe, signifying agreement.

What we witness here is a transfer of decision making into the hands of the teenagers. The constructions, "I am not coming here to tell you what to do, you will tell us the issues you want to address and how you want to address them", and "so you are going to be the boss in this" are poignant depictions of the power reversal that characterizes CCA. The reversal of the power equation in the project is consistent with the culture centered commitment to address power inequities that characterize dominant projects (Airhihenbuwa 1995, 2007, Dutta 2008). As we have elaborated in previous paragraphs, power inequity perpetuates disparities. The dialogue presented took place during the inaugural workshop, where we lay bare the underpinnings of CCA. As depicted in the narrative, we transferred decision-making power into the hands of the teenagers.

Here is another instance that corroborates the transformation in the youth project. In this instance, the conversation focused on the heart health carnival, which emerged as the creative strategy for engaging their peers. Starting with my recap of previous conversations, here is the dialogue:

R: So what we are doing here is we are trying to speak to the youth about best ways we can reach your peers on how to prevent heart disease so that they don't get heart disease when they get old. You are the boss so that's why we want to listen to what you think we can do, that's in a nutshell what we are doing. We have had two meetings, today is the 3rd. We started out by listing all the problems that cause heart disease among the youth. We listed a lot of things but last week we narrowed it down to 3 key problems. When I say we, I mean the team, this group of people that came together here. Now my question to you is have you had a change of mind from last week till now? I think that is the starting point for us. Are we still on track?
Peer leaders: Yes.

Again, what we witness in the dialogue is a shift in power. Here the decision to move forward with the plan rests squarely on whether the peer leaders saying yes or no, again portraying them as drivers of the project. Again, the construction, "You are the boss so that's why we want to listen to what you think we can do, that's in a nutshell what we are doing", appears here as a constant thread depicting the power of the peer leaders in driving project decisions. Evidently, the location of decision making in the hands of the peer leaders alters the hegemonic structure that characterizes dominant projects (Airhihenbuwa 1995, 2007, Dutta 2008).

Here is yet another example. In this instance, the goal was to review sample materials developed by the media partner. Having listened to the ideas of the teenagers, the media partner developed concrete marketing and promotional materials reflecting the ideas that were brought back to the teenagers for review and endorsement. Starting with the progress report by the media partner, here is how the conversation unfolded:

TJ: just so you guys know what we are doing is I took your ideas and this is the part where we create the process, so today I want to tell you your ideas and show you what we have done so far. What we do is we do just enough to show you what's going on so you can make changes, so don't expect these to be complete. I like to have a final version by next week, so that I send them off and get them

printed. Based upon what you were talking about we came up with a logo that incorporated Crispus Attucks tiger, has a heart inside. First thing I need to know is what you think about this logo since it was based on your idea.

Onye: We could do the other one, the one that is on the box spot.

Again, what we witness here is a reversed power structure. Here the power to approve or reject the samples lie in the hands of the peer leaders, hitherto presented as incapable of solving their own problems by dominant projects. The dialogue here is different from dominant spaces that are characterized by a hallowed expert seeking to enlighten uncivilized cultural members on how to act (Airhihenbuwa 2007). Here dialogue means the teenagers find communicative space where they articulate their needs as a group. Transformation also manifests at the individual level regarding food choices and life habits. Here is how Keira talks about transformation in terms of changes in her food choices: I have learnt about what could lead to heart disease. What can be done, like eating healthy and all that stuffs. I will say I now try to live actively and healthy, and try to manage my time a little better than I used to. I felt I was not really organized time-wise, but I try to get organized now.

What emerges in the narrative is individual changes resulting from participation in the project. Here, Keira shares specific changes made due to engagement in the project. During the execution of the campaign, the youth identified three major factors that negatively impact their heart health, including poor time management, poor nutrition, and a lack of physical activity. Against this background, the team proposed creative time management for their peers. It is this self-organization strategy that Keira alludes to in her narrative.

The narrative of individual transformation is not limited to Keira's story. Here is how Onye, another peer leader frames her personal transformation. She says: I now watch what I eat. I have been kind of on a health kick. I think at the beginning of the project, I was not worried about it because there were many things I did not know. I could not be concerned about something I did not know about. Now, basically, me knowing the dangers and what I should be concerned of, I can now do that. Like foods that we eat; sitting around in one place doing nothing, no exercise.

Narratives of individual transformation are also visible in the stories of another peer leader. This is how Megan describes personal changes: I feel I have gained a lot of knowledge on heart health, so much that I want to promote healthy living. So, it will be hypocritical not to live by it. It has empowered me too to live healthy daily. I have learnt what to eat and what not to eat. And, the reason I should abstain or eat. So, this is important to me as I live day by day. Like, time management skills. I exercise also. And, I used to drink soda two or three times a day. What I do now is if I want to drink one, I just put that in a refrigerator and drink that and after, drink water. I am making healthier choices for myself.

What emerges in these narratives is change in feeding habits as enactment of agency. The depictions here demonstrate agentic commitment to serve as role models to their peers. The construction, "it has empowered me to live a healthy daily", is fascinating. Here empowerment is viewed as access to communicative platforms where peer leaders engaged with peers and external

partners to dialogue about the problems that contribute to heart disease as well as corresponding solutions.

Discussion

This section elaborates on the themes and relates them to the assumptions of CCA and culture centered literature. Following this, we discuss the implications for culture centered scholarship.

This research sought to understand Black teenager's meanings of participation in the young at heart project. The themes that emerged from analysis of the data, namely, participation as voice and transformative potentials resonate with culture centered literature. The narratives are manifestations of the assumptions of CCA regarding community engagement. The CCA meaning of participation (Airhihenbuwa 1995, Dutta 2008, Dutta and Basu 2008, Dutta-Bergman 2004a, 2004b, Ford and Yep 2003) differs from other interpretations of participation in that CCA, "foregrounds the voices and lived experiences of cultural members in seeking to establish how traditional approaches to health communication campaigns have contributed to the erasure of voices of marginalized communities" (Dutta et al. 2013). Apparent from the discourse is that CCA begins by rupturing the hegemonic structures that erases cultural voices from spaces of participation. CCA's ontological commitment to critical theory sets the tone for culture centered participation in that it centralizes equity.

The narratives in the young at heart project call into question traditional health communication scholarship that fails to recognize the capacity of underserved populations as capable of participating in decision making about its health. The narrative in this manuscript serves as an insurgent script that inverse the representation of blacks as voiceless. It lends credence to CCA's argument about the enactment of agency by underserved populations (Airhihenbuwa 1995, Dutta 2008). Theoretically, the narratives lend credence to the political agenda of CCA, which includes resurrecting unheard voices. The goal of challenging dominant health communication theorizing that erases marginalized voices and, importantly, creates entry points for introducing black voices into health communication narrative. The narratives of participants in the young at heart project puncture the representation of CCA as unscientific by traditional communication scholarship. The narratives serve as empirical data that substantiates CCA's postulation that true engagement of underserved communities leads to collective ownership, which is necessary for driving meaningful social change (Dutta 2008, Dutta 2011, Airhihenbuwa 1995).

The themes that emerged from the analysis also resonate with culture centered literature in that it touches upon the divide between CCA and traditional health communication with respect to persuasion versus dialogue as the preferred method of achieving social change (Dutta 2011, Basu and Dutta 2009). Traditional health communication focuses energy on persuasion efforts that primarily seek to change the behavior of underserved populations with information prepared by outside academic experts. The underlying assumption

of such persuasive approaches to social change is that information dissemination leads to individual level changes that consequently cascades into larger societal level changes. As such, considerable effort is put into identifying characteristics of cultural members to design messages that will change their behavioral intentions and actions (Dutta 2011, Kreuter and Haughton 2006, Melkotee and Steeves 2001). Popularly known as the Knowledge Attitude and Behavior Change (KAB) approach (Peterson and Gubrium 2011), this distinction remains a point of contention between CCA and approaches rooted in social scientific methodology.

The CCA shatters the scientific assumptions of traditional communication scholarship, and point out that it is incongruent with genuine social change. As a viable alternative, it encourages dialogic approach that centers community voices, and locates decision making in the hands of the community (Peterson and Gubrium 2011, Dutta 2008). The themes that emerged in the young at heart project exemplify the later. The youth in multiple narratives point to specific ways they shaped the design and execution of the project. The study echoes the importance of communication in culture centered projects. Specifically, the study reveals the micro and macro forms of dialogue that characterize the engagement of cultural members in the execution of a culture centered project of social change. Other CCA scholars point out the importance of communication in culture centering (Dutta et al. 2013). While the referenced scholars highlight the importance of communication in processes of social change, this study present minute details of communication in culture centeredness. Such a comprehensive presentation reinforces the commitment to two-way communication and or dialogue as a crucial element in culture centered processes.

Conclusion

The foregrounding of the voices of black youth in this project reconfigures expert's voice and processes that keep an underserved black population at bay in the realm of health programming and implementation. This project provides a shift from objective knowledge to authentic engagement with black youth (Dutta 2008). From this study, we see the transformative potential of CCA. For instance, black teenagers' articulations of a health campaign inverse dominant campaigns that advocate the individual-level persuasive messages used to promote heart health among underserved communities (Dutta 2008).

Another contribution of this study is the concretization of the ideology of resurrecting unheard voices. CCA advocates resurrecting unheard voices as a philosophical position that locates decision making power in the hands of underserved populations (Dutta 2008). However, the process through which this is achieved is scantily documented (Basu 2008). Dominant health communication scholarship interrogates the materiality of locating power in the hands of underserved populations, hitherto represented as agency-less. Often such critique labels the notion of resurrecting voices of underserved as idealistic. The step-by-step narratives provided here about how the young at

heart project evolved yield concrete evidence that counter the philosophy of resurrecting unheard voices as idealistic. This is an important contribution to the culture centered literature because it serves as an artifact that undermines the critique of cynics regarding the resurrection of unheard voices in the discipline of communication.

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A Worksite Health-Monitoring Program: Effectiveness on Detection, Intent to be treated and Follow up Care for Cardiovascular Diseases/Risk Factors

*By Thomas A. Mackey**

The study objective was to determine the effectiveness of a workplace health-monitoring program on the detection, intent to be treated and follow up care related to multiple cardiovascular diseases (CVD) and risk factors. Environmental investigators for the State of Texas are required to undergo annual health-monitoring exams conducted yearly with intent to determine fitness for duty and detection of work related illnesses. Exams include: work and personal health histories, vital signs, chest X ray, spirometry, electrocardiography, audiometry, blood chemistries, workplace appropriate immunizations, and physical examination. Employees receive personal follow up consultation four weeks post screening. Personal versus work related health problems were difficult to discern. Relatively few occupationally related health problems were detected during monitoring exams. However, a minor percentage of employees were found to have other health conditions significant enough to be restricted from engaging in one or more work-related activity (i.e. respirator use, climbing). However, 20 years of experience examining employees for the same employer has shown significant numbers diagnosed with new CVD and/or risk factors (hypertension, obesity, diabetes, abnormal EKGs, hyperlipidemia, sedentary life style) during the health-monitoring exams. Furthermore, experience indicated a relatively high percentage of employees dropped out of previous treatment for a CVD condition or failed to return for follow up care to a primary care provider/cardiologist. After undergoing an exam and follow up consultation during the health- monitoring program sizeable numbers of employees indicated an intent to start, return to treatment and/or adopt life-style changes to address one or more CVD problem or risk factor. Data from the 2017/19 programs quantify past experience and provides statistics on which to build future interventions. The described health-monitoring program detected meaningful numbers of employees with known/unknown CVD and risk factors. Brief counseling during the physical examinations and follow-up counseling sessions were pivotal in moving employees to indicate intent to re-enter or begin treatment and life-style changes.

Keywords: *Worksite health-monitoring program, Cardiovascular risk factors, Health-monitoring follow up*

Introduction

Modifiable cardiovascular disease (CVD) risk factors are significant indicators of future chronic health problems. Once CVD becomes a personal health issue the social and economic consequences can magnify leading to loss workdays, financial problems, comorbidities, and eventual deteriorating health status. However, the downward spiraling health status scenario can be modified through early screening, detection and treatment. In recent years screening for CVD risk factors (obesity, tobacco use, elevated blood pressure, diabetes, hyperlipidemia, and sedentary lifestyle) has intensified and provided added value to the workplace health screening and disease prevention movement. In 2014 the American Heart Association (AHA) published rationale, guidelines and a policy on the role of worksite screening for CVD risk factors (Arena et al. 2014).

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The current study was based on the AHA recommendations and designed to determine the effectiveness of a workplace health-monitoring program on the detection, intent to be treated and follow up care related to multiple cardiovascular diseases (CVD) and risk factors over a three period of time. Twice, at the same worksites, during the three-year period data were collected and employees offered follow up consultation. Findings indicate significant changes in health behaviors and add credence to the literature regarding the importance of worksite CVD risk screening.

Literature Review

Oakes (2018) and the Centers for Disease Control and Prevention (CDC)¹ report CVD remains the leading cause of mortality in the United States. The most recent updated 2019 data indicates 116.4 million, or 46% of US adults are estimated to have hypertension (Benjamin et al. 2019). The findings are documented in the new 2017 Hypertension Clinical Practice Guidelines (Benjamin et al. 2019).

Identification combined with subsequent intervention directed toward modifiable CVD risk factors (obesity, diabetes, sedentary life style, elevated blood pressure, smoking/tobacco use and hyperlipidemia) are crucial if impact on health and healthcare costs is to improve (Whelton et al. 2017). The workplace presents a unique and ideal setting to discover, intervene and offer assistance to individuals with modifiable CVD risk factors. In fact, some work settings require annual health-monitoring as mandated by the Occupational Safety and Health Administration (OSHA)². Since 1970, OSHA has assured safe and healthful work conditions for employed men and women by establishing and enforcing standards and by providing training, outreach, education and assistance OSHA's mission is to prevent workplace deaths, injuries and illnesses and accomplishes the mission by requiring pre-employment screenings (medical and occupational history, physical examination, determination of fitness to work wearing protective equipment and baseline monitoring for specific exposures). OSHA requires periodic screenings inclusive of yearly update of medical and occupational history; physical examination; testing based on examination results, job class and task, and more frequent and directed testing based on specific exposures.

Regardless, mandated screenings alone do little to change behavioral patterns for individuals with CVD risk factors. However, the addition of follow-up counseling and organizational support programs have proven successful in changing employee CVD risk factors. For example, Soler et al. (2009) evaluated 86 studies of health screening programs some of which included and others excluded follow up consultations with employees. Groups including follow up consultations showed favorable CVD risk factor improvement: some

¹Center for Disease Control and Prevention. Retrieved from <https://bit.ly/2EDMLBD>.

²OSHA recommended worksite screening. Retrieved from <https://ces.to/kzkbPd> & OSHA Guidelines. Retrieved from <https://ces.to/IgOOJM>.

increase in smoking cessation, less saturated fat intake, additional physical activity, and enhanced fruit and vegetable intake.

Colkesen et al. (2011) reported a 17.9% improvement among 368 workers' Framingham Risk Score (FRS) receiving a Web-based health risk assessment coupled with post screening consultation. Additionally, Hochart and Lang (2011) showed positive results when employees consulted with an advisor after completing a program screening. Almost 49% of high-risk individuals improved risk status and 40% of the lower risk employees showed improvement. Rula and Hobgood (2010) evaluated over 5,000 employees who completed the myhealthIQ health-screening program. Compared to non-counseled participants high-risk employees who received additional counseling showed improvements in lipid levels (-3.9 to -6.1%), smoking cessation (-2.5%) and diastolic blood pressure (-3.4%).

While costly, wellness and health-monitoring programs have the potential of being a positive financial return for employers. Naydeck et al. (2008) studied the financial impact of an employee wellness program over a four-year period of time. For employees who received counseling after screening "multivariate models estimated health care expenses per person per year as \$176 lower for participants. Inpatient expenses were lower by \$182. Four-year savings of \$1,335,524 compared with program expenses of \$808,403 yielded an ROI of \$1.65 for every dollar spent on the program". For employees not receiving post screening counseling there were no associated health care dollar cost savings. Figure 1 calculations are based on Naydeck's research.

Methodology

Environmental investigators for the State of Texas are required to undergo annual health-monitoring exams. Prior to the year 2001 employees from all over the State of Texas traveled to Houston for the annual exam incurring costs for air tickets, rent cars, lodging, meals, parking, and at least one lost workday. Rather than employees traveling to Houston, in 2001 exams were delivered on-site in 15 different cities throughout the State of Texas with the employer not incurring the previous mentioned expenses (Figure 1). Employees ranged in age from 22 to 71, have full health insurance through the State of Texas, incomes range between \$35,000 to \$75,000 and everyone was/is employed on a full time basis. The exams (males 54% and females 46%) were conducted yearly with intent to determine fitness for duty and detection of undiagnosed work related illnesses. In 2017, 586 evaluations were conducted while in 2018 no CVD risk data were collected on the study population. However, in 2019 data were once again gathered on 601 employees. Exams included: complete work and personal health history, vital signs, chest X ray, spirometry, electrocardiography, audiometry, laboratory work (complete blood count, 24 chemistries, lipids, cholinesterase and lead levels), workplace appropriate immunizations, and a physical examination. A certified medical assistant determined employee blood pressures via a stethoscope and arm based sphygmomanometer. During the exam a nurse practitioner (NP) completed

a special assessment tool (Figure 2), separate from the complete history form, designed to capture blood pressure, patient CVD risk factors, last visit to a primary care provider (PCP)/cardiologist, intent to see a PCP/cardiologist pre/post visit, and intent to change lifestyle pre/post visit. The NP provided brief counseling during the examination directed at moving employees with CVD risk factors to action: exercise, schedule a visit with a primary care provider/cardiologist, quit smoking, change other life-style habits. Employees received personal follow up consultation four weeks post exam once testing results were collated into a multiple page personalized report. Data was gathered over a two-year period of time during the months of January thru April.

Figure 1. Program Worth & Value Per Year Costs and Return on Investment

| Worth | | Value | |
|--|-----------|----------------------------------|--|
| Pre mobile unit cost/year | \$790,130 | New diagnostic findings | |
| With mobile unit cost/year | \$452,125 | Significant CVD findings | |
| Savings/year | \$338,005 | Intent to change health behavior | |
| PLUS | | Actual health behavior change | |
| Return on investment (Naydeck et al. 2008) | | | |
| \$176/employee X 586 | \$103,136 | | |

Source: Author's estimations and Naydeck et al. (2008).

Figure 2. Cardiovascular Disease Risk Assessment Form

Cardiovascular Disease/Risk Assessment BP: /

| Patient risk factor | Yes | New DX | Uncontrolled or worse |
|--------------------------|-----|--------|-----------------------|
| Hypertension/BP elevated | | | |
| Obesity | | | |
| Diabetes | | | |
| Abnormal EKG | | | |
| Hyperlipidemia | | | |
| Sedentary life-style | | | |
| Smoker | | | |

| | |
|--------------------------------|--|
| Last visit to PCP/cardiologist | |
| <1 month | |
| 1-3 months | |
| 3-6 months | |
| 6-12 months | |
| >1 year | |

| | | |
|--|-----|----|
| Intent to see/RTC to PCP/cardiologist within 1 month | Yes | No |
| Pre consult: | | |
| Post consult: | | |

| | | |
|-----------------------------|-----|----|
| Intent to change life-style | Yes | No |
| Pre consult: | | |
| Post consult: | | |

Source: Author's estimations.

In study year 01 (2017) blood pressure levels above 130/90 were considered elevated. CVD risk data on the study population were not collected in 2018. However, in study year 02 (2019) the blood pressure levels changed to readings above 120/80 as being considered elevated (American College of Cardiology 2019)³. The difference reflects new guidelines published by the American Heart Association (AHA) in mid 2018 for blood pressure classification and diagnosis of hypertension (Whelton et al. 2017). However, of note, according to Crawford (2017) the American Academy of Family Physicians (AAFP) does not endorse the new guidelines. The AAFP reasoning is "according to the AHA, the new threshold would lead to 46% of the US adult population being categorized as having hypertension. Using the previous threshold, that figure would be 32% of American adults. Furthermore, the AAFP did not feel the bulk of the guidelines were based on a systematic evidence review. Additionally, although the guideline's recommendations were given an evidence quality grade, they weren't grounded in an assessment of the background resources. Finally, substantial weight was given to the Systolic Blood Pressure Intervention Trial (SPRINT), but other trials were minimized" (Crawford 2017). Moreover, while widely adopted by medical professionals in the United States, the new guidelines are not well embraced in Europe (Williams et al. 2018). Regardless of the AAFP and European (European Society of Cardiology-ESC and the European Society of Hypertension-ESH) reluctance to accept the new guidelines, the AHA recommendations are widely accepted throughout the United States as a community standard for practice and, therefore, utilized in the present study.

The data collected and exam-associated counseling shadowed the AHA's recommendations for workplace screening (Arena et al. 2014). Counseling actually occurred on two separate occasions. The first counseling happened during the exam when the NP discovered the presence of one or more risk factors. 100% of employees with a risk factor received a brief counseling intervention by the NP. Four to six weeks post screening the NP made a return visit to each of the 15 facilities to provide general information about the results to large groups of employees followed, if desired, by individual counseling sessions. Over the years an estimated 70% of employees have availed themselves of the individual counseling option post examination.

Results

The OSHA mandates health monitoring of employees for specific work related conditions yet relatively few occupationally related problems are detected during monitoring exams. However, only a small percentage of employees were found to have health conditions (cardiovascular, pulmonary, neurological, orthopedic) significant enough to be restricted from engaging in one or more work-related activity (i.e., respirator use, climbing, walking long distances, etc.).

³American College of Cardiology: New ACC/AHA High Blood Pressure Guidelines Lower Definition of Hypertension. Retrieved from <https://bit.ly/2EaIx2N>.

Figure 3 summarizes the significant medical findings/benefits of the study. Personal versus work related health problems are often difficult to discern. The study did not attempt to differentiate between the two. However, 20 years of experience providing exams for the same employer indicates significant numbers of employees were diagnosed with new primary care health care problems as well as CVD and/or risk factors (hypertension, obesity, diabetes, abnormal EKGs, hyperlipidemia, sedentary life style) identified in Tables 1, 2, 3, and 4.

Figure 3. Summary of Significant Medical Findings/Benefits

Lipid and glucose abnormalities, known risk factors for CVD, were evaluated on each employee. Table 1 shows no statistical difference in the percent of abnormal values between the study years indicative of no change in CVD health status related to the cholesterol, high density lipoproteins (HDL), low density lipoproteins (LDL), triglycerides and glucose markers.

Table 1. Results: Abnormal Lipids and Glucose

| Laboratory Measure | Reference Values | #/% | |
|--------------------|------------------|--------------|--------------|
| | | 2017 (N=586) | 2019 (N=593) |
| Cholesterol | <200 | 200 (34%) | 198 (33%) |
| HDL | >39 | 111 (19%) | 98 (17%) |
| LDL | <100 | 323 (55%) | 318 (54%) |
| Triglycerides | <150 | 143 (24%) | 139 (23%) |
| Glucose | <100 | 114 (20%) | 143 (24%) |

Source: Author's estimations.

Weight, measured by basal metabolic index (BMI) as shown in Table 2, showed some improvement from year to year. For those with a BMI of >30 there was a decrease of 5% indicating some progress in weight control in the study population. Change in BMI for individuals in the >30 category may be a result of the NP's intervention but such a conclusion cannot be determined without further investigation and inquiry.

Table 2. Results: Basal Metabolic Index (BMI)

| BMI | #/% | |
|-------|--------------|--------------|
| | 2017 (N=586) | 2019 (N=601) |
| 25-29 | 169 (29%) | 172 (29%) |
| >30 | 212 (36%) | 189 (31%) |
| >40 | 40 (7%) | 46 (8%) |

Source: Author's estimations.

Table 3 presents the two years of abnormal blood pressure readings, uncontrolled known hypertensives and new diagnosis of blood pressure elevation. In 2018 a normal systolic reading was <140 and diastolic <90. However, as previously mentioned, the AHA guidelines changed. In 2019, 51% (306 individuals) had blood pressure elevations according to the AHA guidelines. Consequently, the percent of abnormal readings rose from 9%/10% (systolic/diastolic) to 38%/38% (systolic/diastolic) from one year to the next. Given the new AHA guidelines the additional 20% increase in 2019 in abnormal blood pressure readings is to be expected.

Table 3. Results: Abnormal Blood Pressure*

| Measure | #/% | |
|-----------------------------------|--------------|--------------|
| | 2017 (N=586) | 2019 (N=601) |
| Systolic blood pressure | 9% (53) | 38% (227) |
| Diastolic blood pressure | 10% (60) | 38% (231) |
| Uncontrolled known hypertension** | 2.5% (15) | 7% (41) |
| New DX of elevated BP | | |
| >140/90 | 5% (31) | 2.8% (17) |
| >130/90 | - | 9% (53) |
| >120/80 | - | 11% (66) |

* 2017 >140/90 and 2019 >120/80

** 2017 >140/90 and 2019 >130/90

Source: Author's estimations.

Other CVD risk factors (smoking, alcohol use of three or more drinks per day, abnormal EKG, sedentary life style, and diabetes as reported by the employees did not significantly change from one year to the next (Table 4). Percent of abnormalities in the measured categories are below those of the general United States population.

Table 4. Results: Other CVD Risk Factors for those with BP Elevations

| Measure | #/% | |
|----------------------|--------------|--------------|
| | 2017 (N=160) | 2019 (N=306) |
| Smoking | 3% (20) | 3% (20) |
| ETOH (3+drinks/day) | 1% (6) | <1% (4) |
| Abnormal EKG | 9% (52) | <1% (10) |
| Sedentary life style | 6% (35) | 29% (90) |
| Diabetes | 5% (29) | 13% (41) |

Source: Author's estimations.

The main study objective was to determine the effectiveness of a workplace health-monitoring program on the detection, intent to be treated and follow up care related to multiple cardiovascular diseases (CVD) and risk factors. Table 5 presents data on employees with known CVD risks intent to change behavior. Experience with the study population indicates a relatively high percentage of employees dropped out of treatment for a previously diagnosed CVD condition or failed to return for follow up care to a primary care provider/cardiologist. After undergoing an exam and follow up consultation during the health- monitoring

program significant numbers of employees indicated an intent to start, return to treatment and/or adopt life-style changes to address one or more CVD problem(s) or risk factor(s) (Table 5).

Table 5. Results: Employees with Known CVD Risks Intent to Change from "No" to "Yes" Pre/Post Consultation

| Intent | 2017 (N=160) | 2019 (N=306*) |
|--|--------------|---------------|
| To see PCP/cardiologist within one month | 42% (67) | 18% (55)** |
| To change lifestyle | 20% (33) | 24% (72)** |

* Larger N due to change in BP elevation guidelines by AHA.

** Many employees with BPs minimally elevated not needing PCP follow up care.

Source: Author's estimations.

Discussion

The current study was an attempt to translate research into practice. Ample literature indicates workplace screening is helpful to address CVD risk factors. Nevertheless, screening alone, without follow-up counseling, provides little improvement on health status and does not offer a positive financial return on investment. "However, most evidence evaluating the effectiveness of worksite health screening demonstrates that the most effective model is one that combines screening with encouragement to participate in some type of health and wellness program" (Arena et al. 2014).

How does intent to change health behavior translate into actual change? The program described did not measure actual behavior change but only intent. Future studies on the same population would be of value to determine the real effect of the NP intervention consisting of suggesting and discussing behavior change (i.e., go see a provider or change a life-style). So, while helpful, the study leaves us short on actual behavior change. Regardless, based on the literature presented, some behavioral change probably did/does occur as the study population showed intent to change behavior. Follow-up studies could measure and quantify actual change and the effects on individual CVD risk factors.

What do we know about the blood pressure measurement accuracy and findings for the current study? Blood pressure measurement is a standard for diagnosing hypertension, a CVD risk factor. Measurement in the general population is wrought with potential errors including variability of operator hearing, vision and recording; accurate calibration of the sphygmomanometer, patient preparation, and height of the patient's arm relative to the heart (Muntner et al. 2019). The present study relied on readings recorded by a certified medical technician performing the procedure with a stethoscope and arm based sphygmomanometer. Given recent recommendations by Roerecke et al. (2019) blood pressure readings via an automated office blood pressure (AOBP) monitor is the preferred method due to accuracy and reduction of the "white coat syndrome". "Based on the evidence, AOBP should now be the preferred method for recording BP in routine clinical practice" (Roerecke et al. 2019). Future studies such as the one described herein would benefit from using the AOPB

monitor to improve accuracy in determining if a patient meets the criteria for elevated blood pressure, or hypertension, as a CVD risk factor. Regardless, the method used was auscultation and results indicate significant numbers of employees with elevated and/or uncontrolled/untreated hypertension. Of particular note is the increase from 2017 to 2019 of uncontrolled known hypertension (Table 3) from 2.5% to 7% with no readily apparent epidemiological reason.

Is there an accurate tool available to measure CVD risk factors during health screenings? Figure 2 depicts the CVD Risk Assessment Form utilized in the study. When the current study began there was "no tool to assess the effectiveness of the programme in communicating CVD risk to patients" (Woringer et al. 2017). However, in 2017 Woringer et al. (2017) developed such a tool. "The 26-item questionnaire constitutes four scales: Knowledge of CVD Risk and Prevention, Perceived Risk of Heart Attack/Stroke, Perceived Benefits and Intention to Change Behavior and Healthy Eating Intentions" (Woringer et al. 2017). If patients were willing to complete a 26-item questionnaire, future studies to assess CVD risk would benefit from using the tool developed by Woringer et al. (2017) already tested for reliability and validity.

Conclusion

The described health-monitoring program translates research into practice and detected significant numbers of employees with known/unknown CVD and risk factors. While the current study does not discern the value of follow up counseling, the literature indicates follow-up counseling sessions to be pivotal in moving employees to re-enter or begin treatment and life-style changes. Further studies on the current population to determine if follow up visits/counseling is effective would be useful.

Value and worth of medical screening is a point of great discussion in the literature. Worth refers to money generated or saved. Value refers to money plus intangibles, such as quality, savings, and goodwill (Mackey 2009), new diagnosis, newly discovered CVD risk factors and employees' intent to change behavior. Figure 1 presents pre/post mobile unit costs with a yearly savings of \$338,005 plus an ROI of over \$100,000 per year. The real program value, however, comes in the discovery of multiple new primary care diagnoses, CVD risk factor detection and employees intending to change health behaviors. Two years of program data quantifies past experience and provides statistics on which to build future interventions and evaluations.

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