Future Leaders in Healthcare

Research Poster Symposium

March 31, 2016
Booker T. Reaves Library
Charlottesville High School
9:30AM - 12:30PM

University of Virginia Health System
SYMPOSIUM PROGRAM

9:00AM-9:30AM
Refreshments

9:30AM-11:30AM
Poster Presentations

11:30AM-12:00PM
Judging

12:00PM-12:05PM
Opening Remarks:
BRANDON KEMP, Laboratory Research Specialist III, UVA

12:05PM-12:20PM
Award Winners Announced

12:20PM-12:30PM
Closing Remarks:
KELLY KROESE, Library Media Specialist, CHS
ELIZABETH DAVIDSON, Anatomy Teacher, CHS
Treatment of ADD
by: Angel McGhee, August Albert, and Collin Finke
- Objective: Researching the negative and positive effects of medication on Attention Deficit Disorder patients.
- Method: Participated in some in-depth research through databases and read other articles’ results explaining the effects of medication on Attention Deficit Disorder.
- Results: The key findings were that the medication given by the doctors can cause worse symptoms.
- Discussion: This means that the medication given by doctors can compromise the brain function.

Euthanasia
by: Kunga Deyang and Ashley Herring
This research outlines the findings on the ethics of euthanasia and comparing and contrasting other countries’ laws and personal beliefs on assisted suicide. The testing of this topic mainly focussed on looking at information and data from the University of Virginia library and recording the information that was found about how American and Northern European citizens choose to medically end their lives. Studies show that in America, citizens “value” the lives of others more and would rather let people die naturally, and sometimes slowly and painfully. On the contrary, in Northern Europe citizens use euthanasia to their advantage and let others choose when they want to end their life.

Autism
by: Janiqua Mozie and July Paw
- Early identification and intervention, such as parent skills training, has shown improvement in social skills of children diagnosed with ASD (Autism Spectrum Disorder).
- When parents had training to help their children with ASD the social outcomes were greater for the child.
- Valid diagnostic tools, for example RITA-T, that can be used by pediatricians and school clinicians help with early identification of ASD.

Capgras Delusion
by: Zoe Webster and Becca Sutphin
Capgras syndrome occurs when a patient experiences specific delusions that a person (or people) in their lives has been replaced by an identical imposter. This research supports the theory that Capgras is highly correlated with other mental disorders, the most prevalent being depression, schizophrenia, and dementia. This research does not detail any cases of Capgras alone. Here it is represented solely as a secondary disease. Though this research indicates correlation with other diseases and allows for the possibility that Capgras is strictly a secondary disorder, it does not yet prove these diseases to be causes of Capgras.
Refugee Public Health
by: Omar Sekkarie and Andrew Nthenda
Wars and humanitarian crises are displacing millions of people around the world today. In 2015 the United States accepted the full ceiling of 70,000 refugees. That number is expected to hit 85,000 for 2016. Given the precarious and diverse situations these refugees come from, providing them with the necessary health care will be a big challenge. This research examines recent articles pertinent to refugee public health issues that have spawned from the recent humanitarian crises. Common issues were rare communicable diseases and mental health. To make matters more challenging, cultural and language barriers between patients and providers further complicated the intervention process. Given these problems, a set of steps are recommended to improve the public health of refugees, that may directly improve the public health of the United States.

Diabetes
by: Lakiera Mills and Wendell Santiago
Type 1 diabetes is a genetic condition in which blood sugar is not well regulated. Type 1 diabetes has been well researched in young children in the U.S. The purpose of the research was to examine current and future treatments. Multiple medical and scientific databases were searched using keywords such as type 1 diabetes, children, and treatments. Currently, there are three main treatments such as insulin pump, bolus insulin injections, and inhaled insulin. Decades ago many children used bolus insulin, but currently the majority of young children in the U.S. use the insulin pump to treat type 1 diabetes. In the future inhaled insulin is a possible treatment. Out of the three treatments, inhaled insulin is just as effective as subcutaneous (injected) insulin. Additional research into the management of blood glucose levels using diet, especially with respect to children and adolescents.

The Benefits of Meditation as a Long Term Stress Reliever for Nursing/Pre-med Students vs. Medication
by: Tianna Jordan and Kierra Hatcher

• Introduction: Recent research suggests meditation may be a suitable treatment option for various medical issues to reduce stress that had been previously treated with prescription drugs.
• Although there are a lot of theoretical articles that back up this thesis, this project focuses on controlled studies.
• Specific programs, such as Mindfulness-Based Stress Reduction(MBSR), are being evaluated with controlled studies that compare to drug treatments, there are long term benefits to some meditation options that are not seen with drug treatment options. Additionally some negative side effect of drug options are able to be avoided.

Type 1 Diabetes Treatments in Adolescents
by: Jordan Burnley and Avion Saylor-Mills
Type 1 diabetes is a chronic condition in which the pancreas produces no insulin. Research was done on the different treatments of diabetes, then we recorded the data from the articles in our discussion slide. Some treatments found were pancreas transplant, insulin pump, and insulin therapy. Of all these methods insulin therapy is the most common with transplants on the rise. Type 1 Diabetes is a complex disorder that requires multiple treatment options based on age, other health conditions and lifestyle.
The Effects and Treatments of Adolescent Concussions  
by: Kejuan Shivers, Damien Argo, and Tariq Carrington

Concussions are frequently discussed in association with contact sports, as recognition and diagnosing of concussions has improved, and are becoming more of a concern for younger athletes. Research was done to find the multiple symptoms of concussions and the possible treatments to solve those symptoms so that athletes can return to play. Databases such as Pubmed and Science-in-Context were examined to find peer reviewed articles that have performed research on the symptoms of and possible treatments for concussions. The most common symptoms of concussions are headaches, dizziness, and nausea. 93% of cases have headache, 75% have dizziness, and 29% have nausea. The most common and practiced treatments for these symptoms are physical and cognitive rest, along with medications. Physical and cognitive rest seems to be the most useful and effective way to heal the concussed brain. However, cognitive rest may be the hardest on high school athletes because that involves avoiding school activities and common items such as phones and computers.

Perspective of Euthanasia in Spain: the Case of Ramon Sampedro and its Influence on Modern Beliefs  
by: Amanda Haynes and Elizabeth Barber

Euthanasia is the act of allowing someone to die or painlessly putting someone to death by withholding extreme medical measures. This study focuses on how the laws against euthanasia have changed in Spain since the late 1900s, and in what ways have the views of the Church allowed for the morality of euthanasia to be questioned within the law. In order to unveil the current situation of these two aspects of Spanish culture, academic journals were examined in databases using search terms such as legality, euthanasia, assisted suicide, and Spain. Along with academic sources, the story of Ramon Sampedro is used to support the case for euthanasia, using his 30 year fight for legislation to be passed as a backbone for how little things have truly changed. Through research on this common debate, the conclusion was made that euthanasia is still a leading issue in Spanish culture as the laws against it are still predominantly held by those in power across the country. Although many citizens do not hold strongly to the belief today, the forces standing between the laws and change are too heavily influenced by religion and the preservation of life to allow for the act of euthanization to become common practice.

Sleep Deprivation Effect on Adolescents in the 21st Century  
by: Batula Hassan, Aiyannah Woodfolk, and De’André Bryant

Sleep deprivation has several negative effects.
3D Printing Tissue
by Molly Irving and Georgia Krum
Bioprinting/3D printing tissue is the process of synthetically creating organs and tissue in order to replicate natural tissue. 3D printing originally began with the printing of simple metal and plastic parts, but was soon recognized as a practice that could be used in the medical field. Scientists first started using it in the 2000s, and it has continued to be researched. Bioprinting is being tested and developed in the hope that it will revolutionize the field of medicine with its endless possibilities.

This research focused on the ways in which 3D printing could be used to print organs and tissue for transplantation. Using databases such as Pubmed and Science in Context, as well as key search terms (3D printing tissue, bioprinting tissue, 3D printing applied in medicine), information was gathered to support and prove how bioprinting could improve medicine. Sources showed that this step into new medical advancements is very possible. It could be the key to saving the hundreds of thousands of lives on the transplant list today. The organ shortage will only increase as people continue living longer lives. Without proper monetary and research investment, this field will not significantly advance to potentially revolutionize medicine. Organs and tissue are being created by combining stem cells and scaffolding to emulate the functions of authentic organs. Small steps are currently being made and it is projected that fully functioning organs could be printed in the next decade.

Negative Effects of Irregular Sleep Schedules Due to Shift Work
by: Ahyana Calloway and Emily Robinson
Many careers require night shift work such as doctors, nurses, and truck drivers. We are investigating a variety of forms of irregular work schedules that lead to irregular sleep schedules. We researched case studies that addressed the negative impacts of shift work on the body physically and mentally. Some effects of sleep deprivation due to shift work include weight gain, higher risk of injury and death while working, and prolonged sleep deprivation. We concluded that although night shift work has many negative side effects, it is a necessary evil.
Alcohol Abuse with Adolescents  
by: Erica Bailey and Banks Northington  
Alcohol abuse has increased among adolescents which is correlated to an increase in negative behavioral patterns, such as violence, teen pregnancy, motor vehicle accidents, and the dependence on alcohol later in life. The motivation of this research was to discover if early exposure to alcohol in the adolescent years had any short term and/or long lasting negative effects that could compromise the quality of life. The research done using private databases found that alcohol related injuries and pregnancies happen more often than those not involving alcohol. The basis for this research was comparing and contrasting data from a longitudinal study that followed a group of teenagers focusing on their drinking habits and learning how this affected them in later life. The research concludes that early use of alcohol in adolescents effects the users at the time that they are using it and later in life. It was determined that alcohol abuse continues later in life and creates health and social issues for the abusers.

Major Depressive Disorder  
by: Karina Melendez and Nolvin Cruz  
Major depressive disorder is a mental illness that can be seen in adolescents, causing negative outcomes both mentally and physically. There are three different treatment types used; therapy, medication, and exercise. It was found that a combination of these treatments, receives more positive response than a single treatment.

Prenatal Human Genetic Testing  
by: Cheyenne Berry and Sarah Payne  
Since Genetic Testing is a rapidly advancing field, current scientific procedures can be used to guide ethical decisions at various levels about the outcomes of these types of tests. Prenatal Genetic Testing was investigated by conducting a literature review. Two major categories of research on this topic include scientific advances and procedures and ethical dilemmas. Much research was put into this topic because it was very specific. A key finding of this topic is that Human Genetic Testing can be used to warn the mother and father about what type of disease the fetus has. Another key finding is that Human Genetic Testing can also notify a person if there is a genetic disorder that can be passed down through reproduction. What this means is that Human Genetic Testing can inform a person if there is a gene that can be passed down through reproduction or to help a pregnant woman know if the fetus that she is carrying has a disorder and then help that family decide what the next step is.

In Vitro Fertilization (Single vs Double Embryo Transfer)  
by: Alisse Colick and Francis Humes  
In this project, single embryo transfer and double embryo transfer were researched in order to determine which of the two were seen as the more ethical procedure. Aspects such as risks, costs and success rates were considered and compared in order to come to a conclusion. In order to determine those particular aspects of the two procedures, research was conducted using official databases with the intent of finding journal articles to find the relevant and necessary information. The findings supports the argument that double embryo transfer is more ethical when referring to the chances of having a successful pregnancy, but due to the increased chances of both neonatal and birth complications, it is considered less ethical than single embryo transfer when referring to those kinds of risks.
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