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We then replaced the Tyrode's solution with a low calcium bath.

This caused a decrease in tone of contractions. This occurs because the muscles need calcium to contract. The calcium binds to calmodulin, which leads to muscle contraction. So this low concentration causes fewer and less toned contractions. When 20% calcium is added to the solution it enables more calcium to bind to the receptors, thus causing more contractions.

However, when we replaced the low calcium bath with a high calcium bath the contractions nearly stopped. This is due to an overload of calcium. There is too much calcium and they are all fighting to bind with the receptors, blocking them and causing none of the calcium to be able to bind. We replaced the calcium solution with some fresh Tyrode's solution and allowed the intestine to return to normal contractions. We then added 5 drops of cyanide and after about three minutes the contractions stopped. The cyanide inhibits the cell's ability to produce ATP, which aids the intestinal cell's respiration ability.

Once the respiration has stopped it causes the contraction of the muscle to completely stop as well. (Ford and Weck,) "The Impact of Substance Abuse Treatment Modality on Birth Weight and Health Care Expenditures" was an article published in the Journal of Psychoactive Drugs. Haight-Ashbury publishes this journal four times a year (4).

It is carried by a total of 537 libraries nationwide, 11 of which are located in the Missouri area (3). Being carried in a lot of libraries, including the St. Louis College of Pharmacy Library, and published frequently establishes this journal as a reputable source. There are also six authors of this study, each

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hold a PhD. Marilyn Daley is a research associate at Schneider institute for health policy, Heller graduate school, Brandies University, Waltham, Massachusetts. Miltion Argeriou, the main author of this study, is the Senior Research Associate for Schneider Institute for Health Policy, Heller Graduate School and Brandies University. He also has published at least 22 related articles throughout his career (2). Dennis McCarty is the professor at Oregon Health Sciences.

James J. Callahan, Jr. is a professor at the Heller Graduate School, and Brandies University. Donald S. Shepard is a Professor at Schneider Institute for Health policy, Heller Graduate School, and Brandies University. Carol N. Williams is the executive director of research designs international.

Having such experience behind this study establishes its creditability within the scientific community. Preparation of this Manuscript was supported by the Health Care Financing Administration cooperative agreement (1). The Following is a complete analysis of the Abstract, Introduction, Methodology, Results and References of this study. AbstractThe abstract of this article was clear and complete. It displayed key points to describe the purpose and results of this article. Overall it was well written with minimal to no biased language, while at the same time providing enough enthusiasm to maintain the readers interest. The abstract only included data that was relevant, and crucial to the main concepts of the study. The abstract did not include any data or points not discussed in the sections to come.

In addition, the abstract conveyed the purpose of this study, impact of different types of treatments on birth weights of substance abusing women.

Introduction Like the previous section of this article the introduction was also well written. Initially the authors went into great detail to document the need for this study to be undertaken. The introduction contained different points which were referenced by a lot of material to clarify their purpose, the effect of substance abuse on birth weight.

In doing so it appeared the need to conduct such a study was not worth the time and resources. However, by introducing cost effective aspect of the study the purpose became clear. In the end, the purpose and aims of this study were identifiable which again made this article interesting to read. The key to this section was in fact the turning point of this introduction; "Most of these studies have compared women who received treatment during pregnancy to other pregnant, drug-dependent women who did not receive treatment.

In an era of escalating health costs, there is also a critical need for research to evaluate the impact of different treatment modalities and components on birth outcomes and associated costs." (1) Methods The methods section of this article had sufficient detail to repeat the study. However, the methods of this experiment may be hard to identify given the amount of time spent talking about the actual methods. The authors proceeded to focus this methods section defending the fact that the study started with 627 subjects, yet only reported 445. In consistency with the previous sections the author used a chronological format in describing their study. They started by explaining how they obtained their participants through the Massachusetts Department of Public Health, Bureau of substance abuse services (BSAS).

Next, they explained how they determined the addiction severity through administration of an Addiction severity index. Once the addiction was established, and followed, the authors proceeded to assign the subjects to different modalities of treatment: outpatient, inpatient, detoxification only, methadone, and outpatient/inpatient. After assigning the subjects to different subgroups the authors obtain further information about: " birth weight, gestational age, prenatal care, obstetric history, medical risk factors, obstetric procedures, complication of labor and delivery, method of delivery, abnormal conditions of newborn, congenital malformations, birth hospital, Apgar scores (a numerical expression of the condition of a new born infant) and date of birth." (1) Once the data was collected and classified the authors went on to Statistically Analyze their data. With each part of the methodology the authors described how they lost subjects in the course of the study. Since most of this study consisted of obtaining data and analyzing it, the methods used by the author were not modified in any way.

Furthermore, the authors correctly referenced where they obtain their data making it easier for others to repeat this study. Some of the downfalls of section include reasons why certain procedures were used. Although it may be obvious, to scientist, why they used certain procedures, such as the addiction severity index, most financial and government readers may not understand the relevance for such actions. This raises an important question, who did the authors expect to read this article? The authors also failed to describe what can and cannot be inferred upon by using the methods of this study.

Limitations of a study are needed to define the practical value of a study. By not having such limitations, in the methods section, the authors can discuss a great variety of topics in the sections to come, results and discussion.

Regression analysis was used to compute data for 99 women using data from clients with no missing data. This use of statistical analysis was not appropriate for this study. Since the purpose of a study is to come to a conclusion given data it would be wrong to extrapolate data and include this in the results for discussion. Besides this analysis the authors used all other statistical applications in an appropriate manner using the " SAS statistical software program, version 6. 12 (SAS Institute 1996)." (1) Results Like some of the previous sections the results section was also well written.

There were three parts of the results section, the main results, cost-effectiveness analysis and a discussion. Each part of the results section correlated to the objectives of the study. The author's only discussed details that were relevant to the experiment. Furthermore, the authors limited their discussion to the information obtained from the study. The objectives of this study were to explore the relationship between birth weight and method of substance abuse treatment, with respect to cost.

This study showed that there is a positive correlation between birth weight and method of substance abuse treatment. However, the authors did mention that their results, in context with substance abuse, were not statistically significant. The authors contributed the heavier birth weights to better nutritional monitoring with respect to different sub-groups of treatment.

The cost analysis of this study revealed the financial aspect of this study. It determined the relevance of increasing the birth weight with respect to cost. This was the best part of the study. The cost analysis sub-section detailed which modality was dominant over the others. Before revealing which modality was dominant over the other, the authors included a good definition to describe what was defined as being dominant; “ In cost effectiveness terminology an intervention is said to dominate another intervention if it is both less expensive and more effective.

” (1) This definition was a key part of this section because it identified the results of the data collected for a broader perspective. In the discussion sub-section of this article the authors go on to discuss, and adequately interpret their data. The authors discussed several factors that could have an effect on this study, including age and violence, physical and emotional abuse. The main conclusion drawn from this discussion focused on the idea of better nutrition for pregnant women.

They included possible solutions such as “ free meals on site to ensure that pregnant clients are receiving adequate nutrition.”(1) In the end, this section played an integral part by bringing the information together for the reader.

References Throughout the article the author cited references to support their information.

The references were used and cited appropriately. In addition, the authors also used some of their previous publications as references. They used and cited these references in a proper manner. References 1. Daley M PhD, Argeriou M PhD, McCarty D PhD, Callahan J PhD, Shepard D PhD, Williams C

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