

Muhammad Abubakar, Sarah Chernoff, & Kristine M. Jacquin

ABSTRACT

- ❖ Malnutrition among prisoners in the United States is widespread and can cause numerous physical and psychological issues. Food storage, preparation, and nutritional content are all issues within the current prison system that can lead to pathogenic infections, changes in weight, and psychological symptoms. Policy changes should address the availability, freshness, safety, and nutritional content of the food provided to inmates within the United States prison system.

INTRODUCTION

- ❖ The United States currently has the highest incarceration rate in the world (Horn et al., 2018).
- ❖ Prisons range in their size, location, number of inmates, and level of security, and may fall under federal or state government jurisdiction.
- ❖ A major area of concern regarding prisons is the quality of food being served to prisoners (McKirgan, 2013).
- ❖ Poor quality and quantity of food offerings to prisoners has been linked with poor health, weight loss, weight gain, obesity, vitamin deficiencies, and harmful psychological symptoms (Rosenboom et al., 2018).

MALNUTRITION EFFECT ON BIRTHWEIGHT

- ❖ A study conducted by Martin and colleagues (1997) examined the impact of incarceration on newborn birth weight in pregnant women.
- ❖ The results showed that women incarcerated while pregnant did not have children with low birth weight; however, women who had been incarcerated before pregnancy had children with significantly lower birth weight (Martin et al., 1997).
- ❖ The study's findings suggest that incarceration had a prolonged and long-term impact on the women and their subsequent offspring.

CORRELATION OF DISTRESS & MALNUTRITION

Variables	Male	Female	t(98)	P	Cohen's d
	n = 50	n = 50			
Malnutrition	3.20 (.857)	3.48 (1.129)	-1.397	.004*	0.340
Psychological Distress	39.28 (6.338)	39.22 (7.870)	0.042	.024*	-0.320

Note: N=100. *p < 0.05

FIGURE 1. Means, Standard Deviations, and t-values of Gender Differences on Malnutrition Screening Tool and Kessler Psychological Distress Scale (N=100) (Abid, 2016)

MALNOURISHMENT IN PRISONS

- ❖ One factor leading to overall malnourishment in prisons is food preservation, storage, and shelf life.
- ❖ Over the past decade, several breakouts of specific bacteria have been identified among American prison populations (Gicquelais et al., 2014; Thurston et al., 2012).
- ❖ For example, two Arkansas state prisons reported gastrointestinal discomfort amongst inmates; stool samples revealed a total of eight strains of salmonella among over 70 inmates (Gicquelais et al., 2014).
- ❖ A separate study conducted by Thurston and colleagues (2012) highlighted a breakout of botulism in a Utah state prison.
- ❖ Similarly, clostridium perfringens enterotoxin was found in over 100 inmates in a Wisconsin county prison (Hsieh et al., 2009).
- ❖ Malnutrition has a plethora of detrimental effects on the human body, including mental health.
- ❖ Depression has been directly associated with malnutrition in adults (Abid, 2016; Wei et al., 2018).
- ❖ Pregnant incarcerated women are especially vulnerable, and maternal malnutrition during pregnancy can lead to numerous negative health and mental health outcomes in their offspring (Forgie et al., 2020; Martin et al., 1997).

FREQUENCY OF INMATE INFECTIONS

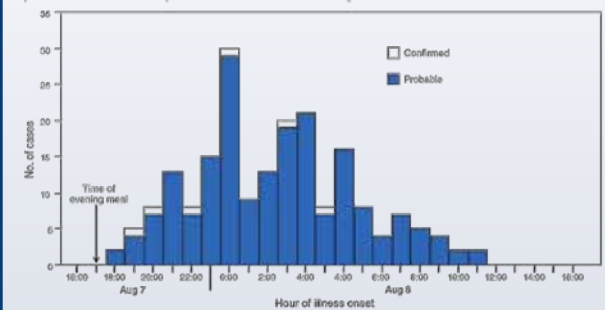


FIGURE 2. Number of self-reported cases of *clostridium perfringens* infections (N = 200) among inmates housed at a country jail who ate casserole dinner, by hour of illness onset – Wisconsin, August 7 and 8, 2008 (Hsieh, 2019)

A NEED FOR CHANGE

- ❖ With several bacterial breakouts, overall malnutrition, and chronic maladaptive effects on prisoners, it may come as a shock to uncover that taxpayers give up to 80 billion dollars annually to fund prisons in the United States (Horn et al., 2018).
- ❖ Immediate review and improvement of the nutritional value of prison food is crucial.
- ❖ An analysis of each facility and an improvement plan can prevent further malnutrition and significantly decrease long-term damage to mental health.

REFERENCES

Abid, M. (2016). A psychological aspect of malnutrition: Hiding psychological distress among patients with depression. *Journal of Psychology & Clinical Psychiatry*, 671, 1-4. <https://doi.org/10.1177/0973953316640404>

Fergie, A. J., Drai, K. M., Bourque, S. L., Field, C. J., Kaznyray, A. L., & Wilgig, B. P. (2020). The impact of maternal and early life malnutrition on health: A diet-microbiome perspective. *BMC Medicine*, 18(135), 1-15. <https://doi.org/10.1186/s12916-020-01674-4>

Gicquelais, R. E., Martin, J. F., Mathews, S., Giedden, L., Sak, H., Grayson, C., Clayton, R. B., Newton, A. E., Sordstrom, R., Wheeler, J. G., Smith, N., Bosch, S. A., & Haselwe, D. T. (2014). Multiple serotype salmonella outbreaks in two state prisons—Arkansas, August 2012. *Morbidity and Mortality Weekly Report*, 63(8), 163-173.

Horn, S. P., U.S. Warden, S., McCarty, B., & Frison, M. T. (2018). The economic costs of jail-based methadone maintenance treatment. *The American Journal of Drug and Alcohol Abuse*, 44(5), 511-519. <https://doi.org/10.1080/00950964.2018.1484948>

Heath, H., Archer, J., Mathews, S., Davis, J. P., & Nokes, C. F. (2008). Clostridium perfringens infection among inmates of a county jail – Wisconsin, August 2008. *Morbidity and Mortality Weekly Report*, 58(5), 138-141.

Martin, S. L., Kim, H., Kupper, L. L., Meyer, R. E., & Ryan, M. (1997). Is incarceration during pregnancy associated with infant birthweight? *American Journal of Public Health*, 87(9), 1526-1531. <https://doi.org/10.2196/ajph.87.9.1526>

McKirgan, M. D. (2013). Under-nutrition in the state prison food system: Consequences and a proposal for change. *Journal of Food Law & Policy*, 9, 275-305.

Rosenboom, L. M., Stabler, R. J., Stang, J. L., & Hancock, L. J. (2018). Evaluation of the nutritional quality of commissary foods offered in American women's prisons. *Journal of Correctional Health Care*, 24(3), 264-275. <https://doi.org/10.1177/1043986217737704>

Thurston, D., Rial, L., Hill, M. B., Vitek, D., Sogsdan, L., Robinson, J., Price, A., Smith, L., Rao, A., Dwyer, J., Lopez, C., & Walters, M. (2012). Salmonella from drinking prison-made food alcohol – Utah 2011. *Morbidity and Mortality Weekly Report*, 61(29), 782-784.

Wei, J., Fan, L., Zhang, Y., Li, S., Partridge, J., Clayton, L., & Sub, S. (2018). Association between malnutrition and depression among community-dwelling older Chinese adults. *Asia-Pacific Journal of Public Health*, 30(2), 107-117. <https://doi.org/10.1177/1025325917737704>