

Abstract

Prenatal care has been shown to improve birth outcomes, and a lack of prenatal care is a significant risk factor for poor maternal and infant health. Although the state of maternal health has made significant strides in recent years, women in low socioeconomic status' continue to receive in adequate care. Research has stressed the importance of prenatal care and health outcomes as a result of adequate care.

Objective

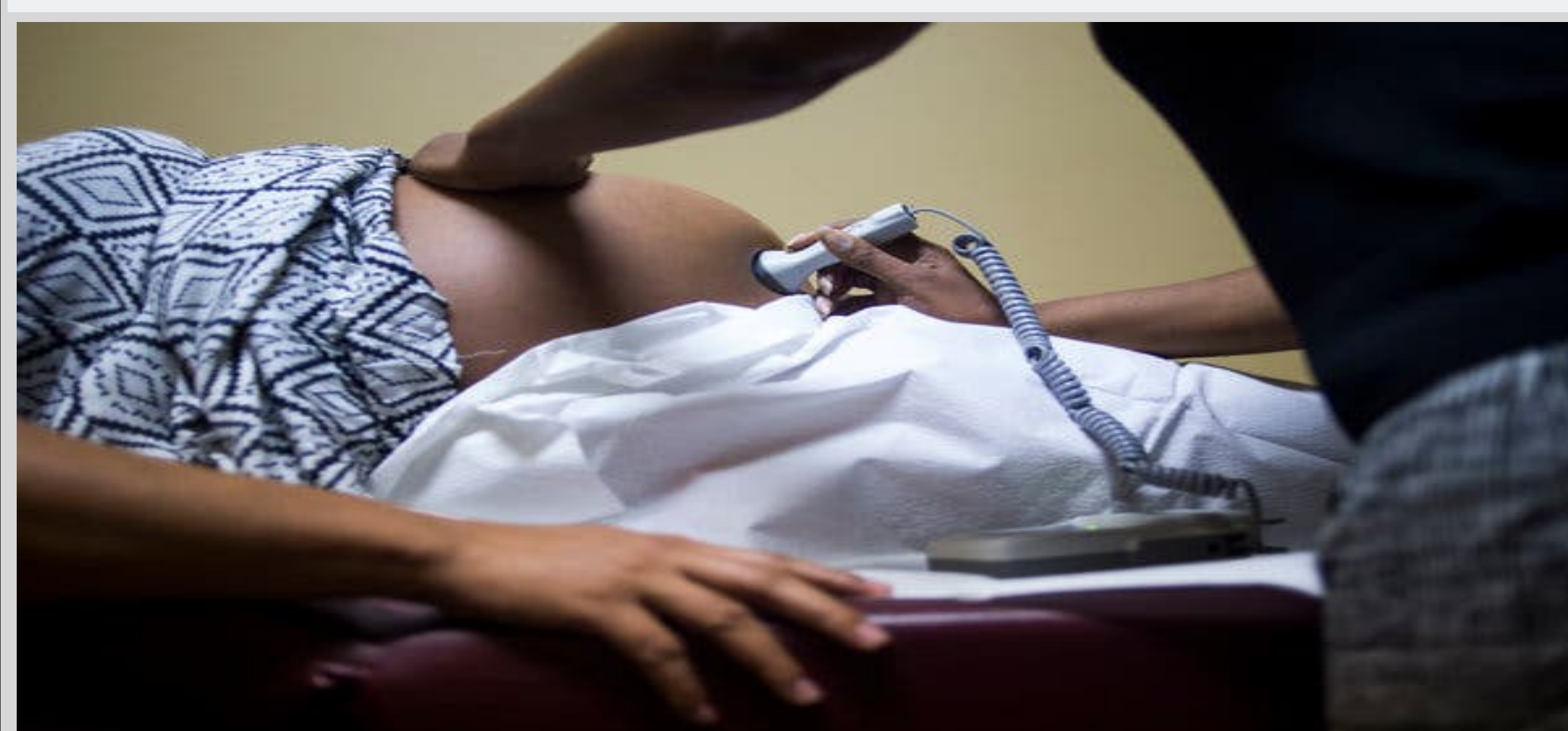
This systematic review examined literature for correlations between missed visits maternal health and how the latter can affect health outcomes.

Methods

Queries were conducted via PubMed for literature dated from 2008 – 2020. Keywords such as, access, barriers, prenatal care, “no-show” appointment, and missed appointments were used to find studies. Literatures were chosen based on their relevance to the topic. Most studies had to reference the significance of missed appointments. Studies that made no mention of missed visits were not reviewed.

Results

Out of 46 articles reviewed, six met eligibility criteria. Of the six selected three articles addressed barriers to PNC, two focused on missed appointments and health outcomes, and the final article addressed recommendations and possible interventions.



Results

Barriers to Prenatal Care

Author	Result
Gadson (2017)	Gadson et. al conducted A qualitative and quantitative review of literature that offered a possible framework for understanding how disparities in prenatal care utilization may relate to disparities in maternal morbidity and mortality in African American women. They also note that the advantages of prenatal care in terms of patient engagement and education have not been uniform across all subgroups of the US population. Prenatal care may need to be supplemented with ancillary and community-engaged services for carefully identified subgroups. Further research is required to make potential innovations in PNC.
Heaman (2015)	Heaman et al used a descriptive exploratory qualitative design that identified barriers that related to inner city women, many of which included, care giver characteristics, health care system barriers, and program/service characteristics. Suggestions to improve care reflected those identified by the facilitators and included ideas to make PNC more accessible and convenient as well as more responsive to the complex needs of the patients
Johnson (2011)	A phenomenological model was used to conduct qualitative research by Johnson et al. Researchers interviewed 331 African American and Latino patients and 61 providers to identify which of the 63 motivators, facilitators, and barriers significantly influenced PNC initiation and lack thereof. Data collections were statically analyzed using the Fischer Exact test and Kendall test to compare provider perceptions vs patient perceptions. The results indicated that providers and patients perceptions are completely different. As such, researchers recommend that providers should consistently and consciously involve patients in planning their own healthcare. Care must be individualized based on patient's concerns and self-care issues.

Missed Appointments and Health Outcomes

Author	Result
Hwang (2015)	Hwang et al hypothesized that patients with a high propensity to "no-show" for appointments will have worse clinical and acute care utilization outcomes compared to patients with a lower propensity. To test this hypothesis researchers calculated the no-show propensity factor (NSPF) for patients of a large academic primary care network using 5 years of outpatient appointment data. Participants included 140,947 patients who visited the network practice between 2007 and 2009. Results indicated that patients in the low NSPF group compared to patients in the high NSPF had increased rates of acute care utilization for hospitalization and emergency care.
Quinn (2008)	A a concurrent triangulation design was used by Quinn et al to compare patient responses on a quantitative mail survey of reasons for missed appointments with those obtained through in-depth interviews. The study was carried out in collaboration with an extensive OB/GYN practice that primarily served low-income women living in a South Florida urban area. They conducted a quantitative survey that was answered by 38% of the target population. Of those, 12 agreed to do a qualitative study that required a face-to-face interview. The study results concluded that missed appointments are frequently more complicated than simply forgetting and a lack of transportation or childcare. Interviews indicate dissatisfaction with the interaction between the provider and the patient or between the front office staff and the patient.

Possible Interventions

Author	Result
Peahl (2020)	An article by Peah et al argued that the current model for PNC is outdated and should be reconceptualized. The authors suggests that focusing on promoting health and wellness instead of primarily focusing on medical complications, flexibility incorporating patient preferences, and individualizing care will improve the current prenatal care model better to serve patients and health care providers of today. They proposed a conceptual model for prenatal care that incorporates both patients' medical and social needs into four phenotypes (1. Low medical need; high support need, 2. High medical need; high support need, 3. Low medical need; low support need, and 4. High medical need; low support need). Effective prenatal care should address two types of patients' needs: medical and psychosocial. Combining a patient's medical and support needs into a single maintenance model can improve patient phenotyping, which can then match appropriate patients with appropriate services.

Discussion/Conclusion

Of the 46 articles reviewed, six met eligibility criteria. Three focused on barriers to prenatal care, two focused on the impact missed appointment on health outcomes, and the last article gave recommendations for interventions that address barriers to PNC. Although there are many contributions to study on barriers that affect access to inadequate PNC, there aren't many studies that focus on the impact of missed appointments on maternal health outcomes.

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References

- Gadson, A., Akpovi, E., & Mehta, P. K. (2017). Exploring the social determinants of racial/ethnic disparities in prenatal care utilization and maternal outcome. *Seminars in Perinatology*, 41(5), 308-317.
- Heaman, M. I., Sword, W., Elliott, L., Moffatt, M., Helewa, M. E., Morris, H., ... Cook, C. (2015). Barriers and facilitators related to use of prenatal care by inner-city women: perceptions of health care providers. *BMC Pregnancy and Childbirth*, 15(1). <https://doi.org/10.1186/s12884-015-0431-5>
- Hwang, A. S., Atlas, S. J., Cronin, P., Ashburner, J. M., Shah, S. J., He, W., & Hong, C. S. (2015). Appointment "no-shows" are an independent predictor of subsequent quality of care and resource utilization outcomes. *Journal of General Internal Medicine*, 30(10), 1426-1433. <https://doi.org/10.1007/s11606-015-3252-3>
- Johnson, A. A., Wesley, B. D., El-Khorazaty, M. N., Utter, J. M., Bhaskar, B., Hatcher, B. J., ... Laryea, H. A. (2011). African American and Latino Patient Versus Provider Perceptions of Determinants of Prenatal Care Initiation. *Maternal and Child Health Journal*, 15(S1), 27-34.
- Peahl, A. F., Gourevitch, R. A., Luo, E. M., Fryer, K. E., Moniz, M. H., Dalton, V. K., ... Shah, N. (2020). Right-Sizing Prenatal Care to Meet Patients' Needs and Improve Maternity Care Value. *Obstetrics & Gynecology*, 135(5), 1027-1037.
- Quinn GPP, et al. (2008); 23:307-13 Appointments in Perinatal Care: Response Variations in Quantitative versus Qualitative Instruments. *The Journal of Medical Practice Management: MPM*

