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Socioeconomic and individual factors associated with smoking during pregnancy

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Introduction

Tobacco is associated with high maternal and fetal morbidity rates as it increases the risk of pregnancy loss, ectopic pregnancy, placental abnormalities, fetal growth restriction and still birth ^{[2][3]}. It's also a long-term preventable cause of death.

Various factors have been associated with tobacco consumption during pregnancy. These factors should be known in order to establish preventive measures. Through this study, we aimed to explore the study individual, environmental and the socioeconomic characteristics associated with maternal smoking during pregnancy.

Methodology and research tools:

It was a prospective transversal descriptive cross-sectional study. It was conducted among 150 pregnant women who underwent prenatal care in nine different public health facilities across Tunisia and who declared they were still smoking during pregnancy. Data was gathered by trained medical personnel who carried out prenatal care checkups between January and march 2021.

Results

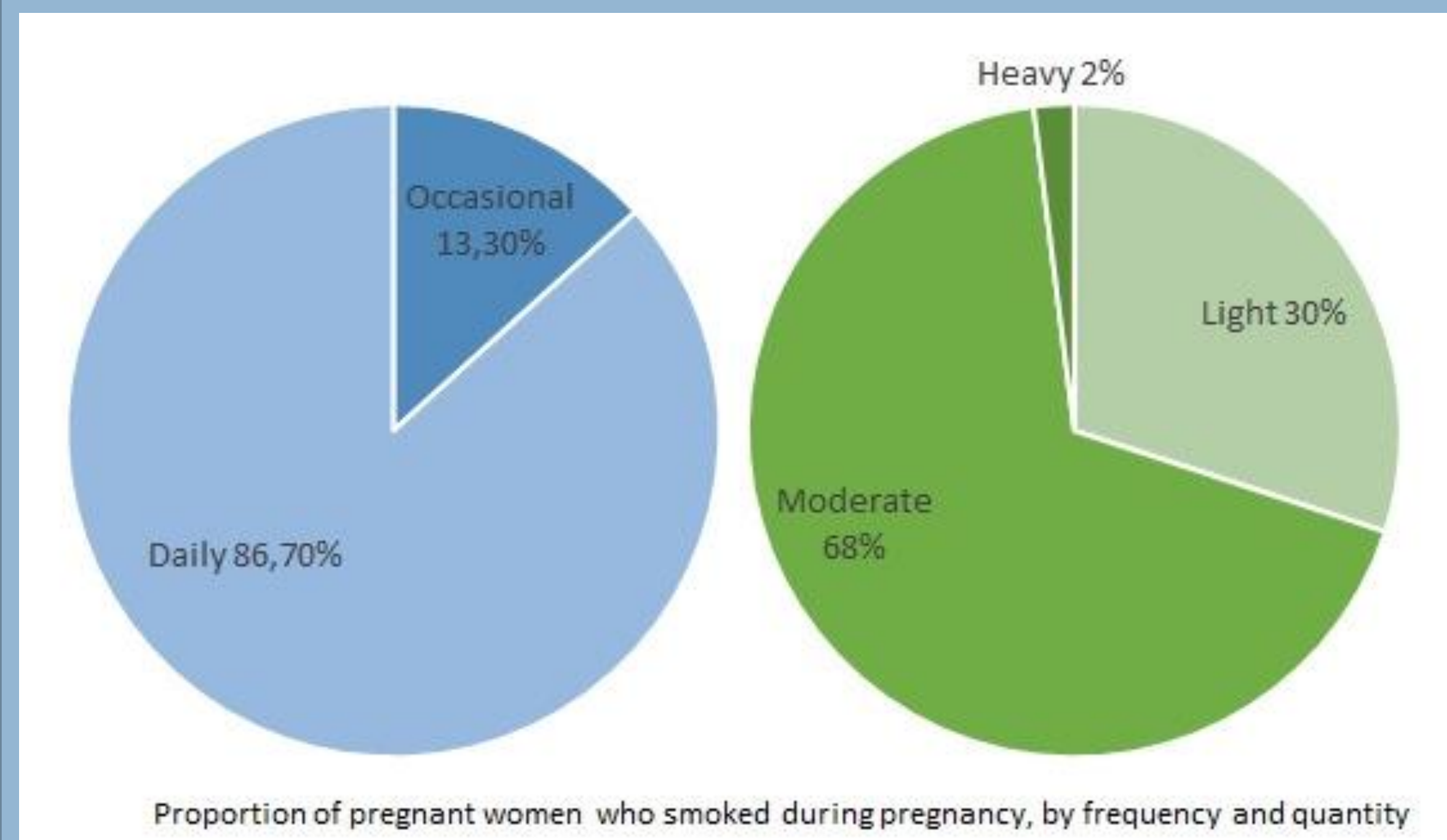
The average maternal age in our study was 34 years old. Almost half of the participants (57.4%) were nulliparous and most of them (81.9%) were married.

Educational level was relatively high in our study. In fact, 93,4% of included women had higher education. On the other hand, 41% of them were unemployed and 66% had low income. Two out of three women belonged to economically disadvantaged neighborhoods.

Results

Sixty four per cent of our population started smoking before the age of 20, half women have been smoking for more than ten years and most of them were daily light to moderate smokers (98%). Sixty two per cent of the participants declared smoking before pregnancy and 6.5% were using psychoactive substances.

Most smoking women (95%) reported that their husband was also a smoker. Only 15% tried to reduce tobacco use once pregnancy was confirmed.



Discussion

Smoking during pregnancy is still considered as one of the most important risk factors of adverse pregnancy complications. It is estimated that 1.7% of pregnant women worldwide are smokers ^[1]. This prevalence varies across the world as it's decreasing in high income countries while it's alarmingly increasing in low- and middle-income countries like ours ^[4].

Unfortunately, in our country, we lack official statistics about the prevalence of smoking pregnant women and the characteristics of this population.

Our study revealed that smoking parturients were often nulliparous young women with a high education level. This last finding doesn't match with similar studies results ^[5] since this behavior is often associated with low education. We also found out that most women were married and this can be explained by the cultural context.

On the other hand, the socioeconomic variables are often highlighted in the international scientific literature. Smokers have often low income and belong to economically disadvantaged groups. This can be explained by the difficult reach to positive health interventions and the environment influence.

Another parameter was noticed through our study was that most women started smoking at an early age and had a high exposure period. This can explain their tobacco dependance and difficulty to quit during pregnancy.

Psychoactive substances consumption wasn't frequent in our population. But this lifestyle habit is an additional maternal and fetal morbidity risk factor as it increases the chance of poor pregnancy outcome^[6].

Finally, another variable related to the living environment, is the partner's involvement in this risky habit. It was very high in our study. This factor makes smoking cessation difficult and exposes the women to secondhand smoke whose toxicity isn't negligible.

Conclusion

Through this study, we tried to point out that there are many disparities between tobacco consuming pregnant women. In fact, individual, environmental and especially socioeconomic factors are involved. Therefore, preventive measures should be targeted and should take smokers characteristics into account.

Références

- [1] Lange S, Probst C, Rehm J, Popova S. National, regional, and global prevalence of smoking during pregnancy in the general population: a systematic review and meta-analysis. *Lancet Glob Health*. 2018;6(7):e769-e776. [https://doi.org/10.1016/S2214-109X\(18\)30223-7](https://doi.org/10.1016/S2214-109X(18)30223-7)
» [https://doi.org/https://doi.org/10.1016/S2214-109X\(18\)30223-7](https://doi.org/https://doi.org/10.1016/S2214-109X(18)30223-7)
- [2] Mund M, Louwen F, Klingelhoefer D, Gerber A. Smoking and pregnancy: a review on the first major environmental risk factor of the unborn. *Int J Environ Res Public Health*. 2013;10(12):6485-99. <https://doi.org/10.3390/ijerph10126485>
» <https://doi.org/https://doi.org/10.3390/ijerph10126485>
- [3] Philips, EM, Santos S, Trasande L, et al. Changes in parental smoking during pregnancy and risks of adverse birth outcomes and childhood overweight in Europe and North America: an individual participant data meta-analysis of 229,000 singleton births. *PLoS Medicine*. 2020; 17(8): e1003182. DOI: 10.1371/journal.pmed.1003182
- [4] Reece S, Morgan C, Parascandola M, Siddiqi K. Secondhand smoke exposure during pregnancy: a cross-sectional analysis of data from Demographic and Health Survey from 30 low-income and middle-income countries. *Tobacco Control*. 2019; 28(4): 420–426. DOI: 10.1136/tobaccocontrol-2018-054288
- [5] Kondracki AJ. Prevalence and patterns of cigarette smoking before and during early and late pregnancy according to maternal characteristics: the first national data based on the 2003 birth certificate revision, United States, 2016. *Reproductive Health*. 2019; 16(1): 142. DOI: 10.1186/s12978-019-0807-5
- [6] Pereira CM, Pacagnella RC, Parpinelli MA, Andreucci CB, Zanardi DM, Souza R, Angelini CR, Silveira C, Cecatti JG. Drug Use during Pregnancy and its Consequences: A Nested Case Control Study on Severe Maternal Morbidity. *Rev Bras Ginecol Obstet*. 2018 Sep;40(9):518-526. English. doi: 10.1055/s-0038-1667291. Epub 2018 Jul 31. PMID: 30064145.