

Evaluation of salicylates intake in pregnant and non pregnant women

Rafsan Cholik, Dominik Jozwiak, Joanna Suliburska

Department of Human Nutrition and Dietetics, Poznan University of Life Sciences

INTRODUCTION & AIM

Preeclampsia is an important pregnancy complication and cause of maternal and perinatal mortality and morbidity.

The main sources of salicylates are vegetables, herbs, and spices. Diet rich in vegetables and herbs have positive effects on human health.

The aim of this study was to determine the dietary intake and total salicylate intake in pregnant and non pregnant women.



Pregnancy complication



Hypertension and maternal organ dysfunction



Antiangiogenesis ≠ proangiogenesis



Preeclampsia



Salicylates

METHOD

Ages 18–49 years old



Gestational Days: 25–38 weeks

The number of 35 pregnant women and 35 non pregnant women were involved in this study.



The data was validated using FFQ questionnaire and a 24-h recall nutrition review.



The results were analyzed using the original database on salicylate content.



Mann Whitney and Spearman correlation were performed in Statistica 13.3

RESULTS & DISCUSSION

Table 1. Comparison between non-pregnant and pregnant across various nutritional metrics

Group	Non Pregnant	Pregnant
BMI (kg/m ²)	22.70 ± 3.30 (22.7)	22.11 ± 2.42 (22.09)
Energy (kcal)	2018.72 ± 903.75 (1745)	1585.5 ± 844.58 (1404)
Protein (g)	85.53 ± 39.27 (78)	68.97 ± 39.16 (57)
Fat (g)	76.75 ± 50.25 (58)	58.68 ± 39.58 (44.50)
Carbohydrates (g)	258.94 ± 125.46 (239.50)	202.03 ± 102.98 (172)
Fiber (g)	25.25 ± 17.71 (21.50)	20.38 ± 11.44 (18.50)
Cholesterol (mg)	343.38 ± 341.66 (219)	231.09 ± 220.96 (146)
Total salicylates (µg/day)	708.63 ± 427.92 (633.25)	1136.09 ± 577.47 (1016.11)
Folate (µg)	331.78 ± 185.93 (303)	341.71 ± 309.13 (292)
Potassium (mg)	3151.22 ± 1081.97 (3119)	2674.18 ± 1337.71 (2304)
Calcium (mg)	909.66 ± 682.36 (760)	670.5 ± 574.35 (537.5)
Phosphor (mg)	1465.28 ± 705.49 (1184)	1161.59 ± 603.57 (1024.50)
Magnesium (mg)	392.25 ± 195.23 (381)	307.74 ± 176.24 (242)
Iron (mg)	13.66 ± 8.66 (11)	9.88 ± 6.18 (8)
Zinc (mg)	11 ± 5.80 (9.50)	8.56 ± 5.51 (6.5)
Copper (mg)	1.77 ± 1.06 (2)	1.26 ± 0.71 (1)
Mangan (mg)	5 ± 3.74 (4.5)	4.15 ± 2.58 (3)
Vit B 12 (mg)	4.13 ± 4.45 (3)	2.81 ± 1.73 (2)
Vit E (mg)	11.5 ± 7.62 (8.5)	12.15 ± 10.85 (8)
vit B1 (mg)	1.32 ± 0.70 (1)	1.15 ± 0.51 (1)
vit B2 (mg)	1.84 ± 0.97 (2)	1.44 ± 0.75 (1)
Vit B3 (mg)	20.38 ± 13.13 (14)	16.29 ± 12.31 (11.5)
vit B6 (mg)	2.094 ± 1.99 (2)	1.76 ± 0.92 (2)
vit C (mg)	105.53 ± 86.10 (83)	136.68 ± 101.71 (92)
vit A (mg)	1222,13 ± 1488.27 (780)	873.38± 654.11 (695)
vit D (mg)	2.85 ± 2.13 (2)	3.09 ± 3.2 (2)
vit K (mg)	44.19 ± 76 (9)	29.19 ± 41.30 (13.50)

- Pregnant women (P) had a significantly higher total of salicylates (1136.09 ± 577.47 µg/day) compared to non-pregnant women (NP) (708.63 ± 427.92 µg/day).
- Energy, protein, carbohydrate, potassium, calcium, phosphorus, magnesium, iron, zinc, copper intake were significantly lower in the P group compared to the NP group.
- The average BMI was similar between groups NP (22.7 ± 3.30 kg/m²) and P (22.10 ± 2.42 kg/m²).

CONCLUSION

In conclusion, intake of natural salicylates increases in the late pregnancy. The diet of pregnant women is characterized by a low content of macro and micronutrients, which may have a negative impact on the development of the fetus.

FUTURE WORK / REFERENCES

1. Lai J, Syngelaki A, Nicolaidis KH, von Dadelszen P, Magee LA. Impact of new definitions of preeclampsia at term on identification of adverse maternal and perinatal outcomes. *Am J Obstet Gynecol* 2021 May;224(5):518.e1-518.e11.
2. Ogunwale SM, Mwinnyaa G, Wang X, Hong X, Henderson J, Bennett WL. Preeclampsia Across Pregnancies and Associated Risk Factors: Findings From a High-Risk US Birth Cohort. *J Am Heart Assoc* 2021 7;10(17):e019612.
3. Schrey-Petersen S, Stepan H. Anti-angiogenesis and preeclampsia in 2016. *Curr Hypertens Rep* 2017, 19:6.