

## **Psyllium - products from *Plantago afra*, *Plantago ovata* and *Plantago indica* as dietary supplements**

**Introduction:** Health-food in our society has become increasingly important. In the media, the consumer is often suggested that they too acidic, too little vitality, too thick or too bloated. Yet the number of diet-related diseases has increased significantly in recent decades. In addition to a drug treatment in the practice, the use alternatives - such as dietary supplements to soften symptoms, is increasing.<sup>[1]</sup> Psyllium is comprised of various representatives of the concept of the genus *Plantago*. The plant slime is also called Psyllium. The species *P. afra*, *P. indica* and *P. ovata* are more effective than the domestic *P. lanceolata*.<sup>[6][9]</sup> GARVIN ET. AL. showed in 1965 the cholesterol-lowering effect with Psyllium. Since then the research was focused on much more on the positive than on the negative effects.<sup>[6]</sup> Therefore this drug experiences a renaissance.

### **Material and methods, experimental design, other methodological information:**

The aim of the bachelor thesis was, to describe the specific plant anatomy of this different *Plantago*-species, which have similar effects. Afterwards I researched and discussed the positive and negative effects of different *Plantago*-species as a dietary supplement in human nutrition.

**Results and discussion:** The slime in *P. afra* and *P. indica* is lower than in *P. ovata* and *P. ovata* husk. For treatment of digestive problems the recommended dose for *P. afra* or *P. indica* is between 10-30 g/d, for *P. ovata* between 12-40 g/d and for *P. ovata* husk between 4-12 g/d. It's necessary to drink enough, otherwise the substance can swell in the oesophagus.<sup>[4][6]</sup> But Psyllium can be useful for patients who suffer at Constipation.<sup>[7]</sup> Psyllium is a good alternative to the predominant drug Mesalamin in the CED-therapy.<sup>[2][3]</sup> The effect of Psyllium on Diabetes mellitus are controversy discussed.<sup>[4][6]</sup>

JOYCE ET. AL. show the insulin-reduction and the postprandial glucose-reduction on non-insulin depended patients.<sup>[8]</sup> The research of LUCCIA ET. AL. shows that different Psyllium-products can reduce the availability of calcium. But for these effects it needs a very high concentration of Psyllium.<sup>[5][9]</sup>

**Conclusion:** Many Studies have shown the positive effects of Psyllium, especially from *P. ovata* because this species has more slime in comparison to the others. The Drug can reduce the symptoms of Constipation, Diarrhoea or Irritable Bowel Syndrome. But in a subgroup also increases strengthen these symptoms. Psyllium can reduce the blood cholesterol and the blood glucose. So it can be an opportunity for patients who suffer on specific illnesses.

## References

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