

# Exploring boundaries of indications, safety and complications in bariatric surgery

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## IMPACT PARAGRAPH

A reflection of the scientific and social impact of the results of the research described in this thesis is described in this 'impact paragraph'.

- (1) (Research) What is the main objective of the research described in the thesis and what are the most important results and conclusions?

### Main objectives

Based on the known beneficial effects of bariatric surgery, the aim of part I of this thesis was to explore whether bariatric surgery is also safe and effective in adolescents and elderly and thus whether it is acceptable to widen the age criteria for bariatric surgery on both sites of the age bar.

The second part of this thesis aimed to make bariatric surgeons and obstetricians aware of small bowel obstruction related to the bariatric surgery during pregnancy and to get more insight in the diagnostic and therapeutic plan in order to improve maternal and foetal outcome.

### Most important results and conclusions

As provided in the conclusion of the general discussion (Chapter 10) of this thesis; "The prevalence of severe obesity is increasing worldwide and affecting all age groups. Bariatric surgery is the most durable treatment for severe obesity regarding weight loss and obesity related comorbidities and should therefore be available, under strong eligibility criteria, for all age groups. Patients should be assessed based on their biological age instead of chronological age. Regarding adolescents, literature has shown that bariatric surgery is safe and effective, but the best type of bariatric procedure for adolescents has to be determined. Focussing on elderly, the results in this thesis show that bariatric surgery is an acceptable option for elderly, with a comparable perioperative complication rate and 30-day mortality rate to non-elderly. However, 30-day complication rate was twice as high. Therefore, bariatric surgery in elderly should be recommended on a case-by-case basis, in which the indication should be balanced against the risk of developing postoperative complications.

Despite the benefits, bariatric surgery also has some downsides, mainly the complications. Especially in pregnant patients, small bowel obstruction may lead to high risks for mother and (unborn) child. Therefore, awareness of this complication during pregnancy among doctors and patients, adequate antenatal care, multidisciplinary consultation and timely referral to tertiary centres with a NICU and bariatric expertise is advised to improve maternal and foetal outcome."

- (2) (Relevance) What is the (potential) contribution of the results from this research to science, and, if applicable, to social sectors and social challenges?

Over many years, treating obesity and overweight is a main social challenge worldwide. This thesis provides evidence that for several populations outside of the set criteria, bariatric surgery is also a treatment option, which might help with the challenge of reducing the number of patients with severe obesity. With respect to this, the current thesis;

- Provides confirmation and education to the social sector that bariatric surgery is safe and effective to perform in selected adolescents and elderly with severe obesity.
- Lays the foundation for possible future implementation of bariatric surgery in adolescents as standard care (not only performing bariatric surgery in adolescents in the context of a scientific trial).
- Adds to the growing evidence that bariatric surgery in elderly in the Netherlands is safe in selected cases. For this reason, besides from other existing evidence that it is safe and effective in elderly, it should be implemented and standard care in the Netherlands.

Furthermore, the several studies in this thesis provide education to midwives, obstetricians and bariatric surgeons, in order to make everyone aware of the risks and symptoms of small bowel obstruction during pregnancy after RYGB, so that timely diagnosis and treatment can be established.

Finally, providing definitions of the population and treatment outcomes is of utmost importance for science in general. Whatever the subject of the research is, defining study populations and treatment outcomes in the methods section of an article minimizes bias and enables comparison within literature. Standardized populations and outcomes, ideally with international consensus, would provide a solution.

- (3) (Target group) To whom are the research results interesting and/or relevant? And why?

Part I of this thesis is relevant to adolescents and their parents and to elderly with obesity, as education about the treatment option of bariatric surgery for their obesity is of importance. Furthermore, for the same reasons, general practitioners as well as paediatricians should be made aware of this possible treatment option, as they are the physicians who are the first to be able to discuss this treatment option with elderly and adolescents respectively. Consequently, bariatric surgeons/centres will possibly see an increase in applications of these two groups. They also might have to adjust their preop-

erative screening process. Finally, the results regarding elderly can also be of relevance for the insurance companies. As bariatric surgery has been known as a cost-effective procedure, in elderly this can be an extra argument for insurance companies to allow bariatric surgery in selected patients.

Part II of this thesis is relevant for fertile women undergoing bariatric surgery or with a history of bariatric surgery. They should be made aware of the risk on small bowel obstruction during pregnancy, so that they can react fast and prevent delay from their side. Furthermore, midwives and obstetricians as well as bariatric surgeons also need to be made aware of this complication to prevent doctor's delay.

(4) (Activity) In what way can these target groups be involved in and informed about the research results, so that the knowledge gained can be used in the future?

First of all, the main results of most of the chapters described in this thesis have been presented at national and international congresses. Second, this thesis will be distributed among all bariatric surgeons who are member of the DSMBS. Third, Chapter 8 has been translated to Dutch and is published in the Dutch magazine for Obstetrics and Gynaecology, which is distributed among all members of the Dutch Society of Obstetrics and Gynaecology. At last, our research team has provided their collaboration in several national guidelines, among others the new guideline for bariatric surgery in which we contributed to the part regarding adolescents. Next to this, we also collaborated in a 'factsheet' of the Dutch society for midwives regarding pregnancy after bariatric surgery.