

Is it safe for women with heart disease to become pregnant?

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Is it safe for women with heart disease to become pregnant? Usually, according to ten-year results from the ROPAC registry reported in a late breaking science session today at ESC Congress 2018.

Professor Jolien Roos-Hesselink, one of the principal investigators, Erasmus Medical Centre, Rotterdam, the Netherlands, said: "Pregnancy is safe for most [women](#) with heart disease but for some it is too risky. Our study shows that fewer women with heart disease die or have heart failure during pregnancy than ten years ago. However, nearly one in ten women with [pulmonary arterial hypertension](#) died during pregnancy or early post-partum."

"Pre-pregnancy counselling is crucial to identify women who should be advised against pregnancy, initiate timely treatment—for instance in those with severe [valvular heart disease](#), and to discuss the risks and options," she added.

Pregnancy has a major impact on the mother's circulation. The heart has to pump up to 50% more blood and heart rate rises by 10-20%, which can be risky in women with heart disease.

Heart disease is the top reason women die during pregnancy in developed countries. Worldwide, heart disease causes up to 15% of maternal deaths during pregnancy or in the early post-partum period. While other causes of maternal mortality such as blood loss or infection are declining, the burden of maternal heart disease is rising.

Today researchers present outcomes of 5,739 [pregnant women](#) with heart disease enrolled from 138 centres in 53 countries during 2007 to 2018. The average age of the mothers was 29.5 years and 45% had never delivered before.

More than half of the women (57%) had been born with a heart malformation ([congenital heart disease](#)), and the majority had surgical correction at a young age. Other diagnoses were valvular heart disease (29%), cardiomyopathy (8%), aortic disease (4%), [ischaemic heart disease](#) (2%), and pulmonary arterial hypertension (1%).

Professor Roos-Hesselink said: "The proportion of women with conditions considered very high risk by the World Health Organization increased from around 1% in 2007 to 10% in 2018. This suggests that more women with very high risk heart diseases are becoming pregnant than in the past. This is probably because corrective surgery has improved survival and more women reach reproductive age, and perhaps doctors are becoming more selective in who they advise to avoid pregnancy."

Overall, less than 1% of women died during pregnancy or the early postpartum period. Women with pulmonary arterial hypertension, meaning an abnormally high blood pressure in the lungs, had the highest rate of death (9%). Rates of foetal and neonatal death were both 1%.

Delivery was by caesarean section in 44% of the women, of which more than one-third were for cardiac reasons (16% of all deliveries).

Regarding complications, heart failure, supraventricular and ventricular arrhythmias occurred in 11%, 2% and 2% of women, respectively.

Women were more likely to have complications during pregnancy if they had any of the following prior to becoming pregnant: heart failure, diminished exercise capacity, decreased pump function of the heart (reduced ejection fraction), or use of anticoagulant medications.

Professor Roos-Hesselink said: "After an initial increase in maternal mortality and new diagnoses of [heart failure](#) during pregnancy between 2007 and 2010, these rates have been declining. This occurred despite the presence of more very high risk women with [heart](#) disease being included in our registry as time went by."

Professor Roos-Hesselink noted that the fall in adverse outcomes over the years might indicate greater awareness of the specific problems and better management of pregnant women with [heart disease](#). The first ESC guidelines on the management of cardiovascular diseases during [pregnancy](#) were published in 2011, with a second edition in 2018.

More information: "ROPAC - Pregnancy in women with cardiovascular disease: trends in outcome from 10 years ESC Registry of Pregnancy and Cardiac Disease" ESC Congress 2018.

Vera Regitz-Zagrosek et al. 2018 ESC Guidelines for the management of cardiovascular diseases during pregnancy, *European Heart Journal* (2018). [DOI: 10.1093/Eurheartj/ehy340](https://doi.org/10.1093/Eurheartj/ehy340)

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