EDITORIAL



FIGO pregnancy passport: A useful tool for women and their healthcare providers on health risks following pregnancy complications

Pregnancy is often considered a physiological stress test that can unmask pre-existing or subclinical diseases that may manifest later in life. Any complications that arise during pregnancy can also have a lasting impact on a woman's health. In fact, women who experience complications during pregnancy, such as hypertensive disorders (HDP) or gestational diabetes (GDM), are particularly at risk for future cardiometabolic diseases.^{1,2} These pregnancy complications serve as warning signs that require follow-up to reduce the risk of future health events. To address this critical issue, the FIGO Committee on the Impact of Pregnancy on Long-term Health has adapted a pregnancy passport.³ The passport (Figure 1) should be handed out to women with any pre-pregnancy or pregnancy-induced



Pregnancy Passport Postpartum Health Record

Recommended check-up & test	Discharge	6 Weeks	3 Months	6 Months	12 Months
Date of visit					
Blood pressure [†] (mmHg)	/ Abnormal	/ Abnormal	/ Abnormal	/ Abnormal	/ Abnormal
Weight (Kg)	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal
Body mass index (Kg/m²)	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal
Waist circumference (cm)	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal
Urine protein test			Abnormal	Abnormal	Abnormal
Haemoglobin (g/dL)		Abnormal	Abnormal	Abnormal	Abnormal
eGFR* (mL/min/1.73 m2)		Abnormal	Abnormal	Abnormal	Abnormal
OGTT** (mmol/L)		Abnormal		Abnormal	
HbA1c**† (%)		Abnormal		Ał	onormal
Lipid profile				mormal	

needed and/or where resources are available; †Yearly assessment after 12 months postpartum is recomm sr women who experienced: *Renal impairment during pregnancy, ** Gestational diabetes.





Pregnancy Passport

Gender 🗆 Female

Postpartum Health Record

cm

🗆 Male

Name	Your baby's information		
Date of birth	Gestational age at delivery		
	weeks days		
Date of delivery	Birthweight		
	grams		
	Length		
Pregnancy and the postpartum period are the best timepoints to be screened for heart disease and diabetes	cm		
timepoints to be screened for heart disease and diabetes risk factors.	Head circumference		

Your background information

Pregnancy can be nature's stress test on your health including on your heart.

Your ethnicity 🛛 White 🗆 Black 🗆 Asian 🗆 Indigenous	Other	
Do you smoke?	□ Yes □	∃ No
Did you have high blood pressure before pregnancy?	□ Yes □	⊐ No
Did you have diabetes before pregnancy?	□ Yes [∃ No
Has your mother or sister(s) had high blood pressure or preeclampsia during pregnancy?	□ Yes [∃ No
Does your mother, father or any sibling have high blood pressure?	□ Yes □	∃ No
Does your mother, father or any sibling have diabetes?	□ Yes □	□ No
Has your mother, father or any sibling ever had a heart attack or stroke?	□ Yes □	∃ No
Have you had a heart attack or stroke?	🗆 Yes 🛛	∃ No

Your baby's check-ups and immunisations are a great time to fill out this record with your healthcare provider. Keep this form with your baby's immunisation record for an easy reminder. 1

FIGURE 1 FIGO pregnancy passport: postpartum health record. This health record is designed to be printed on both sides of the paper, which is then folded in half. The passport can be downloaded as a printable file or as a digital document from supplementary material.

*Note: Members of the FIGO Committee on the Impact of Pregnancy on Long-Term Health, 2021–2023, are listed at the end of this document.
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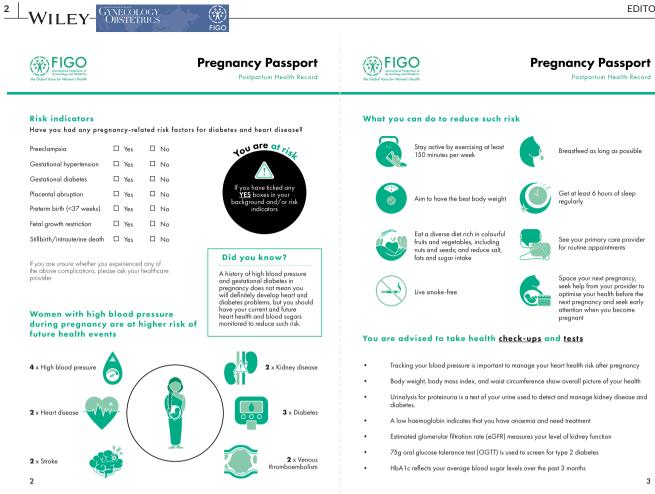


FIGURE 1 (Continued)

risk factors for cardiometabolic diseases after delivery and before discharge from the hospital. This innovative tool facilitates screening and planning for the optimal management of women who have experienced complications during pregnancy.⁴ The goal is to provide advice and targeted interventions during the postpartum period to reduce the risk of future health events, with the aim of global use.⁴

A significant body of evidence has demonstrated that women who have had HDP are four times as likely to develop chronic hypertension, three times as likely to meet the criteria for metabolic syndrome, and twice as likely to experience long-term cardiovascular disease (CVD)-including coronary artery disease, heart failure, peripheral vascular disease, and stroke-and CVD-related mortality.^{2,5} In addition, women with a history of HDP are at a twofold increased risk of chronic kidney disease and end-stage kidney disease, as well as a two- to threefold increased risk of type 2 diabetes mellitus (T2DM) later in life.² Similarly, GDM is commonly associated with T2DM, metabolic syndrome, and CVD. Studies have shown that one-quarter of women with a history of GDM will develop metabolic syndrome within 5 years postpartum.⁶ Given the potential for adverse long-term health outcomes, it is recommended that women who have experienced HDP and/or GDM during pregnancy should undergo postpartum screening and intervention to reduce such risks.^{1,2} This approach also serves as an opportunity to discuss

future pregnancy plans. By identifying and addressing potential health issues early on, women can take proactive steps to safeguard their health and well-being in the years to come.

A comprehensive and timely postpartum assessment is important for all women after delivery, yet it is frequently overlooked, even in high-income countries.⁷ Postpartum care serves three main purposes: (1) to monitor pre-existing medical conditions; (2) to identify and evaluate common postpartum complications; and (3) to identify potential risk factors and prevent future adverse maternal and pregnancy outcomes. Therefore, the postpartum period, also known as the "fourth trimester," is a unique opportunity for healthcare professionals to provide support and guidance to women who have experienced a complicated pregnancy. By optimizing their health during this critical time, women can improve their long-term health outcomes and ensure a healthy future for themselves.

Observational data have shown that appropriate interventions, such as breastfeeding, lifestyle and dietary modifications, and patient education, can lower underlying cardiovascular risk, which in turn reduces the risk of future CVD.⁸⁻¹⁰ Breastfeeding, in particular, has been extensively studied and found to have numerous benefits for women who are at risk of developing coronary artery disease, stroke, and maternal CVD-related death. In addition, a longer breastfeeding duration has been found to be beneficial in reducing

multiple cardiovascular risk factors that can lead to future CVD.⁸ A heart-healthy diet, as shown in Box 1, has been shown to be effective in reducing the 10-year Framingham risk score for CVD by 13% in the general population. Physical activity has also been found to reduce the risk of CVD and increase life expectancy.² Furthermore, a healthy lifestyle can attenuate the increased risk of chronic hypertension, specifically in women after HDP and/or GDM. Maintaining a healthy body mass index (BMI, calculated as weight in kilograms divided by the square of height in meters) is particularly important for women with a history of HDP and GDM.¹⁰ It is also worth noting that lifestyle changes are highly effective in reducing the progression from GDM to T2DM during a 10-year follow-up period.¹¹ Moreover, a healthy sleep pattern has been linked to a significant decrease of approximately 35% in the likelihood of developing CVD, coronary heart disease, and stroke.¹²

A woman's awareness of her own cardiovascular risk is crucial in prompting her to take preventative measures against CVD.¹³ This underscores the importance of targeted educational interventions aimed at increasing awareness of cardiovascular risk and CVD. Research has shown that providing such interventions can lead to improved knowledge of cardiovascular risk factors, increased self-efficacy for healthy eating, and greater engagement in physical activity among women who have experienced complicated pregnancies.¹⁴

Despite several professional bodies recommending postpartum assessment and interventions to reduce the risk of long-term health complications,^{1,2,15} maternal compliance with follow-up appointments remains low. A study indicated that only half of the high-risk GYNECOLOGY OBSTETRICS

women attended postpartum check-ups.¹⁶ This may be due to a lack of resources among care providers to identify those who would benefit the most from targeted chronic disease-prevention measures. Other factors contributing to low screening rates include patient fear, care provider misconception, confusion regarding guideline variations, and barriers to reliable healthcare transitions.¹⁷ In addition, determining the appropriate timing and venue for counseling and implementing recommended interventions for risk reduction can be challenging.² To address this issue, feasible interventions that increase adherence to postpartum care, such as patient reminder systems and consistent healthcare communication channels, are urgently needed.

The FIGO Committee on Impact of Pregnancy on Long-term Health believes that an innovative pregnancy passport would be the most convenient, pragmatic, and effective tool for postpartum care to achieve this goal.⁴ While some centers have developed pregnancy passports, they are not widely used and are mainly limited to highincome countries.⁴ Therefore, FIGO has adapted a user-friendly pregnancy passport that recommends minimal and optimal management strategies for use in different healthcare settings; it can easily be adopted and utilized globally.³ The passport allows women to record their background and pregnancy information and pregnancy-related cardiometabolic risk indicators. It also equips women with information on the impact of pregnancy complications on future health, as well as appropriate interventions to reduce such risks. Moreover, the passport includes recommended tests and schedules for monitoring women within the first 12 months after delivery, which should enhance their compliance with postpartum intervention programs.

BOX 1 Dietary Approaches to Stop Hypertension (DASH diet) eating plan proposed by the National Institute of Health.¹⁴

Recommended dietary items Vegetables Fruits. Whole grains, Fat-free or low-fat dairy, Fish, Poultry, Beans, Nuts and seeds, Vegetable oils **Restricted dietary items** Fatty meats, Full-fat dairy, Sugar-sweetened beverages, Sweets, Sodium

DLOGY ETRICS

This pregnancy passport enables care providers not only to identify women who are at risk for chronic diseases but also to develop personalized management plans that address their specific needs. Moreover, the pregnancy passport empowers women to take an active role in their healthcare. By having access to their medical records, women can make informed decisions about their health and advocate for themselves during medical appointments. This level of involvement can lead to better health outcomes and a greater sense of control over one's own body.

Overall, the pregnancy passport is a valuable tool that benefits both care providers and women. It promotes better communication, personalized care, and patient empowerment. As such, it should be considered an essential component of postpartum care for women who have experienced complications during pregnancy to reduce their risks of long-term adverse health outcomes.

CONFLICT OF INTEREST STATEMENT

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REFERENCES

- Adam S, McIntyre HD, Tsoi KY, et al. Pregnancy as an opportunity to prevent type 2 diabetes mellitus: FIGO best practice advice. Int J Gynaecol Obstet. 2023;160(Suppl 1):56-67.
- Poon LC, Nguyen-Hoang L, Smith GN, et al. Hypertensive disorders of pregnancy and long-term cardiovascular health: FIGO best practice advice. *Int J Gynaecol Obstet*. 2023;160(Suppl 1):22-34.
- 3. https://www.themothersprogram.ca/postpartum-health/postp artum-health-record.
- 4. McAuliffe FM. Impact of pregnancy on long-term health: advances in postpregnancy care-an opportunity to improve long-term maternal health. *Int J Gynaecol Obstet*. 2023;160(Suppl 1):4-6.
- Wu R, Wang T, Gu R, et al. Hypertensive disorders of pregnancy and risk of cardiovascular disease-related morbidity and mortality: a systematic review and meta-analysis. *Cardiology*. 2020;145(10):633-647.
- Huvinen E, Eriksson JG, Koivusalo SB, et al. Heterogeneity of gestational diabetes (GDM) and long-term risk of diabetes and metabolic syndrome: findings from the RADIEL study follow-up. Acta Diabetol. 2018;55(5):493-501.
- Cheng CY, Fowles ER, Walker LO. Continuing education module: postpartum maternal health care in the United States: a critical review. J Perinat Educ. 2006;15(3):34-42.
- Yu J, Pudwell J, Dayan N, Smith GN. Postpartum breastfeeding and cardiovascular risk assessment in women following pregnancy complications. J Womens Health. 2020;29(5):627-635.
- Killeen SL, Donnellan N, O'Reilly SL, et al. Using FIGO nutrition checklist counselling in pregnancy: a review to support healthcare professionals. *Int J Gynaecol Obstet*. 2023;160(Suppl 1):10-21.
- Maxwell CV, Shirley R, O'Higgins AC, et al. Management of obesity across women's life course: FIGO best practice advice. Int J Gynaecol Obstet. 2023;160(Suppl 1):35-49.
- 11. Aroda VR, Christophi CA, Edelstein SL, et al. The effect of lifestyle intervention and metformin on preventing or delaying diabetes among women with and without gestational diabetes: the diabetes prevention program outcomes study 10-year follow-up. *J Clin Endocrinol Metab.* 2015;100(4):1646-1653.
- 12. Fan M, Sun D, Zhou T, et al. Sleep patterns, genetic susceptibility, and incident cardiovascular disease: a prospective study of 385 292 UK biobank participants. *Eur Heart J.* 2020;41(11): 1182-1189.
- 13. Mosca L, Mochari H, Christian A, et al. National study of women's awareness, preventive action, and barriers to cardiovascular health. *Circulation*. 2006;113(4):525-534.





- 14. Rich-Edwards JW, Stuart JJ, Skurnik G, et al. Randomized trial to reduce cardiovascular risk in women with recent preeclampsia. J *Womens Health (Larchmt).* 2019;28(11):1493-1504.
- 15. ACOG Committee Opinion No. 736: Optimizing Postpartum Care. *Obstet Gynecol.* 2018;131(5):e140-e150.
- Levine LD, Nkonde-Price C, Limaye M, Srinivas SK. Factors associated with postpartum follow-up and persistent hypertension among women with severe preeclampsia. J Perinatol. 2016;36(12):1079-1082.
- 17. Thayer SM, Lo JO, Caughey AB. Gestational diabetes: importance of follow-up screening for the benefit of long-term health. *Obstet Gynecol Clin North Am*. 2020;47(3):383-396.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.