

## Zero for nine

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# Valorisation Addendum



## Relevance

The relevance of this research on the development, evaluation and implementation of two brief interventions to prevent prenatal alcohol use emanates from the harmful effects of prenatal alcohol exposure in combination with the high number of Dutch pregnant women using alcohol. As described in Chapter 1, alcohol use in pregnancy is risky for the unborn baby. Alcohol in the foetus affects various cellular processes that occur during the foetal development (e.g. van Faassen & Niemela, 2011). This can lead to a variety of consequences, such as miscarriage, deformation of body parts, facial abnormalities and neurological damage (Bertrand, et al., 2004). The severity of the damage is dose dependent which implies that the more alcohol the mother drinks during pregnancy, the more severe the harm to the unborn baby (Patra, et al., 2011). In this dissertation, it is estimated that 2 to 6% of all Dutch children suffer from the consequences of prenatal alcohol use.

Besides of the risk of prenatal alcohol use, the literature review in Chapter 1 also showed a high prevalence of prenatal alcohol use. Based on various recent studies, it is suggested that approximately 30% of the Dutch pregnant women use alcohol. This approximate estimation of Dutch pregnant women using alcohol in combination with the estimation that 2 to 6% of the Dutch children suffer from the consequences of prenatal alcohol use signifies the relevance of this research on the reduction of prenatal alcohol in pregnancy with regard to public health.

Because prenatal alcohol use has health-related consequences for children who are prenatally exposed to alcohol, it consequently puts an economic burden on society (Popova, et al., 2013). Direct health-care costs related to prenatal alcohol use include acute care, psychiatric care, day surgery, and emergency department services; indirect costs concern productivity loss due to morbidity. Society pays for the costs of prenatal alcohol use because of higher health insurance, medical related costs and higher prices for health-care products and services. Thus, by aiming to reduce prenatal alcohol use, this research has health-related and consequently economic relevance for society.

## Target groups

Various target groups profit from this research. Clearly, pregnant women profit from the research findings presented in Chapter 5, which encompass a newly developed, effective intervention to reduce prenatal alcohol use. Chapter 4 showed that pregnant women may feel reluctant to disclose their actual alcohol use to their midwife and consequently they do not always receive accurate alcohol advice. Chapter 5 suggested that these women may feel more confident to open up to the anonymized computer tailored intervention. Thus, pregnant women may now receive accurate and reliable information from the intervention on alcohol and pregnancy that matches their actual alcohol use, besides of the information they already receive from their midwives.

Another target group profiting from this research comprises partners of pregnant women. The research findings on the motivational determinants of prenatal alcohol use have shown that partners matter in various ways when it comes down to alcohol use in pregnancy. Despite the fact that unhealthy behaviour of their pregnant spouse has negative consequences for their child, partners have no legal authority over this behaviour or generally over their child before birth. Nevertheless, this research shows that the partners' alcohol use, their norms on prenatal alcohol use and their support to abstain from prenatal alcohol use are related to their pregnant spouse's behaviour. The present research lays the foundation for further research into the causality of this relationship, which may find that partners have unobjectionable means to influence their pregnant spouse's behaviour and protect their child's health.

Partners of pregnant women also profit from the research findings on Dutch midwives' alcohol advice. The present research showed that Dutch midwives did not actively involve the partner when providing alcohol advice, while partners missed being involved by the midwife. The results of this research have been discussed with staff of the Royal Dutch Organization of Midwives (KNOV), who have been recommended to encourage their members to involve partners when providing alcohol advice.

Another target group profiting from this research comprises midwives. This dissertation has provided insight into the current practice of Dutch midwives with regard to their alcohol advice. The Dutch national newspaper Trouw published an article on these findings (Den Blijker, 2010). In addition, Parliamentary Questions were asked (Tweede Kamer, 2010), encouraging the responsible Minister for Health, Welfare and Sport and the Minister for Youth and Families to take appropriate actions to improve midwives' alcohol advice. Finally, these research findings have been discussed with the staff of the KNOV, who have been recommended to organize training for midwives to increase their knowledge about mechanisms and consequences of prenatal alcohol use.

The research findings of all topics have been published on the website [alcoholenzwangerschap.nl](http://alcoholenzwangerschap.nl). This website with scientifically based information on alcohol use during pregnancy has sections for pregnant women in the preconception, conception and breastfeeding phase and for professionals. Approximately 10.000 people per month visit this website, which indicates that this website meets a particular demand for alcohol and pregnancy-related information.

The research findings are also of interest for the Dutch College of General Practitioners (GPs) which supports the use of e-mental health in GP care. The GP setting can be considered an important access point to reach pregnant women. Indeed, a quality label for e-mental health interventions in GP care has invited the Dutch Institute of Alcohol Policy STAP to submit the intervention in this dissertation for an evaluation. This quality label called Online Hulpstempel is meant to warrant the quality of e-mental health in GP care. According to the invitation for this evaluation, this intervention was selected because it was mentioned in the GP guidelines or it was nominated by professionals working in the GP setting. Apparently, this intervention meets a demand for effective e-health interventions that can be used in the GP setting.

Also health educators and policy makers profit from this research. For example, the research on the determinants of prenatal alcohol use presented in Chapter 2 showed that specifically older and well-educated pregnant women continue their alcohol use in pregnancy. The specification of the women who use alcohol during pregnancy helps health educators and policy makers to tune their actions to prevent prenatal alcohol use to the characteristics of these women. For example, the Dutch Institute for Alcohol Policy STAP and the Trimbos Institute have jointly developed a brochure for pregnant women on alcohol, tobacco and drug use. The section on tobacco use during pregnancy targeted women with a low social economic status (Phares, et al., 2004), whereas the section on alcohol use during pregnancy targeted women with a high social economic status. Moreover, politicians can now formulate correct Parliamentary questions prompting the responsible Minister and Secretary of State for Health, Welfare and Sport to take targeted activities for well-educated pregnant women to prevent prenatal alcohol use (Tweede Kamer, 2012, 2015a). In turn, the Minister and Secretary of State used this research for their answers to the Parliamentary Questions (Tweede Kamer, 2010, 2015b).

Policy makers of the Dutch Ministry of Health, Welfare and Sport might also have been interested in the results of this research to improve Dutch natal care. Since 2008, there is a lot of attention for the perinatal mortality in the Netherlands (Stuurgroep Zwangerschap en Geboorte, 2009). This is due to an international publication showing relatively high perinatal mortality in the Netherlands compared to other European countries (Peristat II, 2008). Dutch government consequently asked an external steering committee to bring an advice on optimizing the care during pregnancy and birth, in order to reduce, wherever possible, the perinatal mortality and morbidity. In their advice, this committee stressed the necessity to provide clear and unambiguous information on lifestyle factors to support a pregnant woman to carry out her pregnancy as healthy and safe as possible (Stuurgroep Zwangerschap en Geboorte, 2009). The research presented in this dissertation might guide policy makers who need to realize this advice with respect to the lifestyle factor alcohol use during pregnancy.

Also intervention developers profit from this research. Research on implementation issues as provided in Chapter 6 is scarce, although knowledge of the experiences of midwives with the implementation of brief interventions provide valuable information for developers of future interventions. With these research findings, developers are better equipped to match future interventions with midwives' practice.

This research may also have been beneficial for children in general. Beyond the publication in scientific articles, the research findings have received societal attention in national newspapers, on radio and television, on websites and in three sets of Parliamentary questions. This research may have led directly and via the societal attention also indirectly to the reduction of prenatal alcohol use. However, more research is needed to confirm that this has consequently resulted in a decrease of children experiencing harm caused by alcohol exposure during pregnancy.

## Product

The research findings of Chapter 5 encompassed the newly developed computer tailoring intervention which has shown to be effective in reducing prenatal alcohol use. This online self-help program is intended for pregnant women who use alcohol. By using the intervention, participants learn more about the effects of alcohol consumption during pregnancy. They also get advice of how to reduce or quit using alcohol. This intervention is offered through the Internet and is accessible via a chosen username and password. It can therefore be used anywhere and anytime, provided there is access to a computer, tablet or smartphone with internet access.

At the beginning of participating this intervention, the participant completes the first questionnaire, which is immediately followed by the first feedback letter. Six weeks after the first session, the participant receives an email asking her to re-log on to the website (followed by up



to two reminders after respectively two and four weeks). This second session consists of a short questionnaire, which is followed by a second feedback letter. Three months after the first session, the participant receives an email asking her to re-log on to the website (again followed by up to two reminders after two and four weeks). The third session consists of a more extensive questionnaire, which is followed by a third feedback letter.

In the feedback letters, pregnant women receive personalised feedback on their drinking behaviour, their attitude, perceived social influence, self-efficacy and how to prepare to quit. The intervention is effective and suitable for all pregnant women using alcohol, independent of their motivation and intention to quit.

## **Innovation**

There are several internet interventions available in the Netherlands to reduce problematic alcohol use, such as Drinktest.nl (Boon, et al., 2011) and Minderdrinken.nl (Riper, et al., 2008), but none of these interventions are designed for pregnant women. As also mentioned in Chapter 5, to our knowledge only one computer-tailored intervention for alcohol use in pregnancy has previously been developed. This intervention developed by Tzilos and colleagues (2011) was not found to effectively reduce prenatal alcohol use compared to an assessment-only condition. Chapter 5 showed that the intervention developed in this dissertation was effective and it may therefore be world's first effective internet intervention reducing prenatal alcohol use.

## **Implementation**

With a follow-up research proposal, the Dutch Institute for Alcohol Policy obtained a grant from the Netherlands Organisation for Health Research and Development (ZonMW) to implement the intervention developed in this dissertation. The implementation project of the intervention which

was now called Zero for Nine Months (Negen Maanden Niet; 9MN in Dutch) took place in 2014. The project focused on two target groups. First, it focused on pregnant women by increasing their awareness of the existence of the intervention and by making efforts for them to warrant a free use of the intervention also in the future. Second, it focused on health professionals by increasing their awareness of the existence of the intervention and by encouraging them to refer their clients to this intervention.

With regard to the focus on pregnant women, the following actions were taken. The feedback of the intervention was adjusted, by omitting the references to the research described in Chapter 5. The intervention was incorporated in the website [www.alcoholenzwangerschap.nl](http://www.alcoholenzwangerschap.nl), with approximately 10.000 visitors per month, a well visited website. Meetings were arranged with health insurances to discuss the possibility of funding in order to warrant a free use of 9MN also in the future.

With regard to the focus on health professionals, the following actions were taken. The professional associations of midwives, gynaecologists and general practitioners were contacted to discuss the possibility to include a reference to 9MN in their associations' guidelines. References to the 9MN website were applied to flyers and brochures that midwives and other health care professionals spread among their clients. The intervention was presented at meetings for gynaecologists and midwives at various locations in the Netherlands. Publicity was gained by link exchanges with relevant governmental websites. Developers of software programs were contacted to incorporate references to 9MN in their software.

The project has achieved the following results. First, 9MN is now publicly available on [www.negenmaandenniet.nl](http://www.negenmaandenniet.nl) and is being supported by the Dutch Institute for Alcohol Policy STAP. Pregnant women can use this intervention freely. Second, pregnant women are made aware of the intervention by extensive communication on [www.alcoholenzwangerschap.nl](http://www.alcoholenzwangerschap.nl) and because a reference to 9MN has been applied to the flyers and brochures that are distributed by health

professionals. Third, many health professionals have visited one of the 50 presentations that were given throughout the country. Moreover, they have been notified of 9MN through the communication with the professional associations of midwives, gynaecologists and general practitioners. Finally, a meeting with people from Achmea, the largest health insurance company in the Netherlands, resulted in the inclusion of 9MN in the health care purchasing contracts of the health insurance company with midwifery practices.

Although the implementation project has ended at the end of 2014, the Dutch Institute of Alcohol Policy STAP is still working on increasing the use of the intervention. Specifically, efforts are being taken to improve the layout of the website in order to increase the attractiveness of the intervention. Moreover, STAP is trying to achieve the incorporation of a reference to the website of 9MN in the software used by health professionals.

## **Conclusion**

To conclude, the research findings presented in this dissertation have social relevance and a societal value for a variety of target groups. This research has resulted in an innovative product which helps pregnant women to reduce their alcohol use. This product can now freely be used by pregnant women using alcohol anywhere and anytime, provided there is access to a computer, tablet or smartphone with internet access. This product is valuable for health professionals who can refer their clients to the intervention website, providing them an effective tool to prevent prenatal alcohol use. Altogether, this research has contributed to a reduction of prenatal alcohol use, which has hopefully resulted in a reduction of the number of children experiencing harm caused by alcohol exposure during pregnancy.