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# Life after teenage childbearing: A long-term view on teenage mothers' wellbeing

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**ABSTRACT**

**Background:** This study aims to address the lack of information about the long-term wellbeing of (former) teenage mothers in the Netherlands. It provides data which policymakers can use to ensure that support programmesmeet the needs of teenage mothers.

**Methods:** Women who had given birth before the age of twenty were recruited online by Fiom, expertise centre on unintended pregnancy (December 2018–February 2019; *N* = 248). Survey data were obtained to assess how they perceived their wellbeing, employment, education, housing, and social support. Respondents were divided into three groups: 0–3 years after teenage childbearing (short term), 4–12 years (medium term), >12 years (long term). Results were analysed using univariate and bivariate descriptions in SPSS.

**Results:** Almost 80% of respondents reported that they were doing well and were satisfied with their lives, 63% had a job, and 17% were students. Short-term mothers worked fewer hours per week, received more benefits, and were less satisfied with their living conditions compared to medium- and long-term mothers. 36% Of the respondents smoked cigarettes. Most support was given by family (83%), mainly by female relatives. About 24% received formal support from social workers or institutions.

**Conclusions:** Respondents, on average, reported they were doing well and were satisfied with their lives, in both the short and long term. These results suggest that as the years pass, teenage mothers overcome difficulties. Regarding income and housing, however, short-term mothers were in a less favourable position. Tailored interventions are recommended to address smoking among (former) teenage mothers.

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Teenage mothers; teenage childbearing; smoking; wellbeing; social support

## Introduction

Although the incidence of teenage pregnancy in the Netherlands is among the lowest in the world (Sedgh et al., 2015), teenage pregnancies are still debated as a public health problem. For several years, the number of teens bearing children in the

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Netherlands has decreased, from about 3,000 girls in 2000 to 1,410 in 2017 (Dutch Central Bureau of Statistics, 2017a). Girls with a low educational level, a migrant background, or a strict religious background have a higher rate of teen pregnancy (De Graaf et al., 2017). Many girls are already in a vulnerable situation before their pregnancy, and the care of a child makes their problems even more difficult (Cense & Dalmijn, 2016).

The facts and numbers on childbearing in the Netherlands are not representative for other countries. In 2019, the adolescent fertility rate (births per 1000 women aged 15–19) was 17.3 in the US, 11.9 in the United Kingdom, 10.9 in Australia, and 3.6 in the Netherlands (The World Bank, 2019). Thus, compared to the Netherlands, teenage childbearing is more common in these English-speaking countries. The high rates of teenage childbearing have been attributed to the ambivalent attitude and behaviour towards contraception and sex education (Williams-Breault, 2020). Furthermore, social inequalities and underlying social and economic problems explain the high rates (Kearney & Levine, 2012).

The decline in teenage motherhood in the Netherlands is partly the outcome of Dutch policies based on sexual and reproductive health and rights. The focus on sex education and easy access to contraception have effectively prevented unintended pregnancies. The downside of this liberal climate is that unintended pregnancies are often portrayed as shameful and the outcome of careless behaviour (Cense & Ganzevoort, 2019). Hence, teenage mothers face negative representation, social norms, and stigma (Boath et al., 2013; Whitley & Kirmayer, 2008).

Several studies show negative consequences for teenage mothers in the first few years after delivery. Compared to their peers, they are more likely to encounter problems (Cense & Dalmijn, 2016 Mollborn & Jacobs, 2015). A few years after delivery, teenage mothers often have completed less education and receive a lower income compared to peers without children in the US (Fletcher & Wolfe, 2009). Additionally, research suggests that becoming a teenage mother is negatively associated with the mothers' mental health up to six years after birth in the Netherlands (Cense & Dalmijn, 2016). Similarly, Lanzi et al. (2009) reported more depressive symptoms six months after delivery for teenage mothers compared to adult mothers in the US.

Although these studies suggest multiple negative consequences of teenage childbearing, less is known about the long-term consequences, and the few available long-term studies show inconsistent results. Studies found negative long-term consequences of early childbearing for health (Kalil & Kunz, 2002; Spence, 2008), income, and educational level after the age of 40 in the US (Assini-Meytin & Green, 2015). While Aitken et al. (2016) showed poorer mental health among Australian teenage mothers in the long term, studies found no association between early childbearing and depressive symptoms in the long term in the US (Kalil et al., 2005; Taylor, 2009).

Long-term outcomes of teenage pregnancy might be influenced by the amount of social support teenage mothers receive in the US (Birkeland et al., 2005) and the UK (Boath et al., 2013). Previous research among American teenage mothers shows that receiving social support is associated with decreased depressive symptoms (Brown et al., 2012), improved financial and psychological outcomes (Bunting & McAuley, 2004), and increased chances of completing education (Assini-Meytin, Mitchell & Lewin, 2018). Further, studies have found

that after delivery, the support that teenage mothers receive decreases in the US (Herrmann et al., 1998) and the UK (Yardley, 2008). As a result, long-term outcomes of teenage pregnancy might be influenced by the lack of social support teenage mothers receive.

The central research question of the current study is: How do teenage mothers perceive their wellbeing, employment, education, housing, and informal and formal social support in different age groups in the Netherlands? This study adds to previous research that has a predominantly qualitative nature with a focus on the short-term outcomes in one sphere of life and/or one age group (Birkeland et al., 2005; Brown et al., 2012; Fletcher & Wolfe, 2009; Lanzi et al., 2009). The current study aims to address the lack of information about the wellbeing of teenage mothers in the long term by including different spheres of lives and age groups. The results can inform policymakers about the long-term outcomes of teenage childbearing and ensure that support is in line with their needs. It can also better inform pregnant girls about what they might expect, for both girls whose pregnancy is intended as for those deciding whether to continue their pregnancy.

## Materials and methods

### *Study design*

The present study reports on survey data from a cross-sectional study, with both current and retrospective variables, of (former) teenage mothers in the Netherlands. We defined teenage mothers as women who had their first child before the age of twenty. Data were collected from December 2018 until February 2019.

### *Respondents*

A total of 248 respondents were included in the study. Inclusion criteria were being female, being aged 16 years or older, and having their first child before the age of 20. Four cases were excluded because they did not meet the inclusion criteria of this study; the respondents were 20 years or older when their first child was born.

The respondents were recruited by Fiom, a Dutch centre on unintended pregnancy that provides independent information and support. Fiom used multiple methods to recruit respondents: they placed a post on Facebook accounts of Fiom and Tienermoeders.nl, engaged in targeted advertising on Facebook from 07–02–2019 to 21–02–2019 that reached 16,314 women ($n$ = 201), emailed an invitation to the 50 members who had an account on a website for teenage mothers and gave permission to be contacted for research ($n$ = 18), placed an announcement on the website for teenage mothers (www.tienermoeders.nl) ($n$ = 14), placed a post on Twitter and LinkedIn ($n$ = 5), and in other ways ($n$ = 8). The response rate is unknown because the number of total women reached through the various online recruitment strategies is unknown.

### *Procedure*

Respondents were informed about the aims of the study and its voluntary nature through an online information letter; they subsequently gave informed consent through an online form. Data on socio-demographic characteristics, wellbeing, addiction, work,

education, income, housing, and informal and formal social support were collected using an online survey. The survey took about 30 minutes to complete. Respondents were obliged to fill in most fields to be able to continue the survey. The survey also included space for comments. The Medical Ethical Committee of the University Medical Center Groningen approved the design of the study (research register number: 201,800,527).

## Measures

To examine how teenage mothers are doing over time, we have divided respondents into three groups based on where their child would be in the Dutch school system (pre-, primary, and secondary school): 0–3 years after the birth of their first child (short-term mothers, $n = 40$); 4–12 years (medium-term mothers, $n = 123$); and 13 years or more (long-term mothers, $n = 85$). The survey was constructed by using items from existing validated questionnaires where possible and developing remaining items from the literature on teenage childbearing.

### Demographic characteristics

The first questions in the survey concerned demographic characteristics of the respondents, such as current age, the age they had their first child, and the number of children they had. To find out the relationship status of the respondents, two questions were asked: whether they currently had a steady relationship and, if they did, whether they were married at the time of the survey. For religion, questions from a study by De Graaf et al. (2017) were used to learn both the religion sect and the importance of religion for the respondent. Migration background was measured by asking the country of birth of the respondent, her father, and her mother. The highest completed degree of education was measured using the International Standard Classification of Education (Dutch Central Bureau of Statistics, 2017b).

### Wellbeing

Three questions were used to measure the wellbeing of respondents. Using 5-point Likert scale questions from the Dutch Central Bureau of Statistics (CBS) (De Groot et al., 2012), respondents were first asked about their subjective wellbeing and second, to what extent they were satisfied with life. For ease of interpretation, the answers 'very satisfied' and 'satisfied' were merged into the category 'satisfied', and the answers 'unsatisfied' and 'very unsatisfied' into 'not satisfied'. The neutral answer 'neither satisfied nor unsatisfied' was unaltered. In the same way, answers of the variable measuring wellbeing were merged into: not doing well, neither doing well nor not doing well, doing well.

Loneliness was measured using the validated CBS's shortened version of the University of California, Los Angeles Loneliness Scale (De Jong Gierveld & van Tilburg, 2010; van Beuningen et al., 2018). Respondents were asked whether they agreed with six statements concerning loneliness; the possible answers were: 'yes', 'sometimes', and 'no'. Answers to the statements were added up, scoring 1 for the answer 'sometimes', 2 for 'yes' if the statement was formulated negatively, and 2 for 'no' if the statement was formulated positively. If the total sum exceeded seven, respondents were indicated as being lonely (van Beuningen et al., 2018).

### Addiction

Respondents were asked to report whether they were addicted to drugs, alcohol, or cigarettes before the birth of their first child and whether they were currently addicted. The respondents could answer 'yes' or 'no'. 'Addiction' was defined as a dependence on a substance. The question was an extension of the question by De Jong and van der Aa (2011), as we divided the question into three substances, opposite to asking whether the respondent was addicted in general.

### Work and education

Using a question from the study by De Graaf et al. (2017), respondents were asked what their main daily activities were, with the addition of 'I go to school and work' as an answer. Working mothers were asked to indicate the number of hours per week they work.

### Income

Respondents were asked about their primary source of income, using a question from a study by De Jong and van der Aa (2011), to which another possible answer was added: 'I have no income'. Respondents were also asked which benefits they received, for example, allowances for healthcare, childcare or housing. The amount of allowance Dutch citizens receive depends on income: some benefits are limited to a maximum income, such as rent benefit, other benefits decrease with income, such as childcare allowance (Ministry of Finance, 2021; Ministry of Social Affairs and Employment, 2021). Lastly, respondents were asked if they received enough money to make ends meet. Possible answers were: 'Yes, I can even save money', 'Yes, but I do not have money any left', 'No, I cannot make ends meet', and 'I have no income'.

### Housing

Respondents' satisfaction with their current living conditions was measured using a 5-point Likert scale, ranging from very satisfied to very unsatisfied. Additionally, respondents were asked: 'Did you look for another place to live last year?'.

### Social support

Social support was measured in different ways. First, everyday support and support when having problems was measured using two subscales of the Social Support List Interaction 12 (Brzyski et al., 2005; Eijk et al., 1994; Kempen & van Eijk, 1995; van Sonderen, 2012). The subscales are in Dutch, both consisting of four questions concerning social support, for example, whether respondents receive visitors. Respondents indicated whether this happened to them seldom or never, now and then, regularly, or very often. Scores on the subscales were calculated by summing up the answers, scoring 1 point for 'seldom or never' up to 4 points for 'very often'. Both subscales showed satisfactory construct validity, with a Cronbach's alpha ranging from 0.70 to 0.82 (Eijk et al., 1994; Kempen & van Eijk, 1995).

Second, respondents were asked, if applicable, who offered them support in starting or continuing education, finding or continuing paid work, and finding housing. Possible answers were: partner, family, friends/acquaintances, and social worker/organisation. If the respondent indicated she received support from a family member or social worker/organisation, a second question was presented, asking from which

person or organisation in particular she received support. Third, respondents with a partner were asked: 'How much does your partner contribute to the care of your child(ren)?' The answers were measured on a 5-point Likert scale, ranging from 'a lot' to 'very little'.

## Analysis

Results were analysed using univariate and bivariate descriptions in SPSS (version 23.0) (SPPS, 2015). Differences between short-, medium-, and long-term mothers were analysed using One-Way ANOVA, Welch ANOVA, Kruskal-Wallis tests, Fisher-Freeman-Halton tests and Chi-Square tests. In this study, a *p*-value below 0.05 was considered significant.

## Results

In the following paragraphs, we describe the results. The detailed figures and comparison between the groups (short, medium and long term) can be found in Table 1.

### *Demographic characteristics*

Respondents were women between 18 and 60 years old ($M$ = 29.5, SD = 8.4), mostly non-religious (73%), who had their first child between the age of 13 and 19 years ($M$ = 17.9, SD = 1.2). Respondents most often gave birth to their first child at eighteen (29%) or nineteen (40%) years old. Having a child at age sixteen (12%) or seventeen (16%) was less common. Less than 4% of the respondents had their first child under the age of 16. Almost half of the respondents (49%) had completed a middle level of education, 37% a low level, and 11% a high level of education. Most respondents were born in the Netherlands (96%); 14% had one or both parents with a migration background. Respondents had one (36%), two (30%), three (22%), or four or more (13%) children. The majority had a partner (48%) or was married (34%) at the time of the survey. The groups differed significantly in relationship status ($p < .001$); marriage was more common among long-term mothers (48%). See Table 1 for a comparison of groups (short, medium and long term).

### *(Un)wanted pregnancy*

Most respondents had an unintended pregnancy (88%). Two-thirds (67%) of the respondents indicated that the pregnancy was immediately wanted. The other respondents indicated that the pregnancy was not wanted at first, but later on, it was (29%), or that the pregnancy remained unwanted (4%).

### *Wellbeing*

Most respondents rated their wellbeing as high (79%) and indicated that they were satisfied with life in general (78%). About 1 in 6 respondents (17%) indicated they felt lonely. The difference within the groups is nonsignificant, as can be seen in Table 1.

Table 1. Comparison of teenage mothers in different groups

| Variable | Total ($N$ = 248) | Short-term mothers: 0–3 years after birth ($n$ = 40) | Medium-term mothers: 4–12 years after birth ($n$ = 123) | Long-term mothers: 12> years after birth ($n$ = 85) | $p$-Value |
|---|---|---|---|---|---|
| **Demographic characteristics** | | | | | |
| Age $M$ ($SD$) | 29.5 (8.4) | 20.1 (1.5) | 26.1 (3.0) | 38.7 (6.8) | < .001[a] |
| Relationship status $n$ (%) | | | | | < .001[b] |
| No relationship | 44 (18%) | 12 (30%) | 16 (13%) | 16 (19%) | |
| In a relationship | 120 (48%) | 20 (50%) | 72 (59%)* | 28 (33%) | |
| Married | 84 (34%) | 8 (20%) | 35 (29%)* | 41 (48%) | |
| Level of education $n$ (%) | | | | | .026[c] |
| None | 6 (2%) | 1 (3%)* | 3 (2%)* | 2 (2%)* | |
| Low | 91 (37%) | 16 (40%)* | 45 (37%)* | 30 (35%)* | |
| Medium | 121 (49%) | 21 (53%)* | 66 (54%)* | 34 (40%)* | |
| High | 27 (11%) | 1 (3%)* | 8 (7%)* | 18 (21%)* | |
| Other | 3 (1%) | 1 (3%)* | 1 (1%)* | 1 (1%)* | |
| **Wellbeing** | | | | | |
| Subjective wellbeing | | | | | .165 [c] |
| Not doing well | 9 (4%) | 1 (3%)* | 3 (2%) | 5 (6%)* | |
| Neither | 43 (17%) | 10 (25%)* | 24 (20%) | 9 (11%)* | |
| Doing well | 196 (79%) | 29 (73%)* | 96 (78%) | 71 (84%)* | |
| Satisfaction with life | | | | | .854 [c] |
| Not satisfied | 13 (5%) | 1 (3%)* | 6 (5%) | 6 (7%) | |
| Neither | 41 (17%) | 8 (20%)* | 20 (16%) | 12 (15%) | |
| Satisfied | 194 (78%) | 31 (78%)* | 97 (79%) | 66 (78%) | |
| Loneliness | | | | | .333 [b] |
| Lonely | 41 (17%) | 8 (20%) | 16 (13%) | 17 (20%) | |
| Not lonely | 207 (83%) | 32 (80%) | 107 (87%) | 68 (80%) | |
| **Addiction** | | | | | |
| Smoking now | | | | | .151 [b] |
| Yes | 90 (36%) | 12 (30%) | 52 (42%) | 26 (31%) | |
| No | 158 (64%) | 28 (70%) | 71 (58%) | 59 (69%) | |
| **Work and education** | | | | | |
| Daily activities $n$ (%) | | | | | < .001[b] |
| Stay at home mothers | 37 (15%) | 4 (10%) | 18 (15%) | 15 (18%) | |

(*Continued*)

Table 1. (Continued).

| | | | | | |
|---|---|---|---|---|---|
| Other (no work or education) | 37 (15%) | 4 (10%) | 20 (16%) | 13 (15%) | |
| Total work** | 157 (63%) | 23 (57%) | 77 (62%) | 57 (67%) | |
| Total education** | 42 (17%) | 18 (45%) | 18 (15%) | 6 (7%) | |
| **Income** | | | | | |
| Benefits received | | | | | < .001 [b] |
| None | 37 (15%) | 0 (0%)* | 13 (11%)* | 24 (28%)* | |
| One or two | 69 (28%) | 6 (15%)* | 34 (28%)* | 29 (34%)* | |
| Three or four | 104 (42%) | 27 (68%)* | 52 (42%)* | 25 (29%)* | |
| Five or six | 38 (15%) | 7 (18%)* | 24 (20%)* | 7 (8%)* | |
| **Housing** | | | | | |
| Satisfaction with living condition | | | | | .031[b] |
| Not satisfied | 20 (8%) | 8 (20%) | 9 (7%) | 3 (4%)* | |
| Neither | 34 (14%) | 6 (15%) | 17 (14%) | 11 (13%)* | |
| Satisfied | 194 (78%) | 26 (65%) | 97 (79%) | 71 (84%)* | |
| **Social support** | | | | | |
| Everyday support *M (SD)* | 11.3 (2.6) | 11.1 (2.9) | 11.6 (2.5) | 11.0 (2.6) | .321[d] |
| Support when having problems *M (SD)* | 11.3 (3.0) | 11.0 (3.5) | 11.9 (2.8) | 10.5 (3.0) | .005[e] |
| Who offered support[f] | | | | | |
| Partner | 185 (75%) | 23 (58%) | 102 (83%) | 60 (71%) | |
| Friends | 172 (69%) | 23 (58%) | 93 (76%) | 56 (66%) | |
| Ex-partner | 2 (1%) | 1 (3%) | 0 (0%) | 1 (1%) | |
| Co-worker | 26 (11%) | 5 (13%) | 13 (11%) | 8 (9%) | |
| Family | 207 (83%) | 34 (85%) | 113 (92%) | 61 (72%) | |
| Institution/social work | 60 (24%) | 9 (23%) | 30 (24%) | 21 (25%) | |

[a]Kruskal-Wallis test
[b]Chi-Square test
[c]Fisher-Freeman-Halton test
[d]ANOVA
[e]Welch ANOVA
[f]Multiple Response Analysis, percentages do not add up to 100%
*Percentages may not add up to 100% due to rounding
**Percentages do not add up to 100%, women can both work and study

### Addiction

Almost half of the respondents (43%) was addicted to smoking cigarettes before the birth of their first child (long-term mothers 38%; medium-term mothers 53%, short-term mothers 25%). Of the 248 respondents, 30% reported a cigarette addiction both before their pregnancy and at the time of the survey. Additionally, 13% indicated a cigarette addiction before their pregnancy but not at the time of the survey and 6% vice versa. Thus, about one-third of the respondents (36%) was addicted to cigarettes at the time of the survey. Furthermore, one participant indicated currently being addicted to alcohol, and one participant reported addiction to both alcohol and drugs.

### Work and education

The groups differed significantly in their daily activities ($p < .001$). More long-term (76%) and medium-term mothers (62%) worked compared to short-term mothers (57%). Mothers with a job on average worked 25.7 hours per week; short-term mothers ($M = 18.0$, $SE = 9.0$) worked least hours per week ($\chi^2(2) = 23.76$, $p < .001$). Short-term mothers were more often enrolled in education (45%). Most respondents completed a medium (49%) or low (37%) level of education.

### Income

The respondents' primary sources of income were their salary (54%) and the salary of their partner (40%). Nearly all respondents reported having sufficient income (95%); short-term mothers less often reported having sufficient income (88%) compared to medium-term (96%) and long-term mothers (98%; $\chi^2(2) = 6.40$, $p = .049$). Most respondents (85%) also received benefits, though these significantly differed by group ($p < .001$); all short-term mothers (100%) received at least one type of benefit, and most of these mothers (68%) received three or four types of benefits. Long-term mothers most often reported not using benefits (28%).

### Housing

Short-term mothers (65%) were least satisfied with their living conditions, compared to medium-term (79%), and long-term mothers (84%; $\chi^2(4) = 10.61$, $p = .031$). More short-term mothers had looked for another place to live (53%) than medium-term mothers (43%) and long-term mothers (29%; $\chi^2(2) = 7.07$, $p = .029$).

### Social support

The everyday support teenage mothers received did not differ between groups ($p = .321$). Groups did differ, however, in the amount of support received when having problems ($p = .005$). Compared to long-term mothers ($M = 10.5$, $SE = 3.0$), medium-term mothers ($M = 11.9$, $SE = 2.8$) received more support when having problems ($p = .005$). Support was most often offered by family (84%), mainly from female relatives; partners (74%); and friends (69%). Nearly one-quarter (24%) of respondents reported receiving support from social

workers or an institution, including from psychologists and general practitioners. Of the respondents with a partner, 73% reported 'a lot' of involvement of the partner in the care for their children. The remaining respondents reported little (18%) or no (9%) involvement.

## Discussion

Since the end of the 1990s, the vast majority of Dutch adults (between 84% and 89%) say they are happy and satisfied with life. People in the Netherlands score relatively high on happiness and satisfaction with life compared to other countries (Dutch Central Bureau of Statistics, 2019a). Studies show that the wellbeing of people is related to health, educational level, having a paid job, income, and having a partner (Dutch Central Bureau of Statistics, 2019a). This present study shows that Dutch teenage mothers also score high on these measures, despite facing difficulties in their adolescence. Respondents' slightly lower scores might be related to their life circumstances and socio-demographic characteristics.

Even though respondents scored high on wellbeing and life satisfaction , a significant portion of respondents (17%) reported feeling lonely. In 2015, 4% of people aged 15 and older reported feeling lonely (as measured with a version of the UCLA Loneliness Scale) in the Netherlands. Such feelings are not necessarily caused by being alone but by a loss of social contact (van Beuningen et al., 2018). People who say they feel lonely more often have little contact with friends and more often have health problems than people who do not feel lonely. Cense and Dalmijn (2016) found that teenage mothers lost friendships because they could no longer participate in normal teenage activities, like going out at night or hanging out after school. Not only were they more physically isolated because of the time spent at home with their child, they also felt more alone because they had parental responsibilities to which their peers did not relate.

Regarding income and housing, short-term mothers were in a less favourable position. Short-term mothers worked fewer hours per week and received more benefits compared to long-term mothers. This can be partly explained by the fact that more short-term mothers were enrolled in school; the benefits are income-dependent, and reasonably many students receive benefits. In addition, Dutch benefits are accessible; when needed, young parents can receive help with the application to not miss out on allowances.

Among short-term mothers, satisfaction with housing was lower, and more of them had been looking for another place to live, compared to medium- and long-term mothers. These results suggest that as the years pass, teenage mothers can overcome difficulties. They finish school, find jobs, and can take care of themselves and their children. Though teenage motherhood causes great challenges, it can also be beneficial in some ways; Cense and Ganzevoort (2019) give an overview of arguments found in scientific studies on how teen mothers may experience psychological benefits from their adolescent motherhood. These may derive from their (new) identity as a mother, moral, or/and responsible; from seeing pregnancy as a route to social inclusion; and motivation to set new goals in life. This can explain why, over the long run, teenage mothers can get along in life, despite the difficulties.

A remarkable result was that almost half of the respondents (43%) was addicted to cigarettes before the birth of their first child, and 36% reported a cigarette addiction at the time of the survey. In both situations, more medium- and long-term mothers were addicted to cigarettes than short-term mothers. About one-third (30%) of the respondents did not try to stop smoking, or their attempt(s) failed.

The prevalence of daily smokers in the general Dutch population is much lower than in our sample. In 2018, among 12 to 18-year-olds, 3% smoked daily, and among those aged 18 and above, 16% did so (CBS Statline, 2018). A similar age pattern was seen in this study, where short-term mothers (mean age 20) were less often addicted to cigarettes than medium-term mothers (mean age 26) and long-term mothers (mean age 39). The age pattern might relate to recent government policies that discourage smoking, such as the implementation of new smoking laws (for instance, the smoking ban: in workplace 2004; catering industry 2008; school grounds 2020) and campaigns (for instance, the Campaign Smoke-Free Pregnancy) that target young people and pregnant women (Ministry of Health Welfare and Sport, n.d.).

Earlier research (Mollborn et al., 2018) illuminates the relationship between teenage childbearing and smoking, showing that teenage mothers in the United States are 2.5 times more likely to smoke daily in young adulthood than other women. Smoking behaviour among young pregnant women in Western Australia was also found to be common (36% of pregnant adolescents) (Marino et al., 2016). The smoking of teenage mothers may be explained by the vicious cycle of intergenerational transmission of poor health (Mollborn et al., 2018). The smoking of cigarettes by the mother during and after the pregnancy may result in health and social disadvantages for the child. The health and developmental problems of the child may further stress the mother, perpetuating the disadvantages and increasing the risk of smoking of the child.

### *Recommendations*

Since smoking causes severe health problems for both mother and child, it is recommended that specific interventions be developed that focus on smoking among pregnant adolescents during and after their pregnancy or that existing guidelines be adapted to vulnerable women. Research has shown that social support is a key element in ceasing smoking (Burns et al., 2014). The social environment – having a smoking partner and being exposed to second-hand smoke – is also a predictor of smoking in pregnancy (Campbell et al., 2018). The respondents in our study indicate that most social support is given by family, mainly from female relatives. We advise developing tailored interventions to engage these female relatives in the cessation process, specifically in the initiation of the process when social support is particularly effective (Burns et al., 2014).

### *Strength and limitations*

The strengths of this study were the substantial dataset on the long-term wellbeing of teenage mothers, collecting a wide variety of information by the inclusion of different spheres of lives and age groups, both nationally and internationally relevant. In interpreting the findings, some limitations of the study should be noted. There is a possibility that respondents who were doing well were highly motivated to fill in the survey as a counter-reaction to the negative representation of teenage mothers in Dutch society. In addition, teenage mothers who were not doing well may have been less likely to participate because it might be difficult to admit that things were not going well. It is also possible that, if they did participate, they filled out the questionnaire more positively. Due to possible (non-)participant bias, our sample might not be representative of the whole teenage mother population in the Netherlands.

Based on prevalence of cigarette addiction in our sample, one would expect that the rates of alcohol and drug addiction would also be high. However, only two respondents indicated alcohol or drugs addiction, implying possible socially desirable answers. In the Netherlands, smoking behaviour is more common, and there is more stigma regarding alcohol and drugs addiction (van Boekel et al., 2013).

Like many other studies on teenage childbearing, our study was limited by a high risk of selection bias and confounding (Pilgrim et al., 2010; Xavier et al., 2018). Long-term socio-economic outcomes are highly correlated to socioeconomic situations prior to pregnancy (Pilgrim et al., 2010), and those situations are likely to be a factor as well in the long-term wellbeing of teenage mothers. Thus, in future studies on the wellbeing of teenage mothers, the pre-pregnancy socioeconomic situation is an important factor to take into account.

Another limitation of our study is that based on our sample, the low percentage of women that gave birth at 13–15 years old (4%), we cannot determine whether the impact of age at birth affects wellbeing. It might be that having a child at 14 or 15 has a different impact on life than having a child at 18 or 19. Additionally, the sample contained a relatively low percentage of teenage mothers with a migration background (14%). In 2018, 36% of the teenagers who gave birth to their first child had a migration background (CBS Statline, 2017). Various factors can explain the discrepancy. Women with a migration background might be less likely to participate in the study because they might not have good enough command of the Dutch language. Furthermore, the older women included in our study gave birth several years ago, when the numbers of women with a migrant background were lower (Dutch Central Bureau of Statistics, 2019b).

## Conclusion

Teenage mothers, on average, reported they were doing well and were satisfied with their lives in both the short and long term. These results suggest that as the years pass, teenage mothers overcome difficulties. Regarding income and housing, however, short-term mothers were in a less favourable position. They worked fewer hours per week, received more benefits, and were less satisfied with their living conditions than medium- and long-term mothers. Tailored interventions are recommended to address the smoking of cigarettes among (former) teenage mothers. We advise developing tailored interventions to engage female relatives in the cessation process.

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